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MICRO PHOTO DIVISION
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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
July 5, 1966 Volume 828 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of May 1966

Examiner affirmed	245
Examiner affirmed in part	46
Examiner reversed	82
Total	373

Disclaimer

3,128,997.—*Bernard W. Young*, Waco, Tex. APPARATUS FOR FORMING AND APPLYING MIXTURES. Patent dated Apr. 14, 1964. Disclaimer filed Mar. 29, 1966, by the assignee, *Raymond T. Young*.

Hereby enters this disclaimer to claim 1 of said patent.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Express Abandonment of Patent Application

The following amended § 1.138 is adopted to take effect upon publication in the Federal Register.

The purpose of the amendment is to make possible the elimination of the delay and difficulty incident to obtaining specific written authorization to abandon the application from the inventor and assignee, if any. Such delay frequently results in inconvenience and sometimes in the loss of material rights.

The text of the proposed amendment was published in the Federal Register of March 31, 1966 (31 F.R. 5202). A hearing was held on April 26, 1966, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations, or suggestions which were considered in connection with the adoption of the amendment. The rule is being adopted as published with a further amendment to the sentence proposed to be added to the rule. The clause "Except as provided in § 1.262" is added to the sentence as previously published so that the sentence reads: "Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record."

The full text of the amended rule is as follows:

§ 1.138 *Express abandonment.*

An application may be expressly abandoned by filing in the Patent Office a written declaration of abandonment signed by the applicant himself and the assignee of record, if any, and identifying the application. Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 10, 1966.
J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5550; Filed, May 20, 1966; 8:45 a.m.]

Published in 31 F.R. 7391, May 21, 1966

Dependent Claims

Although the notice published on October 5, 1965, in 819 O.G. 3, explained that for the purposes of the present fee bill, Public Law 89-83, approved July 24, 1965, the Patent Office will consider a proper dependent claim as being one which incorporates by reference a single preceding claim, whether independent or dependent, and includes all the limitations of the claim so incorporated, there appears to be still some uncertainty on this matter and it is therefore thought to be desirable to elaborate it.

Since the initial determination, for fee purposes, as to whether a claim is dependent must be made by persons other than examiners, it is necessary, at that time, to accept as dependent virtually every claim which refers to another claim, without determining whether there is actually a true dependent relationship. Such acceptance does not, however, preclude a subsequent holding by the examiner that a claim is not a proper dependent claim.

An essential characteristic of a proper dependent claim is that it shall include every limitation of the claim from which it depends (35 U.S.C. 112) or in other words, that it shall not conceivably be infringed by anything which would not also infringe the basic claim. Thus, for example, if claim 1 recites the combination of elements *a*, *b*, *c* and *d*, a claim reciting the structure of claim 1 in which *d* was omitted or replaced by *e* would not be a proper dependent claim, even though it placed further limitations on the remaining elements or added still other elements.

The fact that a dependent claim which is otherwise proper might require a separate search or be separately classified from the claim on which it depends would not render it an improper dependent claim, although it might result in a requirement for restriction.

The fact that the independent and dependent claims are in different statutory classes does not, in itself, render the

New Applications Received During May 1966

Patents	7,779
Designs	418
Plant Patents	12
Reissues	17
Total	8,226

Issue—July 5, 1966

Patents	1,129	No. 3,258,779 to No.	3,259,907, incl.
Designs	32	No. 205,177 to No.	205,208, incl.
Plant Pats.	9	No. 2,648 to No.	2,656, incl.
Reissues	8	No. 26,053 to No.	26,060, incl.
Total	1,178		

latter improper. Thus, if claim 1 recites a specific product a claim for the method of making the product of claim 1 in a particular manner would be a proper dependent claim since it if claim 1 recites a method of making a product, a claim for a product made by the method of claim could be a proper could not be infringed without infringing claim 1. Similarly, dependent claim. On the other hand, if claim 1 recites a method of making a specified product, a claim to the product set forth in claim 1 would not be a proper dependent claim if the product might be made in other ways.

Any claim which is in dependent form but which is so worded that it does not, in fact, include every limitation of the claim on which it depends, will be required to be cancelled as not being a proper dependent claim; and cancellation of any further claim depending on such a dependent claim will be similarly required. The applicant may thereupon amend the claims to place them in proper dependent form, or may redraft them as independent claims, upon payment of any necessary additional fee.

The basis for the difference in fees between independent and dependent claims is the fact that the examination of a dependent claim is normally a comparatively simple matter after the claim on which it depends has been examined. This relationship, however, obtains only when the independent claim represents a bona fide attempt to define the invention and to distinguish it from the known prior art. Accordingly, the presentation of a claim which on its face is obviously unpatentable or indefinite, as basis on which other claims are dependent, is not considered to be proper practice. One example of such a practice involves the use of a claim drawn to "all the features of novelty herein disclosed," with other claims, which actually recite the features thought to be novel, being dependent on the first. A similarly objectionable arrangement would involve the use, as a basic independent claim, of a claim merely reciting "a wheeled vehicle," "an amino acid" or "an internal combustion engine."

Such a practice as that just described involves not only an attempt to evade the fee provisions of Public Law 89–83, but also the presentation of a claim known by the attorney or agent presenting it to be unpatentable. Any registered patent attorney or agent who makes a practice of presenting claims of this character may be called on to explain his actions.

(Signed) EDWARD J. BRENNER,
Commissioner.

June 8, 1966.

Foreign Patents Received in the Scientific Library as of May 31, 1966

Source	Date received	Highest number
Australia:		
(*Abstracts*)	May 4, 1966	68,485
(*Patents*)	May 24, 1966	256,083
Austria	May 16, 1966	246,100
Belgium	Apr. 22, 1966	642,000
Canada	May 27, 1966	735,135
Czechoslovakia	May 27, 1966	116,450
Denmark	Apr. 14, 1966	102,955
East Germany	May 23, 1966	46,237
Egypt	Dec. 14, 1965	5,228
Finland	Mar. 21, 1966	34,942
France:		
(*Patents*)	May 16, 1966	1,426,900
(*Additions*)	May 12, 1966	86,400
(*Medicaments*)	May 9, 1966	3,400 M
(*Additions*)	Apr. 18, 1966	86 CAM
Germany:		
(*Auslegeschriften*)	May 25, 1966	1,212,460
(*Patents*)	May 25, 1966	1,199,971
Great Britain	May 23, 1966	1,028,760
India	June 14, 1965	89,253
Ireland	Mar. 14, 1966	24,259
Italy	Dec. 27, 1965	650,000
Japan	May 18, 1966	7,640/66
Netherlands:		
(*Octrooiaanvragen*)	Mar. 25, 1966	17,279/65
(*Patents*)	May 25, 1966	120,776
Norway	May 16, 1966	108,325
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	May 27, 1966	51,099
Rumania	Apr. 21, 1966	43,352
Sweden	May 16, 1966	202,582
Switzerland	May 19, 1966	401,882
U.S.S.R.	May 11, 1966	178,151

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1958
Latest 16,461/1941

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 16[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acidum hydroxytoluinicum hydroxytoluinic acid	2-hydroxy-3-methylbenzoic acid $C_8H_8O_3$
acidum nafcaproicum nafcaproic acid	α,α-diethyl-1-naphthaleneacetic acid $C_{16}H_{18}O_2$
acidum sulfaloxicum sulfaloxic acid	4'-[[(hydroxymethyl)carbamoyl]sulfamoyl]phthalanilic acid $C_{16}H_{16}N_2O_7S$
acidum tranexamicum tranexamic acid	*trans*-4-(aminomethyl)cyclohexanecarboxylic acid $C_8H_{15}NO_2$
alloclamidum alloclamide	2-(allyloxy)-4-chloro-*N*-[2-(diethylamino)ethyl]benzamide $C_{16}H_{23}ClN_2O_2$
alverinum alverine	*N*-ethyl-3,3'-diphenyldipropylamine $C_{20}H_{27}N$
amfepentorexum amfepentorex	*N*,α-dimethyl-*p*-pentylphenethylamine $C_{15}H_{25}N$
amicarbalidum amicarbalide	3,3-diamidinocarbanilide $C_{15}H_{16}N_6O$
aminophenazoni cyclamas aminophenazone cyclamate	*N*-methyl-*N*-(2,3-dimethyl-5-oxo-1-phenylpyrazolin-4-yl)amine cyclohexylsulfamate $C_{13}H_{17}N_3O \cdot C_6H_{13}NO_3S$
amlodaronum amlodarone	2-butyl-3-benzofuranyl *p*-[2-(diethylamino)ethoxy]-*m*,*m*-diiodophenyl ketone $C_{25}H_{29}I_2NO_3$
amprolii chloridum amprolium chloride	1-[(4-amino-2-propyl-5-pyrimidinyl)methyl]-2-picolinium chloride $C_{14}H_{19}ClN_4$
anagestonum anagestone	17-hydroxy-6α-methylpregn-4-en-20-one $C_{22}H_{34}O_3$
azabonum azabon	3-sulfanilyl-3-azabicyclo[3.2.2]nonane $C_{14}H_{20}N_2O_2S$
azacosterolum azacosterol	17β-[[3-(dimethylamino)propyl]methylamino]androst-5-en-3β-ol $C_{28}H_{48}N_2O$
azintamidum azintamide	2-[(6-chloro-3-pyridazinyl)thio]-*N*,*N*-diethylacetamide $C_{10}H_{14}ClN_3OS$
barbexaclonum barbexaclone	(−)-*N*,α-dimethylcyclohexaneethylamine compound with 5-ethyl-5-phenylbarbituric acid $C_{12}H_{12}N_2O_3 \cdot C_{10}H_{21}N$
bencyclanum bencyclane	3-[(1-benzylcycloheptyl)oxy]-*N*,*N*-dimethylpropylamine $C_{25}H_{33}NO$
benfurodili hemisuccinas benfurodil hemisuccinate	2-(1-hydroxyethyl)-β-(hydroxymethyl)-3-methyl-5-benzofuranacrylic acid γ-lactone hydrogen succinate $C_{19}H_{18}O_7$
biclotymolum biclotymol	2,2'-methylenebis[6-chlorothymol] $C_{21}H_{26}Cl_2O_2$
bolandioli dipropionas bolandiol dipropionate	estr-4-ene-3β,17β-diol dipropionate $C_{24}H_{36}O_4$
bolmantalatum bolmantalate	17β-hydroxyestr-4-en-3-one 1-adamantanecarboxylate $C_{30}H_{42}O_3$
buclosamidum buclosamide	*N*-butyl-4-chlorosalicylamide $C_{11}H_{14}ClNO_2$
bunamidinum bunamidine	*N*,*N*-dibutyl-4-hexyloxy-1-naphthamidine $C_{29}H_{44}N_2O$
buquinolatum buquinolate	ethyl 4-hydroxy-6,7-diisobutoxy-3-quinolinecarboxylate $C_{20}H_{27}NO_5$
butanilicainum butanilicaine	2-(butylamino)-6'-chloro-*o*-acetotoluidide $C_{13}H_{19}ClN_2O$
butaxaminum butaxamine	α-[1-(*tert*-butylamino)ethyl]-2,5-dimethoxybenzyl alcohol $C_{15}H_{25}NO_3$
butidrinum butidrine	α-[(*sec*-butylamino)methyl]-5,6,7,8-tetrahydro-2-naphthalene-methanol $C_{15}H_{23}NO$
butriptylinum butriptyline	10,11-dihydro-*N*,*N*,β-trimethyl-5*H*-dibenzo[*a*,*d*]cycloheptene-5-propylamine $C_{21}H_{27}N$
candicidinum candicidin	an antibiotic substance obtained from cultures of *Streptomyces griseus*, or the same substance produced by any other means
carbazocinum carbazocine	14-(cyclopropylmethyl)-1,2,3,4,4a,5,6,11-octahydro-5,11b-iminoethano-11b*H*-benzo[*a*]carbazole $C_{20}H_{25}N_3$
carpipraminum carpipramine	1'-[3-(10,11-dihydro-5*H*-dibenz[*b*,*f*]azepin-5-yl)propyl]-[1,4'-bipiperidine]-4'-carboxamide $C_{29}H_{40}N_4O$
cefaloglycinum cefaloglycin	7-(2-amino-2-phenylacetamido)-3-(hydroxymethyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, acetate ester, inner salt $C_{18}H_{18}N_4O_6S$
clamoxyquinum clamoxyquine	5-chloro-7-[[[3-diethylamino)propyl]amino]methyl]-8-quinolinol $C_{17}H_{24}ClN_3O$

[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446.
Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249.
[2] *Off Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
clioquinolum clioquinol	5-chloro-7-iodo-8-quinolinol C_9H_5ClINO
clocortolonum clocortolone	9-chloro-6α-fluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione $C_{22}H_{28}ClFO_3$
cloforexum cloforex	ethyl (*p*-chloro-α,α-dimethylphenethyl)carbamate $C_{13}H_{18}ClNO_2$
clomocyclinum clomocycline	7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-(hydroxymethyl)-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{24}H_{28}ClN_3O_9$
cloracetadolum cloracetadol	β,β,β-trichloro-α-hydroxy-*p*-acetophenetidide $C_{10}H_{10}Cl_3NO_3$
clorofenum clorofene	4-chloro-α-phenyl-*o*-cresol $C_{13}H_{11}ClO$
clotiapinum clotiapine	2-chloro-11-(4-methyl-1-piperazinyl)dibenzo[*b,f*][1,4]thiazepine $C_{18}H_{18}ClN_3S$
colestyraminum colestyramine	a styrenedivinyl-benzene copolymer (about 2 percent divinyl-benzene) containing quaternary ammonium groups
coumafosum coumafos	*O,O*-diethyl phosphorothioate *O*-3-chloro-7-hydroxy-4-methylcoumarin ester $C_{14}H_{16}ClO_6PS$
crufomatum crufomate	4-*tert*-butyl-2-chlorophenyl methyl *N*-methylphosphoramidate $C_{12}H_{19}ClNO_3P$
cyacetacidum cyacetacide	cyanoacetic acid hydrazide $C_3H_5N_3O$
cyprazepamum cyprazepam	7-chloro-2-[(cyclopropylmethyl)amino]-5-phenyl-3*H*-1,4-benzodiazepine, 4-oxide $C_{19}H_{18}ClN_3O$
cyprolidolum cyprolidol	diphenyl[2-(4-pyridyl)cyclopropyl]methanol $C_{21}H_{19}NO$
cyproteronum cyproterone	6-chloro-17-hydroxy-1α,2α-methylenepregna-4,6-diene-3,20-dione $C_{22}H_{27}ClO_3$
dextranum 40 dextran 40	a polyanhydroglucose of weight average molecular weight about 40,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 45 dextran 45	a polyanhydroglucose of weight average molecular weight about 45,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 75 dextran 75	a polyanhydroglucose of weight average molecular weight about 75,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 110 dextran 110	a polyanhydroglucose of weight average molecular weight about 110,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 150 dextran 150	a polyanhydroglucose of weight average molecular weight about 150,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextrofeminum dextrofemine	(+)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{19}H_{25}NO$
diaveradinum diaveradine	2,4-diamino-5(3′,4′-dimethoxybenzyl)pyrimidine $C_{14}H_{16}N_4O_2$
dicloxacillinum dicloxacillin	6-[3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolecarboxamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{19}H_{17}Cl_2N_3O_5S$
difebarbamatum difebarbamate	1,3-bis(3-butoxy-2-hydroxypropyl)-5-ethyl-5-phenylbarbituric acid dicarbamate ester $C_{36}H_{62}N_4O_9$
difluanazinum difluanazine	1-(2-anilinoethyl)-4-[4,4-bis(*p*-fluorophenyl)butyl]piperazine $C_{28}H_{33}F_2N_3$
dihydroergotaminum dihydroergotamine	dihydroergotamine $C_{33}H_{37}N_5O_5$
dimethyli sulfoxidum dimethyl sulfoxide	dimethyl sulfoxide C_2H_6OS
diminazenum diminazene	3,3′-(diazoamino)benzamidine $C_{14}H_{15}N_7$
dimpylatum dimpylate	*O,O*-diethyl 2-isopropyl-6-methyl-4-pyrimidinylphosphonothioate $C_{12}H_{21}N_2O_3PS$
dioxationum dioxation	a mixture consisting essentially of *cis*- and *trans*-*p*-dioxane-2,3-diyl ethyl phosphorodithioate $C_{12}H_{24}O_6P_2S_4$
dioxybenzonum dioxybenzone	2,2′-dihydroxy-4-methoxybenzophenone $C_{14}H_{12}O_4$
distigmini bromidum distigmine bromide	3-hydroxy-1-methylpyridinium bromide hexamethylenebis(*N*-methylcarbamate) $C_{28}H_{48}Br_2N_4O_4$
dodeclonii bromidum dodecloniun bromide	[2-(*p*-chlorophenoxy)ethyl]dodecyldimethylammonium bromide $C_{28}H_{53}BrClNO$
doxycyclinum doxycycline	4-(dimethylamino)-1,4-4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{22}H_{24}N_2O_8$
embutramidum embutramide	*N*-(β,β-diethyl-*m*-methoxyphenethyl)-4-hydroxybutyramide $C_{17}H_{27}NO_3$
epinephrinum epinephrine	(−)-α-3,4-dihydroxyphenyl-β-methylaminoethanol (synonym: adrenaline; in certain countries the name Adrenalin is a trademark) $C_9H_{13}NO_3$
estradioli undecylas estradiol undecylate	estradiol 17-undecanoate $C_{29}H_{44}O_3$
estrazinolum estrazinol	3-methoxy-8-aza-19-nor-17α-pregna-1,3,5-trien-20-yn-17-ol $C_{20}H_{25}NO_2$
etymidum etymide	2-ethoxy-*N*-methyl-*N*-[2-(methylphenethylamino)ethyl]-2,2-diphenylacetamide $C_{36}H_{42}N_2O_2$
fenamifurilum fenamifuril	tetrahydrofurfuryl (2-carbamoylphenoxy)acetate $C_{14}H_{17}NO_4$
fenamolum fenamole	5-amino-1-phenyl-1*H*-tetrazole $C_7H_7N_5$
fenimidum fenimide	3-ethyl-2-methyl-2-phenylsuccinimide $C_{13}H_{15}NO_2$
fenpentadiolum fenpentadiol	2-(*p*-chlorophenyl)-4-methyl-2,4-pentanediol $C_{12}H_{17}ClO_2$
flopropionum flopropione	2′,4′,6′-trihydroxypropiophenone $C_9H_{10}O_4$
floxuridinum floxuridine	2′-deoxy-5-fluorouridine $C_9H_{11}FN_2O_5$
flubanilatum flubanilate	ethyl *N*-[2-(dimethylamino)ethyl]-*m*-(trifluoromethyl)carbanilate $C_{14}H_{19}F_3N_2O_2$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
flugestonum flugestone	9-fluoro-11β,17-dihydroxypregn-4-ene-3,20-dione, 17 acetate $C_{23}H_{31}FO_5$
fluindarolum fluindarol	2-(α,α,α-trifluoro-*p*-tolyl)indan-1,3-dione $C_{16}H_9F_3O_2$
flumedroxonum flumedroxone	17-hydroxy-6α-(trifluoromethyl)pregn-4-ene-3,20-dione $C_{22}H_{29}F_3O_3$
flusalanum flusalan	3,5-dibromo-α,α,α-trifluoro-*m*-salicylotoluidide $Cl_{14}H_8Br_2F_3NO_2$
folescutolum folescutol	6,7-dihydroxy-4-(morpholinomethyl)coumarin $C_{14}H_{17}NO_5$
furazabolum furazabol	17-methyl-5α-androstano[2,3-c]furazan-17β-ol $C_{20}H_{32}N_2O_2$
furfenorexum furfenorex	(+)-*N*-methyl-*N*-(α-methylphenethyl)furfurylamine $C_{16}H_{19}NO$
gestonoroni caproas gestonorone caproate	17-hydroxy-19-norpregn-4-ene-3,20-dione hexanoate $C_{27}H_{40}O_4$
guaiactaminum guaiactamine	2-(*o*-methoxyphenoxy)triethylamine $C_{13}H_{21}NO_3$
guaiapatum guaiapate	1-[2-[2-[2-(*o*-methoxyphenoxy)ethoxy]ethoxy]ethyl]piperidine $C_{18}H_{29}NO_4$
guaifyllinum guaifylline	3-(*o*-methoxyphenoxy)-1,2-propanediol compound with theophylline $C_7H_8N_4O_2 \cdot C_{10}H_{14}O_4$
guanaclinum guanacline	[2-(3,6-dihydro-4-methyl-1(2*H*)-pyridyl]guanidine $C_8H_{12}N_4$
guanoctinum guanoctine	(1,1,3,3-tetramethylbutyl)guanidine
guanoxyfenum guanoxyfen	(3-phenoxypropyl)guanidine $C_{10}H_{15}N_3O$
halocarbanum halocarban	4,4′-dichloro-3-(trifluoromethyl)carbanilide $C_{14}H_9Cl_2F_3N_2O$
haloxonum haloxon	3-chloro-7-hydroxy-4-methylcoumarin bis(2-chloroethyl)phosphate $C_{14}H_{16}Cl_3O_6P$
hamycinum hamycin	an antibiotic substance obtained from cultures of *Streptomyces pimprina*, or the same substance produced by any other means
heptaverinum heptaverine	*N,N*-dimethyl-γ-phenyl-Δ^2,γ-norbornanepropylamine $C_{18}H_{25}N$
hydroxycarbamidum hydroxycarbamide	hydroxyurea $CH_4N_2O_2$
ibuprofenum ibuprofen	α-*p*-isobutylphenylpropionic acid $C_{13}H_{18}O_2$
imidolinum imidoline	1-(*m*-chlorophenyl)3-[2-(dimethylamino)ethyl]-2-imidazolidinone $C_{13}H_{18}ClN_3O$
imolaminum imolamine	4-[2-(diethylamino)ethyl]-5-imino-3-phenyl-Δ^2-1,2,4-oxadiazoline $C_{14}H_{20}N_4O$
insulini injectio biphasica biphasic insulin injection	a sterile suspension of beef insulin crystals in a neutral solution of pork insulin
ketaminum ketamine	2-(*o*-chlorophenyl)-2-(methylamino)cyclohexanone $C_{13}H_{16}ClNO$
lactulosum lactulose	4-*O*-β-D-galactopyranosyl-*D*-fructose $C_{12}H_{22}O_{11}$
mebezonii iodidum mebezonium iodide	(methylenedi-1,4-cyclohexylene)bis[trimethylammonium iodide] $C_{19}H_{40}I_2N_2$
medibazinum medibazine	1-(diphenylmethyl)-4-piperohylpiperazine $C_{28}H_{32}N_2O_2$
medrysonum medrysone	11β-hydroxy-6α-methylpregn-4-ene-3,20-dione $C_{22}H_{30}O_3$
mefrusidum mefruside	4-chloro-N^1methyl-N^1-(2-methyltetrahydrofurfuryl)-*m*-benzenedisulfonamide $C_{12}H_{18}ClN_3O_6S_2$
mesoridazinum mesoridazine	10-[2-1-methyl-2-piperidyl)ethyl]-2-(methylsulfinyl)phenothiazine $C_{21}H_{26}N_2OS_2$
metabromsalanum metabromsalan	3,5-dibromosalicyl anilide $C_{13}H_9Br_2NO_2$
metalliburum metallibure	1-methyl-6-(1-methylallyl)-2,5-dithiobiurea $C_7H_{14}N_4S_2$
metazamidum metazamide	1-(*p*-methoxyphenyl)-5-methyl-4-imidazolin-2-one $C_{11}H_{12}N_2O_2$
meticranum meticrane	6-methylthiochroman-7-sulfonamide 1,1-dioxide $C_{10}H_{13}NO_4S_2$
metindizatum metindizate	2-(hexahydro-1-methyl-3-indolinyl)ethyl benzilate $C_{25}H_{31}NO_3$
metofenazatum metofenazate	2-[4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazinyl]ethyl 3,4,5-trimethoxybenzoate ester $C_{31}H_{36}ClN_3O_5S$
metrifonatum metrifonate	dimethyl (2,2,2-trichloro-1-hydroxyethyl)phosphonate $C_4H_8O_4PCl_3$
methylperonum methylperone	4′-fluoro-4-(4-methylpiperidino)butyrophenone $C_{18}H_{26}FNO$
metyridinum metyridine	2-(2-methoxyethyl)pyridine $C_8H_{11}NO$
mithramycinum mithramycin	an antibiotic substance obtained from cultures of *Streptomyces tanashiensis*, or the same substance produced by any other means
nafiverinum nafiverine	1,4-piperazinediethanol α-methyl-1-naphthaleneacetate ester $C_{24}H_{30}N_2O_4$
nafoxidinum nafoxidine	1-[2-[p-(3,4-dihydro-6-methoxy-2-phenyl-1-naphthyl)phenoxy]ethyl]pyrrolidine $C_{28}H_{31}NO_2$
naftalofosum naftalofos	*N*-hydroxynaphthylimide diethyl phosphate $C_{16}H_{18}NO_6P$
naftazonum naftazone	1,2-naphthaquinone 2-semicarbazone $C_{11}H_9N_3O_2$
naftypramidum naftypramide	α-isopropyl-α-[2-(dimethylamino)ethyl]-1-naphthaleneacetamide $C_{20}H_{28}N_2O$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
nifuradenum nifuradene	1[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_8H_8N_4O_4$
nifurdazilum nifurdazil	1-(2-hydroxyethyl)-3-[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_{10}H_{12}N_4O_5$
nifurmeronum nifurmerone	chloromethyl 5-nitro-2-furyl ketone $C_6H_4ClNO_4$
nifurprazinum nifurprazine	3-amino-6-[2-(5-nitro-2-furyl)vinyl]pyridazine $C_{10}H_8N_4O_3$
nifursemizonum nifursemizone	5-nitro-2-furaldehyde 2-ethylsemicarbazone $C_8H_{10}N_4O_4$
nitrazepamum nitrazepam	1,3-dihydro-7-nitro-5-phenyl-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{11}N_3O_3$
nogalamycinum nogalamycin	an antibiotic substance obtained from cultures of *Streptomyces nogalater*, or the same substance produced by any other means
norfenefrinum norfenefrine	β-aminomethyl-α-3-hydroxyphenylethanol $C_8H_{11}NO_2$
obidoximi chloridum obidoxime chloride	1,1′-(oxydimethylene)bis[4-formylpyridinium chloride]dioxime $C_{14}H_{14}Cl_2N_4O_3$
octafonii chloridum octafonium chloride	benzyldiethyl[2-[4-(2,2,4-trimethylpentyl)phenoxy]ethyl]ammonium chloride $C_{27}H_{42}ClNO$
oleum radio-ethiodatum (^{131}I) radio-ethiodized oil (^{131}I)	an iodine addition product of the ethyl ester of the fatty acid of poppyseed oil, containing 475 mg./ml. (37 percent by weight) of iodine. A portion of this iodine is the radioactive isotope ^{131}I.
oxybenzonum oxybenzone	2-hydroxy-4-methoxybenzophenone $C_{14}H_{12}O_3$
oxyclozanidum oxyclozanide	3,5,6,3′,5′-pentachloro-2,2′-dihydroxybenzanilide $C_{13}H_5Cl_5NO_3$
oxyfedrinum oxyfedrine	L-3[(β-hydroxy-α-methylphenethyl)amino]-3′-methoxypropiophenone $C_{19}H_{23}NO_3$
pancreozyminum pancreozymin	a hormone obtained from duodenal mucosa
paraflutizidum paraflutizide	6-chloro-3,4-dihydro-3-(*p*-fluorobenzyl)-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide $C_{14}H_{13}ClFN_3O_4S_2$
pecilocinum pecilocin	an antibiotic substance obtained from cultures of *Paecilomyces varioti bainier*, or the same substance produced by any other means
penamecillinum penamecillin	acetate ester of the hydroxymethyl ester of Penicillin G $C_{18}H_{22}N_2O_6S$
penimepicyclinum penimepicycline	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-[[4-(2-hydroxyethyl)-1-piperazinyl]methyl]-6-methyl-1,11-dioxo-2-naphthacenecarboxamide salt with Penicillin V $C_{48}H_{56}N_6O_{14}S$
pentorexum pentorex	α,α,β-trimethylphenethylamine $C_{11}H_{17}N$
pifenatum pifenate	ethyl α,α-diphenyl-2-piperidinepropionate $C_{24}H_{27}NO_2$
piperonyli butoxidum piperonyl butoxide	α-[2-(2-butoxyethoxy)ethoxy]-4,5-(methylenedioxy)-2-propyltoluene $C_{19}H_{30}O_5$
pipobromanum pipobroman	1,4-bis(3-bromopropionyl)piperazine $C_{10}H_{16}Br_2N_2O_2$
prednazatum prednazate	11β,17,21-trihydroxypregna-1,4-diene-3,20-dione, 21-(hydrogen succinate), compound with 4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazineethanol $C_{35}H_{43}O_9 \cdot C_{23}H_{29}ClN_3OS$
prednisoloni steaglas prednisolone steaglate	the stearate ester of 11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-glycolate $C_{41}H_{64}O_7$
procarbazinum procarbazine	*N*-isopropyl-α-(2-methylhydrazino)-*p*-toluamide $C_{12}H_{19}N_3O$
proglumidum proglumide	D,L-4-benzamido-*N*,*N*-dipropylglutaramic acid $C_{18}H_{26}N_2O_4$
prolintanum prolintane	1-phenyl-2-*N*-pyrrolidinopentane $C_{15}H_{23}N$
propipocainum propipocaine	3-piperidino-4′-propoxypropiophenone $C_{17}H_{25}NO_2$
propiramum propiram	*N*-(1-methyl-2-piperidinoethyl)-*N*-2-pyridylpropionamide $C_{14}H_{23}N_3O$
propyperonum propyperone	4′-fluoro-4-(4-piperidino-4-propionylpiperidino)butyrophenone $C_{28}H_{35}FN_2O_3$
protionamidum protionamide	2-propylthioisonicotinamide $C_9H_{12}N_2S$
pyridaronum pyridarone	2-(4-pyridyl)-benzofuran $C_{13}H_9NO$
pyrimitatum pyrimitate	*O*,*O*-diethyl *O*-[2-dimethylamino-6-methyl-4-pyrimidinyl]phosphorothioate $C_{11}H_{20}N_3O_3PS$
pyritidii bromidum pyritidium bromide	3-amino-8-[(2-amino-6-methyl-4-pyrimidinyl)amino]-6-(*p*-aminophenyl)-5-methylphenanthridinium bromide methobromide $C_{28}H_{27}Br_2N_7$
pyrrolifenum pyrrolifene	α-benzyl-β-methyl-α-phenyl-1-pyrrolidinepropanol acetate $C_{28}H_{33}NO_2$
quinetalatum quinetalate	6-(diethylcarbamoyl)-3-cyclohexene-1-carboxylic acid compound with 4-[[2-(dimethylamino)ethyl]amino]-6-methoxyquinoline (2:1) $C_{14}H_{18}N_2O \cdot 2C_{13}H_{19}NO_3$
racefeminum racefemine	(±)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{20}H_{27}NO$
racemelfalanum racemelfalan	(±)-3-[*p*-[bis(2-chloroethyl)amino]phenyl]alanine $C_{13}H_{18}Cl_2N_2O_2$
radiomerisoprolum (^{197}Hg) radiomerisoprol (^{197}Hg)	1-(hydroxymercuri-^{197}*Hg*)-2-propanol $C_3H_8HgO_2$
sulfacetenum sulfacetene	N^1-acetyl-N^1-(3-methoxypyrazinyl)sulfanilamide $C_{13}H_{14}O_4N_4S$
sulformetoxinum sulformetoxine	N^1-(5,6-dimethoxy-4-pyrimidinyl)sulfanilamide $C_{12}H_{14}N_4O_4S$
sulisobenzonum sulisobenzone	5-benzoyl-4-hydroxy-2-methoxybenzenesulfonic acid $C_{14}H_{12}O_6S$
terodilinum terodiline	*N*-*tert*-butyl-1-methyl-3,3-diphenylpropylamine $C_{20}H_{27}N$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
testosteroni ketolauras testosterone ketolaurate	testosterone 3-oxododecanoate $C_{31}H_{48}O_4$
tetramisolum tetramisole	(±)-2,3,5,6-tetrahydro-6-phenylimidazo[2,1-*b*]thiazole $C_{11}H_{12}N_2S$
tiamizidum tiamizide	4-chloro-*N*-methyl-3-(methylsulfamoyl)benzamide $C_9H_{11}ClN_3O_3S$
tioguaninum tioguanine	2-aminopurine-6-thiol $C_5H_5N_5S$
tiotixenum tiotixene	*N*,*N*-dimethyl-9-[3-(4-methyl-1-piperazinyl)propylidene]thioxanthene-2-sulfonamide $C_{23}H_{30}N_4O_2S_2$
tioxolonum tioxolone	4-hydroxy-1,3-benzoxathiol-2-one $C_7H_4O_3S$
tolycainum tolycaine	methyl 2-[2-(diethylamino)acetamido]-*m*-toluate $C_{15}H_{22}N_2O_3$
triclacetamolum triclacetamol	2,2,2-trichloro-4′-hydroxyacetanilide $C_8H_6Cl_3NO_2$
triclocarbanum triclocarban	3,4,4′-trichlorocarbanilide $C_{13}H_9Cl_3N_2O$
triclodazolum triclodazol	3-(2,2,2-trichloro-1-hydroxyethyl)-5,5-diphenyl-4-imidazolidinone $C_{17}H_{13}Cl_3N_2O_2$
trifluperidolum trifluperidol	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{23}F_4NO_2$
trioxysalenum trioxysalen	6-hydroxy-β,2,7-trimethyl-5-benzofuranacrylic acid, α-lactone $C_{14}H_{12}O_5$
tylosinum tylosin	an antibiotic substance obtained from cultures of *Streptomyces fradiae*, or the same substance produced by any other means.
urokinasum urokinase	a plasminogen activator isolated from human urine
vasopressini injectio vasopressin injection	a sterile aqueous solution containing the pressor principle of the posterior lobe of the pituitary body
verapamilum verapamil	5-[(3,4-dimethoxyphenethyl)methylamino]-2-(3,4-dimethoxyphenyl)-2-isopropylvaleronitrile $C_{27}H_{38}N_2O_4$
vinglycinatum vinglycinate	deacetylvincaleukoblastine 4-ester with *N*,*N*-dimethylglycine $C_{48}H_{58}N_6O_9$
vintiamolum vintiamol	*N*[(4-amino-2-methyl-5-pyrimidinyl)methyl]-*N*-[2-[(2-benzoylvinyl)thio]-4-hydroxy-1-methyl-1-butenyl]formamide $C_{21}H_{24}N_4O_3S$
viridofulvinum viridofulvin	an antibiotic substance obtained from cultures of *Streptomyces viridogriseus*, or the same substance produced by any other means
xantinoli nicotinas xantinol nicotinate	7-[2-hydroxy-3-[(2-hydroxyethyl)methylamino]propyl]theophylline nicotinate $C_{14}H_{23}N_5O_4 \cdot C_6H_5NO_2$

NOTE.—Proposed International Non-Proprietary Names List 15, WHO/Pharm/Nom/41.65, delete

fiumoperonum fiumoperone	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{23}F_4NO_2$

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	9-17-62	11-14-60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1- 9-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3- 4-63	4- 5-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	2- 5-63	7-18-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-11-62	2- 26-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	9-24-62	11-16-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	8-28-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative - Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-27-62	5-21-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12-31-62	10- 5-61
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6- 5-63	1- 2-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	1-28-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	9- 4-62	2-15-60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	11- 1-62	4- 5-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	11-13-62	6-15-61
ELEMENTS, GROUP 270—M. L. LEVY, Manager Conductors; Switches; Miscellaneous.	3-19-63	8-17-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-30-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	5-17-65	6- 8-64

Total number of pending applications (excluding Designs)	198,186
Total number of Design applications pending	4,690
Total number of applications awaiting action (excluding Designs)	146,208
Total number of Design applications awaiting action	2,722
Date of oldest new application awaiting action	Sept. 4, 1962
Date of oldest amended application awaiting action	Feb. 15, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953*.

Patents	Numbers 2,474,805 to 2,477,557, inclusive
Plant Patents	Numbers 852 to 857, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	8-14-64	12- 2-63
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	11-15-63	8-16-61
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	4-10-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifuge Bowl Separators.	1-20-64	11- 7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8- 5-64	8-21-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	9-26-63	1- 3-62
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	10-14-63	6-18-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	5- 3-63	3-22-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-24-64	5-15-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-25-63	8-15-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7- 1-63	7-13-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE RICHARD CLEMINSON CUSSONS AND DOUGLAS DEWAR

No. 7494. Decided January 13, 1966

[53 CCPA —; 354 F.2d 384; 148 USPQ 277]

1. CLAIM—CONSTRUCTION—BROADEST APPLICABLE MEANING ASSIGNED.

"Appellants do not advance the recitation of the axially extending passage as located 'about' the axle in claim 7 as distinguishing over the passage in Griswold and we do not think that it does so distinguish. Among the meanings attributed to the preposition 'about' in Webster's Third New International Dictionary, 1961, are 'in the immediate neighborhood of' and 'near.' The record reveals no reason why anything but the broadest applicable meaning should be assigned here."

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—"COOLING MEANS FOR WHEEL AND BRAKE ASSEMBLY."

The refusal of certain claims to aircraft landing gear in an application entitled "Cooling Means for Wheel and Brake Assembly," as unpatentable over the prior art is affirmed as to some of the claims and reversed as to the others.

APPEAL from the Patent Office. Serial No. 39,664.

MODIFIED.

Samuel L. Davidson, *Herbert J. Jacobi* (*Benjamin T. Rauber* and *Joseph D. Lazar* of counsel) for appellants.

Clarence W. Moore (*J. F. Nakamura* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 7 through 11 and 13 of appellants' application Serial No. 39,664, filed June 29, 1960, for Cooling Means for Wheel and Brake Assembly. The rejection of two other claims was reversed by the Board.

The sole issue is obviousness over the prior art under 35 U.S.C. 103.

Appellants' invention relates to an assembly of a wheel with a disc brake for aircraft landing gear. In order to dissipate the heat produced in the brake on landing of the aircraft, appellants provide an electric motor driven fan arranged to draw cooling air through the assembly.

The construction embodies a wheel rim having a centrally-located radial flange member which is rotatably supported by means of bearings on a hollow axle. The axle in turn is fixedly secured to the leg of the landing gear. Such construction results in an annular space being defined between the wheel rim and the axle at each side of the central flange. The disc brake is located in the inner of those annular spaces, that is, the one adjacent the leg of the landing gear. It comprises a plurality of annular rotor discs mounted to slide axially on splines on the inner surface of the wheel rim interleaved with annular stator discs mounted with splines on an annular torque member secured to the axle. Operation of the brake is through a fluid pressure cylinder which forces the assembly of rotor and stator discs into frictional engagement against an annular backing plate.

The annular space accommodating the brake structure is open to the atmosphere at its inner end. Openings are provided in the rim flange communicating with the interior of a tubular shield disposed about the axle in the other or outer annular space. That shield is of conical configuration having its smaller end at the outer end of the assembly to provide an annular passage about the axle, which passage is open to the atmosphere at that end of the assembly. Within the hollow axle is an electric motor operative to drive a fan having blades extending radially across the annular passage between the shield and the axle. Operation of the motor, which may be initiated either automatically or manually upon landing of the aircraft, draws air into the annular space at the inner end of the rim with the brake structure therein, through the openings in the central flange, through the annular passage within the shield, and finally out of the outer end of the latter passage.

Claims 7 and 9, which are representative, read:

7. An aircraft landing gear which comprises a non-rotatable axle, a wheel rim rotatably mounted on said axle and enclosing an axially extending passage located about said axle, a disc brake assembly in said passage, a fan positioned at one end of said passage to pass an axially directed current of cooling air through said passage and an electric driving motor for said fan.

9. An aircraft landing gear which comprises a non-rotatable hollow axle, a wheel rim rotatably supported on said axle and spaced concentrically from the axle to form an open ended axially extending annular passage, a disc brake mounted in said passage and connected to said axle and said rim to provide passages for air axially of said passage, a motor in said axle operable independently of said wheel and a fan driven by said motor and having blades extending radially across said annular passage to pass an axially directed flow of cooling air through said passage and about said brake assembly.

The appealed claims stand rejected on the combination of the following patents:

Griswold, 2,922,495, January 26, 1960.
White, 2,959,255, November 8, 1960.

Griswold also relates to a wheel and disc brake assembly for aircraft landing gear. That construction includes a fixed hollow hub having plate-like annular extensions at its inner and outer ends to form an axle.[1] The wheel rim is rotatably mounted on those extensions near its inner and outer ends, providing an annular space between it and the hub with its extensions for receiving the friction discs of the brake. The inner of the annular extensions of the axle, that is, the one at the end of the axle secured to a leg of the landing gear, is provided with a plurality of circumferentially spaced openings, "whereby cooling air is free to circulate through * * * [those] openings * * * into the area of the friction discs." In addition, the central hub portion of the axle is provided with circumferential spaced openings providing communication between the annular passage where the brake is located and the hollow interior of the axle with the latter communicating through a central opening in the outer end with the atmosphere. That opening is disclosed as permitting ingress of air into the axle from whence it may also pass upwardly through the circumferential openings into the area of the brake discs to cool the same. Griswold does not disclose the use of a fan for providing forced air circulation.

[1] Although Griswold states that the wheel "is journalled upon the stationary disc or plate assembly * * *, instead of upon an axle as is conventionally done," it is apparent the "assembly" functions as an axle.

The White patent relates to an arrangement for cooling a conventional drum type brake for a motor vehicle wheel by flowing air over the braking elements. The brake comprises a brake drum rotatable with the wheel and a stationary backing plate which together form a housing for conventional brake elements including brake shoes. The cooling arrangement involves a port in the backing plate near the drum surface, a fan in the port for blowing air into the brake housing and an opposing exhaust port in the brake drum for the exit of cooling air after it passes over the braking elements. The fan is driven through a driving wheel which expands into contact with the flange of the brake drum to be driven thereby upon a predetermined temperature being reached due to the heat generated by braking action. The patent states that the fan need not be driven from the brake drum and that any number of fans and exhausts may be used.

The appealed claims were held unpatentable over Griswold in view of White. The Board observed that Griswold shows an axially extending passage with a disc brake therein and stated that air is free to pass through openings into the passage to cool the brake discs. It regarded the use of a fan to force circulation of cooling air through the brake of White as making it obvious to one skilled in the art to use a fan for a similar purpose in the basic reference, and stated that such a fan could just as well be placed in the hub cavity of Griswold as at the end of the axial passage. It was also the Board's view that it would be obvious to operate the fan through an independently driven motor, such as an electric or hydraulic motor, instead of from the brake drum.

So far as claims 7 and 8 are concerned, we find no error in the decision of the Board. White's disclosure of use of a fan for forcing cooling air through a vehicle brake would certainly suggest to one skilled in the art that a fan be employed to improve the air cooling of Griswold's disc brake. We also think that such person would find it obvious that an independently powered motor, such as an electric motor, could be used.

In making the suggested modification, it would be obvious to position the fan within the hub or axle of Griswold adjacent the central opening at the outer end thereof with blades of the fan projecting radially at said opening. Such an arrangement would force air through a passage extending through the openings at the inner end of Griswold's structure, past the brake discs, inwardly through the central openings in the hub and then through the hub and the axial opening therein. That path constitutes an axially directed passage as required by claims 7 and 8, even though the flow would include a radial component at the central part of the axle as, indeed, would also the flow through appellants' device.[2]

Claim 9 and dependent claims 10, 11 and 13 present a different situation, however. There the axially extending passage is defined as annular and the blades of the fan are described as extending across the annular passage.

While the passage available in Griswold for passing cooling air therethrough is annular at the inner end and around the brake ele-

[1] [2] Appellants do not advance the recitation of the axially extending passage as located "about" the axle in claim 7 as distinguishing over the passage in Griswold and we do not think that it does so distinguish. Among the meanings attributed to the preposition "about" in Webster's Third New International Dictionary, 1961, are "in the immediate neighborhood of" and "near." The record reveals no reason why anything but the broadest applicable meaning should be assigned here.

ments, the remainder of the passage is inside the axle or hub and is not annular. Thus the provision of a motor and fan as discussed above in connection with claims 7 and 8 would not result in the blades of the fan extending radially across an annular passage. Also, the axle of the Griswold device is completely closed at the inner end by structure constituting the means for attaching the assembly to the landing gear leg. It thus is not apparent how a motor might be incorporated in the particular aircraft wheel and brake assembly shown in Griswold to drive a fan with blades extending across the openings into the annular portion of its passage. Certainly the cited art does not suggest any modification of the Griswold structure that would make such an arrangement possible and it is not apparent from the record that the basic wheel structure of appellants is old.

The Solicitor cites *In re Billingsley*, 47 CCPA 1108, 279 F.2d 689, 126 USPQ 370, for the following principle of law which he urges is applicable here:

> * * * It is not necessary in combining references that it should be possible to substitute features of one physically in the structure of the other. It is sufficient if, taken together, the references would suggest doing what the applicant has done.

We accept that principle as is apparent from our conclusion that claims 7 and 8 were properly rejected. However, we do not find any suggestion here that the Griswold device be modified to provide the structure more specifically defined in claim 9 and, therefore, must reverse the rejection of that claim and those dependent thereon.

[2] The decision is affirmed as to claims 7 and 8 and reversed as to claims 9, 10, 11 and 13.

MODIFIED.

SMITH, *J.*, dissenting in part, with whom RICH, *J.*, joins:

I do not find a valid basis for the affirmance of the rejection of claims 7 and 8 while reversing the rejection of the other claims. It seems to me that the language of claim 7 which locates the axially extending passage "about said axle" points out the same structural distinction over the art which the majority finds recited in claims 9–11 and 13. While the *language* of claims 9–11 and 13 is more specific than is the *language* of claim 7, we are here concerned only with whether the claims define a structure which is obvious under the conditions specified in 35 U.S.C. 103. I agree that neither reference structure shows the "open ended axially extending annular passage" of claims 9–11 and 13. However, when the same passage is defined as "an axially extending passage located about the axle," as it is in claims 7 and 8, the majority agrees with the Board that it is an obvious structure. I am unwilling to do so.

In addition, there are other features of claims 7 and 8 not discussed by the majority and which seem to me to be significant on this issue. Thus, no art of record shows "a fan positioned at one end" of the axially extending passage "about said axle" as called for in claims 7 and 8. In addition, no reference either alone or in combination shows such a fan driven by an electric motor as called for in claim 7. Similarly there is nothing of record which suggests placing the fan driving motor "within said axle," as called for in claim 8.

The majority opinion specifically recognizes that the air passage

in appellants' invention is located *outside* the axle. It also specifically states that locating a fan (assumedly having driving means)

> within the hub or axle of Griswold adjacent the central opening at the outer end thereof with blades of the fan projecting radially at said opening * * * would force air through a passage extending through the openings at the inner end * * * past the brake discs, inwardly through the central openings *in the hub* [axle] and then *through the hub* [axle] and the axial opening therein. [Emphasis added.]

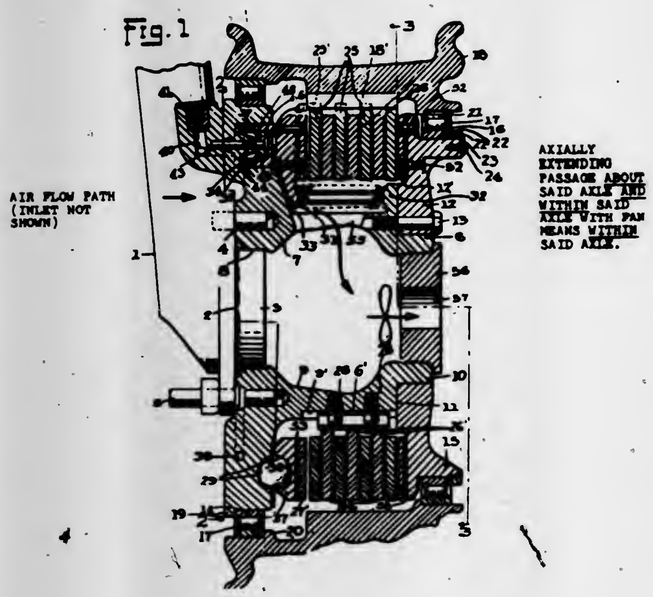
From the figures below I find it impossible to interpret Griswold in such a manner to yield "an axially extending passage located about said axle" enclosed by the rotatable wheel rim as called for in appealed claims 7 and 8. Clearly a fan and motor positioned in the radially extending opening *inside the axle* would not have the fan "positioned at one end of said passage," meaning "the axially extending passage *located about said axle*," as called for in appealed claims 7 and 8.

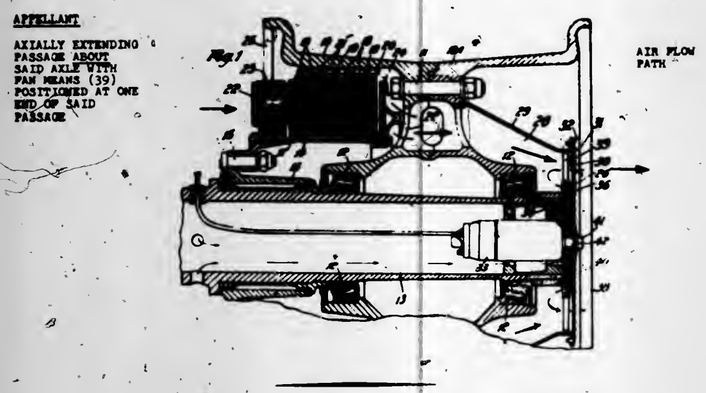
"About" is defined in Webster's Third International Dictionary (1961) as including the following meanings: "1: on all sides: in every direction: Around * * * 2a: in rotation: Round * * * b: around the outside: in circumference * * *" I cannot conclude that "about said axle" means both within the axle and outside the axle as the majority opinion requires. While the language of a claim is to be construed broadly, I know of no principle that requires that language to be construed so broadly so as to be contrary to the disclosed manner of operation of the invention defined by the claims. Here the term "about said axle" should be construed consistently with the disclosure of the invention.

While I agree with the reversal of the rejection of claims 9–11 and 13, I disagree with the affirmance of the rejection of claims 7 and 8.

GRISWOLD

Fig. 1





U.S. Court of Customs and Patent Appeals

IN RE VICTOR A. J. VAN LINT AND PAUL H. MILLER, JR.

No. 7525. Decided January 18, 1966

[53 CCPA —; 354 F.2d 675; 148 USPQ 285]

1. PATENTABILITY—REFERENCES—PUBLICATION SUBSEQUENT TO FILING DATE IS NOT PRIOR ART.

"The Board referred to 'Digital Computer Design Fundamentals' by Yaohan Chu, McGraw-Hill Book Co., 1962, pages 229 and 230, as showing that the '3000 A. [Angstrom] thickness is merely a mathematically derived constant recognized as the upper limit for thin film effects • • •.' It is not seen how that publication can be relevant here since it is subsequent to appellants' filing date and thus, as conceded by the Solicitor, 'is not a prior art reference.' Moreover, it is not seen as teaching that a superconducting film less than 3000 Angstroms thick would have the property of permitting penetration by a magnetic field less than the threshold value."

2. SAME—CLAIMS—SIGNIFICANCE OF PREAMBLE DEPENDS ON THE FACTS OF THE CASE—*In re Sinex* CONSTRUED.

"The Solicitor has urged that the designation of the claimed subject matter in the preamble as an 'information storage device' is merely a designation of intended use which should not be considered as distinguishing the claimed structure over the references. In support of that contention, he refers to *In re Sinex*, 50 CCPA 1004, 309 F.2d 488, 135 USPQ 302, and cases listed in Appendix 'A' to *Kropa* v. *Robic et al.*, 38 CCPA 858, 187 F.2d 150, 88 USPQ 478. While Appendix 'A' of the latter case lists previous ex parte cases in which 'the preamble [was] held not to express a limitation of the claim,' the case includes an Appendix 'B' listing cases in which the contrary conclusion was reached. It seems apparent from the decisions on this point, including *Sinex*, that the significance of the preamble is something to be determined on the basis of the facts of each case. It is unnecessary to discuss the point in detail here since the body of each claim defines novel features which are also unobvious over the prior art of record. Moreover, those features are disclosed as lending particular utility to the structure as such a device."

3. SAME—PARTICULAR SUBJECT MATTER—INFORMATION STORAGE DEVICE.

The decision of the Board of Appeals, refusing certain claims to an Information Storage Device as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 687,806.

REVERSED.

Robert K. Schumacher for appellants.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

Appellants appeal from the decision of the Board of Appeals affirming the Examiner's rejection, as obvious over the prior art, of claims 2 and 4 through 10 of their application, Serial No. 687,806, filed October 2, 1957, for Information Storage Device. No claims are allowed.

The invention relates to an information storage device which utilizes the property of superconductivity possessed by certain metals and alloys. The application points out that at low temperatures approaching absolute zero (0 degrees Kelvin), such materials go through a transition into a superconducting state in which the electrical resistance has a value approaching zero, thereby becoming perfect or nearly perfect electrical conductors. That change, from the normal to the superconducting state, is reversible and takes place at a critical temperature which depends upon the material and the magnetic field intensity to which it is exposed. Superconducting material is described as "generally an effective electromagnetic shield." However, the application of a magnetic field exceeding a certain critical strength will destroy the conductivity of a material and eliminate the shielding effect.

Appellants further state:

> • • • We have now discovered that a thin superconducting film having a magnetic field producing means such as a length of wire conductor or an exciting coil on one side and a signal pickup means such as a coil on the other side when constructed as hereinafter set forth, may be utilized as a bi-stable storage or memory device. The adaptability of such a structure as a memory device may be demonstrated by applying positive and negative current pulses to the excitation means and observing the current pulses induced in the pickup means. For example, in a device having an exciting coil and a pickup coil, if very small current pulses are applied to an exciting coil, no current pulses or signals are induced in the pickup. This phenomenon is expected, since a superconducting film is generally an effective electromagnetic shield. As the exciting current is increased, current pulses begin to be induced in the pickup coil. These pulses are apparently due to increments of magnetic flux which penetrate the film and induce currents in the pickup coil. If a signal pulse is applied to the exciting coil and then turned off, only a single pulse of like polarity is observed in the pickup coil. The flux which was forced through the film apparently remains there as permanent magnetization. If a series of input pulses of one polarity are applied to the exciting coil, it will be observed that only the first pulse produces a signal in the pickup coil. If the polarity of the input pulses is reversed, only the first pulse of opposite polarity produces a signal in the pickup coil. This may be explained by a reversal in the direction of the magnetic field which is frozen in the superconducting film. If sufficiently large exciting currents are used, only part of the flux remains frozen into the film. The first exciting pulse of a given polarity will in this case produce a large pulse of like polarity associated with the flux change, followed by a smaller signal of opposite polarity due to the return of part of the flux from the film. Subsequent pulses of like polarity will then produce like and opposite polarity signals of the same magnitude as the initial smaller return signal.
>
> A device of this type may be used as a bi-stable memory device since the film remembers the polarity of a previously existing current pulse by retaining a residual magnetization of that polarity. The information can be read out by applying another pulse to the exciting coil and observing whether a signal appears in the pickup coil.

In the specific device appellants disclose, a thin film of superconducting material less than 3000 Angstrom units[1] thick is formed, as by vacuum deposition, on a supporting plate of insulating material, a flat spirally wound exciting coil is located on one side of the film,

[1] An Angstrom is 10^{-10} meter.

and an axially wound cylindrical pickup coil is located on the other side of the plate in general alignment with the exciting coil. A preferred embodiment utilizes a film of lead kept in the superconductive state by immersion of the device in liquid helium, which has a temperature of about 4.2 degrees Kelvin, about three degrees below the critical transition temperature (for superconductivity) of lead.

Concerning the exciting or excitation coil, appellants state:

> * * * An excitation coil which produces a flux density of one gauss or less in free space is generally sufficient to penetrate the superconducting film of the present device. This is considerably smaller than the value of the field required to completely destroy the superconductivity of the film.

They further disclose that the current pulse passed through that coil to produce the desired magnetic field may be "about a value of 0.1 ampere."

Claim 10, accepted as illustrative by both the appellants and the Board, reads:

> 10. An information storage device comprising a thin film of superconducting material having a thickness less than 3,000 Angstrom units, excitation means adjacent one side of said film, means for coupling said excitation means to a source of current pulses, said excitation means being operable in response to the flow of current pulses therethrough to form a magnetic field with components of lines of flux extending normal to the plane of said film and of a strength less than that necessary to destroy the superconductivity of the film but greater than that necessary to cause lines of flux to penetrate through said film, and pickup means fixedly disposed adjacent the other side of said film for detecting changes in the lines of flux which penetrate through said superconducting film, said film extending beyond said pickup means a sufficient distance to shield said pickup means from lines of flux other than those penetrating through said film.

The other appealed claims are somewhat more specific. Among the additional limitations found in those claims are recitations that the film is a lead film of a thickness between about 50 and 200 Angstrom units, that the exciting coil is no more than .010 of an inch from the film, and that the current pulses are about 0.1 ampere or less.

The claims stand rejected as defining subject matter obvious to one of ordinary skill in the art in view of the following publication:

> Hewlett, "Superconductivity," General Electric Review, vol. 49, No. 6, June 1946, pages 19 to 25.

Reference was also made by the Board to:

> Standard Handbook for Electrical Engineers, McGraw-Hill Book Company, Inc., 1915, page 186.

The Hewlett article provides a general discussion of the phenomenon of superconductivity. It tabulates the elements which can be made superconductive and also states that many alloys and metallic compounds are superconducting at low temperatures. A discussion of the relationships that the temperature of the materials and the magnetic field to which they are exposed bear to superconductivity is included. The article points out that, upon exposure of a metal in a superconductive state to a gradually increasing magnetic field, a field strength will finally be reached at which resistance suddenly reappears. The magnetic field strength that thus brings the resistance back to its normal state for a given temperature, is defined by the article as the "threshold field" and denoted by H_T. It is stated that such "threshold field" becomes greater as the temperature of the superconducting metal is lowered.

Hewlett also describes investigations of magnetic field effects in connection with both hollow and solid cylinders of superconducting tin. In the case of the hollow cylinder, a magnetic field was applied transversely to a plane through its axis while the solid cylinder was subjected to an external magnetic field in the direction of the cylinder axis. The distribution of the magnetic field intensity around the cylinders was measured with a test coil.

The Standard Handbook for Electrical Engineers citation illustrates ballistic methods for making magnetic permeability and hysteresis determinations. In those methods, the magnetic flux is measured with a ballistic galvanometer connected to a stationary test coil which is cut by the magnetic field or flux upon reversal of the exciting current through a coil associated with the same core material as the test coil. The phenomenon of superconductivity is not involved.

In holding that the claimed subject matter would be obvious to a person of ordinary skill in the art in view of the Hewlett article, the Examiner treated appellants' device as having the purpose of determining whether the film of material capable of superconductivity is or is not in a superconducting state. He relied particularly on the description of the investigation involving the hollow cylinder of superconducting tin, noting that the tests involved means for providing a magnetic field, a material capable of superconductivity and a test coil, and stating that the results demonstrated that a magnetic field does not penetrate superconducting material. He also noted the disclosure in Hewlett that imposition of a gradually increasing magnetic field on metal in a superconducting state will result in a field strength being reached which will destroy the superconductivity.

The Examiner also considered contentions by appellants that Hewlett does not disclose a thin film of less than 3000 Angstrom units thickness, a magnetic field with lines of flux normal to the plane of the film, extension of the superconducting material beyond the pickup coil to shield the coil from magnetic lines of flux other than those penetrating the material, and a fixed or stationary pickup coil. However, he regarded those features as obvious to a person of ordinary skill in the art.

It is plain that the Examiner gave no weight to the designation of the device as an information storage device in the preamble of the claims. Also, he did not discuss the recitation that the applied magnetic field is of a strength less than that necessary to destroy the superconductivity of the film.

In affirming the Examiner, the Board referred to the subject matter as a memory device capable of storing information connoted by either of its bi-stable states, thus avoiding adoption of the Examiner's reference to the purpose of the device as determining whether the film is superconducting or not. It also referred to a portion of Hewlett relating to investigations of the solid tin cylinder, finding in it "a clear description of a superconducting memory device * * *." The Board agreed with the Examiner on the matter of obviousness of the features not shown by Hewlett, referring to the Standard Handbook with respect to the use of a fixed pickup coil in a pulsed field in place of a moving coil in a fixed field.

Here, appellants continue to rely on the aforementioned features held to be obvious by the Examiner and Board. They also urge that the Hewlett arrangement is not a memory device, having reference

to their claims reciting an "information storage device." Appellants further emphasize that their device operates with a magnetic field strength much less than that required to destroy the superconductivity of the film.

The most significant aspect of appellants' invention lies in the concept that, with the film of superconducting material having a thickness of less than 3000 Angstrom units and the exciting coil arranged to provide a mangetic field normal to the film, a pulse-generated magnetic field of a strength less than that necessary to destroy the superconductivity of the film can cause lines of flux to penetrate through the film to provide a single effective pulse in the pickup coil. Since a succeeding pulse of current through the exciting coil to produce a field of the same intensity will induce another pulse in the pickup coil only if of opposite polarity to the preceding one, the claimed apparatus constitutes a memory device, which device is operable with low electric currents.

We do not think that either that concept or the apparatus recited in the claims for carrying it out is obvious from the art of record.

More specifically, there is no teaching that the apparatus used in Hewlett in investigating the hollow cylinder, which apparatus constitutes the basic structure on which the rejection is grounded, may be modified in a manner making it suitable for operation as contemplated by appellants. In particular, the walls of the cylinder are of substantial thickness, accurately characterized as bulk material by appellants. We do not think it would be obvious to substitute material of a thickness less than 3000 Angstrom units, there being no suggestion of any reason for making such a change.[2] The description of the investigation in Hewlett further does not suggest that the superconductive metal of the cylinder can be penetrated by a magnetic field of less strength than that necessary to destroy superconductivity. Rather, it indicates that the opposite is the case, stating:

> *Where the cylinder was lowered in temperature in the absence of a magnetic field until it became superconducting, and an external field less than the threshold field H_T established, the magnetic field penetrated neither the body of the cylinder nor the cavity in the cylinder.* However, if the external magnetic field imposed on the superconducting cylinder was greater than H_T, the superconductivity was destroyed. If the field was reduced in intensity to a value less than H_T, the cylinder again became superconducting, the field in the cavity was H_T, and the induction in the superconducting regions of the cylinder was zero. Removing the field entirely, keeping $T<T_c$ [critical temperature], produced no change in the induction in the superconducting regions of the cylinder or in the magnetic field inside the cavity of the cylinder. [Emphasis ours.]

The other investigation described in Hewlett, particularly relied on by the Board, involved a long solid cylinder of tin subjected to an external magnetic field in the direction of its axis. The external field was increased by steps and increments of induced flux B in the cylinder were measured at each step by means of a test coil. The relationship between the magnetic field H and the induced flux B, when plotted, resulted in a hysteresis curve showing B to lag behind H as the latter was varied between threshold values of opposite polarity for

[1] [2] The Board referred to "Digitial Computer Design Fundamentals" by Yaohan Chu, McGraw-Hill Book Co., 1962, pages 229 and 230, as showing that the "3000 A. [Angstrom] thickness is merely a mathematically derived constant recognized as the upper limit for thin film effects * * *." It is not seen how that publication can be relevant here since it is subsequent to appellants' filing date and thus, as conceded by the Solicitor, "is not a prior art reference." Moreover, it is not seen as teaching that a superconducting film less than 3000 Angstroms thick would have the property of permitting penetration by a magnetic field less than the threshold value.

superconductivity, H_T and $-H_T$. The results are described as follows (references to characters on the plotted curve omitted):

> * * * The first time the magnetic field is applied, the induction B remains zero until the magnetic field nearly reaches the threshold value H_T * * *. The induction then increases suddenly until $B=H_T$ * * *, as it must when the metal is not superconducting. On decreasing the external field again, there is a sudden drop in B at the same field strength as for the sudden increase, * * *. The induction then decreases gradually, * * * leaving a small amount of induction * * * when $H=0$. The field H may be reversed and the cycle continued and completed as shown. If the cycle is interrupted, * * * and H increased again, the induction remains constant * * * as long as the field strength does not exceed H_T. It will be noticed that if a field greater than H_T is applied and removed, the induction left in the specimen represents a certain remanent magnetism which persists as long as the metal is kept in the superconducting state.

The Board found in the description of that investigation "a recognition that a superconducting material will have remanent magnetic properties even when the field to which it is subjected is less than the threshold flux, * * *." Noting the disclosure that a small increase in field strength at some point along the hysteresis curve to a value less than the threshold value H_T does not alter the magnetization while the application of a field of reverse polarity of magnitude $-H_T$ will cause a reverse magnetization, the Board concluded:

> * * * we find in the reference a clear description of a superconducting memory device in which either of two stable states of magnetization is achieved and of a procedure for testing the unit for detecting which of the two memory states the device had assumed. * * *

We think it clear the Board erred in concluding that there is a description of a memory device in Hewlett. Obviously there is no specific reference to a memory device and the Board bases its finding on what it seems to consider implicit in the results of the investigation which provided the information for the hysteresis loop. In the investigation, the magnetic field was varied in small steps rather than applied in the form of pulses as in appellants' device. The Hewlett hysteresis loop investigation indicates that a magnetic field reaching the threshold value in the opposite direction is required to cause a reversal of the remanent magnetic flux in the material. It is not suggested that application to the superconducting material of a pulsed magnetic field which rises to a value less than the threshold value and then falls to zero, as is produced by the application of a small pulse of current in appellants' exciting coil, can provide a single pulse of current in a pickup coil on the other side of the material. Of course, the Hewlett investigation with its solid rod of material, also does not teach that a film of less than 3000 Angstroms thick will provide that result.

The Solicitor refers to a portion of the Hewlett article which states that the behavior of alloys relative to superconductivity is more complicated and quite different from that of pure metals. As one characteristic, Hewlett sets out:

> (3) The condition $B=0$ is not always satisfied. If a weak magnetic field is applied when the alloy is already in the superconducting state, then
>
> $$\frac{dB}{dt}=0$$
>
> but the magnetic field commences to penetrate the metal long before H_T is reached. Complete penetration (H the same within and without the conductor) is approached very gradually and is attained only at H_T.

While it is thus stated that penetration by a magnetic field commences at a field strength below the threshold value, there is no dis-

closure that the amount of penetration might be such as to provide the effect appellants rely on for operation of their device. Moreover, bulk material is involved rather than thin films of the order appellants require. Noting that the Examiner and Board did not find this portion of Hewlett of such significance as to warrant specific mention, we think it falls far short of making it obvious to apply a pulsed magnetic field of less than threshold value to a thin film of superconducting material to provide a single pulse of current in a pickup coil.

For the foregoing reasons, we do not think that Hewlett would suggest the basic concept of appellants' device. It thus is unnecessary to consider whether the Standard Handbook would make it obvious to conduct Hewlett's investigations with a fixed coil and a pulsed flux instead of a movable coil and a stationary flux. Neither is it necessary to consider the question of obviousness of shielding the pickup coil from flux not penetrating the film.

[2] The Solicitor has urged that the designation of the claimed subject matter in the preamble as an "information storage device" is merely a designation of intended use which should not be considered as distinguishing the claimed structure over the references. In support of that contention, he refers to *In re Sinex*, 50 CCPA 1004, 309 F.2d 488, 135 USPQ 302, and cases listed in Appendix "A" to *Kropa* v. *Robie et al.*, 38 CCPA 858, 187 F.2d 150, 88 USPQ 478. While Appendix "A" of the latter case lists previous ex parte cases in which "the preamble [was] held not to express a limitation of the claim," the case includes an Appendix "B" listing cases in which the contrary conclusion was reached. It seems apparent from the decisions on this point, including *Sinex*, that the significance of the preamble is something to be determined on the basis of the facts of each case. It is unnecessary to discuss the point in detail here since the body of each claim defines novel features which are also unobvious over the prior art of record. Moreover, those features are disclosed as lending particular utility to the structure as such a device.

[3] Since we do not think the claimed invention is obvious under 35 U.S.C. 103, the decision of the Board is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE PHILIPS M. CARABATEAS

No. 7505. Decided January 13, 1966

[53 CCPA —; 354 F.2d 1019; 148 USPQ 282]

1. PATENTABILITY—COMPOUND—OBVIOUSNESS—CORRESPONDING "NORMAL" AND "REVERSE" ESTERS.

"A comparison of the structural formulae of the compound of claim 1 and the esters of Elpern III reveals that when Z is NH the two differ only in the relative positions of the atoms making up the ester group on the 4-position of the piperidine ring. Elpern I and * * * disclose certain substituted piperidine esters having the same 1-substituents but bearing the normal-reverse ester structural relationship. The latter two references further disclose that such substituted piperidines exhibit analgesic activity in varying degrees. In view of these teachings, we think that given the disclosure by Elpern III of the 'normal' ester, the 'reverse' ester structure of the compound of claim 1 and its analgesic property would have been obvious within the meaning of section 103."

2. SAME—PARTICULAR SUBJECT MATTER—4-PHENYL-1-(2-PHENYLAMINOETHYL)-4-PROPIONOXYPIPERIDINE.

The refusal of a claim to 4-phenyl-1-(2-phenylaminoethyl)-4-propionoxypiperidine, as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 91,606.

AFFIRMED.

Laurence and Laurence (*Dean Laurence*, *Herbert I. Sherman*, of counsel) for appellant.

Clarence W. Moore (*Jack E. Armore* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

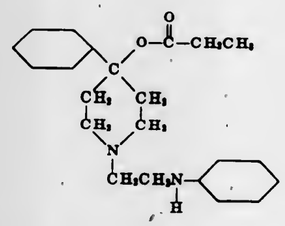
ALMOND, *J.*, delivered the opinion of the court.

Philip M. Carabateas appeals from the decision of the Board of Appeals affirming the rejection of claim 1 in his application [1] entitled "Compositions and Their Preparation."

Claim 1 reads as follows:

1. 4-Phenyl-1-(2-phenylaminoethyl)-4-propionoxypiperidine.

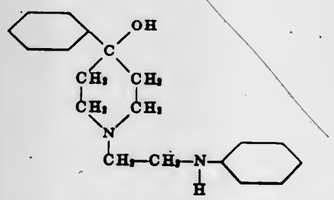
The compound of the claim has the structural formula:



With regard to the method of making the compound of claim 1, appellant's specification states:

* * * the invention sought to be patented is described as residing in the concept of reacting 1-[N-(lower-aryl) trifluoroacetamido-(polycarbon-lower-alkyl)]-4-(lower-aryl)-4-piperidinol with a lower acylating agent and then reacting the resulting 4-(lower-acyloxy)-4-(lower-aryl)-1-[N-(lower-aryl)-trifluoroacetamido-(polycarbon-lower-alkyl)]-piperidine with an alkaline agent in a lower alkanol solvent or in a mixture of a lower-alkanol and water to remove the trifluoroacetyl group. * * *

As an alternative process, the compound 4-phenyl-1-(2-phenylaminoethyl)-4-piperidinol [2] having the structural formula:



may be reacted with trifluoroacetic anhydride whereby the hydrogen of the imino group is replaced by a trifluoroacyl group. Acylation of the 4-OH group can then be effected with propionyl chloride and

[1] Serial No. 91,606, filed February 27, 1961.

[2] Claims to this compound are before this court in *In re Carabateas*, — CCPA —, — F.2d —, — USPQ — (PA 7517).

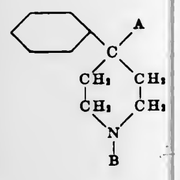
the trifluoroacyl group selectively removed to restore the imino group.

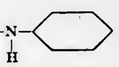
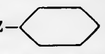
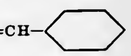
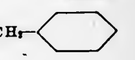
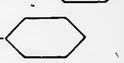
The references relied on are:

Schmidle et al., 2,784,192, March 5, 1957.
Elpern I, 2,824,875, February 25, 1958.
Elpern III, 2,846,437, August 5, 1958.
Elpern IV, 2,850,500, September 2, 1958.
Elpern II, 2,880,211, March 31, 1959.
Braenden et al., Bull. Wld. Hlth. Org., vol. 13, p. 962 (1955).

Claim 1 stands rejected as being unpatentable over: (1) Elpern III in view of Elpern I, Elpern II, and Braenden et al. under 35 U.S.C. 103; (2) Elpern IV in view of Elpern III under 35 U.S.C. 103, and (3) allowed claims 18–21 of appellant's copending application Serial No. 12,909, on the ground of double patenting. In the view we take of this appeal, only the first rejection need be considered.

The claim on appeal and the various references deal with compounds whose structures can be visualized from the following chart:



Compound of—	A	B
Claim here on appeal	$-O-\overset{O}{\overset{\|}{C}}-CH_2CH_3$	$-CH_2CH_2-\underset{H}{N}-$ 
Elpern III (U.S. 2,846,437)	$-\overset{O}{\overset{\|}{C}}-O-$lower-alkyl	$-CH_2CH_2-Z-$  wherein Z is O, S, SO_2, NH or N (lower alkyl).
Elpern IV (U.S. 2,850,500)	$-O-\overset{O}{\overset{\|}{C}}-CH_2CH_2-$ 	$-CH_2CH_2-Z-$  wherein Z is O or S
Elpern I (U.S. 2,824,875)	$-\overset{O}{\overset{\|}{C}}-O-$lower-alkyl	$-CH_2-CH=CH-$  or $-CH=CHCH_2-$  or $-CH_2\equiv C-$  or $-C\equiv CCH_2-$ 
Elpern II (U.S. 2,880,211)	$-O-\overset{O}{\overset{\|}{C}}-CH_2CH_2-$	(Same as in Elpern I above plus others, which are similar but without any double or triple bonds.)
Braenden et al., does not indicate full structure.	Various	None.

All of the esters disclosed by the prior art exhibit some degree of analgesic activity. The Braenden et al. publication does not disclose any B groups.

[1] A comparison of the structural formulae of the compound of claim 1 and the esters of Elpern III reveals that when Z is NH the two differ only in the relative positions of the atoms making up the ester group on the 4-position of the piperidine ring.[3] Elpern I and II disclose certain substituted piperidine esters having the same 1-substituents but bearing the normal-reverse ester structural relationship. The latter two references further disclose that such substituted piperidines exhibit analgesic activity in varying degrees. In view of these teachings, we think that given the disclosure by Elpern III of the "normal" ester, the "reverse" ester structure of the compound of claim 1 and its analgesic property would have been obvious within the meaning of section 103.

Appellant contends that his compound has chemical properties which also should be considered along with its formula on the question of obviousness. The only "property" which he refers to, however, is the reactivity of the imino group in the 1-substituent. It was because of this reactivity, appellant contends, that he "had to devise a way to 'enable' his compound, i.e., to make it, since the art disclosed none."

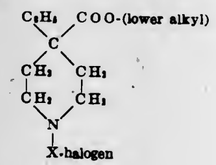
We do not believe that the record evidence is sufficient to support this latter contention. While appellant does not expressly state what property of the imino group he is referring to, we are convinced that he is referring to the imino group's ability to react with an acylating agent to form an acylamido group. This "property" of the imino group apparently presents a synthesis problem *if* one desires to prepare a monoacylate from a compound having both a hydroxyl group and an imino group since both groups have the ability to react with an acylating agent. It is this "property" of the imino group which apparently necessitated the presence of the trifluoroacyl group *in the process* disclosed and claimed by appellant.

In answer to appellant's contention that the prior art did not disclose a method of preparing the compound of claim 1, the Board stated:

> Appellant does not explain why it would not be feasible to prepare the ester by a procedure analogous to that employed in preparing the reverse ester in the Elpern III patent * * * and it is not apparent why it would not be feasible.

The portion of Elpern III referred to by the Board reads as follows:

> An alternative and preferred procedure for preparing the compounds of my invention where Z is NH or N (lower alkyl) consists of introducing stepwise the 1-[(aryl-amino) alkyl] substituent onto the piperidine nucleus by reacting a lower alkyl 4-phenylpiperidine-4-carboxylate with a hydroxyalkyl halide, HO-X-halogen, to form a lower alkyl 4-phenyl-1-(hydroxyalkyl) piperidine-4-carboxylate; treating this 1-hydroxyalkyl compound with a halogenating agent such as thionyl chloride, phosphorus oxychloride, phosphorus tribromide and the like to yield the corresponding lower alkyl 4-phenyl-1-(haloalkyl)-piperidine-4-carboxylate having the formula



[3] Esters in which the carbalkoxy group

$$-\overset{O}{\overset{\|}{C}}-OR$$

is directly attached to the 4-carbon of the piperidine ring are referred to by the Patent Office as "normal" esters. When the alkanoyloxy group

$$-O-\overset{O}{\overset{\|}{C}}-R$$

is directly attached to the 4-carbon, the esters are referred to as "reverse" esters.

and then reacting the 1-haloalkyl compound with an amine having the formula Ar-NHR, where R is hydrogen or a lower alkyl radical * * *

We agree with the Board that it is not apparent why it would not be feasible to employ the above-mentioned process. We note that the starting material there is a lower alkyl-4-phenyl-piperidine-4-*carboxylate* which is reacted first with a hydroxyalkyl-halide, then with thionyl chloride to introduce a chlorine atom onto the terminal carbon of the 1-substituent, followed by reaction with an arylamine to introduce the imino group in the 1-substituent. Since the esters of Elpern III are prepared from piperidines having a *carboxyl* group, rather than a *hydroxyl* group, in the 4-position, Elpern III would not seem to have been faced with appellant's problem of having two groups present capable of competing for the same acylating agent. However, appellant has not convinced us why Elpern III's *process* would suggest a way of avoiding this problem. By *starting* with the *reverse ester group* in the 4-position, and then in subsequent reactions introducing the imino group in the 1-substituent as taught by Elpern III, the two acylatable groups, viz, hydroxyl and imino, would not be present to compete in any acylation step.

The only argument advanced by appellant in denial of the Board's position is that "Elpern III relates to the preparation of 4-carbalkoxy-piperidines, not 4-acyloxy-piperidines, so its procedures could not be used here." While it is true that Elpern III relates to "normal" esters and appellant's compound is a "reverse" ester, it has not been shown why that fact alone rules out adoption of an *analogous* process to that disclosed by Elpern III.

[2] The Board's decision is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE DAVID J. PYE AND DONALD K. PETERSON

No. 7513. Decided February 10, 1966

[53 CCPA —; 355 F.2d 641; 148 USPQ 426]

1. PATENTABILITY—STATUTORY BASIS FOR REJECTION—IN CLOSE SITUATIONS REJECTIONS MAY BE BASED ALTERNATING ON SECTION 102 AND 103, 35 U.S.C.-35 U.S.C. 132.

"In close situations claims may be rejected on section 102 and, in the alternative, section 103. But such an alternative rejection does not eliminate the need for careful scrutiny of the references to determine precisely what is disclosed to the end that the applicant may be notified with the particularity required by 35 U.S.C. 132."

2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—REJECTION NOT SPECIFICALLY REVERSED BY BOARD OF APPEALS.

"In affirming, the Board indicated that Touey alone was sufficient to negate patentability, but did not specifically reverse the ground of rejection advanced by the Examiner. Accordingly, we will consider both the Fikentscher and Touey references."

3. PATENTABILITY—COMBINING REFERENCES—BASIS FOR COMBINATION—35 U.S.C. 103.

"While, as an abstract proposition, it might be possible to select certain statements from Fikentscher and mechanically combine them with Touey to arrive at appellants' claimed combination, we find absolutely no basis for making such a combination. Neither reference is directed to the problem solved by appellants' invention, namely, developing a cleaning composition for the skin having improved lubricity characteristics. In our view, only appellants' specification suggests any reason for combining the teachings of the prior art but use of such suggestion is, of course, improper under the mandate of 35 U.S.C. 103."

4. SAME—PARTICULAR SUBJECT MATTER—"SOAP COMPOSITION."

The refusal of a certain claim in an application entitled "Soap Composition," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 687,866.

REVERSED.

Harness, Dickey & Pierce, Neal A. Waldrop, Theodore Post for appellants.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

ALMOND, *J.*, delivered the opinion of the court.

This is an appeal from a decision of the Board of Appeals affirming the rejection of claim 11 in appellants' application [1] entitled "Soap Composition." One claim was allowed by the Board.

The appealed claim reads as follows:

11. A lubricious composition for the skin which consists essentially of a major proportion of ingredients selected from the group consisting of non-soap anionic and non-ionic synthetic organic detergents in intimate mixture with from about 0.1 to 4 percent by weight, based on the weight of the total composition, of an acrylamide polymer, said polymer being water-soluble and selected from the group consisting of the homopolymer of acrylamide, copolymers of acrylamide with up to about 15 percent by weight of a member of the group consisting of methacrylamide, the lower alkyl esters of acrylic and methacrylic acids, vinyl chloride and vinyl alkyl ethers and copolymers of acrylamide with up to about 50 mole percent of a member of the group consisting of acrylic and methacrylic acids and the alkali metal salts thereof and said polymer being characterized by a viscosity of at least about 4 centipoises for a 0.5 percent by weight solution thereof in aqueous 4 percent by weight sodium chloride solution adjusted to a pH of 5 to 6 and a temperature of 25° C.

The invention is directed to the improvement of the cosmetic qualities of soaps, detergent compositions, and the like. The specification states:

In the manufacture of soaps, detergent compositions, shaving creams and the like and particularly those which are employed in contact with the skin, it is desirable to produce a product characterized by a quality which may be called lubricity. This quality of lubricity is of considerable importance from the cosmetic standpoint particularly with respect to the "hand," that is, with respect to the feeling experienced by the user of the product. In the case of shaving soaps, the quality of lubricity is more concretely of interest in that a shaving soap, by providing more lubricity, improves the cutting of the hair or beard with less tendency to nicking and cutting of the skin. Further, certain powdered hand soaps currently marketed have failed to achieve wide acceptance for household use on the basis of the housewife's dislike for the unpleasant feeling of such composition on the skin.

The references are:

Fikentscher et al. (Fikentscher), 1,976,679, October 9, 1934.
Touey et al. (Touey), 2,805,205, September 3, 1957.

The record reveals some difficulty on the part of the Patent Office in agreeing on a statutory basis for the rejection. The Examiner's answer, dated December 14, 1962, states: "Claim 11 stands rejected as lacking invention over Fikentscher et al. taken with Touey * * *." In affirming, the Board remarked:

While these acrylamides without the acrylonitrile component were not the [Touey] preferred embodiment they were, nevertheless, used in conjunction with

[1] D. J. Pye and D. K. Peterson, Serial No. 687,866, filed October 8, 1957.

4. SAME—PARTICULAR SUBJECT MATTER—"SOAP COMPOSITION."

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the anionic synthetic detergent and their disclosure negatives novelty in the combination here claimed. It appears that the proportions suggested in Example 1 of Touey et al. would embrace those which are recited in the appealed claims. We will sustain the rejection of appealed claim 11 as unpatentable over Touey et al. *In re Halley*, 49 CCPA 793, 296 F.2d 774, 132 USPQ 16.

The difficulty in formulating a ground of rejection seems to have arisen from the failure to ascertain whether Touey does in fact disclose appellants' claimed composition, so to be on the safe side, language appropriate to both 35 U.S.C. 102 and 103 was employed. [1] In close situations claims may be rejected on section 102 and, in the alternative, section 103. But such an alternative rejection does not eliminate the need for careful scrutiny of the references to determine precisely what is disclosed to the end that the applicant may be notified with the particularity required by 35 U.S.C. 132. Appellant does not seem to have been prejudiced by the confusion here, and has argued in this appeal the issues of novelty and obviousness in view of both Touey and Fikentscher. We will consider both issues.

Novelty

So far as novelty is concerned, the only pertinent reference is Touey. The invention therein disclosed relates to detergent compositions which inhibit or prevent redeposition of soil on textile fabrics when the fabrics are washed with these detergents. Touey states:

Our novel detergent compositions are mixtures of copolymers of acrylonitrile and an acrylamide selected from the group consisting of acrylamide and the lower alkyl acrylamides, with a detergent selected from the group consisting of the anionic detergents, including soap, and the non-ionic detergents, in ratios ranging from 1 part copolymer: 99 parts detergent to 25 parts copolymer: 75 parts detergent. Although higher proportions of the copolymer can be used, the improvement in the cleaning power was found to reach a maximum at 25 parts copolymer: 75 parts detergent. Improvement in detergency was noticeable at a ratio of 1 part copolymer: 99 parts detergent. However, the most desirable range is from 2 parts copolymer: 98 parts detergent to 10 parts copolymer: 90 parts detergent.

The Examiner and the Board did not contend that the polymers useful in Touey's invention came within the purview of appellants' invention but instead relied upon certain polymers which were used by Touey as a comparison with the polymers used in his invention. The polymers relied upon were poly-N-isopropylacrylamide, poly-N-isopropylmethacrylamide, poly-N-methacrylamide, and poly-N-methylolmethacrylamide. The foregoing polymers were mixed with an anionic type detergent, the weight of the polymer being 5% of the weight of the detergent. We fail to perceive how Touey's detergent composition, containing N-alkylacrylamide polymers, anticipates appellants' detergent composition, containing a polymer

* * * consisting of the homopolymer of acrylamide, copolymers of acrylamide with up to about 15 percent by weight of a member of the group consisting of methacrylamide, the lower alkyl esters of acrylic and methacrylic acids, vinyl chloride and vinyl alkyl ethers and copolymers of acrylamide with up to about 50 mole percent of a member of the group consisting of acrylic and methacrylic acids and the alkali metal salts thereof * * *.

The Solicitor, in his brief, states:

Appellants argue that none of the acrylamides taught by Touey et al. are acrylamide homopolymers * * *, but they have given no reason why polymethylacrylamide [sic] would not be considered an acrylamide homopolymer falling within the terms of their claim.

We are not altogether sure what the Solicitor means; suffice it to say that the polymers recited in appellants' claim are *not* N-alkylated as are those in Touey referred to by the Board.

We find the invention of claim 11 to be novel.

Obviousness

With regard to the rejection of claim 11 in view of Fikentscher taken with Touey or vice versa, we consider this to have been a rejection for obviousness under 35 U.S.C. 103 despite the Examiner's failure to identify it or to use the statutory language. The Examiner's position was:

Fikentscher et al. teach that water-soluble polyacrylamides may be employed in combination with soaps and other wetting agents and that the soap-polymer mixtures may be employed in cleaning operations. To adjust the ratio of polymer to soap to that claimed herein is not deemed inventive since Touey et al. show that it is old to prepare a detergent mixture of soap and an acrylamide polymer within the range claimed.

The Examiner rejected appellants' contention that Fikentscher was distinguishable in that the reference did not teach a composition suitable for cleaning human skin for the reason, inter alia, that "claim 11 does not recite the intended use of the claimed polymer and therefore any argument regarding same is not deemed persuasive."

Subsequently, claim 11 was amended to recite the introductory phrase "A lubricious composition for the skin * * *." The Examiner adhered to the rejection, however, stating:

However, since it is the Examiner's position that the art suggests the use of the claimed polymers in soap products to improve same * * *, it is submitted that the rejections of claims 9 and 11 for reasons set forth in the Examiner's answer are proper and should be sustained.

[2] In affirming, the Board indicated that Touey alone was sufficient to negate patentability but did not specifically reverse the ground of rejection advanced by the Examiner. Accordingly, we will consider both the Fikentscher and Touey references.

The pertinent portions of Touey have been discussed supra. Fikentscher relates to the production of aqueous dispersions of "water soluble amorphous polymeric acrylic acid substances" which may serve for dispersing dyestuffs or pigments.

Included within the definition of the above-mentioned acrylic acid substances of Fikentscher are "the products from polymerized acrylic nitrile which have been incompletely saponified or which have been saponified with ammonia under pressure, whereby amides, cyclic imines or ammonium salts, respectively, are formed." With regard to the use of soaps in conjunction with Fikentscher's dispersion, the reference states:

By means of the viscous aqueous solutions, if desired with the co-employment of wetting agents or soaps, products which are not miscible with water such as hydrocarbons, as for example benzene, viscous hydrocarbon oils, vegetable or animal oils or fats may be made into emulsions, for example for impregnating, oiling or cleaning purposes, even in a semi-solid state depending on the quantity of water employed. * * *

Appellants point out several deficiencies in the prior art teachings which they assert are fatal to a finding of obviousness. First, Fikentscher is extremely vague as to what is the exact structure of the polymers useful in their invention. While Fikentscher broadly teaches polymeric acrylic acid derivatives, including amides, these polymers

are not prepared from acrylamide but rather the amide groups are introduced subsequent to the polymerization. As a result, we think it would be impossible to determine whether the polymers disclosed by Fikentscher are the same as those recited in the appealed claim. Moreover, Fikentscher is completely silent as to the molecular weight of the polymers. While Fikentscher discloses that the aqueous solution containing the disclosed polymeric acrylic acid substances may be employed in conjunction with soaps, the context in which such disclosure is made indicates a third ingredient, a hydrocarbon, is necessary and there is nothing in the reference to suggest that the various mentioned hydrocarbons are suitable as a group for use in a composition for cleaning the skin.

As noted above, Touey is insufficient to negate novelty in the claimed subject matter. [3] While, as an abstract proposition, it might be possible to select certain statements from Fikentscher and mechanically combine them with Touey to arrive at appellants' claimed combination, we find absolutely no basis for making such a combination. Neither reference is directed to the problem solved by appellants' invention, namely, developing a cleaning composition for the skin having improved lubricity characteristics. In our view, only appellants' specification suggests any reason for combining the teachings of the prior art but use of such suggestion is, of course, improper under the mandate of 35 U.S.C. 103. *In re Shaffer*, 43 CCPA 758, 229 F.2d 476, 108 USPQ 326.

[4] The decision of the Board is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

IN RE DAVID GOLDMAN

No. 7623. Decided February 10, 1966

[53 CCPA —; 356 F.2d 136; 148 USPQ 443]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—WASHING MACHINES.
The decision of the Board of Appeals, refusing certain claims to a washing machine as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 265,006.

AFFIRMED.

Judah B. Felshin for appellant.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

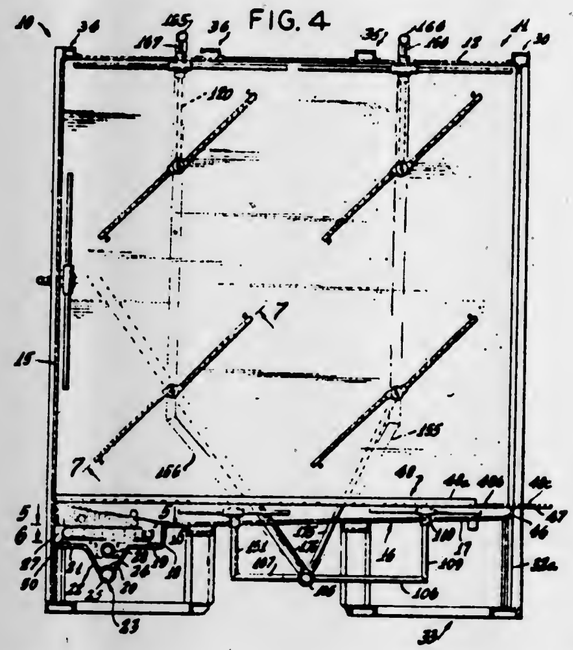
ALMOND, *J.*, delivered the opinion of the court.

David Goldman appeals from the decision of the Board of Appeals affirming the rejection of claims 18, 20, 23, 26 and 31 to 34, inclusive, in appellant's application [1] relating to washers for animal cages or other devices wholly movable into the washer. The Examiner allowed ten claims, and the Board reversed the Examiner's rejection of two more.

[1] Serial No. 265,006, filed March 8, 1963, for "Animal Cage Washer."

Appellant's invention as called for in the appealed claims is substantially illustrated by FIGURE 4 of the drawings:

FIG. 4



The washer comprises a casing 11 having a top wall 12, rear wall 15, bottom wall 16, and side walls. The bottom wall 16 has a rearwardly and downwardly inclined portion 17 from which wall 18 extends downwardly. Extending from wall 18 is a horizontal transverse shoulder 19 from which extends downwardly an inclined wall 20. Extending from rear wall 15 is a shoulder wall 21 from which extends downwardly an inclined wall 22. Walls 20, 22 converge downwardly and are interconnected at their lower ends by a horizontal suction pipe 23 thereby forming a narrow long well of relatively small volume. Shoulders 19, 21 form an upper part of the well and converging walls 20, 22 from a lower narrow part thereof. The well extends entirely across the back of the housing. The suction pipe 23 is coextensive with the well, and also extends entirely across the casing from side to side.

Steam pipes 50 (heating means), coextensive with the well, are in the upper wide part of the well above shoulders 19, 21. Three wire baskets rest on top of the steam pipes. A pair of horizontal tracks 48 are disposed above bottom wall 16 and below the front door of the cage. The slope of the bottom wall provides space at the rear below the level of the tracks, for the baskets. The baskets are so arranged that they can be individually removed upwardly. The suction pipe 23 has holes distributed along its entire length. The outlet end of the suction pipe leads to the inlet end of a motor operated pump. The outlet end of the pump leads to a Y fitting, one branch of which leads to spray heads which rise upwardly. Another branch of the Y fitting leads to a drain pipe which extends downwardly. A drain valve in the drain pipe can be opened or closed. When the drain valve is open, and the pump is operating, water will be pumped to the

drain and not to the spray heads. When the valve is closed, with the pump operating, water will be pumped up to the spray heads. If the pump is not operating and the drain valve is open, water in the spray heads and pipes leading to the spray heads will drain out to the drain.

Appellant asserts that his system, as above described, secures the following advantages:

> The fact that the well extends entirely across the casing and the suction pipe also extends entirely across the well and has holes distributed substantially along its entire length, makes for very quick circulation. The fact that the steam pipes are coextensive with the suction pipe makes for quick heating. Thus we have quick circulation and quick heating, allowing thorough washing with use of relatively little water in a relatively small well.
>
> The fact that the suction pipe is at the lower part of the well ensures that substantially all the water in the well must go into the suction pipe.

Claim 18 is reproduced as illustrative:

> 18. A washing machine, comprising a housing having a front wall provided with a front door, a rear wall, a pair of side walls and a bottom wall below said door, said bottom wall having a portion sloping downwardly and rearwardly from the front door, and a depressed well located at the lower rear end of said sloping wall and extending therebeyond and located near said rear wall, and extending transversely substantially from one side wall to the other side wall, heating means in the upper part of said well and extending transversely, substantially coextensively with said well, and a fixed suction pipe in the lower part of the well and below said heating means and substantially coextensive with and longitudinally of the well and having an outlet at one end thereof and said pipe being formed with communication means between the inside of the pipe and the well longitudinally of said pipe and distributed substantially along the entire length of the pipe.

The references are:

Frech, 2,715,405, August 16, 1955.
Jones et al., 2,960,990, November 22, 1960.
Andersen (Norway), 64,134, November 3, 1941.
Zademach (Canadian), 577,825, June 16, 1959.

Jones et al. (Jones) disclose a dishwasher disposed within a kitchen sink cabinet. Configuration of the washer housing is generally rectilinear with a forward pull down door. The housing bottom slopes downwardly from the front to a rear sump. The bottom of the sump slopes from both ends towards a medially disposed chamber thereunder. Wash and rinse waters which collect there pass either through the pump-disposal unit to the sink drain or through a screen and pump to the spray heads. The sump preferably includes an immersion-type heater for imparting thermal energy to the liquid solutions which accumulate in the sump and the dish rack is provided with side wall portions which encircle the rack area. Roller means are attached to the rack which engage a track carried by the end walls of the casing and also engage the trackway surface formed on opposite ends of the inner wall surface of the door. The horizontal tracks form extensions of the door tracks when the door is open rendering said tracks level at the lower end of the door. Jones shows two pumps activated by separate motors with a drain pipe extending upwardly from the disposal unit.

Andersen discloses machinery for cleansing engine parts and similar metal articles, comprising a tank having a heater at one end, horizontally disposed screens in edge engagement, and a perforated suction pipe below the screens at the opposite and lower end of the tank. Spray headers are disposed above the screens and along the sides of the tank. A pump draws liquid from the bottom of the tank through the suction pipe to either the spray headers or to an outlet pipe depending on the setting of respective valves. The outlet pipe extends upwardly above the spray pipes, hence two valves are required. In order to drain, the lower valve must be closed and the upper valve opened. To pump to the spray heads, the valve operation is reversed.

Frech discloses a dishwasher with horizontally disposed sieves substantially covering the cross-sectional area of the casing and resting on shoulders formed in the casing. The sieves are disposed below narrow horizontal rails, the latter being along the sides of the casing.

Zademach shows a cabinet rack washer with steam pipes to heat wash water in a lower sump. The apparatus shows wide tracks for the cabinet to be washed. The sump has a side extension in which vertical screens are disposed ahead of the pump.

The Examiner held claims 18, 33 and 34 unpatentable over Jones in view of Andersen. He pointed out that Jones lacked (1) the suction pipe "substantially coextensive with and longitudinally of the well," and (2) the communication means "longitudinally of said pipe and distributed substantially along the entire length of the pipe." The Examiner noted that the Andersen suction pipe obviously had communication means between the inside of the pipe and the well, said means being distributed longitudinally and substantially coextensive with and longitudinally of the well. It was consequently reasoned that it would be "obvious to merely substitute the suction pipe of Andersen for the suction pipe and sump means" shown in Jones. The Examiner further considered that the suction pipe of Andersen could readily be adapted by anyone possessing only ordinary mechanical skill in the art to cooperate with the well walls in the Jones apparatus to perform the same function that is disclosed by the appellant.

Turning to claim 33, the Examiner observed that it would be no more than an obvious mechanical expedient to connect Jones' drain outlet to the bottom of their pump by means of a valve and thereby utilize one pump for both recirculating and draining functions as shown to be old by Andersen. We are aware of no challenge to the Examiner's observation that it is conventional in the art under consideration to "utilize a single pump for both recirculating and drainage functions."

Claim 20 was held unpatentable over Jones and Andersen on the same basis as above applied, taken in further view of Frech. The Examiner considered it to be obvious to substitute the screen means of Frech for the screen means in the Jones-Andersen combination. He perceived no reason, nor do we, why the screens of Frech would not coact beneath the tracks of the combined Jones-Andersen apparatus in cooperation with the well and pump thereof to perform the same function that is disclosed by appellant. It was regarded as an obvious mechanical expedient to support the screen on the heating means of Andersen.

Claim 23 was held unpatentable over the basic combination of Jones and Andersen taken in further view of Zademach. As has been noted, Zademach discloses the use of steam pipes to heat wash water in a lower sump. The Examiner deemed it an obvious expedient to use steam pipes for the heater of the Jones-Andersen combination.

Claim 26 was held unpatentable over all four references as previously combined by the Examiner.

Claims 31 and 32 were rejected as unpatentable over Jones in view of Frech and Zademach. It appears that the Examiner considered Zademach suggestive of using wider tracks instead of the more narrow tracks of Jones, and Frech suggestive of using sieves as therein disclosed for the screen of Jones supported on the heater with the end sieves underlying the tracks. In this connection, the Examiner noted that the tracks of Zademach are relatively wide and that the screen means of Frech comprises a control perforated sieve removably mounted between two parallel trackways and a pair of perforated sieves beneath said trackways.

The Board affirmed the Examiner in holding claims 18, 20, 23, 26 and 31 to 34, inclusive, unpatentable over the prior art, under 35 U.S.C. 103, for the reasons fully set forth in his answer. The Board noted that the "configuration of the washing chamber and the sump therefor are a matter of choice" and that if complete discharge of the fluid were desired, it would be obvious to place the exhaust at right angles to the position shown and at the lowest part of the sump.

The Board stated:

> It would also be obvious to any one that a perforated pipe of suitable size having perforations therein, would handle a larger volume of water if it extended all the way across the tub rather than part way across.
>
> The Andersen patent shows a heater extending all the way across the tub. It is not apparent to us that the location is critical with respect to the drain, however, Jones et al. show the heater over the drain, thus, it would be obvious to place the heater of Andersen over the drain pipe.

The above conclusion borders on the axiomatic and we are in full concurrence therewith. As in *In re Goldman*, — CCPA —, — F.2d —, — USPQ — (Patent Appeal No. 7579),[2] concurrently argued and submitted herewith, we have analyzed the references in relevant detail pointing out what they would fairly teach to one skilled in the subject art at the time the invention claimed herein was made. We have pointed out the application of the references and the constructions placed thereon by the tribunals below. In our view, the references have been fairly applied and their teachings properly assessed, with the consequence of rendering obvious to one skilled in the art, within the purview of section 103, the invention here claimed by appellant.

Perceiving no reversible error in the decision of the Board, we accordingly affirm.

AFFIRMED.

[2] Serial No. 154,254, filed November 22, 1961.

PATENT SUITS

Notices, under 35 U.S.C. 290; Patent Act of 1952

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2,884,288. (See 2,765,202.)

2,913,194. (See 2,759,682.)

2,923,952. (See 2,690,572.)

2,925,166. (See 2,690,572.)

2,962,894. (See 2,852,639(b).)

3,201,014. (See 2,601,040.)

REISSUES

JULY 5, 1966

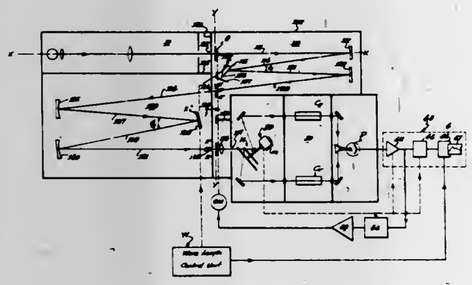
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,053
DOUBLE FOLDED-Z-CONFIGURATION MONOCHROMATOR

Henry H. Cary, Pasadena, Calif., assignor to Applied Physics Corporation, Monrovia, Calif., a corporation of California

Original No. 3,098,408, dated July 23, 1963, Ser. No. 795,311, Feb. 11, 1959. Application for reissue July 21, 1965, Ser. No. 475,043

14 Claims. (Cl. 88—14)



1. A monochromator including:

combined supporting and housing structure provided with a separating wall portion and two terminal-slit wall portions, said separating wall portion being provided with a light-transmitting aperture;

two monochromator sections arranged on said combined supporting and housing [means] *structure*, said two monochromator sections being contiguous at said separating wall portion, each section having a terminal slit in a corresponding one of said terminal-slit wall portions and containing a dispersing element and a pair of collimating mirrors arranged in a folded-Z configuration, whereby radiation passing through one terminal slit is transmitted by said mirrors and dispersing elements through the two monochromator sections in succession and emerges through the other terminal slit;

the path of transmission in each monochromator section being of folded-Z configuration, radiation being deflated along each such path only by the dispersing element and the collimating mirrors of the respective sections, the legs of the respective folded-Z path being straight and being free from light-deflecting reflection surfaces, the legs of the respective folded-Z configurations that are optically remote from the corresponding terminal slit being collinear and extending through said *light-transmitting* aperture,

said terminal slits being defined at spaced-*apart* portions of said [separating] *terminal-slit* wall [means] *portions*;

and means including a narrow aperture located at the junction of said collinear legs and larger than the monochromatic image of either terminal slit at said junction for reducing the amount of stray radiation transmitted through one monochromator section to the other, said narrow aperture constituting substantially the sole region for transmission of radiation from either of said monochromator sections to the other.

26,054
MEAT CURING PROCESS AND COMPOSITION THEREFOR

Thomas William Humphreys, London, Ontario, Canada, and David F. Hinkley, Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original No. 3,201,263, dated Aug. 17, 1965, Ser. No. 273,553, Apr. 17, 1963. Application for reissue Dec. 17, 1965, Ser. No. 517,167

10 Claims. (Cl. 99—222)

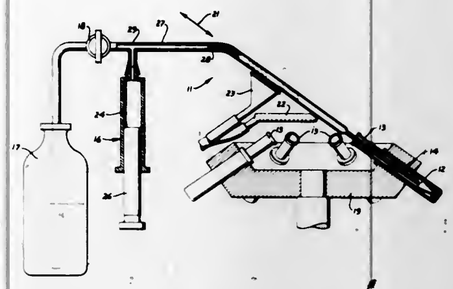
1. A method of curing meat to accelerate the rate of curing and to stabilize the color of the cured meat which comprises contacting the meat with at least 0.001% by weight of the meat of 1,2,3-cyclohexanetrione and a nitric oxide-producing curing medium in a pH range of about 5.0 to about 8.5.

26,055
AUTOMATIC SAMPLE HANDLING APPARATUS

Hans Baruch, Berkeley, and Erik W. Anthon, Kensington, Calif., assignors, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.

Original No. 3,192,969, dated July 6, 1965, Ser. No. 207,111, July 2, 1962. Application for reissue July 12, 1965, Ser. No. 471,798

13 Claims. (Cl. 141—90)



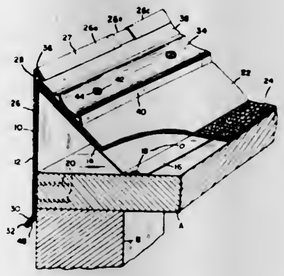
2. An apparatus for transferring a measured quantity of liquid sample from one position to another, comprising a probe for taking up liquid sample, a first pump means *having a first chamber* connected to said probe and formed for taking up a measured quantity of liquid sample into the probe, a reservoir for holding diluent to be added to the liquid sample, a second pump means *having a second chamber* operatively connected to said reservoir and said probe and formed for taking up a measured quantity of diluent, and control means for *simultaneously* effecting actuation of said first and second pumps [and] *for taking up said liquid sample and diluent and then* directing delivery of diluent from said second pump *chamber directly* through said first pump *chamber* and said probe whereby the diluent *while effecting the desired dilution* washes liquid sample from the probe and thereby cleans the same.

26,056
COMBINATION WATER DAM AND GRAVEL STOP

William P. Hickman, 1360 E. Maple Road, Birmingham, Mich.

Original No. 3,100,951, dated Aug. 20, 1963, Ser. No. 82,911, Jan. 16, 1961. Application for reissue May 24, 1965, Ser. No. 459,530

7 Claims. (Cl. 52—94)



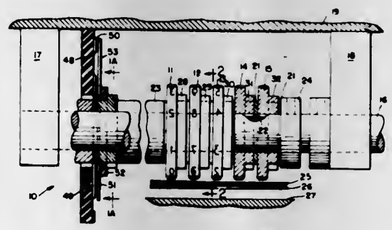
7. A combination water dam, gravel stop and facia for the edge of a roof deck, comprising a cant secured to the edge of the roof deck and having an inclined surface sloping upwardly and outwardly from the roof deck, roofing material laid over said roof deck having a marginal portion overlying said inclined surface of said cant, a generally upright facia member having a downwardly facing contact surface above said cant, and means for sealing the marginal portion of said roofing material and for holding said facia member in position including an elongated resilient flashing strip extending along said inclined surface of said cant in overlying relation to the marginal portion of said roofing material, one longitudinal edge portion of said flashing strip engaging said downwardly facing contact surface of said facia member with an upward pressure, clamping means securing said flashing strip down firmly upon the marginal portion of said roofing material, and means cooperating with said clamping means for maintaining the upward pressure relation aforesaid between said flashing strip and said facia member.

26,057
ELECTRICALLY OPERATED TYPE WHEEL SETTING MEANS

Berend B. Schierbeek, Leidschendam, Netherlands, assignor to Maatschappij van Berkel's Patent N.V., Rotterdam, Netherlands, a limited-liability company of the Netherlands

Original No. 3,179,044, dated Apr. 20, 1965, Ser. No. 160,838, Dec. 20, 1961. Application for reissue Nov. 26, 1965, Ser. No. 515,802

8 Claims. (Cl. 101—93)



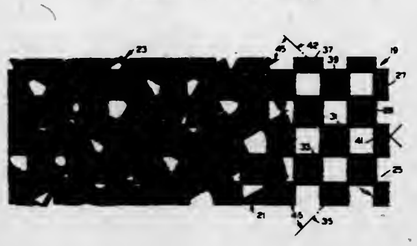
8. A device for positioning a series of selected characters along a line comprising, a rotatable shaft, means for continuously rotating said shaft in one direction, a plurality of wheels mounted on said shaft and frictionally coupled thereto to normally rotate therewith, first means for stopping said wheels to preset same at a home position and thereafter releasing same, each wheel having a character section and a ratchet section, a plurality of characters equally spaced along the character section, a plurality of ratchet teeth equally spaced along the ratchet section, and second means coacting with said ratchet section for stopping said wheels subsequent to their release by said first means including, a pawl aligned with each ratchet section and adapted to engage one of the teeth thereon and stop each wheel from rotating with the shaft, an electrically operated actuator for each pawl for driving same into and out of engagement with its respective ratchet section, settable control means defining selected character positions of each wheel, and switch means associated with each actuator and operated by said shaft in synchronism with said wheels for selectively energizing each actuator to move each pawl into engagement with a tooth on a ratchet section and stop each wheel at a preselected position as determined by said settable control means for positioning a series of preselected characters, said switch means including a single wiper arm frictionally coupled on said shaft and synchronized at home position with said wheels by said first means, and spaced contacts engageable with said wiper arm when operated by said shaft.

26,058
HALF-TONE SCREEN FOR COLOR SEPARATION

Harold Brent Archer, Henrietta, N.Y., assignor to Rochester Institute of Technology, Rochester, N.Y., an educational and non-profit corporation

Original No. 3,085,878, dated Apr. 16, 1963, Ser. No. 764,089, Sept. 29, 1958, which is a continuation of Ser. No. 388,126, Oct. 26, 1953. Application for reissue May 7, 1963, Ser. No. 279,047

25 Claims. (Cl. 96—118)



1. A half-tone screen comprising a transparent support, a plurality of superimposed, individual dye screens on said support, each screen comprising intersecting series of adjacent, parallel zones of dye area with the said zones of each screen extending at a predetermined angle of inclination to the direction of extent of the zones of each of the other of said screens, each of said screens having high optical density to light of a given color and low optical density to the remaining light portions of the visible spectrum, each of said screens having said high optical density in respect to a different portion of said spectrum and each of said zones having an area of [uniform] maximum optical density symmetrical with the center line thereof and having areas of [uniform] minimum optical density adjacent and parallel to each edge of each of said zones, each of said zones varying substantially continuously in optical density between said areas of maximum and minimum density in a direction transverse to the direction of extent of the reespective zone, the combined width of said areas of maximum and minimum optical density of each of said zones being less than the full width of the respective zone.

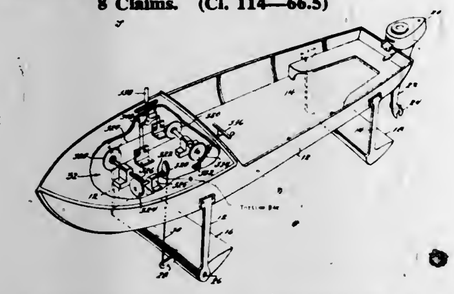
26,059

CONSTANT LIFT SYSTEM FOR [CRAFT] *FOILS*

Rudolf X. Meyer, Pacific Palisades, Calif., Paul A. Scherer, Bowie, Md., and Vannevar Bush, Belmont, Mass., assignors, by mesne assignments, to Paul A. Scherer, Glendale, Md.

Original No. 3,141,437, dated July 21, 1964, Ser. No. 737,355, May 23, 1958. Application for reissue May 3, 1965, Ser. No. 458,513

8 Claims. (Cl. 114—66.5)



1. A hydrofoil supported craft comprising at least one flotation element, at least one strut depending therefrom, at least one hydrofoil of total submergence design pivotally mounted on said strut, balancing means comprising at least one spring having first and second ends, said first end adjustabiy fixed to said craft, a monoaxial cam fixed to said second end, flexible means interconnecting the surface of said cam with said hydrofoil, thereby continuously applying an adjustable constant torque to said hydrofoil, said constanf torque operating about the pivot in opposition to the lift of said foil, the moment of said force remaining equal to the moment of said lift, the lift of said hydrofoil being substantially constant in water flow which is variable relative to said hydrofoil.

26,060

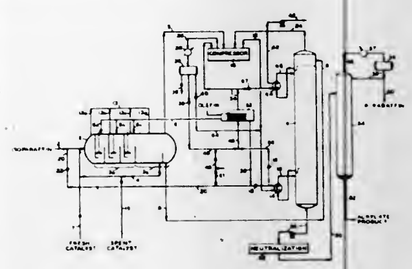
ALKYLATION OF HYDROCARBONS

Marvin F. Nathan, Westport, Conn., assignor to Pullman Incorporated, a corporation of Delaware

Original No. 3,187,066, dated June 1, 1965, Ser. No. 817,798, June 3, 1959. Application for reissue July 9, 1965, Ser. No. 471,793

22 Claims. (Cl. 260—683.62)

1. In an alkylation process which comprises contacting isobutane with an olefin in the presence of sulfuric acid in an alkylation contactor to produce a vaporous hydrocarbon effluent containing isobutane and a liquid effluent containing sulfuric acid, alkylate and unreacted isobutane; separating vaporous effluent from the liquid effluent; separately removing sulfuric acid from the liquid effluent; and subjecting the resulting liquid alkylate mixture to deisobutanization; the improvement which comprises: passing the liquid alkylate mixture to a deisobutanization zone; removing isobutane as a vaporous fraction from said zone; compressing the vaporous fraction and the vaporous effluent to the pressure levels within the range of between about 20 p.s.i.g. and about 125 p.s.i.g. at a condensation temperature of between about 40° F. and about 140° F.; maintaining as two distinct and separate streams the vapors compressed to different pressure levels supplying heat necessary to effect the aforementioned deisobutanization of said liquid alkylate



mixture in said zone by passing the vapor compressed to the lower pressure in indirect heat exchange with the deisobutanization zone in a first heat exchanger to reboil said zone, and passing the vapor compressed to the higher pressure in indirect heat exchange with the deisobutanization zone at a point below said first heat exchanger to reboil said zone in a second heat exchanger; condensing the low pressure vapor in said first heat exchange operation; recycling the resulting liquid to the alkylation contactor as part of the isobutane feed thereto; condensing the higher pressure vapor and flashing the resulting condensate in a third heat exchanger to produce a vaporous phase and a liquid phase; recycling the vaporous phase to said compression step; recycling the liquid phase to the alkylation contactor as part of the isobutane feed thereto and recovering a deisobutanized alkylate mixture from the deisobutanization zone.

PLANT PATENTS

GRANTED JULY 5, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,648

ROSE PLANT

Herbert C. Swim, Ontario, and O. L. Weeks, Chino, Calif., assignors to Swim and Weeks, Chino, Calif., a copartnership

Filed July 15, 1965, Ser. No. 472,376

1 Claim. (Cl. Plt.—14)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a very vigorous and bushy, but tall, habit of growth, leaves having a tough, leathery substance and better than average resistance to mildew as compared with other white hybrid tea rose varieties suitable for greenhouse production of commercial cut flowers, relatively long flower stems, a flower size ranging from medium to large, good flower petalage, a high-centered flower form at the opening stage and relatively long retention of this form after opening, a distinctive and attractive flower color ranging from white to near white, and relatively long-keeping qualities of the flowers as cut flowers.

2,649

ROSE PLANT

Herbert C. Swim, Ontario, and O. L. Weeks, Chino, Calif., assignors to O. L. Weeks, doing business as Weeks Wholesale Rose Grower, Chino, Calif.

Filed Aug. 10, 1965, Ser. No. 478,779

1 Claim. (Cl. Plt.—6)

A new and distinct variety of rose plant of the climber class, substantially as herein shown and described, characterized particularly as to novelty by being substantially identical with its parent variety "Oklahoma" (Plant Patent No. 2,326) except for its climbing habit of growth, substantially larger than average flower size, and a habit of bearing the major portion of its flowers in the spring and on stems which grow as laterals from the climbing canes.

2,650

APPLE TREE

Robert E. Snyder, Wenatchee, Wash., assignor to Columbia & Okanogan Nursery Co., Inc., Wenatchee, Wash., a corporation of Washington

Filed Feb. 17, 1965, Ser. No. 433,527

1 Claim. (Cl. Plt.—34)

A new and distinct variety of apple tree, substantially as herein shown and described, characterized particularly as to novelty by a general resemblance of the tree and fruit to the variety "Blackjon" (unpatented), but being particularly distinguished therefrom by an earlier coloring habit of the fruit, with the full color being attained at least ten days to two weeks earlier than the fruit of "Blackjon" and resulting in a greater percentage of extra fancy colored fruit at the time of picking and a much greater percentage of fruit color in the more shaded parts of the tree than is characteristic of the "Blackjon" variety.

2,651

ROSE PLANT

Reimer Kordes, Barmstedt, near Elmshorn, Germany, assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Aug. 17, 1965, Ser. No. 480,534

1 Claim. (Cl. Plt.—16)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a healthy habit of growth, a very large flower size, good flower petalage, and a distinctive and attractive flower color beginning as Scarlet in the bud stage, but changing in the open flower to Orange-Buff, with the outer edges of the petals overcast with Light Orange-Yellow, said colors being retained to the end of the flower.

2,652

ROSE PLANT

Eugene S. Boerner, Newark, N.Y., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed Aug. 17, 1965, Ser. No. 480,535

1 Claim. (Cl. Plt.—11)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of large size foliage, very large bloom size, good keeping qualities of the flowers, and a distinctive and attractive general color tonality of the flowers, beginning in the bud stage as Light Buff, with the outer edges of the petals overcast with La France Pink, and finishing in the open flower stage as Pale Ochraceous-Buff, overcast with Shell Pink, and with the lower half of the petals lightly overcast with Maize Yellow.

2,653

ROSE PLANT

David L. Armstrong and Herbert C. Swim, Ontario, Calif., assignors to Armstrong Nurseries, Inc., Ontario, Calif., a corporation of California

Filed Aug. 17, 1965, Ser. No. 480,536

1 Claim. (Cl. Plt.—18)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of an upright-spreading habit, with a vigor considerably greater than that of the average hybrid tea rose variety, attractive, dark green, medium to large, semi-glossy, disease resistant foliage, a very floriferous habit with the flowers often borne singly, but also often borne in small clusters on the most vigorous shoots and bottom breaks, an excellent urn-shaped bud form an attractive and graceful open flower form, with the flowers being moderately double and of medium size, and a distinctive and attractive general color tonality of the flowers ranging between Phlox Pink and Fuchsine Pink, but becoming lighter with age.

2,654

ROSE PLANT

David L. Armstrong and Herbert C. Swim, both of Ontario, Calif., assignors to Armstrong Nurseries, Inc., Ontario, Calif., a corporation of California

Filed Aug. 17, 1965, Ser. No. 480,537

1 Claim. (Cl. Plt.—18)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a very vigorous plant habit which is much greater than that of other hybrid tea rose varieties in the near white color range, attractive, dark green, glossy and disease resistant foliage, excellent, long, urn-shaped buds, double flowers of large size which are borne singly on long stems, a distinctive and attractive general color tonality of the flowers corresponding to pale blush pink, or near white, which contrasts in a very attractive manner with the dark green foliage, and a strong flower fragrance.

2,655

ROSE PLANT

Herbert C. Swim, 1329 College Way, Ontario, Calif., and O. L. Weeks, 4759 Philadelphia, Chino, Calif.

Filed June 22, 1965, Ser. No. 466,139

1 Claim. (Cl. Plt.—21)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a relatively very tall plant habit, with attendant long flower stems, leaves composed of relatively round and flat leaflets of medium to large size, long-pointed to urn-shaped flower buds as they begin to unfold, a heavy, leathery petal texture or substance, with attendant long-lasting qualities of the petals and flowers, a very dark red to near black color of the flower buds as they begin to open, with the open flowers having very dark red to black outer petals and bright red petals in the central portion of the flowers, relative freedom from blue color or blue-related pigment in the general color effect of the three-day open flowers and also in the flowers at the end of their useful life, and a pleasing and strong flower fragrance corresponding to a combination of spicy fragrance and damask.

2,656

TOMATO PLANT

Jacob Jude Wicks, New York, N.Y. (126—12 95th Ave., Richmond Hill, N.Y.)

Filed Oct. 14, 1964, Ser. No. 403,965

1 Claim. (Cl. Plt.—89)

A new and distinct variety of tomato plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a strong, bushy and spreading habit of growth resulting in heavy and much-branched vines, abundant, somewhat leathery and broad leaves which are deeply split from the margins to almost the midrib; said leaves being a somewhat darker green color than the leaves of either

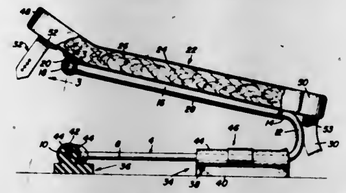
parent, thicker, longer and stronger main stems than either parent, greater ease of pollination of blossoms, with consequent good fruit production, good resistance to Verticillium and Fusarium fungus diseases, better resistance to drought than either parent, and good resistance to extremes of sunlight and heat, a medium to heavy fruit bearing habit, prolonged fruit production, averaging about ninety days, beginning between the latter part of May and the middle part of July, depending on seasonal conditions, production of exceptionally large and heavy fruit, a thick-meated fruit texture and relatively sweeter fruit flavor than either parent, and an attractive Vermilion fruit color.

PATENTS

GRANTED JULY 5, 1966

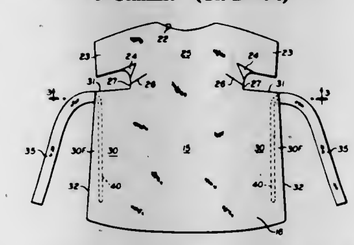
GENERAL AND MECHANICAL

3,258,779
KNEE PAD
Douglas F. Turner, 17421 Main St., Detroit, Mich.
Filed May 22, 1964, Ser. No. 369,483
2 Claims. (Cl. 2—24)



1. A knee pad for use by asphalt tile setters, floor layers and their workmen whose job requirements necessitate working in a kneeling position and shifting from one position to another comprising, in combination, a plurality of distributively spaced compressibly resilient companion shoes, each shoe comprising a pad having a flat bottom surface adapted to rest on the floor or other support surface, having a top surface provided with a split sleeve, a frame constituting a stand embodying upper and lower U-shaped members and formed from a length of rod stock, said lower member assuming a generally horizontal position when the device is being used, the split portions on the sleeve of each pad embracing adjacent cooperating portions of the aforementioned rod stock of the lower member of said stand, a substantially C-shaped clip attached to a mid-portion of at least one of the aforementioned sleeves and cooperating with the split portions thereof and adjustably connecting the same to the embraced portion of the rod stock in a manner to retain the coacting shoe in its given usable position, and a cushion saddled atop the upper member of said stand and provided at forward and rearward ends with attached leg encircling cushion-attaching straps.

3,258,780
MATERNITY GARMENT
Marguerite M. Vitolo, 500 W. 35th St., New York, N.Y.
Filed May 20, 1964, Ser. No. 368,819
9 Claims. (Cl. 2—74)



1. A continuously adjustable maternity dress comprising superposed front and rear panels permanently secured directly to each other along peripheral edges to define a double thickness upper waist portion having a neck opening and sleeve openings, said upper waist portion conforming substantially to the normal figure dimensions; said panels, at a short distance below said sleeve openings, being laterally enlarged substantially to form double thickness substantially flat wings having substantially rectilinear upper edges, along which the panels are permanently seamed directly to each other, extending substantially horizontally outwardly from the lower edges of said upper waist portion; said wings having outer edges, along which the panels are permanently seamed directly to each other, extending downwardly from said substantially horizontal upper edges; whereby said wings may be folded toward each other over either the front or the rear of the dress, to form a garment conforming to the normal figure while being expandible to accommodate lower figure enlargement with advancing pregnancy.

3,258,781
RAIN CAPE
Anne Klein, 165 E. 66th St., New York, N.Y.
Filed Apr. 27, 1965, Ser. No. 451,262
3 Claims. (Cl. 2—88)



1. In a rain cape the improved construction comprising

a head covering portion,

a plurality of panels connected at the head covering portion and connected to each other by means of substantially straight seams extending from the top of the head covering portion toward the hem thereof,

said cape having a straight sided front opening extending from the neck portion thereof to the hem and being provided with a cooperating pair of a first slide fastener connecting means,

a pair of arm slits formed on opposite sides of said front opening which are connectable by said first slide fastener connecting means,

second and third slide fastener means for closing and opening each of said slits,

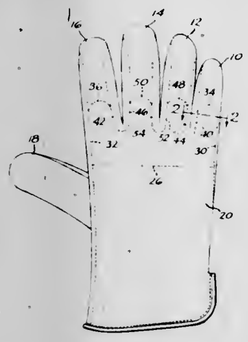
pockets attached to the inside of said cape in the region between the slits and the edges of the panels containing the first slide fastener connecting means,

each of said first, second, and third slide fasteners including a pulling tab exposed on the inside thereof and a pulling tab exposed on the outside thereof.

3,258,782
POLICEMAN'S GLOVE
Cletus P. Turnidge and Lillian A. Turnidge, both of Rte. 2, Box 573, Boring, Oreg.
Filed May 13, 1964, Ser. No. 366,958
1 Claim. (Cl. 2—161)

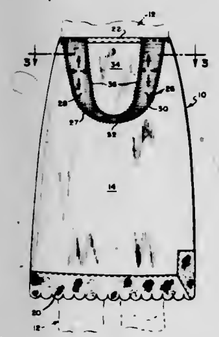
A law enforcement glove comprising a glove body having flexible finger and thumb compartments and palm and back portions rearwardly of the finger compartments, means forming in the back section and the back side of the finger compartments a pocket extending transversely

of the glove body between a rearward end substantially immediately rearward of the first knuckles of the fingers to a forward end substantially immediately rearward of the second knuckles of the fingers, and a powdered heavy material filling and being confined within the pocket,



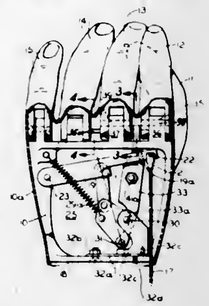
whereby when the glove is worn on the hand the powdered heavy material overlies the first knuckles of the fingers and extends forwardly along the latter to a point substantially immediately rearward of the second knuckles.

3,258,783
SELF-ADJUSTING UNDERGARMENT
Joseph R. Martin, Statesville, N.C., assignor to Flexnit Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,905
8 Claims. (Cl. 2—221)



1. An undergarment particularly adapted for use by a substantial segment of the female population, substantially irrespective of the varying dimensional extents or geometries thereof, even during the period of gestation, and comprising, in combination:
a plurality of panels;
a waist portion structurally operatively associated with said panels at one end thereof;
said waist portion comprising a band fabricated of a material that is distensible longitudinally thereof completely transversely of one of said panels, and only partially transversely of another of said panels;
an additional panel of nondistensible material;
at least one self-adjusting panel of substantially U-shaped configuration particularly adapted to be disposed in structural operative association with at least one of said panels and forming part of said waist portion;
said adjustable panel being fabricated of a material distensible in each of a plurality of directions, and being so configured and arranged as to extend substantially completely of the transverse dimensional extent of said panels, and generally vertically downwardly from said waist band;
said additional panel being disposed within said self-adjusting panel;
enabling said adjustable panel and said waist band conjointly to self-adjustably accommodate for the varying dimensional extents and geometries of the torso of the female species, even during the period of gestation, particularly with respect to that area thereof known as the waist, hips, and abdomen.

3,258,784
PROSTHETIC HAND WITH OVERLOAD RELEASE MEANS AND MEANS FOR ADJUSTING RELATIVE FINGER AND THUMB POSITIONS
Noel J. Brown, 541 Division Ave., Campbell, Calif.
Filed Aug. 5, 1963, Ser. No. 299,734
8 Claims. (Cl. 3—12.7)

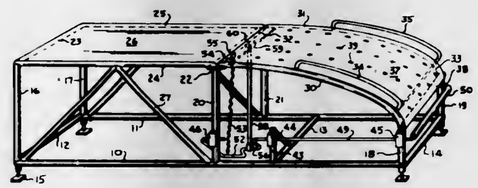


1. A prosthetic hand comprising a hollow frame forming a body of the prosthetic hand, a plurality of fingers including a thumb, means pivotally attaching a finger opposite said thumb to the forward end of said frame, means attaching said thumb to a side of said frame, and a mechanism normally holding said thumb and said pivotally mounted finger closed, said mechanism comprising a crank pivotally attached to the inside of said frame, a lever having one end pivotally connected to said crank, means pivotally connecting the other end of said lever to said pivotally mounted finger opposite said thumb, resilient means rotating said crank in one direction to close said thumb and said pivotally mounted finger and stop means for said crank for stopping the rotation of said crank by said resilient means when said thumb and said pivotally mounted finger are substantially closed, said stop means being positioned such that when it stops rotation of said crank said lever and said crank lock said thumb and said pivotally mounted finger in closed position, adjustable means mounting said crank on said frame, means for adjusting said mounting means for moving the tip of said pivotally mounted finger toward or away from the tip of said thumb, and means for rotating said crank in the opposite direction to move said pivotally mounted finger from said thumb.

3,258,785
BAPTISMAL APPARATUS
Harold B. Kuhnle, 207 S. Ashland Ave., Lexington, Ky.
Filed Dec. 7, 1964, Ser. No. 416,520
6 Claims. (Cl. 4—185)

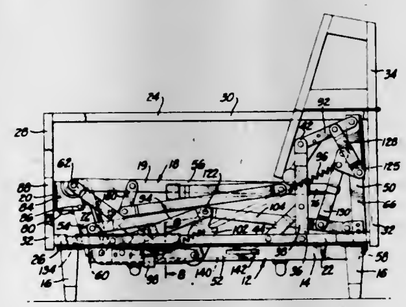
1. Baptismal apparatus comprising a couch for supporting a candidate for baptism in recumbent position beneath the surface of a body of water; said couch including an elongated framework mounting a movable

forward couch portion having a surface on which the candidate is seated prior to complete immersion, a stationary rearward couch portion mounted on said framework and having a surface on which the back of the candidate reclines during immersion, said forward couch portion being pivotally mounted adjacent its forward end on



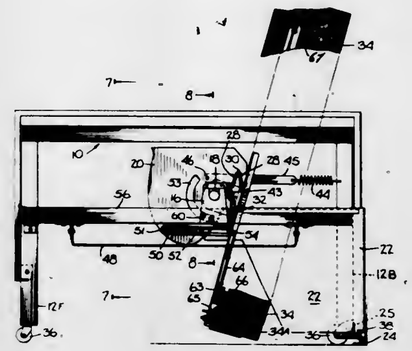
said framework, and means on said framework for limiting the downward movement of the rear edge of the surface of said forward couch portion to an elevation corresponding substantially to the elevation of the surface of said rearward couch portion during the immersion of the candidate.

3,258,786
FOLDING BED CONSTRUCTION
Alfred Rea, 2230 Charnwood Ave., Los Angeles 38, Calif.
Filed Nov. 13, 1962, Ser. No. 236,958
7 Claims. (Cl. 5—13)



1. In a folding bed having a main frame and a folding bed frame movable relative to the main frame between retracted and extended positions and forming a seat structure in its retracted position which seat structure is suspended within the main frame and including pivotally interconnected foot, forward intermediate, and rearward intermediate sections, said foot section in the retracted position being disposed above said rearward intermediate section and said forward intermediate section being disposed in a relatively upright position at the front of the seat structure, the improvement comprising: a linkage connecting the forward intermediate section to the rearward intermediate section for moving the two sections into alignment, said linkage supporting a locking roller intermediate of its link; a second linkage connecting the foot section to the forward intermediate section, said second linkage being pivotally held at one of its ends to the one of the two connected sections and the other end of said second linkage being pivotally and movably held to the other one of the two connected sections, said locking roller being, with the folding bed in its retracted position, in engagement with the second linkage and serving to restrain movement of said second linkage at its movable end and said locking roller with the two sections in alignment being out of engagement with said second linkage so as not to interfere with the movement of said second linkage at its movable end.

3,258,787
SOFA BED
Laurence B. Emmons, Hotel Lancaster, 22 E. 38th St., New York, N.Y., and Gertrude Holt Tomlinson, Seattle, Wash.; said Tomlinson assignor to said Emmons
Filed Dec. 11, 1964, Ser. No. 417,539
15 Claims. (Cl. 5—43)

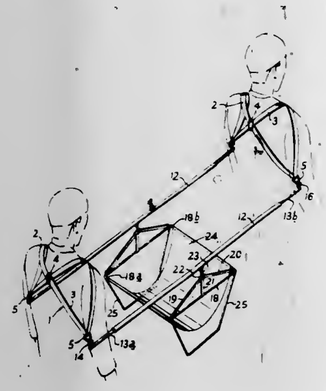


1. A sofa bed frame comprising:
a base frame,
a back frame pivotally mounted to said base frame along a first axis,
an extension frame pivotally mounted to said base frame along a second axis parallel to and displaced from said first axis, said extension frame being constrained within said back frame to have freedom of movement relative to said back frame in a direction substantially perpendicular to said second axis and along a plane substantially parallel to the main plane of said back frame,
whereby the rotation of said back frame relative to said base frame will cause said extension frame to rotate relative to said base frame about said second axis thereby forcing said extension frame to translate relative to said back frame.

3,258,788
HARNESS CONSTRUCTION
Albert Theobald Joseph Henri Anciaux, 244 Chaussee de Waterloo, Brussels, Belgium
Filed Feb. 6, 1963, Ser. No. 256,740
3 Claims. (Cl. 5—82)

2. An apparatus for carrying a patient comprising two harnesses for wearing respectively by two bearers, each said harness comprising a flexible strap arranged as two loops in a figure-eight for engagement about the respective bearer's shoulders, a fastening at the point of juncture of the two loops for positioning on the bearer's back, and a coupling member engaged and freely slidable on each loop of the strap, in combination with a support for the patient, and means coupling each end of the support to a coupling member on each harness, said coupling member comprising a metal frame of four parallel bars connected by transverse side members, three of said bars defining a first common plane, the fourth bar and the most adjacent bar to said fourth bar defining a second

plane transverse to said first plane, said bars in said second plane having an open space therebetween for the passage of two lengths of strap, said lengths of strap



being looped under and freely slidable upon one of said three parallel bars which is remote from said second plane and a hook attached to the one of said three parallel bars most remote from said second plane.

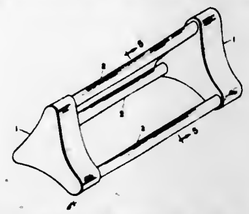
3,258,789
FITTED BED SHEET
Letha E. Banks, P.O. Box 36, Gainesville, Tex.
Filed Feb. 12, 1964, Ser. No. 344,483
1 Claim. (Cl. 5—334)



In a fitted top sheet for application to a bed, the combination of a regular, plain sheet of standard size, corresponding to the dimensions of a mattress with which it is intended to be used, having a box-shaped slip cover, open at one end, secured by stitching to its underside, said cover being receivable on an end portion of said mattress and having width and depth dimensions corresponding substantially to those of said mattress, and being comparatively short relative to its width, and said cover having its top portion and its two opposite side portions stitched to the underside of said sheet by a first line of stitching extending across said top portion, immediately adjacent the corresponding end of said mattress, in the applied position of said sheet, and by two other lines of stitching extending horizontally, in parallel relation to each other, across said two opposite side portions of said cover, longitudinally of said mattress and below its top surface, in the applied position of said sheet, whereby said sheet is adapted to be secured in place by engagement of said cover with said end portion of said mattress and in use has the appearance of a fitted sheet, while at the same time the end of said sheet adjacent said cover, as well as the sides thereof, may hang loosely and the opposite end of the sheet may be turned down in the usual manner in making the bed.

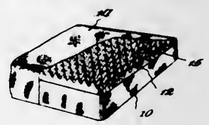
3,258,790
BAR PILLOW
Thomas T. Maru, 916 S. Queen St., Honolulu, Hawaii 96814
Filed Sept. 23, 1963, Ser. No. 310,744
3 Claims. (Cl. 5—337)

1. A pillow comprising spaced and parallel substantially triangular end members and three bars in equispaced parallel relation extending between said end members, said end members including rounded corners adapted to provide rocking surfaces and being provided be-



tween said corners with concavities, said bars being spaced apart at a distance whereby to accommodate and support the rear part of the head of a user with one of the bars positioned at the nape of the neck of the user.

3,258,791
MATTRESS PAD
Sidney J. Kaplan, 1616 W. Grand Ave., Waukegan, Ill.
Filed Apr. 6, 1964, Ser. No. 357,488
4 Claims. (Cl. 5—347)



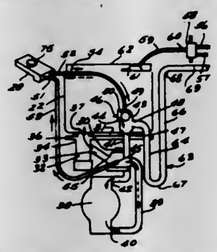
1. A mattress pad comprising a cellular spongifoam material having an instrumental surface containing from about 20 to about 150 undulating protuberances per square foot of substantially uniform height separated respectively by respective undulating cavities of substantially uniform depth, the walls defining said undulating cavities having substantially the shape of said undulating protuberances, said undulating protuberances being adapted to support an outer sheet thereon, a plurality of ridges interconnecting said cavities, said protuberances being bridged by said ridges, the apexes of said ridges being substantially one half the distance between the peaks of said protuberances and the nadirs of said cavities whereby said ridges provide a resistance against excessive compression and said pad retains at least partial cavitation under ordinary weight.

3,258,792
METHOD AND APPARATUS FOR DISPENSING AN ADDITIVE TO A WASHING MACHINE
William R. Rickel, Benton Harbor, Mich., assignor to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Nov. 12, 1963, Ser. No. 322,767
18 Claims. (Cl. 8—158)

1. The method of admixing laundry additive with a laundry liquid in an automatic washing machine which comprises the steps of,
confining the laundry liquid in a hydraulic circuit,
circulating the laundry liquid in one direction through said hydraulic circuit,
at one point in the circuit directing the laundry liquid in the form of a stream under positive hydraulic pressure into an additive dispenser reservoir containing a supply of additive,

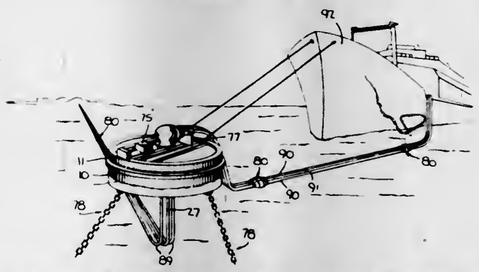
admixing the additive and the pressurized stream of laundry liquid in the reservoir,
at a second point in the circuit situated downstream of said additive dispenser reservoir creating turbulence and reverse flow of the admixture of additive and laundry liquid to ensure through mixing thereof, and
at a third point in the circuit directing the admixture into a treatment zone for subjecting a batch of material to a laundry treatment.

2. In an automatic washing machine,
means forming a hydraulic circuit including a treatment zone and a pump for circulating laundry liquid from the treatment zone through the circuit and back to the treatment zone,



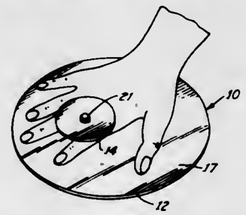
a dispenser adapted to receive a quantity of additive and to mix the additive with the laundry liquid and having a laundry liquid inlet and a laundry liquid outlet,
first conduit means directly connecting said laundry liquid inlet of said dispenser to the discharge side of said pump for delivering a stream of laundry liquid to said dispenser,
a second conduit means separate from said treatment zone directly connecting said laundry liquid outlet of said dispenser to the suction side of said pump for delivering an admixture of laundry liquid and additive to said pump, and
third conduit means connecting the discharge side of said pump to said treatment zone for delivering the admixture of laundry liquid and additive to said treatment zone.

3,258,793
OFFSHORE TERMINAL
Arnold J. Schultz, 520 5th Ave., New York 36, N.Y.
Filed Aug. 31, 1964, Ser. No. 393,178
7 Claims. (Cl. 9—8)



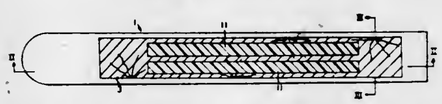
6. An offshore terminal facility for loading and unloading tankers comprising a cylindrical buoyant compartmented hull member having a generally flat top deck thereon, a centrally disposed conically shaped fuel compartment in said hull having a flat base portion disposed inwardly from the bottom of said hull, a cylindrical extension communicating with said fuel compartment disposed upwardly from said top deck, a circular platform overlying said top deck and having roller members thereon for rotatable movement on said deck, a cylindrical central conduit section on said platform mounted on said extension and dimensioned for rotatable movement relative to said extension, said extension having a plurality of vertically spaced peripheral recesses on its outer surface, metal seal rings mounted in said recesses and bearing against the opposed inner surface of said conduit section in sliding sealing relationship therewith, a vertical sleeve member disposed concentrically within said fuel compartment affixed to said base and communicating externally of the underside of said hull, a header horn affixed to said conduit section providing a top closure for said fuel compartment, a central pipe member carried within said horn having a lower end portion extending into said sleeve and an upper end communicating externally of said horn, a plurality of metal seal rings mounted in inner recessed portions of said sleeve and bearing against the outer surface of the lower end portion of said pipe in sliding sealing relationship therewith, said horn provided with external valve means for said central pipe member and for said fuel compartment adapted for interconnection with ship-based hose lines and means on the underside of said fuel compartment for interconnecting said central pipe member and said fuel compartment with shore-based hose lines; radially adjustable weight means on said platform to counterbalance listing tendencies of said hull caused by interconnection of said facility with ship-based hose lines.

3,258,794
SWIMMING AID
Carl L. Goodwin and Carl H. Goodwin, both of Bay Village, Ohio, assignors to Automotive Development Co., Cleveland, Ohio, a corporation of Ohio
Filed June 1, 1964, Ser. No. 371,578
10 Claims. (Cl. 9—307)



1. A swimming device adapted to be used on a swimmer's hand and comprising
a first and larger thin plate,
a second and smaller thin plate,
resilient spacing and connecting means fastened to said plates for holding them generally facing each other and spaced apart from each other and resiliently biased generally parallel to each other.

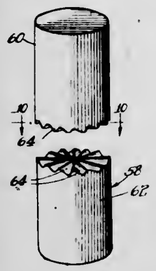
3,258,795
WATER SKI
Bertrand Mailhot, 29 Girourard St., Arthabaska, Quebec, Canada
Filed Sept. 30, 1964, Ser. No. 400,402
Claims priority, application Canada, Mar. 16, 1964, 897,978, Patent 705,275
5 Claims. (Cl. 9—310)



1. A water ski comprising an elongated body member; a pair of longitudinally extending, aligned and spaced cavities within said member, and located adjacent the

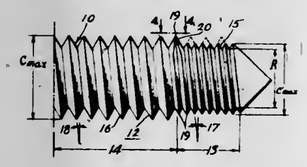
base thereof; an insert of buoyant material located within each of said cavities; a wooden member secured to the base of said body member and adapted to retain each said insert within its associated cavity; said body member, said inserts and said retaining member, together [illegible] core; and a plurality of fiberglass lami[illegible] about and secured to the outer surfaces of [illegible] core and adapted to inhibit water from penetrat[illegible] to said core.

3,258,796
METHOD AND APPARATUS FOR FORMING TWISTED TOOTH LOCK WASHERS
Anthony L. Chiarugi, Bartlett, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Original application Aug. 14, 1961, Ser. No. 131,183, now Patent No. 3,149,655, dated Sept. 22, 1964. Divided and this application May 12, 1964, Ser. No. 366,879
6 Claims. (Cl. 10—85)



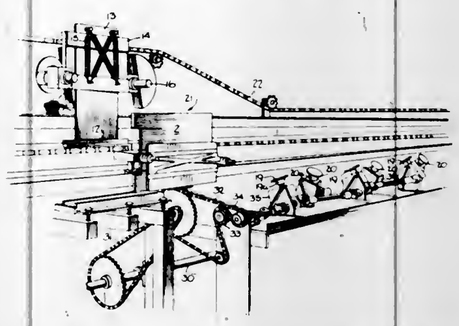
2. A die for making lock washers of the type described comprising a shank portion, and a plurality of integral ribs on one end of said shank portion, said shank portion in the vicinity of said ribs having a predetermined diameter, said ribs extending inwardly from adjacent the periphery of said shank portion and having crests extending from said periphery to a circle centrally located with respect to said shank portion and having a diameter which is only a small fraction of said predetermined diameter, each of said ribs having opposite flank surfaces extending from roots of the ribs to the crests thereof at different angles relative to a plane perpendicular to the central axis of said shank portion, and said crests of said ribs also being disposed at an angle with respect to said plane and progressively increasing in height from said central circle toward the periphery of the shank portion.

3,258,797
FLUTELESS SWAGING TAP
Alfred N. Budd, Wyndmoor, Pa., assignor to Bremer Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 6, 1964, Ser. No. 409,373
15 Claims. (Cl. 10—152)



1. Apparatus for swaging threads, comprising a thread-forming tool having a continuously threaded body, said threaded body being divided into a leading portion and a trailing portion, said leading portion having double the number of threads per inch as the threads per inch of said trailing portion, the helix angle of said threads being substantially uniform throughout said body.

3,258,798
BOOK BACK ROUNDING AND BACKING
Richard B. Hawkes, Easton, Pa., and Thomas B. Hawkes, Manhasset, N.Y., assignors, by mesne assignments, to T. W. & C. B. Sheridan Co., New York, N.Y., a corporation of New York, a subsidiary of Harris-Intertype Corp., New York, N.Y., a corporation of Delaware
Original application Aug. 8, 1962, Ser. No. 215,639, now Patent No. 3,132,360, dated May 12, 1964. Divided and this application Apr. 10, 1964, Ser. No. 358,725
3 Claims. (Cl. 11—5)

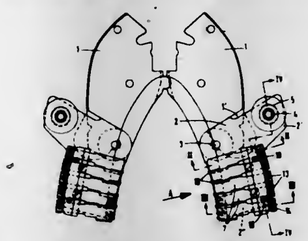


1. A machine for continuously rounding books including a continuous travelling series of book clamps adapted to releasably clamp books with their fronts and backs exposed, a book rounding assembly that is reciprocative in the travelling direction of said clamps so as to travel with each clamp and return for the next, and means for partly releasing each clamp as it and said assembly travel together, said assembly including a book back rounding die for the books' backs, a book front shaping punch that is reciprocative toward and from the book fronts, and means for causing this punch to move into contact with and press against each book front as said assembly travels with that book, this second-named means comprising one or more cranks rotating in the direction said clamps travel and connecting with said reciprocative punch to rotate it in said direction and spring means for biasing said punch downwardly so it does press on each book front while travelling therewith to press that book's back against said die, and means for moving said die in a direction opposite to said travel so the die moves backwardly in this opposite direction to meet the next oncoming book each time said punch leaves the book front engaged thereby.

3,258,799
LASTING MACHINE
Albert Weinschenk, Seulberg, Germany, assignor to Eugen G. Henkel, Neu-Isenburg, Germany, a firm of Germany
Filed May 10, 1965, Ser. No. 454,359
5 Claims. (Cl. 12—12)

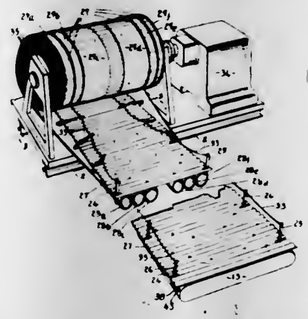
1. A lasting machine having lasting tools comprising wipers pivotable relative to each other toward an intermediate last for lasting the front part of a shoe, wiper extensions, means mounting an extension on each of said wipers so as to be pivotable together with said wipers from an initial position adjacent to the last to a working position in which they overlap the bottom of the last and the insole of a shoe thereon, a plurality of leaf springs adjacent to each other on each wiper extension, means for securing said leaf springs to said wiper extensions, each of said leaf springs having a working arm extending from the inner edge of one wiper extension facing the last toward the outer edge thereof at an acute angle to the side

of said wiper extension facing the bottom of the last when said lasting tools are pivoted inwardly for folding the material of the upper of the shoe over the bottom of the last and to press it firmly thereon, adjusting means for adjusting said springs so as to vary the angle between the working arm of each spring and the wiper extension on which said spring is mounted, said securing means including guide elements secured to said wiper extensions, said working arm of each leaf spring being extended toward the rear to form a spring part which is first bent downwardly to-



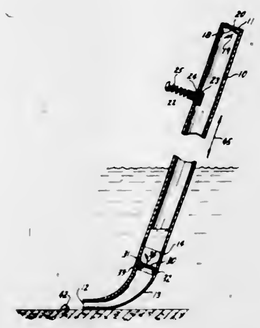
ward the wiper extension on which said spring is mounted and then in a direction substantially parallel to said wiper extension so as to form a substantially straight end portion, said end portion extending through and guided by said guide element so as to permit said end portion to be shifted in the longitudinal direction of said spring, and means connecting said adjusting means to the rear end of said spring projecting from said guide element for adjusting the distance which said spring may be drawn forwardly from said guide element when said lasting tools are in their initial position.

3,258,800
CONTINUOUSLY EXTENSIBLE AND ROLL-UP STRUCTURE
Eli I. Robinsky, 301 Jedburgh Road, Toronto, Ontario, Canada
Filed Aug. 17, 1964, Ser. No. 390,078
7 Claims. (Cl. 14—27)



1. A floatable structure adapted to be wound in a roll comprising a substantially long, flat, flexible deck having means stiffening said deck against transverse flexibility without impeding longitudinal flexibility, and a plurality of tube-like floatation chambers, at least one floatation chamber extending longitudinally along each side of the deck and substantially the full length thereof, each chamber being formed of a resilient strip of material preformed into a tubular shape and having one of its longitudinal edges permanently fastened to the deck and having its other edge free permitting the tube to assume a flat position when the structure is wound up into a roll and reform into a tube when the structure is unrolled, and means sealing the ends of each floatation chamber.

3,258,801
POOL CLEANING DEVICE
George L. Campbell, 512 W. Gardenia, Phoenix, Ariz.
Filed Sept. 14, 1965, Ser. No. 487,287
3 Claims. (Cl. 15—1.7)



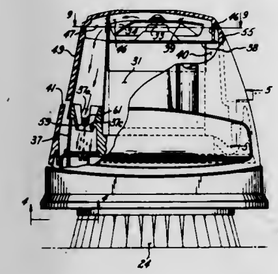
1. A pool cleaning device comprising: a tubular member having an open end; a unidirectionally openable screen member positioned in said tubular member proximate to said open end and adapted to move out of the way of debris being carried into said tubular member by inflowing liquid; a closable opening in said tubular member positioned remote from said open end to permit the passage of air to and from said tubular member.

3,258,802
POWERED ORAL APPLIANCE
Louis D. Rodriguez, Visalia, Calif., assignor of fifty percent each to Joe L. Rodriguez and Georgia Rodriguez, Visalia, Calif.
Filed Jan. 25, 1965, Ser. No. 427,724
8 Claims. (Cl. 15—23)



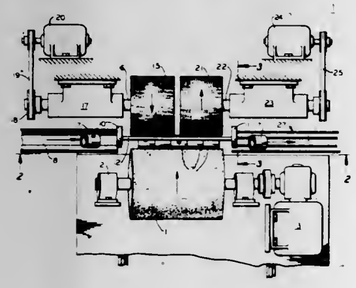
1. A powered oral appliance comprising a housing containing a power unit; a pair of elongated rotary members mounted in the housing individually providing a plurality of axially spaced radially extended elements, said rotary members being adapted to be mounted on the handle and having releasable connection to said power unit with the rotary members interconnected for contra-rotation on spaced substantially parallel axes; and means on the housing partially to enclose the rotary members providing a plurality of closure members individually transversely extended between said elements of the rotary members.

3,258,803
FOAM GENERATOR FOR FLOOR CONDITIONER
Gilbert R. Wolter, Elmhurst, and Alfred F. Ernstberger, Broadview, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 25, 1963, Ser. No. 290,474
12 Claims. (Cl. 15—50)



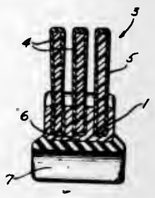
8. A combined rug scrubber and floor polisher comprising a motor drivingly connected to a polishing brush, a liquid reservoir having a valve controlled discharge conduit, a housing enclosing said motor, said housing having first and second conduit connectors for detachable connection with said discharge conduit on the exterior of said housing, a foam generator positioned within said housing, a first conduit providing fluid communication between said first connector and said generator and a second conduit associated with said second connector to discharge liquid on the floor beneath the housing.

3,258,804
CENTERLESS FINISHING MACHINE
John M. Fowle, Los Altos Hills, Calif., assignor to Dura-Bond Bearing Company, Palo Alto, Calif., a corporation of California
Filed June 1, 1965, Ser. No. 460,221
4 Claims. (Cl. 15—88)



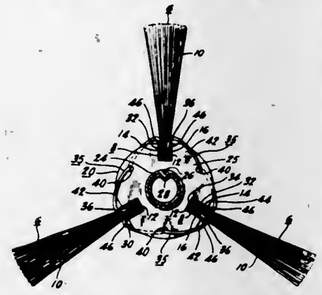
1. Centerless finishing apparatus comprising:
means providing centerless support for a work piece,
a regulating wheel including drive means for feeding said piece along a path of travel in one direction,
a first finishing member on the opposite side of said path from said regulating wheel and adapted to engage said piece,
means driving said member in one direction,
a second finishing member alongside said first member and in engagement with said piece,
means driving said second finishing member in a direction opposite to said first member.

3,258,805
TOOTH BRUSH
Michael Rossman, 11724 Lovejoy St., Silver Spring, Md.
Filed Nov. 4, 1964, Ser. No. 408,836
2 Claims. (Cl. 15—110)



1. A tooth brush for tooth cleaning and gum massaging comprising a handle and an integral relatively flat terminal portion, said flat terminal portion being formed with a plurality of uniformly spaced recesses arranged in parallel rows, each recess having secured therein an elongated nylon bristle of uniform diameter extending from one face of the flat terminal portion, each bristle being entirely encased within a coating of rubber, said nylon bristles and said rubber coating each being formed of a different color, whereby the user can visually determine when the tip of the rubber has worn down to expose the nylon bristles, thus preventing injury to the gums.

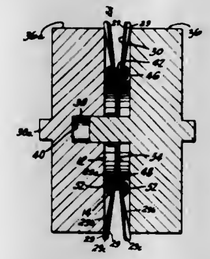
3,258,806
BRUSH CONSTRUCTION
Barton M. Wilgus, Vandalia, Ohio, assignor to Lambert, Inc., Ansonia, Ohio, a corporation of Ohio
Filed Apr. 7, 1964, Ser. No. 358,023
6 Claims. (Cl. 15—183)



4. A device for mounting brush strips of the character described comprising a rotatable disk having radial slots for receiving brush strips, an elongated resilient spring clip having two distortable brush strip engaging portions, connecting means supporting said resilient clip intermediate the engaging portions thereof at said disk and holding said clip against outward movement at such point of support, said connecting means being located inwardly of the periphery of the disk, the engaging portions of the clip being distortable peripherally outwardly to engage two adjacent brush strips so as to exert inward radial pressure thereon and hold the brush strips in their respective slots.

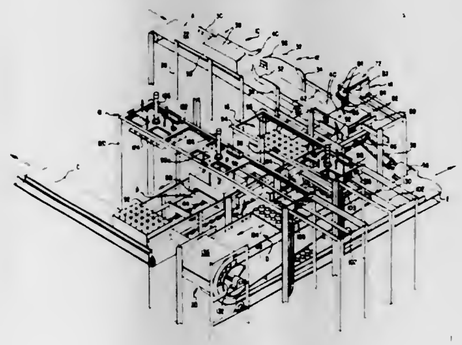
3,258,807
BUFFING WHEEL ADAPTED TO UTILIZE REUSED CLOTH
Bernard G. Jeske, 7017 Drexel Ave., Dearborn, Mich.
Filed Dec. 30, 1963, Ser. No. 334,253
2 Claims. (Cl. 15—230.13)

1. A buff wheel comprising means forming a substantially circular supporting ring having a radially outwardly opening endless channel at the outer periphery thereof, alligator-type clamping teeth on opposite sides of said channel, an elongated cloth body consisting of overlapped pieces of cloth which extend generally transversely of said body, each of said pieces having a pair of raw edges which extend generally transversely of said body, said pieces being transversely unattached to adjacent pieces, said body being mounted on said ring so that said pieces are evenly distributed about the periphery thereof with each of said pieces being return folded upon itself so that it has a center portion and a pair of end portions which



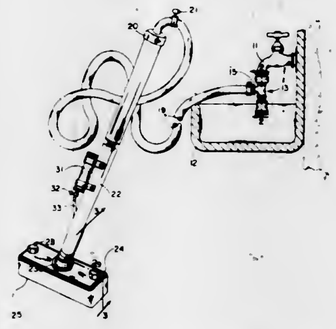
extend in overlapped relation from said center portion, with each of said end portions of each piece terminating in an edge separated from the edge of the other end portion of said piece, the center portion of each of said pieces being positioned in said channel so that the center portions of all of said pieces are disposed in the same plane, said teeth clampingly engaging the cloth body.

3,258,808
CARTON AND JAR HANDLING APPARATUS
Leonard F. Ashford, 609 W. Godfrey Ave., Philadelphia, Pa.
Filed Nov. 21, 1963, Ser. No. 325,345
6 Claims. (Cl. 15—304)



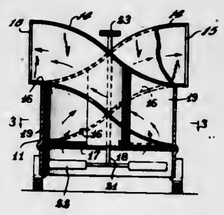
1. Carton and jar handling apparatus comprising, in combination, a continuously operating carton delivery conveyor, carton flap opening means associated with said delivery conveyor, a processing conveyor abutting said delivery conveyor and receiving cartons therefrom, jar pick-up means positioned in operable relationship to said processing conveyor, control means actuating said pick-up means in timed sequence to carton travel on said processing conveyor, compressed air jar cleaning elements fixed in operable relationship to said jar pick-up means and operating in timed sequence therewith, a jar inverting conveyor receiving jars from pick-up means, a jar discharge conveyor receiving jars from said inverting conveyor, and a carton discharge conveyor abutting and receiving cartons from said processing conveyor.

3,258,809
SPONGE MOP
Harmond S. Harvey, 712 Saw Mill Brook Parkway, Newton Center 59, Mass.
Continuation of application Ser. No. 68,568, Nov. 10, 1960. This application Sept. 27, 1962, Ser. No. 227,643
1 Claim. (Cl. 15—321)



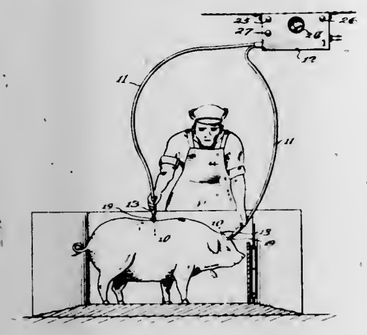
In combination: a reversible water-suction pump, a cellulose sponge, a hollow rigid handle, a flexible conduit extending from said pump through said handle to said sponge, and sponge attaching and enveloping means attaching said handle to said sponge; said attaching means comprising in attached combination a plate having an orifice, means for holding said handle on said plate and a fitted flexible water impervious jacket which surrounds the sides of the sponge leaving the bottom exposed, as the only exposed surface of the sponge, has its top portion cooperating with the plate to form a seal and has an orifice registering with said plate orifice, said orifices permitting connection between said conduit and said sponge.

3,258,810
DEBRIS COLLECTOR
Henry J. Adeszko, 13 Waynewood Drive, West Chicago, Ill.
Filed Oct. 16, 1963, Ser. No. 316,710
2 Claims. (Cl. 15—412)



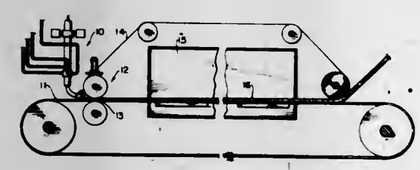
1. Apparatus for picking up and collecting debris from a surface comprising a cylindrical housing open at its bottom, a pair of diametrically opposed radial openings in the upper portion of said housing, a pair of spiral passageways in said housing, one in communication with each opening, said passageways extending downwardly from said openings and terminating adjacent to but short of the housing bottom, a fan below said passageways having blades arranged to draw air in through the bottom of the housing and force it upwardly through said passageways, and drive means external of said housing and connected with the fan for rotating the fan.

3,258,811
ANIMAL ELECTRICAL STUNNING APPARATUS
Kenneth V. Braun, St. Paul Park, Minn., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware
Original application May 6, 1963, Ser. No. 279,676. Divided and this application Aug. 20, 1964, Ser. No. 397,058
5 Claims. (Cl. 17—1)



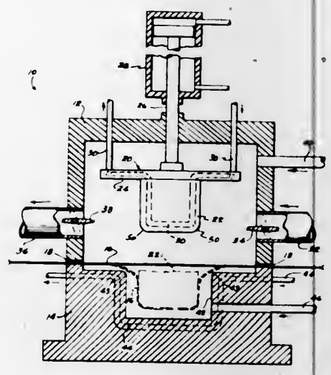
1. An apparatus for stunning animals including a control means, said control means having separate flexible conductors extending therefrom, each of said conductors having a free end thereon, a sharp pointed electrode mounted on said free end, insulated handle means surrounding each electrode, means for passing an electric curent through said conductors and electrodes including a pair of switches wherein said switches must be closed to cause the flow of current.

3,258,812
CASTING BELT FOR FOAM MAKING APPARATUS
John Willy, Attleboro, Mass., assignor to Specialty Converters, Inc., a corporation of Delaware
Filed July 30, 1964, Ser. No. 386,319
5 Claims. (Cl. 18—4)



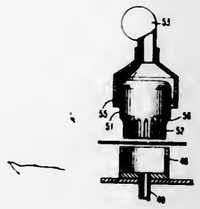
1. In foaming making apparatus for continuously casting thin foam sheets having a foam mixture dispensing apparatus, a moving casting surface on which the foam mixture is dispensed, and means defining a nip for determining the amout of foam mixture to be passed through the apparatus, the improvement in combination therewith comprising a continuous casting belt having a width in excess of about 10 feet being tightly woven from wire strands extending in at least two directions and mounted in the apparatus to pass through said nip, and a plastic release coating defining said casting surface on one broad surface of the belt, said coating formed by a plastic layer integrally locked to the woven belt and substantially closing the interstices between the woven strands with the plastic characterized by surface properties which are releasable with respect to the foam so that the belt is impermeable to the foam mixture.

3,258,813
PRESSURE FORMING OF PLASTIC FILM
Fred A. Groth, Chicago, and Paul Meisner, Park Forest, Ill., assignors, by mesne assignments, to Dynamics Corporation of America, a corporation of New York
Filed Jan. 28, 1963, Ser. No. 254,320
8 Claims. (Cl. 18—19)



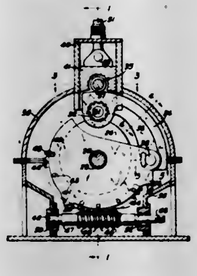
1. An apparatus for the pressure forming of plastic film comprising a mold portion having a film forming cavity therein, means for disposing a plastic film in communication with said cavity, means for sealing said mold portion so as to form an air-tight chamber, means for heating said film within said chamber to a forming temperature, plug means dimensioned to be freely received within said cavity, means for actuating said plug means whereby said film can be disposed in spaced-apart relation with respect to said cavity, and means for applying pressure over said film together with said heating means to cause it to assume the configuration of said cavity.

3,258,814
APPARATUS FOR MAKING ELASTIC FILM CAPS
John W. Harrison, Winchester, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Application Apr. 30, 1962, Serial No. 191,365, now Patent No. 3,175,027, dated Mar. 23, 1965, which is a division of application Serial No. 798,869, Mar. 12, 1959. Divided and this application Apr. 29, 1964, Serial No. 363,579
2 Claims. (Cl. 18—19)



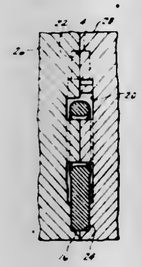
1. A film cap machine having one fixed and one reciprocating circular die element, film securing means adjacent the margins of each element to restrain a sheet of film pressed between said elements, means to heat an area of film adjacent the margin, the said elements being adapted to shield central areas of the film from the heat applied to the peripheral zone of the film.

3,258,815
CONTINUOUS CASTING MACHINE
Kurt Reinfeld and Joseph Rokop, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed May 3, 1963, Ser. No. 277,925
5 Claims. (Cl. 22—57.3)



1. A continuous casting apparatus comprising an open ended mold adapted to receive molten metal and to discharge the metal as a partially soldified billet, pinch rollers adapted to withdraw the billet from the mold at a predetermined rate, a cam mounted for rotation, variable speed drive means for said cam, a follower roll mounted for rotation in a follower arm which is adapted to rise and fall as said cam rotates, a second roll operatively associated with said follower arm and mounted to reciprocate as said follower arm rises and falls, said second roll being rotatably mounted in a cross-head, guide means for restraining the motion of said cross-head to a vertical reciprocatory movement, a connecting rod connected to said cross-head and a lever connected to said connecting rod and said mold, and means for adjustment of the length of travel of said mold without stopping the mechanism, said means for adjustment comprising means mounted to rotate said follower arm around said cam, whereby as the follower arm is moved around the cam the amplitude of reciprocation of said second roll will be continuously varied from a maximum to zero thereby varying the amplitude of reciprocation of said cross-head, said connecting rod, and said mold.

3,258,816
DIE CASTING HOLLOW ARTICLES BY LOST CORE PROCESS
Earle W. Rearwin, High Point, N.C., assignor to Adams-Millis Corporation, High Point, N.C., a corporation of North Carolina
Filed Aug. 9, 1963, Ser. No. 300,999
6 Claims. (Cl. 22—168)



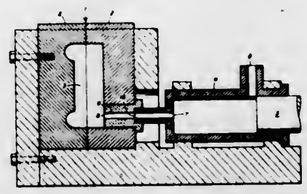
1. The method of die casting a substantially hollow article and comprising the steps of providing a disposable core having an outer surface which has been treated to resist the transfer of heat thereacross, providing a die cover-half and a die ejector-half which engage to define a cavity for die casting said article, supporting said core in fixed relation to said die halves and said cavity at least when said halves are engaged, introducing molten metal into said cavity and around said core, said heat resistant outer surface of the core preventing influx of heat to the core as a result of contact between said core and said molten metal, thereafter removing said article and its associated core from the die ejector-half, subjecting said article and its associated core to a temperature high enough to melt said core by sustained application but not so high as to adversely affect said die cast material, said heat resistant core surface comprising a thin coating of Vermiculite flakes deposited on the core in a latex binder, which coating is incapable of maintaining the shape of the solidified core as the latter begins to melt, whereby melting of said core automatically destroys said heat resistant coating.

3,258,817
METHOD OF PREPARING COMPOSITE HARD METAL MATERIAL WITH METALLIC BINDER
William D. Smiley, Los Altos Hills, Calif., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Nov. 15, 1962, Ser. No. 238,054
18 Claims. (Cl. 22—202)



1. A process for the preparation of a composite material which comprises preparing a mass of discrete spheroidal refractory hard metal granules produced by melting a refractory hard metal in a high temperature gas stream and solidifying the resultant entrained spheroidal droplets, infiltrating said mass with a molten metallic binder having a melting point between about 1500° F. and about 3000° F. and the ability to wet said spheroidal granules, and solidifying said binder within said mass.

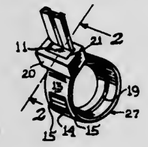
3,258,818
METHOD OF CASTING METALS
Loren W. Smith, Eggertsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Mar. 31, 1965, Ser. No. 444,459
16 Claims. (Cl. 22—216.5)



1. A method of casting a run of metal castings in metal molds in a plurality of casting operations each producing in a single cast one or more castings each identical with a casting of every other operation, comprising in each casting operation making a metal mold of such thermal diffusivity and mass as to maintain its integrity to the point of freezing to shape of metal to be cast therein, casting said metal in said mold, and

expending said mold in said casting operation to free the run of castings from dependency for preciseness upon any life of a mold beyond the operation in which it is expended.

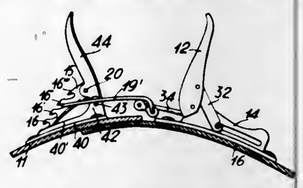
3,258,819
CABLE CLAMP
Ethan Weckesser, Chicago, Ill., assignor to Weckesser Company, Inc., Chicago, Ill.
Filed Sept. 21, 1964, Ser. No. 397,715
6 Claims. (Cl. 24—16)



1. A cable clamp comprising
(a) an elongated substantially flat strip of flexible material for wrap-around binding engagement with a plurality of wires and the like,
(b) said strip having formed on one flat side thereof a plurality of transversely extending serrations,
(c) said serrations being of a width less than the width of said band and terminating at either end into longitudinally extending ridges,
(d) a wedge means at one end of said strip having one side wall thereof inclined outwardly and away from said one flat side of said strip,
(e) a lock housing having an opening formed therethrough with one wall thereof tapered so as to reduce the size of the opening on one side of said housing,
(f) said tapered wall providing internally stepped serrations extending transversely to the depth of said opening,
(g) said stepped serrations being of a length less than the width of said opening and terminating at either end into parallelly extending recesses, and
(h) said strip being projected first in one direction through said housing so as to position said wedge means of said strip within said opening and then through said opening in an opposite direction with said ridges of said strip being depressed in said recesses provided by said tapered wall defining said opening,
(i) said wedging means engaging said strip within said opening for wedging the serrations formed in said strip into binding engagement with the stepped serrations formed in said tapered wall for securing said band in a wrapped around binding engagement about the wires.

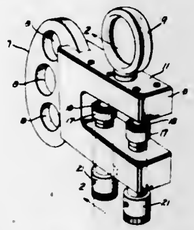
3,258,820
PULL FASTENING DEVICE FOR SHOES AND MORE PARTICULARLY FOR SKI SHOES
Adalberto Sussman Steinberg, Via Frassinetti 25, Milan, Italy
Filed Apr. 28, 1964, Ser. No. 363,232
Claims priority, application Italy, Apr. 30, 1963, 8,957/63; Oct. 5, 1963, 20,536/63
6 Claims. (Cl. 24—70)

1. A pull device for fastening two shoe portions comprising a tension member pivotally connected to one portion of the shoe and extendable to the other portion, base plate means fixedly attached to the other portion of the shoe, said base plate means having slide channel means, lever means pivoted to rotate towards and away from the pivotal connection of said tension member, hook rack means hinged at one end to said lever means, said hook rack means having a plurality of hooks for receiving said tension member, said hook rack means having the other end slidable in said slide channel means of said base plate means, the two shoe portions being pulled together by



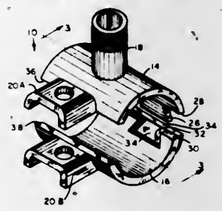
movement of said hook rack means when said lever means is rotated away from the pivoted connection of said tension member.

3,258,821
DOUBLE GRIP SAFETY CLAMP
Michael G. Curran, 11608 Detroit Ave., Cleveland, Ohio
Filed Feb. 5, 1964, Ser. No. 342,718
2 Claims. (Cl. 24—243)



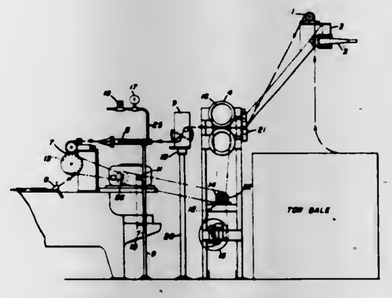
1. A generally U-shaped clamp comprising:
first and second substantially rigid arms;
a base member connecting and supporting said arms in substantially parallel relationship;
first and second clamping screws threadably engaging said first arm, said screws being spaced longitudinally of said first arm in parallel alignment with each other with their axes in a substantially common plane;
a plurality of gripping screws threadably engaging said second arm, each of said screws having its gripping end directed toward said first arm; and
load support means secured to said clamp substantially in said common plane.

3,258,822
PIPE CLAMP
Ronald D. Schlesch and Eldon W. Morain, Tulsa, Okla., assignors to Continental Industries, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Jan. 28, 1963, Ser. No. 254,269
1 Claim. (Cl. 24—284)



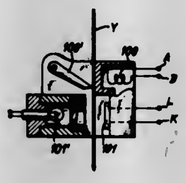
A clamp for a pipe comprising a first rigid substantially semi-tubular body member; a second rigid substantially semi-tubular body member, said second body member having a wedge shaped slot formed therein at one longitudinal edge thereof, said first and second semi-tubular body members having an internal diameter at least equal to the external diameter of said pipe; a dovetailed hinge member integrally formed with and extending from one of the longitudinal edges of said first body member, said wedge shaped slot of said second body member adaptable to hingeably and lockably receive said dovetailed hinge member of said first body member; a means of supporting said body members together around said pipe; and a rigid metallic reinforcing member affixed only to the exterior of said second body member over said wedge shaped slot.

3,258,823
APPARATUS FOR PRE-PROCESSING TOW
Joel B. Stevens and Robert C. Yantz, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 20, 1962, Ser. No. 174,517
4 Claims. (Cl. 28—1)



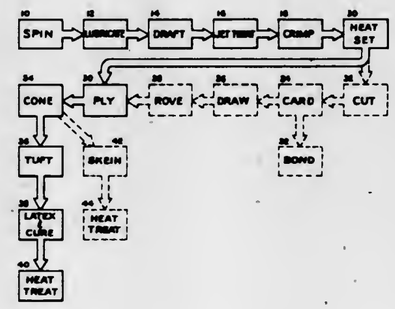
1. An apparatus for producing an opened tow having a substantially uniform weight per unit length comprising in order from the direction of the feed:
(a) a pair of relatively small tow pretensioning rolls adapted for braking, arranged so that the tow is pulled through the bite formed between said rolls, the braking action of said relatively small rolls being sensitive to changes in the length and weight of tow delivered to said apparatus,
(b) constant linear speed tow feed rolls, and
(c) pneumatic tow-opening means.

3,258,824
APPARATUS FOR CHECKING OF TRAVELLING YARN IN TEXTILE MACHINERY
Walter Gith, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Sept. 23, 1964, Ser. No. 398,663
Claims priority, application Germany, Sept. 28, 1963, R 36,246
15 Claims. (Cl. 28—64)



1. Apparatus for checking travelling yarn in textile machinery for slubs, doubling or the like faults, comprising an electrically actuable device for stopping the yarn processing operation, yarn sensing means for issuing signal pulses in response to said faults, a direct current amplifier having an input circuit comprising said sensing means and having an output circuit connected to said device, said input circuit having a fundamental operating voltage upon which said pulses are superimposed, and regulating circuit means connected with said amplifier output circuit for maintaining the voltage of said output circuit substantially constant relative to changes of said fundamental voltage, whereby said device is actuable in response to said yarn-fault responsive signals independently of said changes.

3,258,825
METHODS FOR THE PRODUCTION OF HIGH-SHRINK MODACRYLIC YARN
Albert H. Agett and William L. Aspy, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 26, 1962, Ser. No. 182,500
The portion of the term of the patent subsequent to July 30, 1980, has been disclaimed
3 Claims. (Cl. 28—72)



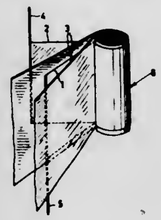
1. In a process for the production of a high-bulk modacrylic yarn by jet treatment of a bundle of drawn continuous modacrylic filaments by blooming same, the improvement which comprises passing said bundle of drawn continuous modacrylic filaments through a circular jet, impinging upon said bundle in said jet without application of plasticizer a plurality of streams of gas supplied from an annular chamber surrounding said jet and directed upon said bundle by passing through an annular orifice, conducting said bundle in said jet through a venturi exit section having a length to diameter ratio of about 6 to 1 and an included angle of about 3 to 5 degrees, creating in said bundle as it passes through said jet a maximum amount of controlled entangling of the filaments of said bundle by said impinging of said air thereupon while controlling the pressure in said jet, enhancing the entangling of said bundle materially as it exits from said venturi section by retarding and partially confining same with a temporary buildup of said entangled bundle before it exits from said jet, said retarding and confining of said bundle being accomplished by a plurality of outwardly movable flexible flat spring members positioned equidistant around the outer periphery of the venturi section of said jet and extending beyond the end of said venturi section for from about 3 to 8 inches, said spring members being adapted to avoid snagging of said bundle as it exits from said jet, and collecting the bundle as it exits from said jet in entangled, high-bulk, crimp-retentive form.

3,258,826

METHOD OF PRODUCING A SOLID ELECTROLYTIC CAPACITOR HAVING A SEMI-CONDUCTIVE ELECTROLYTE

Salomon Boone and Hendrik Voeten, both of Centuurbaan, Zwolle, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 3, 1962, Ser. No. 164,034
Claims priority, application Netherlands, Jan. 9, 1961, 259,874
7 Claims. (Cl. 29—25.31)



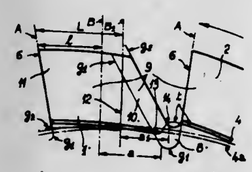
1. The method of forming a solid electrolytic capacitor comprising the steps, electroforming a dielectric layer on the surface of an aluminum anode body, wetting the resultant dielectric surface with a liquid containing an oxygen containing salt of a metal selected from the group consisting of nickel, manganese and lead, said salt being convertible by pyrolysis into an oxide higher than the monoxide of said metal, drying the resultant wetted body at a temperature below the pyrolysis temperature of said salt while maintaining a pressure not greater than 10 mm. Hg and then heating the resultant dried body at the pyrolysis temperature of the salt to thereby convert the salt to an oxide greater than the monoxide of said metal.

3,258,827

GEAR-CUTTING WORM HOBS

Gaëtan de Coye de Castelet, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, Seine, France

Filed Oct. 4, 1965, Ser. No. 492,486
Claims priority, application France, July 1, 1965, 23,177
2 Claims. (Cl. 29—103)



1. A worm hob for cutting gears by an automatic generation process, characterized in that the roots of the intervening spaces between successive teeth of the same thread are located outside the cylinder passing through the roots of the ultimate-utilization profiles, the useful length of each tooth being so increased that each tooth bears against the next tooth.

ERRATUM

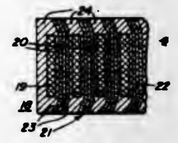
For Class 29—155.5 see:
Patent No. 3,258,898

3,258,828

METHOD OF PRODUCING A SUPERCONDUCTIVE SOLENOID DISC

Paul S. Swartz, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Original application May 29, 1963, Ser. No. 284,164. Divided and this application Mar. 22, 1965, Ser. No. 441,488
3 Claims. (Cl. 29—155.5)



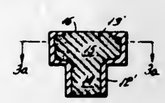
1. A method of producing a high field superconductive solenoid disc which comprises providing a metallic strip with a core of one metal and a layer of a second metal thereon adapted to form a superconductive alloy, positioning an insulating, non-superconductive strip with a core of non-superconductive metal and a layer of electrical insulation thereon adjacent said first metallic strip, coiling said strips into a spiral, immersing said spiral into a molten metal bath containing one of the metals of the first strip thereby converting said first metallic strip in said bath to a superconductive alloy strip, coating said spiral with a layer of metal from said bath, and removing bath metal from the opposite faces of said spiral until the edges of said insulating, non-superconductive strip are so exposed as to insulate the successive layers of said superconductive strip from each other.

3,258,829

METHOD OF PRODUCING SILVER-CADMIUM OXIDE ELECTRICAL CONTACT ELEMENTS

Childress B. Gwyn, Jr., Export, Pa., assignor, by mesne assignments, to Talon, Inc., a corporation of Pennsylvania

Filed July 12, 1963, Ser. No. 294,635
8 Claims. (Cl. 29—155.55)



1. A method of producing a silver-cadmium oxide electrical contact element, comprising forming a malleable external surface sheathing constituted of a silver-cadmium alloy on a silver-cadium oxide core, cold working the resulting blank into the configuration of the desired contact element and oxidizing at least the portion of said sheathing on the working surface of the contact element to silver-cadmium oxide.

3,258,830

METHOD OF PRODUCING AN ELECTRICAL CONTACT ASSEMBLY

Albert F. Pityo, 4820 Park Blvd., Pinellas Park, Fla.

Filed Feb. 28, 1964, Ser. No. 348,194
5 Claims. (Cl. 29—155.55)



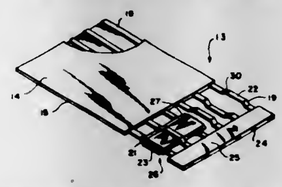
1. A method of producing an electrical contact assembly comprising the steps of positioning a wire element formed of precious metal transversely across a base metal contact strip and electrically welding said wire element to said strip, flattening said precious metal wire element on said strip without appreciably changing the thickness of the strip, and then forming the strip and flattened precious metal element to establish critical width and height dimensions and a critical contour for the precious metal element on said strip.

3,258,831

METHOD OF MAKING A MOLDED CONNECTOR

Wilhelm Angele and Hans G. Martineck, Huntsville, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Original application May 12, 1961, Ser. No. 109,789, now Patent No. 3,189,164, dated June 15, 1965. Divided and this application Sept. 14, 1964, Ser. No. 396,443
8 Claims. (Cl. 29—155.55)



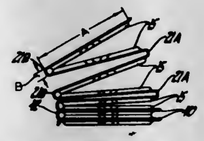
1. A method of making an electrical insert connector on a terminus portion of a flat electrical cable having a plurality of parallel spaced electrical conductors extending along a longitudinal plane and a thin sheet of flexible dielectric material embedding said conductors, comprising: removing a portion of said dielectric material from an area adjacent to and spaced from the terminus to bare said conductors for a limited extent; and molding a T-shaped body of dielectric material which consists of a ridge portion and an insert portion on said cable about said terminus whereby said ridge portion encircles said cable adjacent said bare surfaces and said bare surfaces lie between said ridge portion and said terminus, and said insert portion confines said cable from said ridge portion and whereby said bare surfaces are left exposed and are electrical contact surfaces for said insert portion.

3,258,832

METHOD OF MAKING SHEET METAL HEAT EXCHANGERS

George W. Gerstung, Lockport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 14, 1962, Ser. No. 194,594
4 Claims. (Cl. 29—157.3)



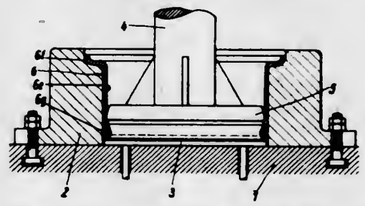
2. A method of making a heat exchanger comprising forming alternate wide and narrow portions along a length of sheet metal, the said forming including retaining peripheral margins of each of said wide portions in a given plane and pressing the metal within the interior contour of said margins of each wide portion to form ridges extending at an acute angle with said margins and protruding from one side only of said sheet and plane, forming openings of substantial width in each wide portion with each such opening surrounded by one of said ridges, forming a slot in each narrow portion, folding said sheet into a stack of said wide portions in parallel relation, forcing the adjacent facing surfaces of said wide portions together into contact, attaching the said adjacent facing surfaces of said wide portions together so that said openings determine passages for a flow of liquid such as oil through the wide portions consecutively, and removing at least some of the sheet metal of said narrow portions at one side of the stack to accommodate the flow of a fluid such as air in planes parallel with said wide portions.

3,258,833

METHOD AND APPARATUS FOR MAKING RIMS FOR VEHICLE WHEELS HAVING PNEUMATIC TIRES

Artur Schlittler, Solingen-Ohligs, Germany, assignor to Kronprinz Aktiengesellschaft, Solingen-Ohligs, Germany, a corporation of Germany

Filed Dec. 15, 1961, Ser. No. 159,528
Claims priority, application Germany, Dec. 15, 1960, K 42,394; June 29, 1961, K 44,125
7 Claims. (Cl. 29—159.1)



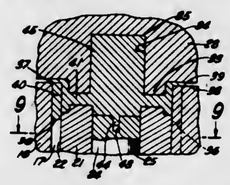
1. A method of manufacturing a rim for pneumatic-tired vehicle wheels by deformation of a sheet metal ring, consisting in first shaping from a sheet metal ring of corresponding width an axially abridged rim profile having a rim bottom extending axially between an annular groove and a flange in their final form, and then simultaneously stretching progressively said rim bottom and progressively deforming and reducing the thickness of successive portions of the ring bottom by expanding one wall of said rim bottom while holding and maintaining the other wall of the rim bottom, whereby the rim bottom profile is brought to its final dimensions.

3,258,834

HIGH ENERGY RATE FORGING METHOD

Elwood C. Rork, Pacific Palisades, Los Angeles, Calif., assignor to Precision Forge Company, Santa Monica, Calif., a corporation of Nevada

Filed Feb. 13, 1964, Ser. No. 344,757
10 Claims. (Cl. 29—159.2)

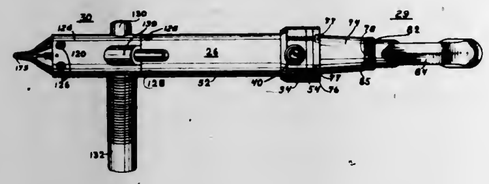


1. The process of forging a metal gear having a body and a plurality of gear teeth integral with the body, comprising: placing a hot metal blank in a die cavity having an encircling wall provided with internal gear teeth, said hot metal blank having a lower temperature than conventional forging temperatures thereby minimizing objectionable segregation of the constituents in said blank, and striking the hot metal blank with a forming die moving axially at high speed to produce a single high energy rate impact blow to form the body and cause radial flow of metal into the internal gear teeth of said enclosing wall, and thereby form integral gear teeth on the body.

3,258,835
PNEUMATIC TOOL ESPECIALLY FOR INSERTING ANTI-SKID STUDS IN A RUBBER TIRE

Birger K. Boggild and Giovanni Gidoni, Charles County, Md., and Joseph J. Gyorik, Washington, D.C., assignors to Firearms International Corporation, Oxon Hill, Md., a corporation of Delaware

Filed Sept. 28, 1964, Ser. No. 399,773
9 Claims. (Cl. 29—212)



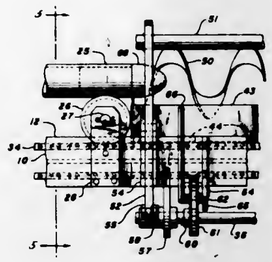
1. A portable pneumatic tool of a type described comprising,
(a) a main cylindrical housing,
(b) a base block at the back end of said housing, having a valve seat and having a plurality of distinct air-passages leading therefrom,
(c) a head assembly at the front end of said housing and having a barrel bore,
(d) a piston means comprising a piston movable in said housing in a working stroke or a return stroke between said base block and head assembly, said piston means including a piston rod affixed to said piston and movable in said barrel bore, said piston rod having a stud-receiving front face,
(e) means cooperating with said air passages to provide a pair of pneumatic paths selective for moving said piston means in said strokes,
(f) an actuator means including a valve means on said valve seat and means for moving said valve means to select one or the other of said paths, the last said means including a handle,
(g) a stud feed mechanism for feeding a stud to said barrel bore for each working stroke of said piston means, whereby said piston rod picks up the stud during the working stroke,
(h) said head assembly having three angularly spaced jaws with front prongs having tips pressed toward a point in line with said barrel bore, said tips firmly meeting with abutting faces radially extending along the axis of the barrel bore to form in effect a thin solid tip nose of substantial length adapted to be inserted deeply into stud-receiving holes of a tire,
(i) means operated by said piston means during its working stroke for spreading said prongs to spread the rubber of the stud-receiving holes, and
(j) means for inserting the studs.

3,258,836
AUGER ASSEMBLY FIXTURE

William Robinson, Honey Brook, and Truman Coy, New Holland, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed Apr. 1, 1964, Ser. No. 356,550
5 Claims. (Cl. 29—234)

1. A device for assembling an auger from a shaft and preformed helical auger flighting, said device comprising, an elongated frame, a track on said frame, means on said frame at one end of said track for guiding and supporting one end of an auger shaft, a carriage on said track and movable therealong, means on said carriage for supporting the other end of an auger shaft, means for supporting preformed helical auger flighting on said frame adjacent said one end of said track and extending in the same general direction as said track, clamping means on said frame engageable with auger flighting on said flighting supporting means and operable to clamp said flighting in a fixed position with the axis of the helical flighting straight and coaxial with the axis of a

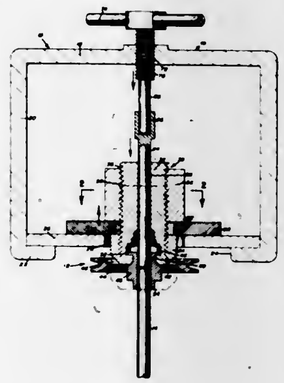


shaft whose ends are supported, respectively, on said carriage and said shaft guiding and supporting means, and drive means on said frame engageable with said carriage to drive the carriage along said track toward said coaxially clamped auger flighting thereby driving said shaft longitudinally through said flighting.

3,258,837
MEANS FOR REMOVING SHAFT COLLARS

William Jasper Smith, Jr., 4211 20th Ave., Langdale, Ala.

Filed Apr. 3, 1964, Ser. No. 357,233
6 Claims. (Cl. 29—259)



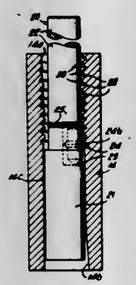
1. Means for removing a collar from a shaft comprising:
a plurality of jaw members which are assembled to engage at least a portion of the collar;
a push rod slidably disposed between said jaw members;
means for supporting said assembled jaw members and preventing them from movement axially of said shaft;
means for sliding said push rod through said jaw members and into engagement with the end of said shaft to push said shaft axially out of said collar;
said jaw members being compatibly assemblable to form a shank portion having an internal bore to accommodate said push rod and also to form a head portion integral with said shank portion and having a recess therein for receiving at least a portion of said collar;

said shank portion being externally threaded; and,
nut means with a compatibly threaded internal bore being engaged over said shank portion to maintain said jaws in assembled relation.

3,258,838
METHOD AND APPARATUS FOR FINDING CENTERS

McLane Tilton, Jr., New Canaan, Conn., assignor to Equipment Development Corporation

Filed Aug. 27, 1964, Ser. No. 392,462
5 Claims. (Cl. 29—401)

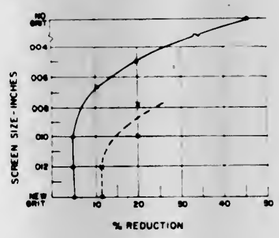


1. A method for locating the longitudinal axis of a bore in a body which comprises the steps of
engaging the bore with a knurling tool having a center-locating portion of a diameter slightly smaller than said bore whereby said bore may be resized accurately about its original longitudinal axis,
rebuilding the bore by reducing the internal diameter thereof by continuing to advance said tool into said bore,
reaming the wall of the rebuilt bore to provide a smooth surface thereon which is concentric with said original longitudinal axis,
and accurately locating the longitudinal axis of said rebuilt bore by inserting a tool having a tight fit in said bore.

3,258,839
CLADDING OF METALS

Wallace Resnick, Irvington, N.J., assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 10, 1963, Ser. No. 272,031
6 Claims. (Cl. 29—470.1)

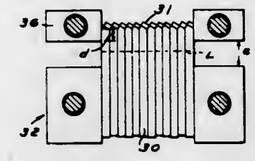


1. The process of cold-cladding a harder metal with a softer metal foil comprising roughening the harder metal, bringing the roughened harder metal together with the foil embossed in a pattern of pits and peaks, so that the overall thickness of the foil is several times its thickness in the unembossed state, and cold-reducing together the roughened harder metal and the embossed foil.

3,258,840
METHOD OF MAKING A CORE FOR MOLDING REFLECTORS

Peter Hedgewick, 2375 Windermere Road, Windsor, Ontario, Canada, and Wallace A. Stanley, 7224 Old Mill Road, Birmingham, Mich.

Filed Dec. 5, 1963, Ser. No. 328,333
17 Claims. (Cl. 29—471.1)



1. The method of making a core for molding a reflector having a high degree of optical quality which comprises
assembling a plurality of accurately formed rods with shaped ends in a bundle with the shaped ends aligned into a facet for molding,
mechanically clamping said rods at an area remote from said shaped ends,
mechanically clamping said rods at an area longitudinally spaced from said first area of clamping and adjacent said shaped ends,
severing the clamped rods at an area between said two clamped areas,
fusion welding the severed ends of the portions of the rods having the shaped ends while simultaneously applying a coolant to said shaped ends,
continuously maintaining the mechanical clamping pressure during said fusion welding to thereby form a unitary welded rod cluster unit,
stress relieving said unitary rod unit while maintaining the mechanical clamping,
forming each rod unit with an accurate surface opposite the molding surface formed by the shaped ends of the rods,
beveling the side surfaces of said rod unit in a direction radially inwardly from the cube ends toward the other ends of said rods at an acute angle to the axis of said rods,
mounting a plurality of said rod units on a support in rigid position with the side edges of the rod units in abutting relationship at the areas of the shaped ends of the rods.

3,258,841
METHOD FOR EXPLOSIVELY BONDING METAL LAYERS

Alexis A. Popoff, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 23, 1963, Ser. No. 253,485
6 Claims. (Cl. 29—486)



1. A process for producing a completely bonded clad metal system which comprises
(1) providing metal extension pieces on at least one of the edges of a substantially rectangular metal cladding layer, each of said metal extension pieces being contiguous to an edge of the metal cladding layer for substantially the length of said edge, extending in a direction perpendicular to said length of the edge of the cladding layer a distance of at least four times the thickness of the metal cladding layer, and having a weight distribution per unit area of at least

50% and no more than 150% of the weight distribution per unit area of the metal cladding layer,

(2) supporting said metal cladding layer substantially parallel to and separated by a distance of at least 0.01 inch from a substantially rectangular metal base layer,

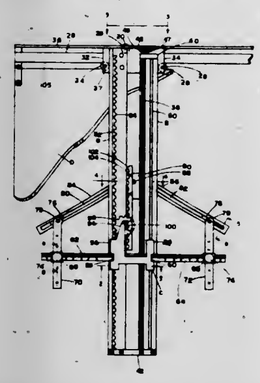
(3) covering the area defined by the outside surfaces of said metal cladding layer and extension pieces with a layer of a detonating explosive having a detonation velocity between about 1200 meters per second and 120% of the sonic velocity of the metal having the highest sonic velocity in the system and

(4) initiating the explosive layer so that detonation is propagated parallel to the plane of the metal cladding layer and the metal extension pieces are sheared from the metal cladding layer.

3,258,842
GAS-SHIELDED ARC-WELDING METHOD
Sadayoshi Morita, Teiji Ito, and Takeshi Nishi, Yawata, and Tsuguro Kikuno, Tobata, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Dec. 18, 1962, Ser. No. 245,404
Claims priority, application Japan, Dec. 29, 1961, 36/48,065
14 Claims. (Cl. 29—494)

1. A method of arc welding high tensile strength steels and low temperature tough steels having high notch-toughness by depositing weld materials and using a gas-shielded arc, comprising the steps of supplying a nitride producing metal to the weld in excess of the welding materials that are normally present, and supplying nitrogen to the weld during the welding, whereby the nitrogen combines with the nitride producing metal to form a nitride, at least part of which is deposited as a fine solid phase due to the heat of the weld for producing a high notch-toughness weld.

3,258,843
DRAWING INSTRUMENT
Gordon M. Nosser, 7421 Cunningham Ave., Highland, Calif.
Filed Feb. 24, 1964, Ser. No. 346,613
5 Claims. (Cl. 33—77)



1. A drawing instrument for automatically indicating true perspective lines from any viewpoint on a drawing board, comprising:

a blade movable in fixed vertical position laterally across said board;

a block movable vertically in said blade;

a pair of vanishing arms pivoted at their inner ends on said block;

a carriage slidable vertically on said blade;

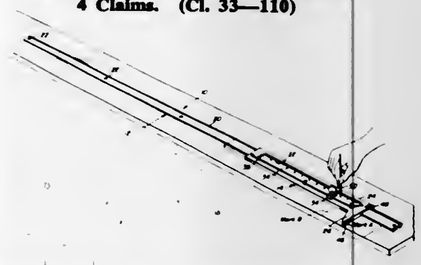
a bar horizontally supported on said carriage;

connecting means between said arms and said bar adjustable vertically and horizontally;

mechanism for transmitting relative proportional reverse movement between said blade and said bar; and

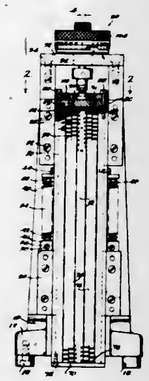
mechanism actuated by movement of said carriage for transmitting the same proportional movement to the block sustaining the pivoted inner ends of said vanishing arms.

3,258,844
DIVIDING DEVICE
Warren L. Godman, 6646 Loch Hill Road, Baltimore 12, Md.
Filed Mar. 27, 1964, Ser. No. 355,246
4 Claims. (Cl. 33—110)



1. A device for marking increments on an object, comprising ruler means having increment positions spaced therealong, strip means slidably mounted on said ruler means and having an aperture for exposing said increment positions to visual observation, first means for engaging with one of said increment positions to form a first reference location for said strip means, a pointer mechanism positioned on staid strip means for indicating a second reference location for said strip means, and second means positioned within said aperture for engaging the increment position corresponding to said second reference location, with said strip means having a marking edge for marking said first and second reference locations on said object.

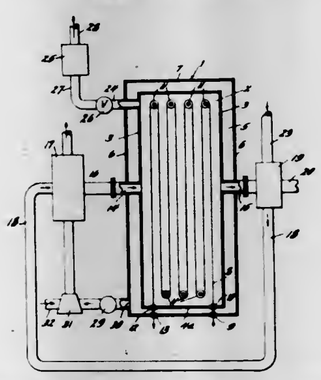
3,258,845
REFERENCE HEIGHT GAUGE
Otto Wiegel, Chicago, Ill. (% Industrial Tool Works, 3541 Martens St., Franklin Park, Ill.)
Filed May 14, 1963, Ser. No. 280,211
4 Claims. (Cl. 33—170)



3. A reference height gauge comprising a standard, a slide mounted for vertical movement on said standard, said slide having tongues extending therefrom in a first

and a second pair of vertical columns, the tongues in one of said columns of each pair having equally spaced horizontal top reference surfaces and the tongues in the other of said columns of each pair having equally spaced horizontal bottom reference surfaces, the reference surfaces of said one column being horizontally aligned with the reference surfaces of said other column in pairs, the planes established by the reference surfaces of said second pair of columns being midway between the planes established by the reference surfaces of said first pair of columns, and a micrometer for moving said slide up and down.

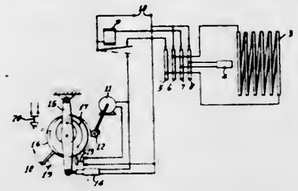
3,258,846
DRYING OF WEB MATERIALS
William Ward Powell, Jr., R.F.D. 1, Clinton, Pa.
Filed May 1, 1963, Ser. No. 277,351
7 Claims. (Cl. 34—23)



1. Method for drying wet web material coated or impregnated with a composition including a volatile solvent or diluent, comprising the steps of introducing the wet web into an enclosed drying zone, contacting the wet web in the drying zone with a drying gas at an elevated temperature whereby the volatile solvent or diluent is volatilized, the vapors thereof becoming admixed with the drying gas, said drying zone being itself at least partially enclosed within a vapor leakage collecting zone, removing the main portion of the solvent laden drying gas from the drying zone and separating solvent therefrom, and removing leakage vapors from said collecting zone, admixing said leakage vapors with a combustible gas, burning the resulting mixture, and recovering the heat of combustion therefrom by indirect heat exchange with drying gas, and supplying said heated drying gas to said drying zone.

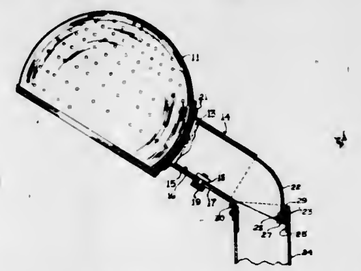
3,258,847
DRY CLEANING MACHINE
Irving Schneider, Livingston, N.J., assignor, by mesne assignments, to Engelhard Hanovia, Inc., Newark, N.J., a corporation of New Jersey
Original application Aug. 12, 1963, Ser. No. 301,240. Divided and this application Feb. 19, 1965, Ser. No. 433,871
1 Claim. (Cl. 34—45)

In a dry cleaning machine having a vacuum sealed wash chamber enclosing a rotatable wash basket, the combination comprising electric heating means mounted on said wash basket; a thermostat controlling an electric supply for energizing said heating means, relay means responsive to said electric supply for creating alternating heating and cooling periods so as to maintain the temperature in the wash chamber between predetermined limits; a dry sensor, said sensor comprising an electric timer means, said sensor being energized through said relay means during said cooling period and being adapted to actuate a first switch if the energization is continued for a predetermined length of time, means to reset said timer means to zero if the energization is terminated, due to the ending of said cooling period, before said predetermined length of time said timer means comprising a solenoid member connected to said electric supply through said relay means, a pivoted lever, the solenoid member being connected to said



pivoted lever, a second switch engageable with said lever upon activation of the solenoid member, a wheel member rotatably mounted on said lever, the wheel member being normally rotatably biased to contact a stop means, and means to rotate said wheel means from said stop means toward said first switch progressively as the cooling period increases.

3,258,848
NECK SUPPORT FOR THE HOOD OF A HAIR DRYING APPARATUS
Lee S. Watlington, 1204 N. Linden St., Bloomington, Ill.
Filed Jan. 23, 1963, Ser. No. 253,384
4 Claims. (Cl. 34—99)



1. In a hair drying apparatus having a hood, a neck support, and a cabinet, said neck support comprising

(a) a telescopically arranged section having an inner first duct and outer second duct fixed to and extending from the hood and telescoping over said first duct,

(b) a third duct fixed to and extending from the cabinet of said apparatus,

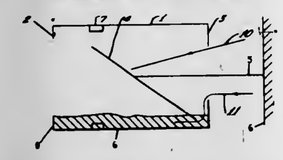
(c) hinged means connecting said third duct to said first duct of said telescopically arranged section to permit said section to be pivoted relative to said third duct,

(d) said first duct having a continuous extending wall opposite said hinged means formed to provide an inwardly curved end portion engageable with the adjacent end of the third duct to form a continuous passage for hot air from said third duct through said section and said fixed second duct and into said hood when said section is adjusted in an angular position with respect to the long axis of said third duct,

(e) said curved end portion of said opposite wall of said telescopically arranged section adapted to extend into said third duct when said section is pivoted into alignment with respect to said third duct, and

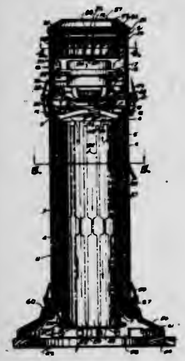
(f) means for limiting pivotal movement of said telescopically arranged section into its angular position with respect to said third duct.

3,258,849
ROTARY GRANULATOR AND DRYER
John Stewart Raitt, Edinburgh, Scotland, assignor to Scottish Agricultural Industries Limited, Edinburgh, Scotland, a corporation of Great Britain
Filed Apr. 2, 1963, Ser. No. 270,076
Claims priority, application Great Britain, Apr. 9, 1962, 13,538/62
8 Claims. (Cl. 34—102)



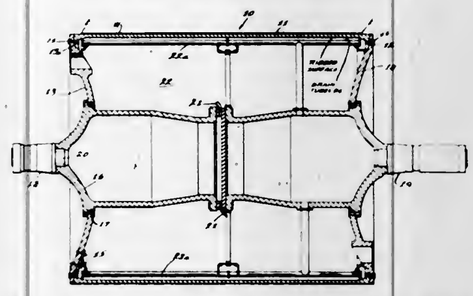
1. A granulator comprising: a drum rotatable about a substantially horizontal axis and having a discharge opening in one end portion for discharging solid material from said drum; lifting means attached to the inner periphery of said drum at said one end portion for lifting material from the bottom of said drum and subsequently dropping the material during rotation of said drum; means for internally recycling material from said one end portion to said other end portion, said recycle means including lifting means attached to the inner periphery of said drum at said one end portion for lifting material from the bottom of said drum and subsequently dropping the material during rotation of said drum, said recycle means further including stationary receiving and transferring means disposed within said drum for receiving material dropped by said lifting means and for returning the dropped material to said other end portion of said drum; a stationary support exterior of said drum; and connecting means interconnecting said support, and said receiving and transferring means for positioning the latter in said drum.

3,258,850
PIPETTE DRYER
Arthur N. Swanson, South Greenfield, Mo. (Rte. 2, Box 1C, Miller, Mo.)
Filed Apr. 22, 1963, Ser. No. 274,436
4 Claims. (Cl. 34—104)



1. A pipette dryer comprising; a vertically extending container having a wall forming a vertical receiving passageway open at the top and bottom thereof, said container wall having an upper mounting portion, an electrical resistance heating coil assembly supported on said upper mounting portion and having heating coils extending across said receiving passageway at the top thereof, blower means mounted on said container adjacent said heating coils for blowing air past said heating coils and downwardly into said passageway, an elongated vertical pipette-holding barrel open at the upper and lower ends thereof, said barrel being telescopically received upwardly into said passageway, pipette-retaining means adjacent the barrel lower end for engaging and supporting pipettes longitudinally of said barrel and permitting air passage therepast, support means on said container wall and extending downwardly from said container passageway bottom and terminating in bottom edges for resting on a supporting surface, and means carried by said container and selectively engaging said barrel for retaining said barrel in said passageway with the pipette-retaining means spaced above the bottom edges of said support means, said barrel being movable downwardly past said support means upon release of said barrel-retaining means.

3,258,851
DRYER CONSTRUCTION
Raymond C. Vohderau, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Sept. 17, 1962, Ser. No. 224,056
10 Claims. (Cl. 34—124)



10. A dryer drum comprising a cylindrical shell having a smooth cylindrical outer heat transfer surface, inwardly turned flanges at the ends of the shell, annular end heads secured to said flanges, a core extending through said heads and secured thereto provided with shafts for rotatably supporting the drum, a steam supply passage through the shaft at one end of the drum, steam distribution nozzles connected to the passage for directing steam into the interior of the shell, condensate collecting means within the inner surface of the shell for removing condensate, a plurality of inwardly projecting axially extending circumferentially spaced ribs having channels therebetween joining the end flanges of the shell and positioned at each end, said ribs extending axially inwardly a relatively short distance from the ends of the shell, said shell being of uniform thickness throughout its length and at said channels, and a plurality of circumferentially spaced condensate removing tubes having openings at the axial inner ends of the channels formed by said ribs for removing condensate flowing axially inwardly in said channels.

3,258,852
MATERIAL HANDLING APPARATUS
Robert C. White, Detroit, Mich., assignor to Detrex Chemical Industries, Inc., Detroit, Mich., a corporation of Michigan
Filed Apr. 19, 1965, Ser. No. 451,681
8 Claims. (Cl. 34—164)

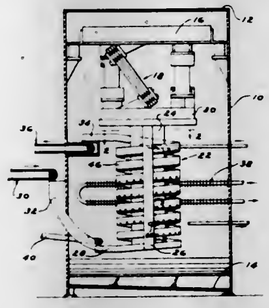
8. In a degreasing apparatus of the type utilizing incremental vibratory motion for the conveying of parts and particles along a track from one vertical level to another,

(a) a container, a vibratory track for continuously moving said particles along the track,

(b) means associated with said container for supporting said track for incremental vibratory motion,

(c) said track means comprising a plurality of parallel, helical continuous tubes shaped and arranged to lie adjacent each other in contiguous relation over a plurality of helical turns around a common axis, whereby the upper outside surfaces of said tubes serve as a supporting surface for conveying parts,

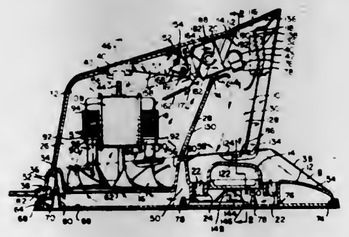
(d) means to hold said tubes in contiguous relation,



(e) fluid conducting means at each end of said tubes to manifold said ends to permit flow of a heat exchange fluid through said tubes to drive off volatiles from articles passing along said track, and

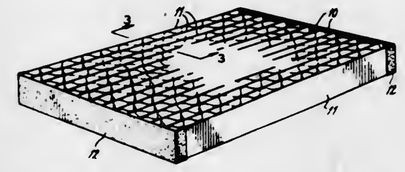
(f) a condenser within said container for acting upon said volatiles to permit re-use thereof.

3,258,853
NAIL DRIER
James W. Bradbury, 117 Arcadia Drive, Middletown, Ohio
Filed Oct. 19, 1962, Ser. No. 231,652
14 Claims. (Cl. 34—202)



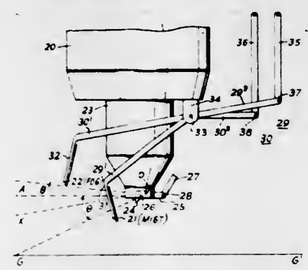
6. Apparatus for the care and treatment of fingernails, comprising in combination, a molded plastic base unit having front, rear, and opposite side walls, fan means including an electric motor supported upon the base unit, an open shroud and a grille formed integrally with the base unit and disposed in substantially parallel planes, the fan means being disposed for drawing air upwardly through the shroud, and the grille having openings therein communicating with the shroud opening for circulation of air therethrough, a molded plastic hollow hood confining the fan means and motor, and a molded plastic arch member contiguous to the hood and overhanging the grille openings, a molded plastic deflector panel upstanding upon the base unit to define a motor compartment beneath the hood and a finger compartment beneath the arch member, said panel being limited in height to provide for passage of air thereover from one compartment to the other, said finger compartment having a front opening wherein all the fingers of a human hand may be inserted to rest upon the grille, and cooperative snap-action connector means on the base unit, the hood, and the arch member, for joining such parts in the cooperative relationship aforesaid.

3,258,854
FIBREBOARD TRAYS
Ferdinand A. Ascoli, Bridgeton, and Edward D. Payne, Jr., Ladue, Mo., assignors to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland
Filed June 25, 1962, Ser. No. 204,881
1 Claim. (Cl. 34—237)



A disposable fibreboard tray for supporting freshly painted articles for drying, comprising fibreboard sheet material forming vertical side and end walls enclosing a perforated block-like support member, said member having planar parallel top and bottom surfaces, and comprising alternate strips of corrugated fibreboard and single face liners secured together with the flutes in said corrugated strips extending vertically and providing air passages and drain openings through said member, the upper edges of said side and end walls extending slightly above the plane of the upper surface of said member, and said end walls having hand receiving openings in the upwardly extending portions whereby said tray and an article supported therein may be manually lifted.

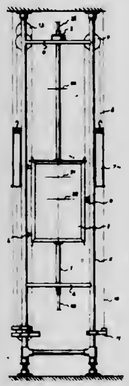
3,258,855
FLIGHT TRAINING APPARATUS
Maurice S. Flower, Forest Row, and Roy A. G. Gasson, Tilgate, Crawley, England, assignors to Communications Patents Limited
Filed Nov. 18, 1963, Ser. No. 324,412
Claims priority, application Great Britain, Nov. 26, 1962, 44,579/62
5 Claims. (Cl. 35—12)



1. Ground-based flight training apparatus, including apparatus for simulating visual effects corresponding to the simulated flight of an aircraft comprising means providing a representation of the surface of the earth, a camera with a lens system for viewing at least a portion of the said representation, a first optical translucent screen mounted for movement into and out of the optical path between the lens system and the representation to partially obscure the camera view of the said representation and to simulate the presence of fog, a servo mechanism for varying with simulated altitude the position of said first screen so that the range of visibility is maintained at a desired value, a second optical translucent screen mounted for movement into and out of the optical path between the lens system and the representation to also partially obscure the camera view of said representation to simulate the presence of mist, and means being provided for using

said first and second screens in combination, said first and second screens being associated with said camera rather than said representation means.

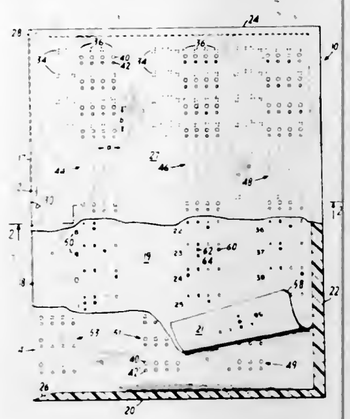
3,258,856
METHOD AND DEVICE FOR THE STUDY ON A REDUCED SCALE OF THE STEADY-STATE OPERATION OF A REACTOR, MORE PARTICULARLY OF A BLAST-FURNACE
André Rist, St. Germain-en-Laye, France, assignor to Institut de Recherches de la Siderurgie Francaise, St. Germain-en-Laye, France, a professional institution of France
Filed Apr. 3, 1963, Ser. No. 270,437
Claims priority, application France, Apr. 10, 1962, 893,947, Patent 1,327,837
5 Claims. (Cl. 35—18)



2. A method of studying on a reduced scale the steady-state operation of an industrial shaft reactor through which pass streams of fluids and solids adapted to react with each other, comprising the steps of forming a column of said solids; heating a zone of predetermined length by heating means separate from said column, said length being less than the total length of said column, said heating being effected according to a thermal outline which corresponds to that of the shaft of said reactor; displacing said heating means along said column for displacing said zone while maintaining said thermal outline of said heated zone; and simultaneously causing a stream of reacting fluid to flow through said column in contact with said solids thereof.

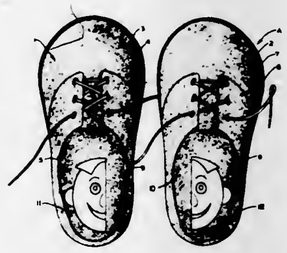
3,258,857
TEST RESPONSE DEVICE
William R. Behn, Somerville, N.J., assignor to Educational Testing Service, Princeton, N.J., a corporation of New York
Filed May 4, 1964, Ser. No. 364,478
10 Claims. (Cl. 35—48)

1. A test response template, comprising
an envelope having an inner chamber and a narrow opening along one edge for receiving an answer sheet, said envelope being formed by first and second sheets, each sheet having an inner surface facing said inner chamber and an outer surface,
first braille marking means on said outer surface of said first sheet associated with a particular question,
a plurality of means defining a hole through said first sheet adjacent said marking means and suitable for permitting the point of a marking instrument to pass through the sheet, each of said means defining a hole associated with a different answer to said question and positioned at a location correlated with a specific location on said answer sheet when said answer sheet is inserted into said envelope, and



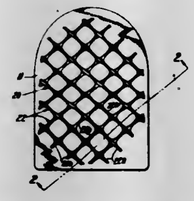
second braille marking means on said outer surface of said first sheet adjacent each one of said means defining a hole associating it with a particular answer.

3,258,858
ARTICLES OF WEARING APPAREL FOR TRAINING
Louis J. Cariffe, Jr., 213 E. Lockwood, Webster Groves, Mo.
Filed Oct. 13, 1965, Ser. No. 495,503
5 Claims. (Cl. 36—1)



1. An article of wearing apparel having left and right sections capable of fitting and being placed over left and right appendages of the body, respectively, which appendages are adapted to receive the same, said left section having a left half portion of a design, said right section having a right half portion of the same design, so that if said left and right half portions are placed immediately adjacent to each other said portions coact to produce a total unitary design and when said sections are separated said portions appear as complementary halves of the same design substantially separated by a centerline, said left and right half portions of the design being so located on the left and right sections of the article so that the wearer of this article is capable of distinguishing between left and right sections by visual alignment of the left half portion of the design with the right half portion of the design, thereby properly placing the left and right sections with respect to each other and with respect to the proper appendages of the body.

3,258,859
GOLF SHOE ACCESSORY
James F. Lamont, P.O. Box 398, Simsbury, Conn., and Terrence P. Gormley, West Hartford, Conn.; said Gormley assignor to said Lamont
Filed Oct. 13, 1964, Ser. No. 403,609
4 Claims. (Cl. 36—2.5)



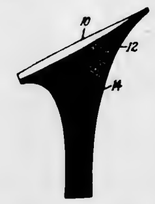
1. For use in conditioning a golfer to shift the relative distribution of his weight from one foot to the other in properly timed relationship with the progression of the golf swing, a heel pad removably positioned in a golf shoe and having a plurality of uniformly spaced protuberances defining an exposed irregular surface engageable in nonpiercing sensory contact with the weight bearing portion of the golfer's heel to aid the golfer in automatically shifting his weight for optimum swing efficiency.

3,258,860
ELECTRONICALLY HEAT SEALED FOOT COVERING
Myron Winson, 15 S. Gate Drive, Spring Valley, N.Y., and Jonathan Winson, 793 East Drive, Oradell, N.J.
Filed July 26, 1963, Ser. No. 297,896
6 Claims. (Cl. 36—10)



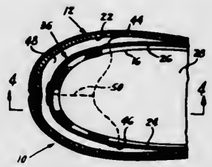
1. An electronically heat sealed foot covering having sidewalls, a generally flat sole, and counter and heel regions, the foot covering made from flat thermoplastic sheeting, the foot covering including upper and lower portions, the upper portion providing an ankle opening and forming the upper part of the sidewalls, the lower portion forming the lower part of the sidewalls and the sole, an upper-lower seat seal joining the upper and lower portions and extending substantially around the periphery of the foot covering, a counter heat seal extending approximately perpendicular to and across said upper-lower heat seal and located in the counter region joining adjacent ends of the upper portion together and joining the ends of the lower portion together, and a heel heat seal in said lower portion positioned below said upper-lower seal and extending approximately perpendicular to and forming the termination of said counter seal and defining the intersection of the sidewall and the sole in the heel region, the heel heat seal providing breadth to the lower counter region and a sharp angled heel is formed.

3,258,861
POLYURETHANE FOOTWEAR HEELS
Alec W. Niconchuk, Peabody, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed July 31, 1962, Ser. No. 213,674
7 Claims. (Cl. 36—34)



1. A molded footwear heel of rigid polyurethane foam having an exterior surface to which a film deposited from a cellulose type lacquer strongly adheres, the said heel comprising a shaped structure of rigid polyurethane foam and a surface layer of acrylonitrile-butadiene-styrene polymeric material bonded together in continuous interfacial relationship.

3,258,862
SHOE GORE
Henry H. Minor, Wyoming, and John T. Minor, Batavia, N.Y., assignors to P. W. Minor & Son, Inc., Batavia, N.Y., a corporation of New York
Filed Aug. 5, 1964, Ser. No. 387,700
6 Claims. (Cl. 36—58.5)

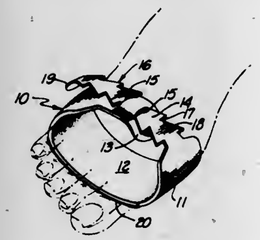


1. In a shoe including an upper having a heel portion with a top line and a bottom line, a counter juxtaposed interiorly of said heel portion of said upper, and a pair of quarter linings juxtaposed interiorly of said upper, said quarter linings having an upper edge portion secured to said top line of said upper on each side of said heel portion and a lower edge portion secured adjacent said bottom line of said upper on each side of said heel portion, the improvement which comprises an elastic gore having an upper edge portion secured to said top line of said heel portion of said upper intermediate said upper edge portions of said quarter linings, oppositely disposed side portions secured to said quarter linings between said upper and lower edge portions of said quarter linings, and a lower edge portion secured adjacent said bottom line of said heel portion of said upper intermediate said lower edge portions of said quarter linings.

3,258,863
SAFETY FOOTWEAR FOR BATH OR SHOWER
Blanche Paget, 3951 W. 7th St., Los Angeles, Calif.
Filed Oct. 28, 1963, Ser. No. 319,154
1 Claim. (Cl. 36—62)

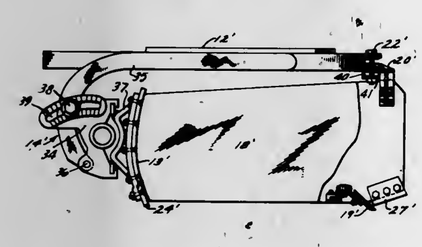
An article of footwear for use on a wet or dry surface comprising a body member formed of rubber or the like, said body member having an oblong substantially rectangular main portion, the outer surface of said main portion having a screen finish providing a grid of small raised protuberances, a pair of elongated tongues formed integrally with said main portion and extending outwardly

therefrom in opposite directions, one of said tongues having a pair of spaced transverse slits disposed adjacent the outer end thereof, the other of said tongues having a plurality of aligned successive serrations extending along the edges thereof, the distance between said serrations being approximately equal to the distance between said slits, said second named tongue and serrations adapted to be passed through said slits so that one pair of serrations engages the top of said first named tongue adjacent the ends of one of said slits and the adjacent pair of serrations engages the bottom of said first named tongue adjacent the ends of the other of said slits to adjust said



footwear to the foot of the wearer and hold said footwear thereon, and a relatively thin layer of terry cloth vulcanized and permanently bonded to the center of the bottom of said main portion, said cloth extending across substantially the entire width of said main portion and along a substantial portion of its length, said cloth overlying said protuberances so that said cloth and protuberances co-act to engage said surface, said cloth being adapted to absorb water from said surface when wet to increase the gripping power of said footwear upon said wet surface and prevent accidental slipping and falling by the wearer.

3,258,864
MOTOR GRADER BLADE CONSTRUCTION
Marvin E. Beyers, Peoria, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Mar. 9, 1964, Ser. No. 350,157
2 Claims. (Cl. 37—156)



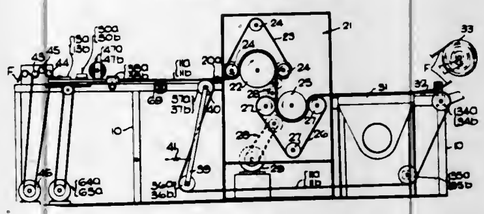
1. A motor grader blade structure adapted to be secured to a grader blade circle comprising a moldboard with a striker blade thereon, walls extending forwardly from opposite ends of the moldboard, a cutting blade extending between said walls slightly to the rear of the lower forward edges thereof, a cross beam spanning the upper forward edge portions of said walls, said cross beam lying in a vertical plane approximately tangent to the leading portion of said blade circle vertical adjusting means between the beam and the blade circle and rigidly holding said cross beam against vertical movement and pivot means supporting the moldboard to permit adjustment of blade depth with respect to the ground.

3,258,865
OPEN PIT MINING EXCAVATOR
Erich Andorf, Essen-Haarzopf, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany
Filed July 19, 1963, Ser. No. 296,290
Claims priority, application Germany, Apr. 2, 1963, B 71,377
2 Claims. (Cl. 37—190)



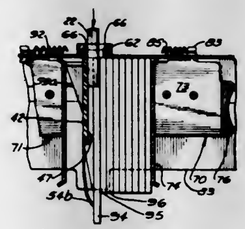
1. An open pit mine excavator having a lower frame structure, an upper structure journalled about a vertical first axis on said lower frame structure, a first boom mounted on the upper frame structure and together therewith being rotatable about said first axis, a frame supported by said upper structure and movable relative thereto only by turning about a second axis extending substantially parallel to said first axis and offset with regard to said first axis in a direction away from said first boom by a non-variable fixed distance, a second boom, a bucket wheel on one end of said second boom, the other end of said second boom being journalled on said frame on a third axis extending along a plane perpendicular to said first and second axes, the offset of said second axis with regard to said first axis being only a fraction of the length of said first boom so that with a plurality of angular adjustments of the first boom a plurality of cutting adjustments of said bucket wheel are automatically brought about while the excavator is at a standstill, the length of the second boom being a multiple of the spacing between said second axis and said first axis, and conveying means supported by said first boom and said frame and extending from said bucket wheel to the outer end of said first boom.

3,258,866
EDGE GUIDING AND STENTERING APPARATUS
Emile B. Bates, 11 Barrington Road, Stoneygate, Leicester, England
Filed Sept. 18, 1963, Ser. No. 309,693
Claims priority, application Great Britain, Sept. 21, 1962, 35,940/62
6 Claims. (Cl. 38—2)



1. A stentering machine for stentering fabric, comprising two co-operating endless flexible strips each having a longitudinal series of spaced projections for the impalement thereon of marginal parts of the fabric, guiding means for guiding the strips for circulation in endless paths comprising an operative lap extending from a fabric-receiving station to a fabric-surrendering station which guiding means comprises means for causing the strips to enter the fabric-receiving station in spaced-apart relation and in on-edge attitudes with their projections presented in a common direction to receive the marginal parts of the fabric, means for causing the strips to diverge while in said attitude after receiving the fabric, and means for causing the strips on leaving said station to twist in space to a second attitude in which they lie substantially in a common plane substantially coincident with that of the fabric and with their projections pointing outwards while the strips traverse the operative lap, at least one fabric-engaging and treating roller, disposed in the operative lap between said stations, for engaging the full width of the fabric over at least an arc of the roller circumference while the strips lie in said second attitude and for bending said fabric and strips around said arc, and driving means for driving the strips to circulate continuously in said paths to traverse the fabric continuously through the operative lap and the roller to rotate continuously in contact with the travelling fabric.

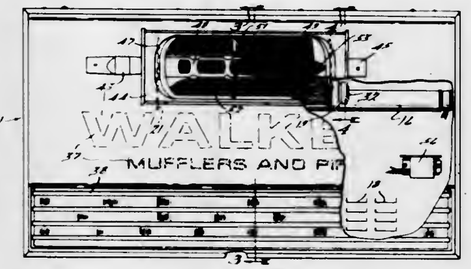
3,258,867
PHOTOGRAPHIC SLIDE MAGAZINE
Walter J. Hall, Chicago, Ill., assignor to Sawyers Research Development Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 6, 1963, Ser. No. 300,248
6 Claims. (Cl. 40—79)



1. A photographic slide magazine for use with a slide projector of the type including a generally horizontally extending slide tray receiving groove defined in part by a side wall having a slide receiving slot, which projector further includes a reciprocating slide changer having an element for pushing a slide into said slot, said magazine including a frame adapted to rest in said groove, which magazine includes a partition plate on the frame defining a magazine supply area and a magazine take-up area, means on the frame for yieldably supporting a plurality of slides in face-to-face contact on both sides of said partition plate with one slide in adjoining parallel relation with the former on the supply side thereof, guide means on said frame adapted to cooperate with said pushing element upon movement thereof for adjustably moving said frame axially in said groove thereby accurately to locate said one slide for entering said slot.

3,258,868
ANIMATED DISPLAY DEVICE
David A. Taylor, Jr., Racine, and John J. Huber, Delafield, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware, and Display Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed July 5, 1963, Ser. No. 292,954
1 Claim. (Cl. 40—106.53)

In an animated display, a supporting back, a cover movably mounted on said back and spaced therefrom, said cover being at least partially fabricated of a translucent material and having an opening in one portion thereof, a muffler display member secured over said opening and comprising a three-dimensional molded transparent sheet in the relief shape of an automotive muffler with a portion of the housing cut away to expose the interior thereof, portions of said muffler display member being pigmented to illustrate muffler components defining at least in part a flow path therethrough, the area within said cutaway portion of the muffler display member comprising a flat panel with muffler interior components illustrated thereon, portions of said panel bearing alternating opaque and transparent stripes in the areas of the flow path, an endless belt supported by said back within the space between said back and cover, said belt having alternating transparent and opaque stripes, one flight of said belt being in closely adjacent overlapping relation with said panel, the distance between the belt



flights being substantially greater than the width of said stripes, means for continuously moving said belt, and a source of illumination mounted between said back and the other flight of said belt, whereby light rays passing through said other flight and then through said one flight and said panel when said belt is moving will create the illusion of waves in the areas of the flow path through the muffler moving in a direction transverse to the direction of movement of said belt.

3,258,869
MULTI-LETTER UNIT SIGN AND MOLDING APPARATUS THEREFOR
Lloyd C. Ownbey, 1961 S. Vermont, Los Angeles, Calif.
Filed June 22, 1964, Ser. No. 376,858
8 Claims. (Cl. 40—140)



1. A set of sign characters for mounting on a mounting flange, and a set of characters comprising a frame and a plurality of characters homogeneously molded therewith in spaced relationship, said frame comprising at least one frame strip having a length in excess of the width of a plurality of said characters, said frame at locations between adjacent characters comprising substantially parallel spaced plate elements spaced from each other and extending transverse to the plane of said characters, said plate elements along adjacent rims on one side being joined together forming a closed pocket and having adjacent rims on the other side spaced from each other forming an opening for said pocket, whereby said set of characters is mounted on said flange by engagement of said flange between said parallel plate elements.

3,258,870
CHANGEABLE LETTER DISPLAY APPARATUS
Glenn A. Offenhauer, Palmetto, Fla., assignor to Florida Plastics, Inc., Palmetto, Fla., a corporation of Florida
Filed Dec. 1, 1964, Ser. No. 414,990
1 Claim. (Cl. 40—143)

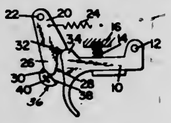
A plastic pegboard mountable article of manufacture comprising a letter, said letter including at least one hook; each hook including; a curved portion; said curved portion smaller than the diameter of a pegboard opening,

the outer surface of said curved portion having an arc of approximately a quarter circle; another portion extending beyond said curved portion, said extending portion having a diameter greater than the diameter of said pegboard opening; a base; said curved portion and extending portion mounted on said base; said base affixed to said letter mountable on said pegboard, at least one pin; each pin including a protuberance smaller than the diameter of a pegboard opening; a portion extending beyond said



protuberance, said extending portion having a diameter greater than the diameter of said pegboard opening; a base; said extending portion mounted on said base; said base affixed to said letter mountable on said pegboard, and said hook and pin spaced apart on said letter and adapted to fit into the openings in a pegboard whereby said extending portions co-act to maintain said letter at a predetermined distance from and parallel to said pegboard.

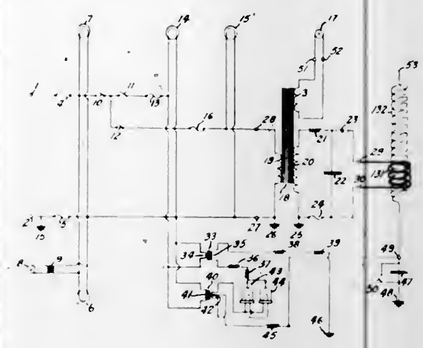
3,258,871
KEY OPERATED SAFETY FOR FIREARMS
Frank T. Green, Haydenville, Mass., assignor to Noble Manufacturing Co., Inc., Haydenville, Mass., a corporation of Massachusetts
Filed Aug. 4, 1965, Ser. No. 477,141
6 Claims. (Cl. 42—70)



1. A safety for a firearm having firing mechanism and movable means to actuate the same, a locking safety lever, means pivoting said locking lever in direction toward and away from said firearm actuating means, said lever engaging the latter in one position and holding the same against motion toward firing position, said lever having a position of release for said actuating means wherein the latter may be moved to firing position, and said locking lever pivoting means including a rotatable key-actuated cam, a cam surface thereon, said cam surface having a position engaging said lever in one position thereof and holding it fixed to hold the firearm actuating means against motion, said cam having a second position releasing said safety lever and engaging the same and moving it to a position releasing the firearm actuating means.

3,258,872
VERMIN KILLER (ELECTRIC GUN)
Alexander M. Senkewich, New York, N.Y., assignor of thirty-five percent to Feodosij Neuronow, New York, N.Y., five percent to James M. Hellman, Rye, N.Y., and five percent to Marjorie Kingston, Flushing, N.Y.
Filed Feb. 21, 1964, Ser. No. 346,526
4 Claims. (Cl. 43—132)

3. An apparatus for killing insects comprising a radiating head, means for providing an oscillating first discharge of high frequency, high voltage alternating current from said head, and means for providing simultaneously



with said first discharge a second discharge of high voltage direct current from said head.

3,258,873
"HANDY PAK" BABY BOTTLE
Walter R. Franco, 4581 Burke Drive, Santa Clara, Calif.
Filed Oct. 26, 1964, Ser. No. 406,232
3 Claims. (Cl. 46—11)

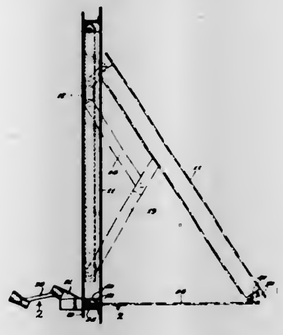


1. A baby bottle comprising a plastic hollow container having a vertically upward extending neck threaded on its outer surface, a hollow main section of cylindrical shape, the bottom of said neck flaring outward to form the top of said main section, the bottom of said main section being sealed, a smaller hollow section secured to the sealed bottom and extending downward therefrom and filled with a plurality of rattle elements, a horizontal disc secured to the bottom of the smaller section, and a pacifier extending downwardly from the disc.

3,258,874
WINDOW CLOSURE OPERATOR
Jerry L. Martin, Owatonna, Minn., assignor to Truth Tool Company, a corporation of Minnesota
Filed Apr. 27, 1964, Ser. No. 362,636
11 Claims. (Cl. 49—252)

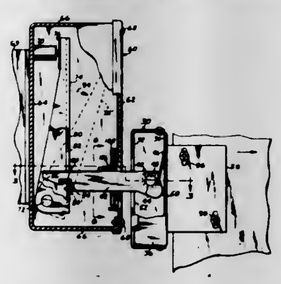
1. A closure operator for an awning type window having a movable sash and a frame comprising, operating mechanism mounted on said frame, a guide track fixed to the underside of said sash and a motion transmitting connection between the operating mechanism and the guide track including an arm movable by said mechanism, a shoe interfitting with said track and movable therealong,

and hinge means having a pivot axis extending generally parallel to and in front of the guide track connecting



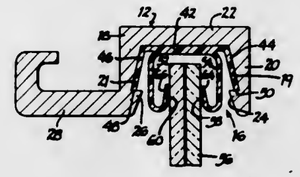
said arm and shoe to permit pivoting of said shoe and track relative to said arm.

3,258,875
ELECTROMAGNETIC DOOR HOLDER AND RELEASER
Ambrose C. Ulman, San Diego, Calif., assignor to Barth Safety Equipment Co., Inc., Escondido, Calif., a corporation of California
Filed May 27, 1965, Ser. No. 459,232
2 Claims. (Cl. 49—379)



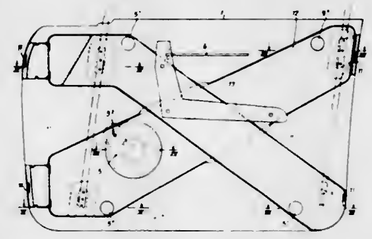
1. In combination with a building wall having an opening and a fire door for closing the opening:
(A) a latching arm pivotally mounted upon the door;
(B) a housing, said housing including:
(1) a rear wall attached to the building wall,
(2) a removable front wall having an opening therein for receiving the latching arm,
(3) and side walls;
(C) holding means for the latching arm disposed within the housing, said holding means including:
(1) pivot means carried by a side wall of the housing,
(2) a lever pivotally carried by the pivot means and having an iron section adjacent the free end thereof, said lever having a slot interposed between the pivot means and the iron section for receiving the free end of the latching arm and forming an integral catch cooperating with the latching arm, said door and latching arm being biased normally toward catch releasing position,
(3) electromagnetic means attached to the rear wall of the housing, for holding said lever in latching arm catching position when energized, said means being disposed in magnetic cooperable relationship with the iron section of the lever,
(4) and a coil spring about said pivot means for holding said lever in latching arm and catching position when the electromagnetic means is deenergized and the latching arm is disengaged from the lever.

3,258,876
WINDOW SASH PLASTIC WEATHERSTRIP
Robert J. Deisenroth and Carl E. Sigsbee, Elkhart, Ind., assignors to Excel Corporation, Elkhart, Ind., a corporation of Indiana
Filed Dec. 30, 1963, Ser. No. 334,185
13 Claims. (Cl. 49—441)



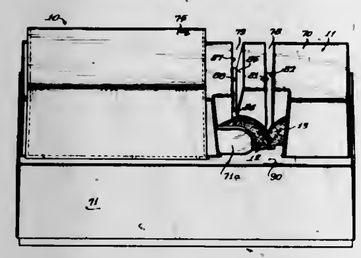
1. A weatherstrip for a sliding window, said weatherstrip being fabricated from an organic polymeric material and having a cross-sectional contour comprising an outer channel and an inner channel, the outer channel having outwardly angled resilient side wall portions which are flexible for pressure contact with the interior wall surfaces of a window frame channel, the inner channel having inwardly angled side wall portions for substantially leak-free contact with a slidable window sash, the free ends of the inwardly and outwardly angled resilient side wall portions being generally parallel to each other and extending in opposite directions, and webbing interconnecting all of the side walls together adjacent one end thereof, the remaining portions of the side walls being free for independent flexing of each side wall.

3,258,877
CONSTRUCTION OF PANELS, NOTABLY OF DOORS FOR AUTOMOBILE VEHICLES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Mar. 16, 1964, Ser. No. 352,172
Claims priority, application France, Mar. 22, 1963, 929,000, Patent 1,359,917
5 Claims. (Cl. 49—502)



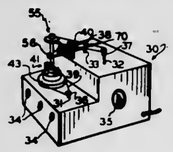
1. A panel structure comprising an outer wall of relatively thin material; and a prefabricated assembly over which said wall is fitted; said assembly comprising an inner metal structure extending from a point adjacent one end of said outer wall to a point adjacent the opposite end thereof, a plurality of auxiliary mechanisms mounted on said structure, and an inner wall of molding material in which said structure is embedded.

3,258,878
KNIFE AND SCISSORS SHARPENER IMPROVEMENTS
Kenneth R. Clark, Wauwatosa, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 31, 1963, Ser. No. 320,282
3 Claims. (Cl. 51—80)



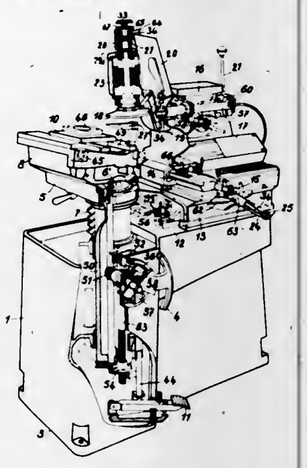
1. In an electrically operated apparatus for sharpening scissors of the type having two shearing blades which are pivotally connected together and knives including a first and second abrasive wheel positioned on parallel horizontal axes which are located sufficiently close together so that the peripheries of said wheels overlap slightly and said first wheel is slightly in front of said second wheel, a housing including a top wall superimposed over said wheels and a front wall facing the side from which knives and scissors are presented for sharpening, said first wheel being positioned to the left of said second wheel from the front and having an abrasive face on the periphery, the overlapping of said wheels defining an upper line of intersection, electrical means for rotating said wheels in opposite direction whereby both wheels rotate upwardly at the line of intersection, said top wall having a knife groove adapted for receiving knives to be sharpened which is parallel to and positioned over said line of intersection and defines a knife opening exposing said intersection, a scissors groove formed in said top wall parallel to and spaced to the left of said knife groove, said scissors groove being formed in part by a straight flat guide surface which lies in a substantially vertical plane, said surface extending completely acros the face of said first wheel and offset from said first wheel axis in a direction away from said second wheel axis whereby the rotation of said first wheel assists in holding the scissors blade against said guide surface, said front wall having means affording access to the first wheel so that the scissors blade can be sharpened close to the pivotal connection.

3,258,879
APPARATUS FOR GRINDING CONTACT LENSES
Carlyle A. Edelstein, 4755 Troop K Road, R.D. 2, Manlius, N.Y.
Filed Nov. 4, 1963, Ser. No. 321,184
4 Claims. (Cl. 51—124)



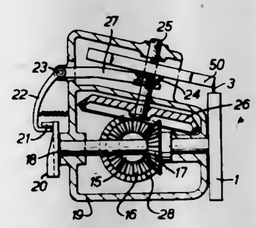
1. A machine for grinding the inner curved surface of a contact lens on a lap having a curved surface molded from an impression of the corneal portion of an eye, comprising: means for rotating the lap about an axis normal to the approximate center of the curved surface thereof, a lens block oscillatorily supported in the machine, means to bias the curved surface of the lens against the curved surface of the lap, means for maintaining said block in angularly indexed relation to the lap during rotation of the lap, a first means for oscillating the block bodily in a circular path with respect to the axis of rotation of the lap, the extent of oscillation being a fractional part of the width of the lap, and a second means for oscillating the block bodily in an orbital path over the curved surface of the lap.

3,258,880
SHARPENING MACHINE FOR TOOL-CARRYING HEADS
Maurice Garin, 7 Rue Jules Massenet, Lyon, France
Filed Sept. 21, 1964, Ser. No. 397,852
Claims priority, application France, Sept. 15, 1961, 41,859
8 Claims. (Cl. 51—125.5)



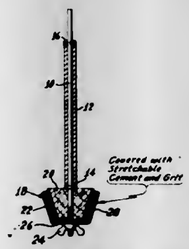
1. In a machine for grinding workpieces such as cutters for machine tools, in combination, base means; an assembly of support means cooperating with each other and with said base means for supporting a workpiece for vertical movement, for rotary movement about a vertical axis, for horizontal movement about a horizontal axis, and for shifting movement along said horizontal axis; longitudinally movable carriage means carried by said base means for movement toward and away from said assembly of support means; transversely movable carriage means carried by said longitudinally movable carriage means for movement transversely with respect to the direction of movement of said longitudinally movable carriage means; angularly movable support means carried by said transversely movable carriage means for angular movement about a substantially horizontal axis which extends in the direction of movement of said longitudinally movable carriage means; a grinding wheel having a grinding face directed toward a workpiece carried by said assembly of support means, rotary wheel-carrier means carrying said grinding wheel in a position where said face is situated in a plane which includes the axis about which said angularly movable support means turns, said rotary wheel carrier means having an axis of rotation which is perpendicular to said axis about which said angularly movable support means turns; and manually operable lever means operatively connected to said longitudinally movable carriage means for moving the latter and all of the structure carried thereby back and forth toward and away from said assembly of support means, so as to displace a grinding wheel carried by said rotary wheel carrier means back and forth along a given working stroke.

3,258,881
GRINDERS FOR KNIVES OF CIGARETTE-MACHINE CUT-OFFS
James Arthur Mason and Barry George Applegate, both of Deptford, London, England, assignors to The Molins Organisation Limited, a British company
Filed Feb. 25, 1964, Ser. No. 347,264
Claims priority, application Great Britain, Mar. 14, 1963, 10,157/63
1 Claim. (Cl. 51—249)



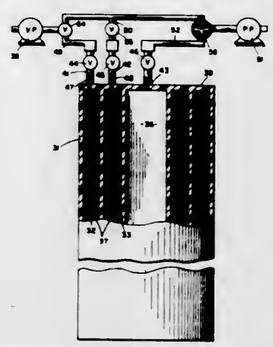
In a cigarette machine cut-off mechanism having a knife rotatable about a first axis, the knife being of substantially helical form about the first axis and having a cutting edge eccentric to the first axis, a grinding member of plate-like form rotatable about a second axis coplanar with the first axis, the grinding member having at least one lobe projecting therefrom which has an abrasive end face parallel with the second axis, means for rotating the grinding member in timed relationship with the rotation of the knife and in the opposite direction to grind the knife, the second axis being at an angle of less than 90° to the first axis in order to grind a chamfer on the cutting edge of the knife, and the abrasive end face being eccentric to the second axis and shaped to engage the cutting edge of the knife throughout the transit of the knife past the grinding member to grind the chamfer on the adjacent side of the knife and terminating in a sharp cutting edge eccentric to the first axis, and means for axially reciprocating the grinding member on the second axis to distribute the wear on the abrasive end face, due to grinding, over the abrasive end face.

3,258,882
VALVE SEAT RESURFACING TOOL
Richard L. Cohen, East Hills, N.Y.
(33 Briar Lane, Roslyn Heights, N.Y.)
Filed Jan. 8, 1964, Ser. No. 336,419
2 Claims. (Cl. 51—378)



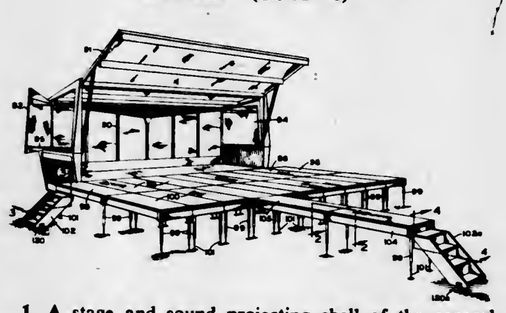
1. A valve-seat resurfacing tool, including an elongated shaft having an exposed drive end for operation by an electric drill, a head at the end of the shaft remote from the drive end, and an elongated hand-grip sleeve rotatably disposed on said shaft between said drive end and said head, said head including a core having a generally conical firm lateral surface having diameters of approximately 1¼ inches and 2⅝ inches at transverse planes spaced apart 2 inches axially and being secured to said shaft with its minimum-diameter end remote from said drive end, a pad of resilient foamed material approximately ½ inch thick covering said core and secured thereto and having a compression-load-deflection of approximately 1.0 to 1.7 pounds per cubic foot at 25% deflection, and a coating of grit in a rubber-based readily stretchable cement on said pad.

3,258,883
RIGIDIZED EVACUATED STRUCTURE
Louis Campanaro, Fullerton, Norman J. Goldstone, Hollywood, and Clayton C. Shepherd, Bellflower, Calif., assignors to North American Aviation, Inc.
Filed Sept. 25, 1962, Ser. No. 226,070
3 Claims. (Cl. 52—2)



1. A rigidizable load bearing structural member comprising:
- a thin flexible gas impermeable membrane forming a body, the volumetric space within said impermeable membrane comprising a pressurizable chamber;
- a thin flexible gas permeable membrane spaced apart from said impermeable membrane on the outside thereof and substantially concentric therewith, said permeable membrane and said impermeable membrane defining a space therebetween, the space between said membranes being substantially less than the breadth of the chamber within said impermeable membrane;
- a multiplicity of free flowing particles within said space;
- a gas within said chamber; and
- means for pressurizing the gas in said chamber whereby said impermeable membrane acts upon said particles for causing compaction thereof and expulsion of excess gas from the space through said permeable membrane.

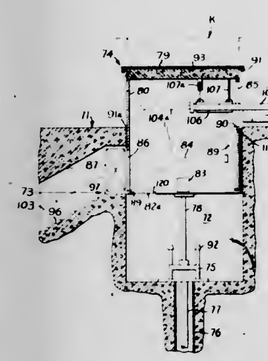
3,258,884
WIDE ANGLE PORTABLE STAGE AND SHELL
Harry J. Wenger, Owatonna, Minn.
Filed Jan. 18, 1963, Ser. No. 252,336
6 Claims. (Cl. 52—6)



1. A stage and sound projecting shell of the general type comprising a trailer body having one side hinged at

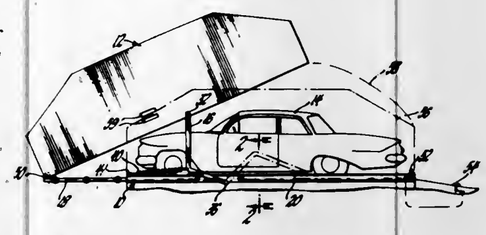
its top with means for raising it at the bottom whereby it forms a projecting canopy and opens one side of the trailer, combined with a plurality of platform means removably engaged with the trailer and each other to form an extending platform at the open side of said trailer, the improvement comprising, platform members removably secured to other platform members and projecting beyond each end of said trailer, leg members supporting the outboard portions of all platform members, said platform members having exposed front channels and cooperating plates at their outboard ends, stair means having first and second brackets having hook portions, corresponding first and second bracket means extending in both directions beyond said first and second bracket hook portions, at least one of said hook portions removably engaged with one of said cooperating plates and channels of a platform member and securing means secured to said bracket means in spaced relation to said hook portions and engaging said platform members to prevent unintentional disengagement of the hooked portion from a cooperating plate and channel of said platform member.

3,258,885
CONVEYOR SHAFTS WITH CONVEYING DEVICES
Alois Lodige, Frankfurter Weg 13, Paderborn, Germany
Filed Jan. 7, 1963, Ser. No. 249,911
Claims priority, application Germany, Jan. 8, 1962, L 38,972; May 15, 1962, L 40,873
4 Claims. (Cl. 52—64)



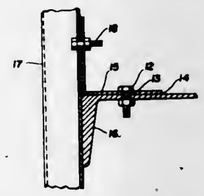
1. A telescopic shaft for interconnecting a sub-floor level with a floor level, said telescopic shaft comprising a fixed shaft, a vertically movable elevator mechanism disposed in said fixed shaft, a movable shaft constructed as a hood and adapted to be raised and lowered by the elevator mechanism, said hood being engaged by said elevator mechanism, said hood including a cover plate and side walls, said cover plate being substantially flush with the floor level in the lower position of the hood, entrance openings at different heights provided in the side walls of the hood, doors for said openings, one of said openings being positioned at or below the floor level, another of said openings being positioned at or below the sub-floor level, and an inclined ramp within the confines of the hood extending between and leading directly to and from said doors and constituting a traversable connecting path between the sub-floor level and the floor level in the raised position of the hood, said side walls and cover plate of the hood and one of said doors operating to close off the sub-floor level when the hood is moved to its lower position to provide a double closure for said sub-floor level.

3,258,886
TILTABLE VEHICLE SHELTER
Aaron Russell Button, 44109 Grand River, Novi, Mich.
Filed Apr. 10, 1963, Ser. No. 272,032
3 Claims. (Cl. 52—64)



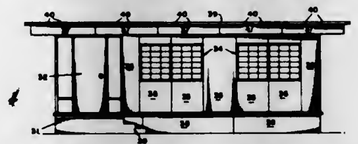
1. A vehicle shelter, comprising:
a vehicle space defining frame including a pair of side rails disposed in parallel spaced relation for receiving and guiding a vehicle therebetween, an open-bottomed housing mounted on said frame and tiltable about one end to an open position receptive of a vehicle under the other end thereof,
lever arms pivotally connected to said side rails and to said housing on opposite sides and between the ends thereof,
horizontally reciprocal means provided on said space defining frame and having said one housing end pivotally secured thereto,
said reciprocal means being extendible outwardly from one end of said space defining frame,
and housing counterbalancing means connected between the ends of said side rails and said lever arms for pivotal actuation of said lever arms and synchronous lifting and retracting of said housing permissive of vehicle entry within said space defining frame for subsequent enclosure under said housing.

3,258,887
WALL ASSEMBLY INCLUDING EXPLOSION BOLTS
George Mostoller, Pittsburgh, Pa., assignor to Elwin G. Smith & Company, Inc., Pittsburgh, Pa.
Filed Jan. 31, 1963, Ser. No. 255,310
1 Claim. (Cl. 52—98)



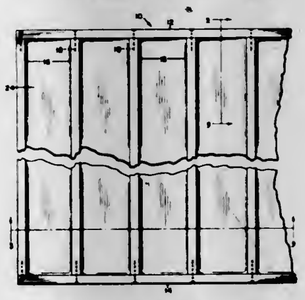
A wall assembly including metal panels and clip angles secured to said metal panels and extending horizontally in engagement with and resting on top of a horizontally extending structural building frame and a plurality of bolts for bolting said clip angles and said building frame together, said bolts including shank portions of reduced diameter occurring in the parting line between adjoining flanges of said clip angle and frame, whereby said shank portions of reduced diameter will rupture as a consequence of shearing forces at said parting line caused by an explosion.

3,258,888
BUILDING STRUCTURE AND METHOD OF ERECTING SAME
Quon C. Lum, 1931 N. King St., Honolulu, Hawaii
Filed June 13, 1962, Ser. No. 202,159
3 Claims. (Cl. 52—251)



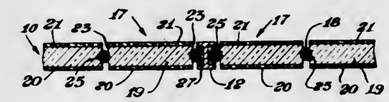
3. A building structure including generally horizontally extending floor portions supported on footings and generally horizontally extending roof portions joined by generally vertically extending wall portions with upper and lower portions of said wall portions being in engagement with said roof and floor portions respectively, each of said floor, roof, wall portions and footings being formed substantially entirely of a plurality of modules, each of said modules being of similar construction and being formed of pre-cast, pre-stressed concrete and having a substantially solid cross section, the modules of said floor, roof and wall portions being in edge-to-edge relationship with one another and being secured to one another solely by adhesive means disposed between adjacent modules, the modules of the footings being in face contacting relation with their upper edges adhesively joined to said floor modules, the outer end portions of said floor modules having upwardly facing transversely extending recesses therein receiving the lower end of the wall modules, said recesses being inwardly spaced from the outer end of the floor module and forming an outwardly projecting ledge and the upper surface of said ledge between the outer edge of said recess and the outer end of the module being inclined outwardly and downwardly and the outer face of the footings being inwardly spaced from said outer end of said floor modules whereby the said ledge overhangs the footings and provides a border about said building structure.

3,258,889
PREFABRICATED STUD PANEL WITH FOAM INSULATION CONNECTOR
Richard A. Butcher, Lockport, N.Y., assignor to The Upson Company, Lockport, N.Y., a corporation of New York
Filed Apr. 16, 1962, Ser. No. 187,703
3 Claims. (Cl. 52—309)



1. A prefabricated structural section comprising:
(1) a frame comprising, transversely, a wooden ceiling plate and a wooden floor plate longitudinally spaced from said ceiling plate and, longitudinally, wooden studs transversely spaced from one another, extending from said ceiling plate to said floor plate and fastened to said plates by fasteners extending through said plates into said studs;
(2) a panel on one side of said frame, extending longitudinally from said ceiling plate to said floor plate with one side of said panel being disposed adjacent said studs; and
(3) means fastening said panel to said frame, said means consisting of rigid, cellular, polyurethane material tenaciously adhering to said ceiling plate, floor plate, studs and said side of said panel, extending from one stud to the next and from said ceiling plate to said face plate, and extending from said side of said panel toward the other side of said frame sufficiently to substantially rigidify said section, but only part way to said other side of said frame, whereby between each pair of studs a substantial space extending from said ceiling plate to said face plate is provided for piping and wiring.

3,258,890
FRAMED WALL CONSTRUCTION WITH BLOWOUT PANEL
Donald J. Dirkse, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 28, 1962, Ser. No. 198,234
5 Claims. (Cl. 52—309)

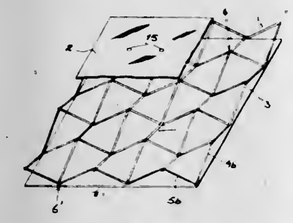


1. In a wall structure consisting essentially of a frame, said frame consisting of a plurality of members, said frame members defining a plurality of spaces, said spaces adapted to receive panels and at least one removable panel, the improvement which comprises: a removable panel comprising a foamed plastic material, the panel having edge surfaces, said edge surfaces defining at least one generally circumferential groove, said removable panel freely fitting within a removable panel receiving space, the frame members defining said space defining at least one inwardly facing annular groove, said annular groove and said circumferential groove adapted to be positioned opposite each other, and a resilient deformable foamed gasket material in panel restraining engagement with said panel and said frame said removable panel and gasket so constructed and arranged so as to maintain the panel in position under normal stresses and permit ready removal of the panel under abnormal stresses the panel maintained within the frame only by means of the gasket.

3,258,891
LIGHTWEIGHT PREFABRICATED STRUCTURAL ELEMENT
Helmut Haberbosch, Bahnerstrasse 2, Laufingen, Swabia, Germany
Filed Aug. 17, 1961, Ser. No. 165,466
Claims priority, application Germany, Aug. 20, 1960, H 40,257
3 Claims. (Cl. 52—615)

1. A construction element comprising a bottom plate, a top plate and a network of undulating struts of identical height and configuration interconnecting said plates in parallel-spaced relationship; said network consisting of a first array of parallel struts welded at the bottom portions of its undulations to said bottom plate, and a second array of parallel struts extending transverse to and overlying said first array and welded at the top portions of its undulations to said top plate and welded at the top portions of the undulations of said struts of the first array, said struts of said second array being welded at the bottom portions of their undulations to the bottom portions of the first array, the struts of each

array being parallel and equispaced by a distance corresponding to half an undulation whereby the top and bottom portions of each strut coincide with the locations at which the top and bottom portions of the struts



transversed thereby are welded to said plates, adjacent struts of each array being relatively staggered by half an undulation, the struts of said second array lying in planes at right angles to the planes of the struts of said first array.

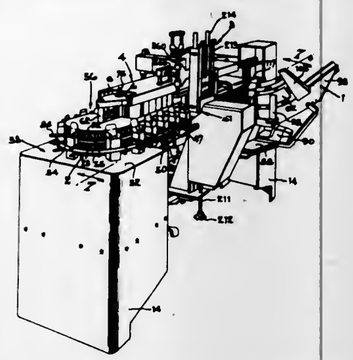
3,258,892
PANEL STRUCTURE
Frederick N. Rushton, Baltimore, Md., assignor to Washington Aluminum Company, Inc., Baltimore, Md., a corporation of Maryland
Filed Nov. 16, 1962, Ser. No. 238,206
3 Claims. (Cl. 52—615)



1. A resilient structural floor panel, comprising, a truss pan having a flat bottom and raised sides having outwardly flanged edges, said flat bottom having a plurality of rows of right-frusto conical shaped pedestals formed upwardly therefrom and extending to the same height as the top surface of said flanged edges of said truss pan, each said pedestal having a small diameter rounded top and a smoothly curved base flange extending outwardly and around the periphery therefrom at the bottom of each said pedestal said flat bottom having elongated shaped projections extending from the base flange of each said pedestals to the base flange of adjacent pedestals, with said elongated projections having a height less than the height of the rounded tops of said pedestals, a tread plate covering said truss pan and arranged coextensively with the outwardly flanged edges of said raised sides of said truss pan, and means for integrally joining the rounded tops of said pedestals and said flanged edges of said truss pan to said tread plate, whereby a unitized rigid floor panel having rows of pedestals is obtained.

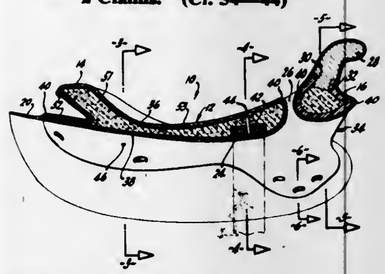
3,258,893
INTERMITTENT MOTION CARTONING MACHINE
Wickliffe Jones, Cincinnati, Ohio, assignor to R. A. Jones and Company, Inc., Covington, Ky., a corporation of Kentucky
Filed Apr. 11, 1963, Ser. No. 272,254
21 Claims. (Cl. 53—186)

13. A cartoning machine comprising, a carton conveyor disposed in a horizontal plane and having a series of pockets adapted to receive and confine individual cartons in an upright position, means for advancing said conveyor in stepwise fashion in a downstream direction and providing stationary dwell periods, a carton magazine mounted along said conveyor, said magazine adapted to confine a stack of cartons in flat collapsed condition, said carton magazine having shiftable guide elements and being adapted to confine collapsed cartons having selected dimensions, a transfer mechanism adapted to withdraw said collapsed cartons individually from the carton magazine, said magazine adapted to present the collapsed cartons in upright position to the transfer mechanism, said transfer mechanism adapted to erect each individual carton and to transfer the same into an individual pocket of the carton conveyor during a dwell period thereof, a slide plate mounted in a horizontal plane beneath said carton conveyor and adapted to support the lower end of the



cartons which are confined in the pockets of the carton conveyor, a leaflet magazine mounted along said conveyor downstream from said carton magazine, said carton conveyor adapted to locate an erected carton on said slide plate in an upright position laterally displaced from the leaflet magazine during a dwell period of the conveyor, a leaflet transfer mechanism interposed between said leaflet magazine and carton conveyor, said leaflet magazine adapted to confine a stack of leaflets in generally vertical formation, said leaflet transfer mechanism adapted to withdraw the leaflet individually from the lower end of said magazine and to shift the leaflet laterally to a position above the carton resting upon said slide plate during a dwell period of the carton conveyor, said transfer mechanism thereafter adapted to insert said leaflet into the upper portion of the carton during said dwell period of the carton conveyor.

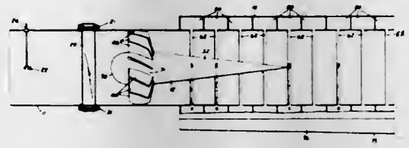
3,258,894
SADDLE
Steven W. Hoaglin, Alamo, Calif., assignor to J. V. Le Laurin, Jr., La Mesa, Calif.
Filed Dec. 2, 1963, Ser. No. 327,445
2 Claims. (Cl. 54—44)



2. A saddle tree comprising a pair of shell members of glass fiber-reinforced resin forming a fork, cantle, side

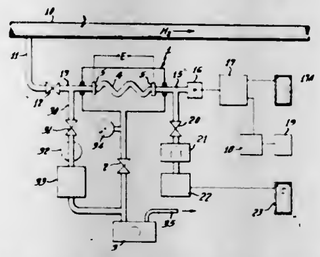
trees, and groundseat combined into a single unit, said unit having an interior cavity extending throughout substantially the entire extent of said unit, said cavity being filled with a rigid plastic foam, and the groundseat portion of the upper of said pair of shell members being covered with a thin layer of leather bonded to said shell member.

3,258,895
DEVICE FOR SEPARATING SOLIDS FROM A GASEOUS MEDIUM
Donald Wiebe, Greensburg, and Arthur L. Barrett, Franklin, Pa., assignors to Joy Manufacturing Company, a corporation of Pennsylvania
Filed Oct. 19, 1962, Ser. No. 233,997
7 Claims. (Cl. 55—1)



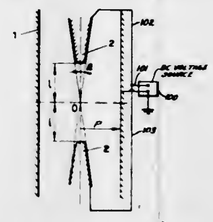
5. A method of separating particles entrained in a gaseous stream comprising, moving such a stream through an elongated conduit at a velocity so that turbulent flow occurs, compressing such a stream during said movement by decreasing the cross sectional area of said conduit, expanding such a stream after said compression has occurred and during said movement through an angle to create an upstream velocity with respect to said conduit in a portion of such a stream which includes a boundary portion thereof, and collecting the particles entrained in said portion of such a stream.

3,258,896
DETERMINATION OF IMPURITIES IN PURE GASES, PREFERABLY HYDROGEN
Paul Müller, Ostheim, near Hanau am Main, Germany, assignor to W. C. Heraeus G.m.b.H., a corporation of Germany
Filed Oct. 24, 1963, Ser. No. 318,758
Claims priority, application Germany, Nov. 3, 1962, H 47,314
2 Claims. (Cl. 55—16)



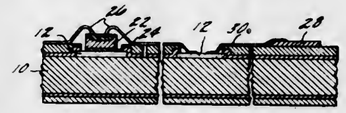
1. Process for the determination and control of gas impurities in hydrogen using a semi-permeable membrane permeable for the hydrogen, characterized by introducing a stream of test hydrogen into a primary chamber essentially confined by said semi-permeable membrane, concurrently pumping off pure hydrogen which has permeated the semi-permeable membrane into a secondary chamber, permitting gas impurities to accumulate in the primary chamber, determining the presence of impurities in the hydrogen in the primary chamber by means of a gas analyzer responsive to at least one impurity in said hydrogen, said gas analyzer being in operable communication with the primary chamber, and subsequent to the accumulation of gas impurities in the primary chamber passing the resultant impurity enriched hydrogen from the primary chamber into a second gas analyzer and thereby determining the impurity content of the introduced test hydrogen with an accuracy of less than 1 p.p.m. impurity.

3,258,897
ELECTRICAL PRECIPITATOR
Friedrich Mayer and Gregori Messen-Jaschin, both of Sarnen, Switzerland, assignors to G. A. Messen-Jaschin, Sarnen, Switzerland, a corporation of Switzerland
Filed Oct. 25, 1961, Ser. No. 149,812
Claims priority, application Switzerland, Oct. 28, 1960, 12,114/60
8 Claims. (Cl. 55—13.7)



1. An electrical precipitator comprising a first electrode in the form of a duct which, considered in any plane to which the axis of said duct is normal, is of circular cross-section; second and third electrodes of circular cross section throughout constituting ionizer electrodes situated within the first electrode coaxial therewith, having conical tip portions directed towards one another and of a small angle of conicity and having radii of curvature at their tips substantially less than the radius of curvature of any other part of the ionizer electrodes, said tips of said second and third electrodes being spaced apart by a distance substantially equal to the internal diameter of said first electrode midway between the tips of said second and third electrodes; and means applying high unidirectional potential to said second and third electrodes.

3,258,898
ELECTRONIC SUBASSEMBLY
Domenick J. Garibotti, Longmeadow, Mass., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 20, 1963, Ser. No. 281,419
4 Claims. (Cl. 29—155.5)

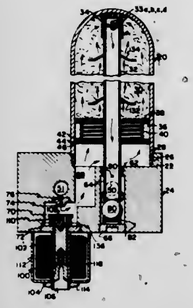


4. A method for the fabrication of an electronic circuit module comprising:
- forming discrete pads of metallic material on at least a first surface of a microcircuit wafer,
- depositing an area film of conductive material on said first surface and over and in conductive contact with said pads,
- removing the film of conductive material over portions of the pads,
- selectively removing the film of conductive material between the pads in accordance with desired patterns thereby forming conductive paths having the desired resistance between the pads, and
- affixing active circuit devices to the exposed portions of at least some of the pads in such a manner that first terminals on the devices make electrical contact with the pads.

3,258,899
APPARATUS FOR FRACTIONATING GASEOUS MIXTURES

Thomas E. Coffin, South Orange, N.J., assignor, by mesne assignments, to Puregas Equipment Corp., a corporation of New York

Filed Feb. 6, 1962, Ser. No. 171,370
19 Claims. (Cl. 55—162)



16. An adsorption vessel assembly which comprises

(1) An elongated cylindrical vessel having one end and another end, said vessel being closed at its one end and open at its other end across the full cross sectional area defined by the vessel wall and having engageable means at said open end of the vessel wall for removably securing said vessel in a mounted condition;

(2) A bed of adsorbent material within said elongated vessel extending at least close to the one end thereof and substantially filling the interior of said vessel throughout the extent of the bed and a permeable bed support removably mounted on the interior wall of the vessel and defining an end of the bed adjacent said open end, and,

(3) A conduit centrally disposed longitudinally within said elongated vessel and penetrating said bed of adsorbent material and passing through said bed support in slidable relation thereto, said conduit being characterized by

(a) An outside diameter in co-axial relation with said elongated vessel and substantially less than the inside diameter of said elongated vessel,

(b) One end at least close to the one end of said elongated vessel,

(c) Another end being open adjacent said open end of the vessel and beyond said bed of adsorbent material in a direction away from the one end of said elongated vessel, and

(d) Sufficient opening area near its one end to permit the flow of gases between its interior and the bed of adsorbent material without a significant drop in pressure, whereby said assembly of elongated vessel and coaxially related conduit may be turned together by a single rotary action for mounting said assembly and the simultaneous connection of co-axial ports for said open ends of the conduit and vessel respectively.

3,258,900
UNIT FILTER ASSEMBLY

John D. Harms, Valley Station, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

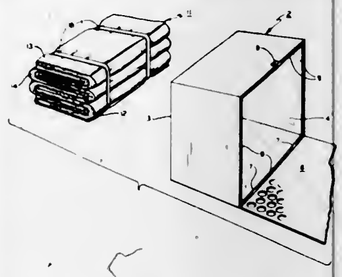
Filed Aug. 6, 1963, Ser. No. 300,207
6 Claims. (Cl. 55—485)

2. A filter media cartridge packed for ready disposition in a filter media support frame comprising:

(a) at least first and second sheets of flexible filter medium positioned in co-extending faced relationship to provide a laminar filter media arrangement;

(b) at least one of said sheets of filter medium serving as a separating member for the other and being of expansible-compressible nature;

(c) said laminar filter media arrangement being folded into a plurality of side-by-side pleats and compressed so that said separating sheet of medium of expansible-compressible nature is compressed to a depth less than approximately one-half the depth of said sheet in expanded condition with the spacing between adjacent



pleat walls of said other sheet being proportionally decreased;

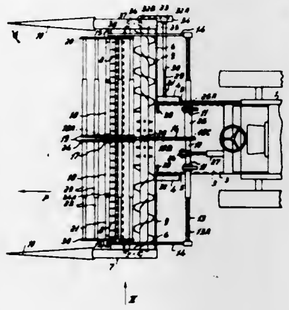
(d) the facing portions of the expansible-compressible medium between adjacent pleats being glued together to determine final pleat configuration and spacing between adjacent pleat walls of said other sheet when the cartridge is allowed to expand in its filter media support frame; and

(e) binder means comprising at least one releasable strip member fastened to retain said media in compressed condition until disposed for operation in a filter media support frame.

3,258,901
COMBINE HARVESTERS

Cornelis van der Lely, Zug, Switzerland, and Leendert van Wingerden, Dubbeldam, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited-liability company

Filed Feb. 24, 1965, Ser. No. 434,863
Claims priority, application Netherlands, Mar. 5, 1964, 6,402,194
10 Claims. (Cl. 56—20)

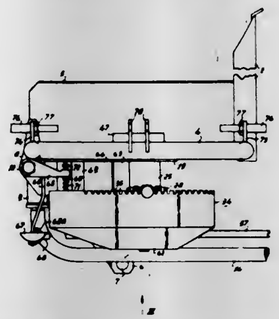


1. A combine harvester having a frame and a mowing table, said table comprising at least two portions of substantially the same size, each portion being supported on a substantially horizontal shaft extending in the general direction of travel whereby said portions are turnable about said shafts during operation to match unevenness of the ground.

3,258,902
AGRICULTURAL MACHINES

Cornelis van der Lely, Zug, Switzerland, assignor to Texas Industries Inc., Willemstad, Curacao, Netherlands Antilles, a limited-liability company of the Netherlands

Filed Sept. 22, 1964, Ser. No. 398,184
Claims priority, application Netherlands, Oct. 8, 1963, 298,970
8 Claims. (Cl. 56—25)



1. A mowing machine comprising a frame and a mowing mechanism, pulley means being provided supported by said frame for drivingly connecting said mowing mechanism with the power take-off shaft of a tractor, a sleeve mounted on said shaft, eccentric means secured at each end of said sleeve for receiving said shaft, said pulley means including a first pulley mounted on said shaft, a second pulley and an endless member connecting said pulleys in driving engagement, said first pulley being turnable with said shaft about said eccentric means whereby the distance between said first and second pulleys can be varied, the distance between the pivotable axis and the axis of rotation of said first pulley being less than half the diameter of said first pulley, lever means for turning said first pulley and a housing having a recessed edge being secured to surround said first pulley, said lever cooperating with said recesses to lock same in position after adjustment of said first pulley.

3,258,903
HAND CULTIVATOR OR RAKE

William O. Rienacker and Emmy Rienacker, Rte. 1, Brimley, Mich.

Filed Nov. 22, 1963, Ser. No. 325,684
9 Claims. (Cl. 56—400.18)



1. A hand cultivator comprising, an elongated handle; a carrier member slidably mounted on said handle; a guide bar carried on the lower end of said handle; a plurality of elongated cultivator prongs; said carrier member having longitudinally spaced walls on the rear side thereof disposed transversely of and perpendicular to the longitudinal axis of said handle which define a transverse chamber; the upper ends of said prongs being turned perpendicularly outward relative to the longitudinal axis of said handle and being hingedly disposed in said chamber on said carrier member between said walls and retained therebetween for free swinging movement of said prong upper ends; said guide bar being provided with a plurality of laterally spaced apart holes through each of which is slidably mounted one of said prongs; and, means for detachably locking said carrier member to said handle in a selected adjusted position on the handle.

3,258,904
WINDING OF TEXTILE FILAMENTS OR YARNS

Martin Richard Winterbottom, Pontnewydd, Cwmbran, and Eric Williams, Croesycelliog, Cwmbran, England, assignors to British Nylon Spinners Limited, Pontypool, England

Filed May 7, 1964, Ser. No. 365,691
Claims priority, application Great Britain, May 18, 1963, 19,861/63
10 Claims. (Cl. 57—34)

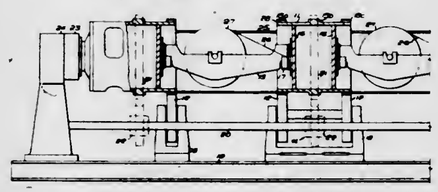


6. Apparatus for winding yarn onto a rotating bobbin having at one end portion thereof a waste-receiving area, comprising a spinning ring carrying a traveller normally freely rotatable therearound, said spinning ring encircling the bobbin and having its plane substantially at right angles to the axis of the bobbin and being mounted on a reciprocating frame, said frame being adapted to have a stationary position at which yarn is wound onto the waste-receiving area of the bobbin, and means to restrain the normal free rotation of the traveller around its ring when the tension in the yarn is substantially less than that attained under normal winding conditions.

3,258,905
TUBULAR STRANDING MACHINES

Ben R. Carter, Chorley, England, assignor to B. & F. Carter & Company Limited, a company of Great Britain, Northern Ireland, and the Isle of Man

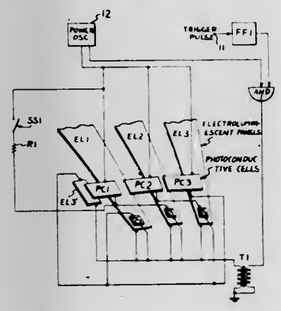
Filed Dec. 27, 1963, Ser. No. 333,855
Claims priority, application Great Britain, Dec. 29, 1962, 48,966/62
6 Claims. (Cl. 57—58.34)



4. In a tubular stranding machine which comprises a multiplicity of axially aligned, rotatably-mounted tube sections arranged in spaced apart disposition, support rollers for each said tube section, a drive shaft common to said tube sections, drive means between said shaft and the individual tube sections, bearing means on each said

tube section, bobbins supported by said bearing means and connecting and joined to the bearings in successive tube sections, each tube section consisting of a cylindrical body part, a plate adjacent to each end of the said body part, the bearings being positioned centrally of each plate, a peripheral flange on the body part at each end thereof, a peripheral flange intermediate the said ends, and holes through each said flange directed parallel to the axis of the body part, the peripheral flanges at each end of the body part defining support surfaces for the section and resting against the rollers.

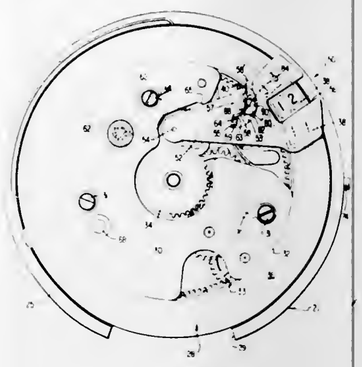
3,258,906
SOLID STATE CLOCK
Sanford J. Demby, Bronx, N.Y., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 4, 1964, Ser. No. 349,221
10 Claims. (Cl. 58—50)



1. In a solid state clock, the combination which comprises, at least two sets of electroluminescent panels, each set including a plurality of electroluminescent panels positioned on the clockface in an array at intervals corresponding to the successive positions of a clock hand represented thereby, means associated with each set of panels for causing a panel to be illuminated when effectively associated therewith, means for initially associating the illuminating means with a selected panel in each set, means including a plurality of photoconductive cells associated with each set of panels and responsive to the partial illumination of a panel in a set (1) for conditioning the next succeeding panel in that set for illumination, (2) for disassociating the illuminating means from the then illuminated panel in that set so that it is extinguished, and (3) for effectively associating the illuminating means with the partially illuminated panel so that it is fully illuminated, and means associated with each set of panels and momentarily operative according to different prescribed time functions in respect of each set for causing a conditioned panel in a set to be partially illuminated so that the panels in each set are successively illuminated to indicate the positions of the clock hands represented thereby and means including a plurality of extinguishing photoconductive cells associated with said electroluminescent panels and responsive to the illumination of each panel for causing the next preceding panel to be extinguished.

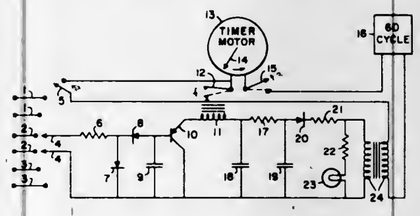
3,258,907
CALENDAR TIMEPIECE
Luain W. Hamblin, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Jan. 14, 1965, Ser. No. 425,484
8 Claims. (Cl. 58—58)

1. A calendar timepiece comprising a timepiece movement having an hour wheel, a calendar ring bearing a series of date indicia rotatably mounted on said movement, means for continuously rotating said calendar ring in proper timed relation to said hour wheel, said means including internal gear teeth on said calendar ring and a gear train having a proper reduction ratio interconnecting said calendar ring gear teeth and said hour wheel, uniformly spaced projections on said calendar ring, a shutter having a window overlying a portion of said calendar



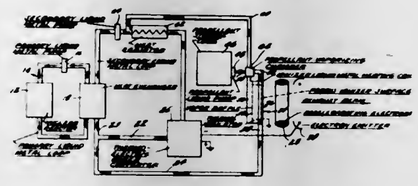
ring, means resiliently biasing said shutter toward a rest position, said shutter having a tip movable into and out of engagement with said projections on said calendar ring, and trip means engageable with said calendar ring teeth and coupling said calendar ring to said shutter whereby said shutter moves with said calendar ring against said bias means under first the influence of said projections and second the influence of said trip means.

3,258,908
TAPE CARTRIDGE TIMER
Norman A. Fischer, 2610 Avie, Jennings, Mo.
Filed Apr. 27, 1965, Ser. No. 451,113
1 Claim. (Cl. 58—145)



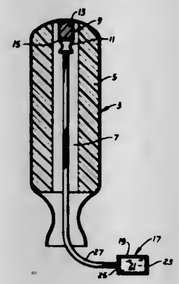
In a tape cartridge timer of the type described, a timer clock having its clock face printed with numerals and adapted to have its time indicating hand move in the counterclockwise sense;
three input lead sets to accept the outputs from a variety of cartridge tape recorders;
a selector switch cooperative with said input lead sets;
a clipping circuit to clip the input voltage to form a control voltage for said clock;
an amplifier to amplify said control voltage;
a power supply to drive said timer clock and said amplifier; and
a relay switch actuated by the control voltage through said amplifier to start and stop said clock.

3,258,909
DIRECT HEATING CONTACT IONIZATION PROPULSION SYSTEM
Jack W. Davis, East Hartford, and William O. Gaffin, West Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 11, 1962, Ser. No. 194,090
6 Claims. (Cl. 60—35.5)



1. An ion propulsion system including a heat source, a fluid loop conducting heat from said source, ionizer means in said loop, a thermoelectric power converter connected in parallel in said loop, said ionizer means receiving heat from said fluid, a propellant supply connected to said ionizer means whereby the heat therein ionizes said propellant, and an accelerator receiving electrical power from said converter for accelerating the ionized propellant.

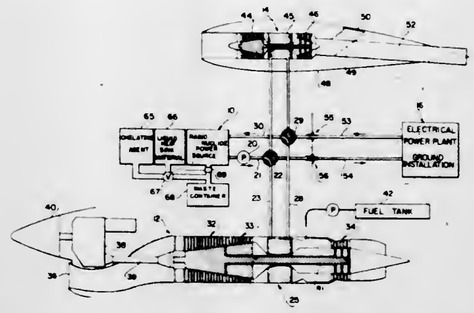
3,258,910
FIBER OPTICS IGNITION
Richard J. Seymour, Palo Alto, Calif., assignor to United Aircraft Corporation, a corporation of Delaware
Filed June 8, 1962, Ser. No. 201,142
5 Claims. (Cl. 60—35.6)



1. A solid propellant rocket motor having an ignition system comprising in combination:
(a) a rocket motor having a solid propellant grain and a nozzle;
(b) an igniter within the rocket motor, said igniter comprising a casing having a solid propellant grain therein;
(c) a laser;
(d) a fiber optics cable directing light from the laser to the igniter.

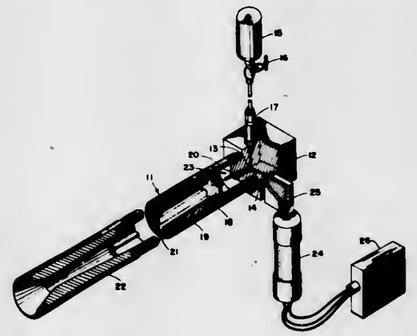
3,258,911
RADIONUCLIDE PROPULSION DEVICE
Francis L. Bouquet, Jr., San Fernando, and Samuel J. Smyth, La Canada, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 24, 1963, Ser. No. 291,598
8 Claims. (Cl. 60—35.6)

1. A propulsion system comprising a radionuclide heat source which consists of a neutron bombarded substance which has a relatively low gamma activity and continuously emits a high thermal heat, a first engine, a heat exchanger in the engine, conduit means from the heat source to the heat exchanger, pump means in said conduit means for transferring heat from the heat source to the first engine, liquid coolant in the conduit means, a heat dissipation device including a second engine separate from said first engine, and valve means in the conduit means to direct the heat to the heat dissipation



device, a waste container connected to said radionuclide heat source and a heat sink material associated with said waste container for cooperatively controlling the heat and toxicity of said substance, said first engine also having a chemical fuel burning chamber to which a fuel line is connected, said first engine being operable on either conventional chemical fuel or on the energy from the radionuclide source.

3,258,912
METHOD OF IGNITING SOLID PROPELLANTS
Harrison Allen, Jr., Cleveland, and Carl C. Ciepluch, Berea, Ohio, and Edward A. Fletcher, Minneapolis, Minn., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Original application Mar. 16, 1962, Ser. No. 180,370, now Patent No. 3,173,251, dated Mar. 16, 1965. Divided and this application Sept. 13, 1963, Ser. No. 308,918
3 Claims. (Cl. 60—35.6)

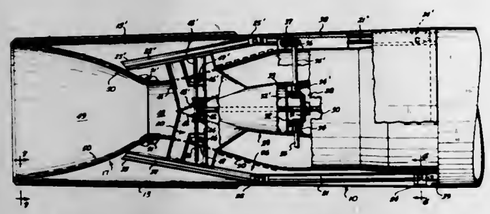


1. A method of igniting a charge of solid propellant having a passage extending therethrough comprising the steps of
blocking the passage prior to ignition,
injecting a hypergolic fluid into the blocked passage thereby concentrating the fluid on a predetermined portion of the propellant charge, and
unblocking the passage subsequent to the ignition of said predetermined portion of the solid propellant charge.

3,258,913
METHOD AND APPARATUS FOR VARYING THE AREA OF AN AIR FLOW DEVICE

James R. Moorehead, Bellevue, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Sept. 20, 1963, Ser. No. 310,283
13 Claims. (Cl. 60—35.6)



1. A deformable diffuser comprising:
(a) a forward portion converging in the direction of air flow having a plurality of deformable metal segments joined along their longitudinal edges by a plurality of hinges,
(b) an aft portion diverging in the direction of air flow having a plurality of metal segments joined along their longitudinal edges by a plurality of hinges and mounted at an aft end to a jet engine,
(c) nozzle hinge means interconnecting the aft end of said forward converging portion and the fore end of said aft diverging portion,
(d) tracks fixedly mounted to the jet engine and converging toward said forward portion,
(e) translating deforming means engaging said tracks for reshaping said forward portion to a cross-section of reduced area,
(f) means for deforming said aft portion, and
(g) driving means operably connected to said translating deforming means and said means for deforming said aft portion.

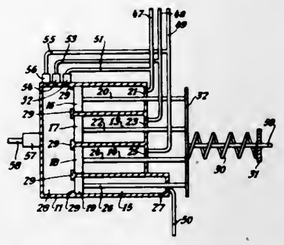
3. A method for forming an air flow device including a tubular movable and deformable duct, one end of the duct being slideably mounted on a jet engine and a deformable nozzle internally of the duct and having one end of the nozzle mounted to the jet engine comprising the steps:
(a) translating the duct in a fore and aft direction relative to the jet engine,
(b) simultaneously deforming the other end of the duct to a non-circular cross-section of reduced area,
(c) maintaining the duct perimeter constant throughout translation thereof, and
(d) simultaneously deforming the cross-sectional area of the nozzle with translational movement of the duct.

3,258,914
GROUP THRUST COMPENSATOR

Geoffrey Stanley Bishop, Luton, and Ronald Walter Howard, Gravesend, England, assignors to Elliott Brothers (London) Limited, London, England, a British company

Filed Dec. 26, 1963, Ser. No. 333,473
Claims priority, application Great Britain, Jan. 4, 1963, 533/63
6 Claims. (Cl. 60—35.6)

1. A group thrust compensator for a group of jet engines generating a lift thrust comprising a double-acting fluid cylinder and a piston and piston rod contained therein for each engine of the group, a source of fluid pressure for each engine to provide a fluid pressure corresponding to the thrust delivered by the engine when in operation, means to apply the fluid pressure from each source to the end of the respective cylinder containing the piston rod, a connection from the source of fluid pressure on each engine to a common chamber through a non-return valve, a connection from said common chamber to the other end of each cylinder, a calibrated leak device to allow fluid in the common chamber to escape at a controlled rate, mechanical connections from the piston rods of all the cylinders to a single engine throttle control controlling the throttles of all the engines in the

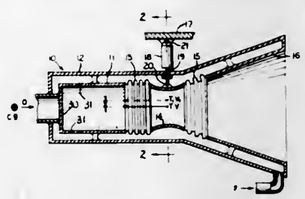


group, and resilient means acting on the pistons against the pressure from said common chamber, whereby all the pistons are acted upon at the one side by the highest pressure derived from the plurality of sources, each piston is acted upon at its other side by a pressure derived from the source on the associated engine, and the movements of all the pistons are transmitted to the throttle control.

3,258,915
CONTROL SYSTEM

Lloyd W. Goldberg, Clifton, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed July 9, 1962, Ser. No. 208,216
5 Claims. (Cl. 60—35.54)



5. A thrust control device for a nozzle containing jet propulsion motor, said motor mounted in a flying body comprising, a throat in the nozzle, a portion of said nozzle comprising a first flexible member connected to the upstream side of said throat, a second flexible member attached to the downstream side of said throat, an expansion cone fixed with respect to said flying body and connected to said second flexible member downstream thereof, at least one piston containing actuating means attached to said throat and to said flying body for transversely displacing said throat with respect to the longitudinal axis of said motor to create a turning moment on said flying body about its center of gravity.

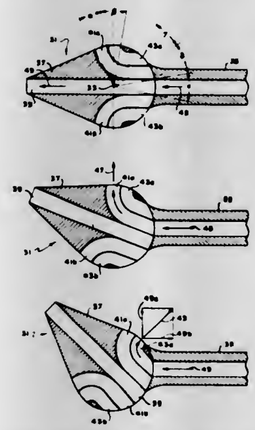
3,258,916
JET STREAM STEERING AND CONTROLLING MEANS

Guenther Wolfgang Lehmann, Annapolis, Md. (140 W. Kalmira St., San Diego, Calif. 92112)

Filed Oct. 28, 1963, Ser. No. 319,618
18 Claims. (Cl. 60—35.55)

1. Jet steering and controlling means for a main jet propulsion stream of a vehicle comprising in combination:
rotatable jet stream guidance means located in fluid coupled relation to the jet main stream;
said rotatable jet stream guidance means having a neutral steering position;

said rotatable jet stream guidance means having first duct means substantially in line with the main jet stream for fluid coupling therewith when said guidance means is in a neutral steering position;
said rotatable jet stream guidance means having second duct means adjacent said first duct means;
the influx end of said second duct means being at least approximately immediately adjacent the intake end of said first duct means;
the efflux end of said second duct means having at least a portion thereof located at an angle with reference to the direction of neutral jet stream;

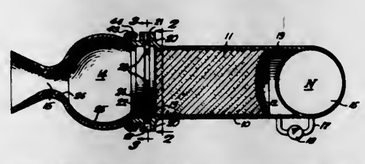


said angle being such that upon rotation of said guidance means to establish jet stream flow via at least a portion of said second duct means, a portion of the jet stream is directed via said second duct means to produce transverse thrust; and a third duct means, the influx end of said third duct means being at least approximately immediately adjacent the influx end of said second duct means, the efflux end of said third duct means having at least a portion thereof located, with reference to the direction of the neutral jet stream, at an angle greater than the angle of said efflux end portion of said second duct means.

3,258,917
PROCESS AND APPARATUS FOR GAS GENERATION FROM SEMI-SOLIDS

William H. Sargent, Annandale, and James R. MacPherson, Falls Church, Va., assignors to Atlantic Research Corporation, Fairfax, Va., a corporation of Virginia

Filed Nov. 7, 1961, Ser. No. 150,833
14 Claims. (Cl. 60—39.06)

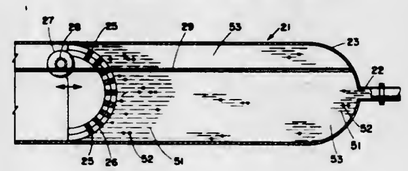


9. A gas generating method comprising the steps of extruding a continuous, semi-solid, paste-like fuel, said fuel being characterized by the ability to flow continuously at ambient temperatures under a maximum shear stress at a wall of 10 p.s.i. and having a minimum tensile strength of about .01 p.s.i., imparting an axial rotation to the extruded portion relative to the direction of extrusion, directing a gas flow against said extruded portion to form a particulate spray, said gas flow comprising an oxidizing gas to support combustion of said fuel, further comprising a primary gas flow and a secondary gas flow, said primary flow being directed substantially tangentially against the outer surface of said extruded portion with said secondary flow being subsequently directed transversely against said portion, and burning said spray to generate combustion gases.

3,258,918
FLUID DISPENSING APPARATUS AND METHOD

Solomon S. Papell, Berea, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Nov. 17, 1964, Ser. No. 411,949
13 Claims. (Cl. 60—39.46)

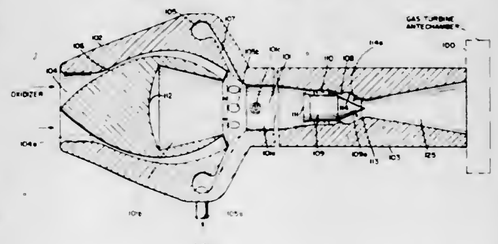


10. Apparatus for use in dispensing a quantity of magnetic material comprising a tank for holding said material, said tank having an outlet, and magnetic means for attracting said magnetic material to said outlet, said magnetic means being movable with respect to said tank, whereby said material can be dispensed through said outlet.

3,258,919
AERODYNAMIC VALVES AND APPARATUS INCORPORATING SAME

Hans-Christof Klein, Hattersheim (Main), Germany, assignor to Alfred Teves KG, Frankfurt, Germany, a corporation of Germany

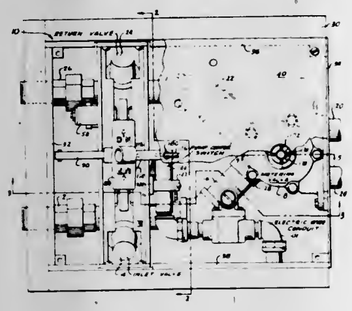
Filed July 23, 1964, Ser. No. 384,692
Claims priority, application Germany, July 27, 1963, T 24,384
10 Claims. (Cl. 60—39.77)



1. An aerodynamic valve for the introduction of gases into a chamber, comprising a valve housing formed with an axially extending passage having an inlet side connectable with a source of said gases and an outlet side communicating with said chamber, said inlet and outlet sides being dimensioned so as to impede the flow of gas rearwardly from said outlet side through said inlet side to a greater extent than the flow of gas forwardly from said inlet side through said outlet side; and means including at least one nozzle opening into said passage and having an axis generally transverse to the axis thereof for directing a gas stream with a relatively high kinetic energy into said passage generally transversely to the flow of gas therethrough for developing a gas barrier in said passage, thereby further limiting the rearward flow of gas, said chamber constituting a combustion chamber adapted to generate periodic thrust waves by the pulsed ignition of a combustible gas in the presence of an oxidation medium,

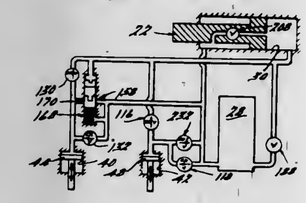
said inlet side of said valve being provided with a plurality of generally tangential ducts for the introduction of said oxidation medium into said chamber via said passage, said nozzle having an axis oriented tangentially with respect to a circle centered on the axis of said passage and common to said ducts, said nozzle being inclined toward said axis of said passage in the forward direction of flow of gas therethrough for introducing said combustible gas thereto.

3,258,920
LIFT INSTALLATION
Ion V. K. Hott, David M. Goldzwig, Warren E. Webster II, and Robert J. Haddix, Dayton, Ohio, assignors to The Joyce-Cridland Company, Dayton, Ohio, a corporation of Ohio
Filed May 10, 1963, Ser. No. 279,568
6 Claims. (Cl. 60—52)



1. In a vehicle lift installation, the combination comprising: a fluid operated jacking unit; a fluid reservoir; an electrically driven pump for pumping fluid to said jacking unit; a normally closed inlet valve located between said jump and said jacking unit; manually operable means including a treadle movable for opening said inlet valve to permit fluid to flow to said jacking unit; a proximity switch adapted to energize said pump, said proximity switch including a pair of switch contacts which open and close upon movement of a ferromagnetic element adjacent a surface portion thereof; a ferromagnetic plate pivotally mounted adjacent said surface portion; means biasing said plate into a predetermined position relative to said surface portion; and means connecting said treadle and said plate causing said plate to pivot away from said predetermined position upon movement of said treadle, whereby the opened or closed condition of said switch contacts is changed.

3,258,921
HYDRAULIC JACK
David B. Prescott, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Feb. 5, 1964, Ser. No. 342,615
1 Claim. (Cl. 60—52)

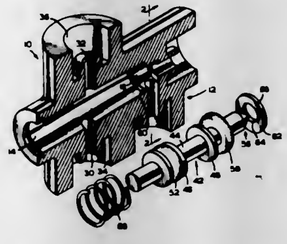


In a multispeed hydraulic jack assembly, an elongated jack carriage, a longitudinally extending load-lifting lever pivotably mounted in said carriage, a manipulating handle pivotably connected to one end of said carriage, a hydraulic pump and ram assembly operatively mounted in said carriage and including a pump and ram housing, a fluid reservoir in said housing for storing an actuating fluid, a ram displacement chamber in said housing having a reciprocal ram therewithin, said ram being pivotably connected to said lifting lever, speed pump and power pump displacement chambers in said housing, piston means in each of said displacement chambers and being pivotably connected to said manipulating handle, a first valve bore in said housing, a first fluid passage means extending between said speed pump displacement chamber and said reservoir and including a portion of said first valve bore, a second fluid passage means extending between said first valve bore and said ram displacement chamber, check valve means in said first valve bore operable to selectively permit fluid to pass between said reservoir and said speed pump chamber and between said speed pump chamber and said ram displacement chamber, a second valve bore in said housing, a third fluid passage means extending between said power pump displacement chamber and said reservoir and including a portion of said second valve bore, a fourth fluid passage means extending between said second valve bore and said ram displacement chamber, check valve means in said second valve bore operable to selectively permit fluid to flow between said reservoir and said power pump displacement chamber and between said power pump displacement chamber and said ram displacement chamber, a spool valve bore formed in said housing and being communicable with said ram displacement chamber, said first fluid passage means including a straight section and said spool valve bore intersecting said straight section at an angle, and having a valve spool reciprocably mounted therewithin to extend across said straight section and control flow through it, one end of said valve spool being exposed to fluid pressure in the ram displacement chamber, spring means acting on the valve spool in opposition to fluid pressure in said ram displacement chamber, said spool valve bore having a first diameter section and a second and larger diameter section, said spool valve having first and second diameter sections slidably fitting said first and second spool bore diameter sections, said second diameter section intersecting said straight section of said first fluid passage means, said piston means in said speed pump and power pump displacement chambers being operable to simultaneously pump fluid from said reservoir to said displacement chamber to effect the movement of said ram, and said valve spool being movable against said spring means when a preselected fluid pressure is reached in said ram displacement chamber to move its first diameter section across the straight section of said first passage means to open said straight section normally being closed by the second diameter section of the spool so that the fluid pumped by said speed pump is returned to said reservoir.

3,258,922
PRESSURE FLUID SYSTEM AND FLOW CONTROL VALVE THEREFOR
Lester E. Schutt, Dearborn Heights, Mich., assignor to Dura Corporation, Oak Park, Mich., a corporation of Michigan
Filed Mar. 19, 1965, Ser. No. 441,256
6 Claims. (Cl. 60—52)

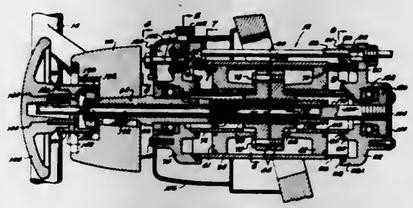
1. A flow control valve comprising a housing having a bore therein, a flow control spool slidably mounted in said bore, first and second spaced lands on said spool, a pair of fluid pressure ports in said housing each communicating with the spool between said first and second spaced lands, a pressure fluid control port in said housing at one end of the spool bore and adjacent said first land, resilient means

continuously urging said spool into fluid sealing engagement with said control port, a further fluid pressure port in said housing communicating with the spool bore between the first land and the control port, and sealing means



mounted on said spool for sliding movement between said first land and the further fluid pressure port and sealing the pair of fluid pressure ports from the control port and the further fluid pressure port.

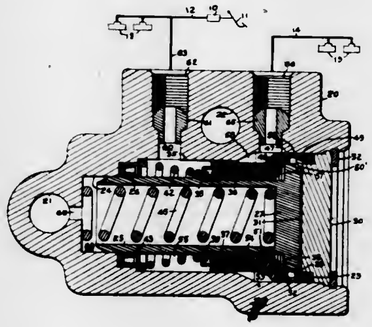
3,258,923
HYDRAULIC POWER TRANSMISSION
Charles U. Ballard, 4253 W. Lennox Blvd., Inglewood, Calif.
Filed Nov. 26, 1962, Ser. No. 240,033
6 Claims. (Cl. 60—54.5)



1. In a fluid power transmission, a master cylinder adapted for hydraulic connection with a flow system including a hydraulic slave unit, a piston movable axially of the master cylinder to produce hydraulic pressure flow in the direction of movement of the piston, and means associated with the master cylinder for increasing its fluid capacity and relieving pressure in the master cylinder and flow system comprising a portion of the master cylinder which is movable with respect to the remainder of the master cylinder.

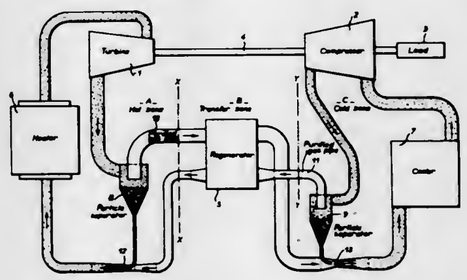
3,258,924
VEHICLE BRAKE MECHANISM
William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Aug. 16, 1963, Ser. No. 302,534
6 Claims. (Cl. 60—54.5)

1. A brake mechanism for a motor vehicle having front and rear wheel cylinders, comprising means for generating hydraulic pressure, a fluid line for supplying hydraulic fluid from said means to the front wheel cylinders, and a compensating valve device having a body provided with an inlet communicating with said pressure generating means and an outlet communicating with the rear wheel cylinders, said device having passage means normally connecting said inlet to said outlet, an annular valve in said body, a pressure responsive member in said body having an annular valve seat surface normally disengaged from said valve to provide a space forming a part of said passage means, a spring biasing said pressure responsive member in the direction away from said inlet to a normal position, said pressure responsive member having a surface exposed to hydraulic pressure in said passage means to move against the loading of said spring to engage said valve and close said passage means when such pressure increases to a predetermined point, said pressure responsive member having a portion exposed to pressure in said source, whereby, upon a further increase in pressure above



said predetermined point, such pressure acting against said portion of said pressure responsive member will move said member to move said valve seat from said valve for the restricted flow of hydraulic fluid to said outlet line to increase pressure in the rear wheel cylinders at a rate lower than pressure in said front wheel cylinders.

3,258,925
CLOSED-CYCLE THERMAL MACHINE
Pierre Joseph Ferdinand Barthélemy, Villeneuve-le-Roi, France, assignor to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed Mar. 1, 1965, Ser. No. 436,208
Claims priority, application France, Mar. 4, 1964, 966,067
18 Claims. (Cl. 60—59)

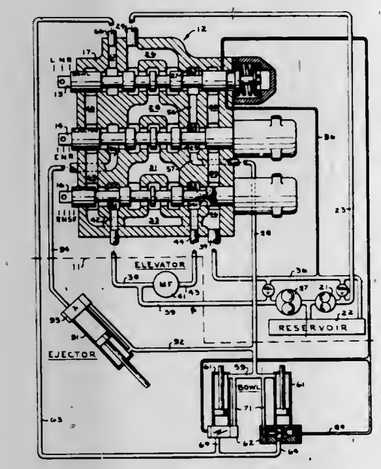


1. A method of driving a turbine, using a compressible heterogeneous fluid comprising a gaseous phase and a solid phase consisting of particles in suspension in said gaseous phase, said method comprising causing said fluid to flow in a circuit comprising relatively cold and relatively hot zones and an intermediate zone and, in a continuous cycle, cooling and compressing said fluid in said cold zone, heating said fluid and feeding it to said turbine in said hot zone, to drive said turbine, and changing the relative proportions of said gaseous and solid phases in said fluid during flow in said circuit, whereby the density of said particles flowing in said intermediate zone, between said relatively hot and relatively cold zones, is lower than the density of said particles in fluid flowing within said respective hot and cold zones.

3,258,926
HYDRAULIC CONTROL CIRCUIT FOR SELF-LOADING SCRAPERS

John A. Junck and Joseph Kokaly, Joliet, and Sebald K. Stahl, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Aug. 1, 1963, Ser. No. 299,259
2 Claims. (Cl. 60—97)



1. In an hydraulic control system including an hydraulically driven motor and at least one other hydraulically driven mechanism, the combination comprising:

a first source of hydraulic fluid pressure;

a second source of hydraulic fluid pressure;

a first valve means communicating with said first source;

a second valve means communicating with said first valve means;

said first valve means communicating with the hydraulically driven mechanism and operable in one of its positions to communicate said first source with the mechanism;

said first valve means having a second position in which communication is established between said first source and said second valve means through said first valve means;

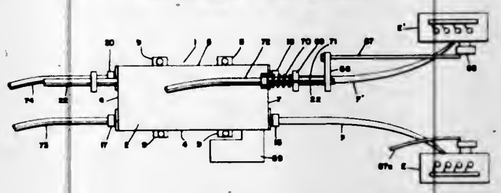
means communicating said second source to said second valve means, and said motor to both said second source and said second valve means; and means communicating said second valve means with a low pressure sump;

said second valve means having a first position in which fluid from said second source and said first valve means are directed to said sump without passing through the motor, a second position in which fluid from said second source is directed through the motor while fluid from said first valve means is directed to said sump without passing through the motor; a third position in which both the fluid from said second source and first valve means is directed through the motor, and a fourth position in which the fluid from said first valve means is directed through the motor and the fluid from said second source is bypassed to said sump.

3,258,927
SYNCHRONIZING DEVICE

William B. Herbert, 111 Yantacaw Brook Road, Upper Montclair, N.J.

Filed Mar. 20, 1964, Ser. No. 353,451
24 Claims. (Cl. 60—97)

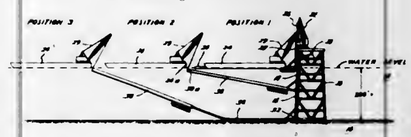


1. In a servo mechanism of the character described, the combination of a worm shaft, a second worm shaft in spaced parallel relation with said first shaft, a worm gear in mesh with said first shaft, a second worm gear in spaced parallel relation with the first worm gear and in mesh with said second worm shaft, and means for selectively engaging said worm gears to rotate as a unit.

3,258,928
RISER INSTALLATION

Edgar R. Broadway, Gretna, and Robert B. McLeod, Belle Chasse, La., assignors to Brown & Root, Inc., Houston, Tex., a corporation of Texas

Filed Feb. 11, 1963, Ser. No. 257,706
7 Claims. (Cl. 61—72.3)



1. Apparatus for positioning a riser coupled to at least a portion of a pipeline to be laid on a bed of a body of water, said apparatus including:

support means having at least a portion extending downwardly into a body of water;

guide means coupled to said portion of said support means and extending generally downwardly into said body of water;

means for lowering a riser along and in slidable engagement with said guide means;

separate vessel means for lowering at least a portion of a pipeline coupled to said riser into said body of water; and

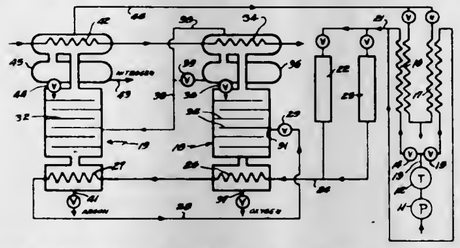
fastening means coupled to said guide means for fixedly positioning said riser after said pipeline portion has been laid on a bed of the body of water.

3,258,929
LIQUEFACTION AND SEPARATION OF AIR COMPONENTS

James K. La Fleur, Hermosa Beach, Calif., assignor to The La Fleur Corporation, Torrance, Calif., a corporation of California

Filed Apr. 18, 1963, Ser. No. 273,883
8 Claims. (Cl. 62—22)

1. A process for the rectification of air to yield oxygen, argon, and nitrogen, that comprises: establishing a first and a second rectification zone, passing a stream of air in heat exchange relationship with said first and then said second zone to provide reboil heat for said zones, then passing said stream of air to said first zone for rectification therein into liquid oxygen product and an overhead of argon and nitrogen, passing a separate and independent stream of refrigerated gas selected from the group consisting of helium, hydrogen and neon in heat exchange relationship with said second zone and then with said first zone to provide reflux for said zones, removing said liquid oxygen and said overhead of argon

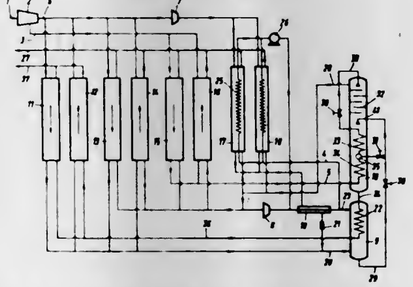


and nitrogen from said first zone, introducing said argon and nitrogen overhead to said second zone for rectification therein to liquid argon product and an overhead of nitrogen, and removing said liquid argon and said nitrogen overhead from said second zone.

3,258,930
PROCESS AND APPARATUS FOR SEPARATING GASEOUS MIXTURES BY LOW-TEMPERATURE RECTIFICATION

Fritz Jakob, Achmuhle, near Wolfratshausen, Germany, assignor to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft, Wiesbaden, Germany

Filed Feb. 19, 1962, Ser. No. 173,920
Claims priority, application Germany, Feb. 23, 1961, G 31,674
7 Claims. (Cl. 62—29)



1. In a process for separating a gaseous mixture containing higher and lower boiling components by low temperature fractionation in a fractionating column to obtain bottom product of higher boiling enriched liquid, the steps comprising:

(a) dividing said gaseous mixture into higher pressure gas mixture portion and lower pressure gas mixture portion;

(b) passing said higher pressure gas mixture portion in indirect heat transfer relationship with said bottom product in a zone external to said fractionating column, said indirect heat transfer being conducted in such manner as to evaporate said bottom product at gradually increasing temperatures, and to cool said higher pressure gas mixture portion at gradually decreasing temperatures to at least partially condense said higher pressure gas mixture portion;

(c) passing resultant condensed higher pressure gas mixture portion to said fractionating column;

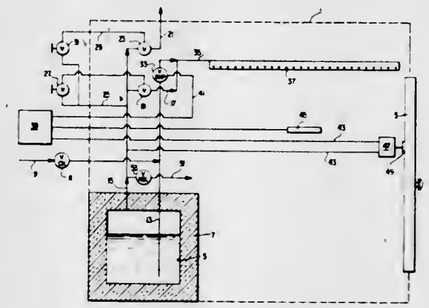
(d) passing said lower pressure gaseous mixture portion to said fractionating column; and

(e) passing said lower pressure gaseous mixture portion in said rectification column in indirect heat transfer relationship with said resultant condensed higher pressure gas mixture portion, said indirect heat transfer being conducted in such manner as to partially vaporize said resultant condensed higher pressure gas mixture portion at gradually increasing temperatures, and to cool said lower pressure gas mixture portion at gradually decreasing temperatures to at least partially condense said lower pressure gas mixture portion.

3,258,931
METHOD AND APPARATUS FOR COOLING A COMPARTMENT

Edward J. Kelly, Schuylkill Haven, and Alvin M. Cohodas, Allentown, Pa., assignors to Air Products and Chemicals, Inc., a corporation of Delaware

Filed Nov. 29, 1963, Ser. No. 326,889
8 Claims. (Cl. 62—64)

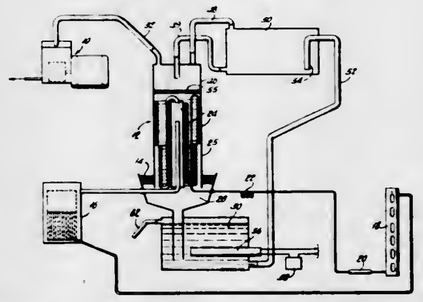


1. The method of cooling a compartment to be refrigerated, comprising the steps of introducing into a container a normally gaseous liquefied gas, withdrawing vapor from an upper portion of the container during the introduction step and conducting the same through a passageway into the interior of the compartment, discontinuing the flow of vapor through said passageway, and thereafter withdrawing liquefied gas from a lower portion of said container and conducting the withdrawn liquefied gas through another passageway into the interior of the compartment, the last-named step occurring at least in part after the end of said introduction step.

3,258,932
REFRIGERATION AIR DRYER

Joseph F. Kern, Massapequa, Long Island, N.Y., assignor to Puregas Equipment Corp., Copiague, Long Island, N.Y., a corporation of New York

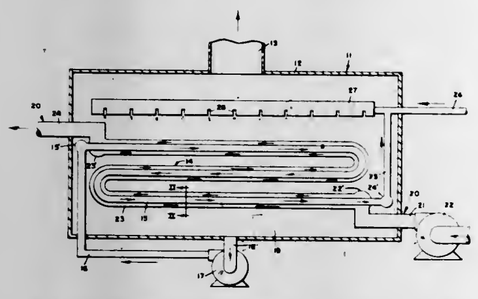
Filed Aug. 27, 1964, Ser. No. 392,515
14 Claims. (Cl. 62—93)



14. The method of dehumidifying air comprising the steps of: cooling the air in a heat exchanger to precipitate the moisture therefrom; collecting the precipitated moisture in a water reservoir; heating the water reservoir;

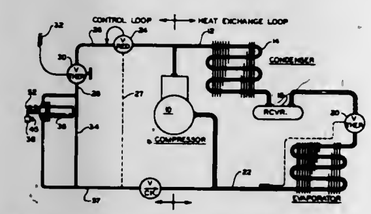
and cycling the water from said reservoir through said heat exchanger in response to a decreased pressure initiated by frost and ice therein.

3,258,933
REFRIGERATION
William T. Osborne, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Oct. 8, 1964, Ser. No. 402,427
9 Claims. (Cl. 62—98)



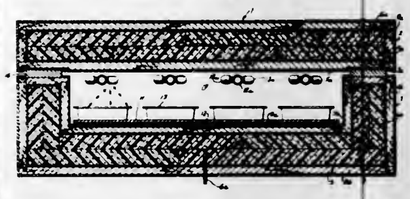
7. In a refrigeration system utilizing a refrigerant fluid immiscible with and having a lower boiling point than water, a method of providing refrigeration comprising, circulating secondary chilled water to a load to be cooled, mixing liquid refrigerant and primary chilled water, spraying the mixture to cool the primary chilled water by direct contact with the sprayed refrigerant which vaporizes upon cooling the water, and cooling the secondary chilled water by passing the spray into unmixed heat exchange relationship with said secondary chilled water.

3,258,934
AUTOMATIC CONTROL SYSTEM FOR AN AIR CONDITIONING SYSTEM
William V. Millman, Moline, Ill., assignor to American Air Filter Company, Inc., Jefferson, Ky., a corporation of Delaware
Filed Feb. 26, 1964, Ser. No. 347,400
8 Claims. (Cl. 62—197)



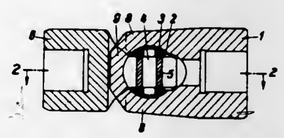
1. A space conditioning system including:
(a) a heat exchange loop, including a condenser and evaporator, for conditioning said space;
(b) a refrigerant compressor adapted to pump a refrigerant through said heat exchange loop;
(c) a control loop connected to said refrigerant compressor in parallel with said heat exchange loop;
(d) means for reducing the pressure of said refrigerant in a first portion of said control loop to maintain a predetermined, substantially constant differential between the refrigerant pressure in said first portion and in a reference portion of said control loop reflecting the suction pressure of said compressor;
(e) means for varying the flow of refrigerant from said first portion into a second portion of said control loop in accordance with variations in condition in said space;
(f) refrigerant flow restriction means between said second portion and said reference portion of said control loop; and,
(g) means for controlling the conditioning of said space including control actuator means responsive to changes in the differential in pressure between said second portion and said reference portion of said control loop.

3,258,935
FOOD FREEZING APPARATUS
John W. Ross, Toronto, Ontario, Canada, assignor to Union Carbide Canada Limited, a corporation of Canada
Filed May 27, 1963, Ser. No. 283,499
3 Claims. (Cl. 62—374)



1. An apparatus for freezing relatively thick food comprising (1) an insulated food freezing space having a pre-cooling zone and a freezing zone, (2) a depressed area in the bottom of the space for providing a place for a pool of a liquefied refrigerant gas to collect, the depth of the depressed area being such that the distance from the bottom of the food passing above the area to the surface of the pool is equal to from one eighth to one half of the height of the food, (3) a conveyor belt for carrying food into the space, through said zones and out of the space, (4) a cooling conduit disposed in the freezing zone and above the conveyor belt, said cooling conduit having its longitudinal axis parallel to the longitudinal axis of the conveyer belt and having a plurality of spray nozzles disposed to provide a spray of liquefied refrigerant gas for forming a thin liquefied refrigerant gas film on the food and spaced so that the film formed by one nozzle will have evaporated to produce a vapor by the time the food comes into contact with the spray from the next nozzle, (5) means for causing the vapor so produced to flow countercurrent to the food in the pre-cooling zone to pre-cool the food entering the apparatus, (6) means for removing the vapor from the food freezing space and (7) means located outside of the food freezing space for driving the conveyer belt.

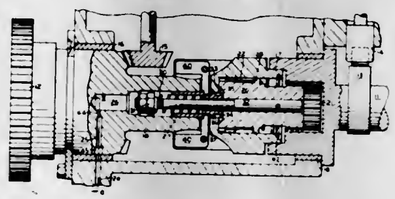
3,258,936
FLEXIBLE DRIVE CONNECTION FOR SPINDLE HEADS
Willi Bonhoff, Essen, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany, a corporation of Germany
Filed Mar. 12, 1964, Ser. No. 351,358
Claims priority, application Germany, Mar. 23, 1963, B 71,271
5 Claims. (Cl. 64—7)



1. A flexible drive connection for spindle heads, comprising

a head member including two flanks and defining a cylindrical recess,
a complementary member extending with its one end into said cylindrical recess and defining an open slot,
bearings disposed between the wall of the said cylindrical recess and said end of said complementary member,
said two flanks and said end of said complementary member being in engagement by said bearings, and said flanks being connected together with at least one tie, and
said tie being axially spaced from said cylindrical recess of said head member and received in said slot of said complementary member.

3,258,937
AUTOMATIC HYDRAULIC ENGINE TIMING DEVICE
Stanley J. Kranc, Morton, and Robert H. Miller and Ralph Tegg, Jr., Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed June 25, 1964, Ser. No. 377,923
2 Claims. (Cl. 64—25)



1. A means to adjust the angular phase relationship between rotary driving and driven parts in an engine timing train which comprises a coupling element slidably connected to both parts and having a helical spline connection with one part to vary the angular phase upon sliding adjustment thereof, such parts being recessed to receive and confine said coupling element for sliding adjustment, means to direct fluid under pressure to one end of the confining recess, normally open valve means relieving fluid pressure from said end, flyweights carried by one of said rotating parts to close said valve means upon increase in rotary speed to entrap pressure at said end and effect sliding of said coupling element away from a normal slow speed position, resilient means opposing action of the flyweights and tending to return the coupling to normal, a second resilient means tending to return the coupling to normal, and means to damp the return movement of said coupling, the dampening means including means to trap fluid which actuates the coupling and force it through interstices of the helical spline.

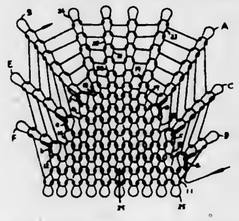
3,258,938
SPRING BEARDED NEEDLE
Ulrich Hofmann, Ebingen, Wurttemberg, Germany, assignor to Theodor Groz & Sohne & Ernst Beckert Nadelfabrik K.G., Ebingen, Wurttemberg, Germany
Filed Feb. 26, 1964, Ser. No. 347,590
Claims priority, application Germany, Feb. 27, 1963, G 37,156
8 Claims. (Cl. 66—119)

1. A needle device for knitting textile fabrics comprising in combination
a needle having a shank portion carrying a resiliently closing beard at one end,
beard operating means movably connected to said shank portion,
said beard operating means having a forward end portion for engaging said beard,
guide means mounted adjacent said needle,
said needle being reciprocably movable relative to said guide means from a retracted position into an extended position,



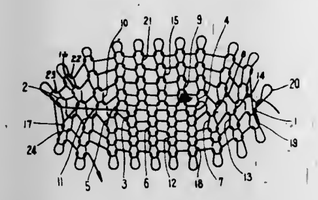
and deflecting means on said guide means for actuating said operating means during reciprocation of said needle to move said beard into open and closed positions.

3,258,939
METHOD OF KNITTING FINGER TIPS FOR KNIT GLOVES
Masahiro Shima, 20 8-chome Higashinaga-machi, Wakayama, Japan
Filed Sept. 13, 1963, Ser. No. 308,800
3 Claims. (Cl. 66—174)



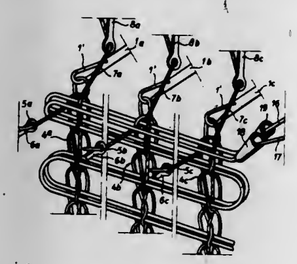
1. A method of knitting the fingertip portion of a finger on a knit glove, comprising the steps of knitting yarn into a first course, knitting successively shorter courses to said first course on only one side of said first course, each of said successively shorter courses having at least one less stitch than the preceding course and at least one open stitch being left on each course at one end thereof, whereby a trapezoidal knit fingertip portion is formed, knitting yarn from one end of the last of said successively shorter courses through the open stitch at the end of the preceding course closest to said last course which has an open stitch on the end thereof to form a first wale stitch, knitting a second wale stitch through said first wale stitch to start a longer course, knitting a plurality of successively longer courses, the first longer course being knitted along the stitches of the last of said successively shorter courses and each of the remainder of the successively longer courses being knit on the next preceding longer course, the end stitches of said successively longer courses being knit through the open stitches at the ends of the respective successively shorter courses to form first widening wale stitches, second widening wale stitches being knit through each of the first widening wale stitches to form the first stitch of the next successively longer course, and continuing the knitting of the last of said successively longer courses through the stitches on the opposite side of said first course to form a circular course, whereby further circular courses can be knit to said circular course to form the cylindrical portion of the finger of the glove.

3,258,940
METHOD OF KNITTING THE FINGER TIP OF KNIT GLOVES
Masahiro Shima, 20 8-chome Higashinaga-machi, Wakayama, Japan
Filed Sept. 13, 1963, Ser. No. 308,801
4 Claims. (Cl. 66—174)



1. A method of knitting the finger tip portion of the finger of a knit glove, comprising knitting a central course part comprising at least one course of stitches, and which has loops extending in both directions from the course, knitting a second course along each side of said central course part through said loops, which second course has a length which is less than the number of stitches in the central course part by a plurality of stitches, and knitting successively longer further courses along the second courses on both sides of the central course part with the said further courses each being at least two stitches longer than the second courses and having the end stitches thereof knitted through loops on the central course part adjacent the ends of the next preceding course, the outermost further courses having the end stitches knitted through the end loops on the central course part.

3,258,941
RESILIENT KNITTED BAND
Antonio Formenti, Busto Arsizio, Italy, assignor of one-half to S.p.A. Virginio Rimoldi & C., Milan, Italy
Filed May 21, 1963, Ser. No. 281,890
2 Claims. (Cl. 66—193)



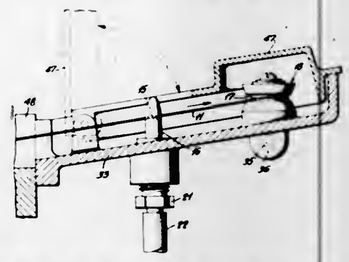
1. Fabric comprised of a warp and a weft, said fabric being resiliently extensible in the direction of the warp and substantially non-extensible in the direction of the weft, wherein the warp comprises a set of adjacent warp chains and a number of highly resilient unknitted warp threads equalling the number of warp chains, each of said warp threads extending within the loops in one of the warp chains, and the weft comprises two courses of continuous textile threads of low extensibility arranged in consecutive sections oriented transversely of the warp chains, each section extending through the consecutive loops in the same row in all the warp chains and, thus, interconnecting the warp chains, the weft threads being situated on opposite sides of the extensible unknitted warp threads, each weft thread being constantly on the same side of the extensible unknitted warp threads, the warp chains being interconnected solely by said weft sections.

3,258,942
STRETCHABLE FRINGE
Leo Mednick, 337 E. Roosevelt Blvd., Philadelphia, Pa. 19120
Filed Sept. 21, 1964, Ser. No. 397,777
7 Claims. (Cl. 66—193)



1. A stretchable fringe comprising warp threads and filling threads, said warp threads including elastic yarns, and said filling threads comprising non-elastic yarns, with said filling threads being bound by said elastic warp threads, said filling threads including dependent portions projecting from the lowermost elastic warp threads, thereby forming fringes, whereby said fringe may be stretched by expanding said elastic yarns, and additional warp threads which overlie said filling threads and are bound by said elastic warp threads, said additional warp threads being in a puckered condition and adapted to expand when said elastic warp threads are stretched.

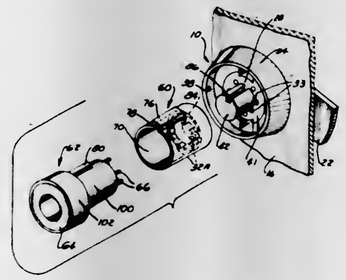
3,258,943
APPARATUS FOR THE LIQUID TREATMENT OF YARN
Jefferson Lyle Claiborne, Chattanooga, Tenn., assignor to Dixie Yarns, Inc., a corporation of Tennessee
Filed Dec. 18, 1963, Ser. No. 331,414
4 Claims. (Cl. 68—20)



1. Apparatus for applying a treating liquid to a running yarn that comprises means defining a notch, means to maintain a drop of liquid in said notch of a volume greater than the thread can absorb at the intended running speed of the yarn, a thread guide having a groove therein, means to blow air transversely of said groove to blow off the excess of liquid on said yarn, means to collect said blown-off liquid and means to guide a running yarn successively through said notch and said groove.

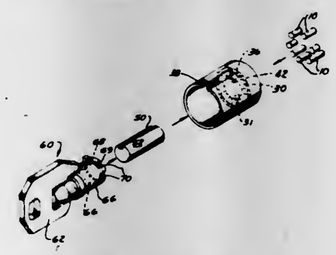
3,258,944
ASSEMBLY JIG FOR FACILITATING LOCK TUMBLER CHANGE-OVER OPERATIONS
William J. Kerr, Glenview, Ill., assignor to Chicago Lock Company, Chicago, Ill., a corporation of Illinois
Filed June 26, 1964, Ser. No. 378,241
8 Claims. (Cl. 70—372)

1. The combination for use with an axial pin tumbler lock assembly having a lock shaft provided with a circular forward end face presenting a series of forwardly opening bores designed for reception endwise therein of a series of replacement tumbler pins, of a two-part assembly jig for facilitating the introduction of such replacement pins into said bores, said assembly jig including a first part in the form of a generally cylindrical cup-shaped shell having a relatively thick rear end wall provided with an annular series of circumferentially spaced axially extending open-ended bores therein conforming in number and disposition to the number and disposition of said bores in said end face, replacement tumbler pins slidably disposed in the bores in said end wall, means yieldingly restraining the tumbler pins against free sliding movement



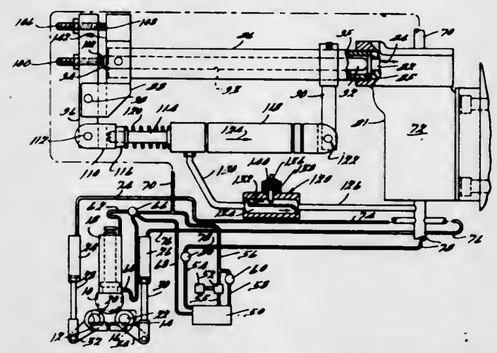
within their respective bores, and a second part in the form of a generally cylindrical pusher tool receivable telescopically and endwise in said shell, said pusher tool having a circular rear end face from which there projects rearwardly a series of pusher pins corresponding in number and disposition to the number and disposition of the bores in said end wall, said pusher pins being adapted for entry into the bores in said end wall so as to engage the tumbler pins within said latter bores and displace the same simultaneously and force them into the forwardly opening bores in the end face of the lock shaft.

3,258,945
TUMBLER PIN ASSEMBLY JIG AND CODING DEVICE THEREFOR
William J. Kerr, Glenview, Ill., assignor to Chicago Lock Company, Chicago, Ill., a corporation of Illinois
Filed July 10, 1964, Ser. No. 381,708
5 Claims. (Cl. 70—372)



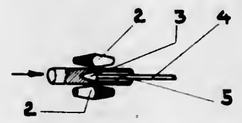
1. In a tumbler pin coding device of the character described, in combination, a holder for maintaining an annular series of shaft tumbler pins in coded relationship according to pin length, and in parallelism and circumferentially spaced relationship whereby the holder may be brought into juxtaposition with a corresponding series of axially extending pin-receiving bores associated with an axial pin tumbler lock assembly and the pins ejected endwise from the holder directly into such bores, said holder including an annular end wall having a central opening designed for telescopic reception over a pilot post associated with the lock assembly to thereby align the holder and lock assembly, said wall being provided with a series of axially extending pin-receiving bores therethrough designed for reception therein of the shaft tumbler pins, a lock-operating key including a cylindrical body having an end socket designed for telescopic reception over said pilot post when the key is operatively inserted in the lock assembly, the rim region of said socket being formed with a series of longitudinally extending notches, the depth of which vary according to a given code, the number and disposition of said notches corresponding to the number and disposition of said bores in said annular end wall, and an alignment post adapted to be projected through said central opening and into said key socket whereby the notches in said body of the key may be brought into register with said bores in the end wall of the holder to thus establish, in effect, a series of pin-receiving sockets, the depth of which are a function of the depth of the associated notches and into which sockets the shaft tumbler pins are adapted to be manually inserted endwise.

3,258,946
CONTROL SYSTEM FOR PIPE BENDING APPARATUS
Bert A. Hills, Jackson, Mich., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed June 24, 1963, Ser. No. 289,901
11 Claims. (Cl. 72—20)



6. Apparatus for controlling pressure in a fluid system comprising: adjustable valve means in said system for controlling fluid passages in said system downstream of said valve means, adjustment means to variably adjust said valve means for varying fluid pressures in said system downstream of said valve means, and operating means connected to said adjustment means for variably positioning said adjustment means, said operating means being operable in response to pressure conditions existing in said system downstream of said valve means.

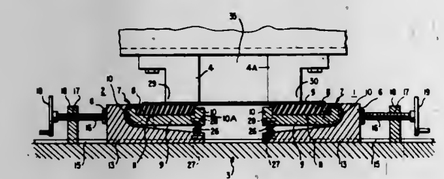
3,258,947
PROCESSES FOR PROTECTING PRODUCTS AND TOOLS DURING PHYSICAL DEFORMATION OF HEAVY METALS AND PRODUCTS SO PRODUCED
Werner Wehmeyer, Essen, Germany, assignor to Schloemann Aktiengesellschaft, Duesseldorf, Germany
Filed June 29, 1965, Ser. No. 467,830
23 Claims. (Cl. 72—42)



1. In a process of physical deformation of a heavy metal workpiece by a tool accompanied by attainment

of an elevated temperature by the workpiece, the improvement which comprises protecting the deformed metal product from oxidation by the oxygen of the cooling air and protecting the tool from frictional wear by introducing a powder mixture between the workpiece and the tool at the elevated temperature and before the deformation procedure, said powder mixture including crystalline components having a space-lattice crystalline structure, at least an effective proportion of said crystalline components being oxides of metals having an affinity for oxygen at least as great as the metal being deformed and oxides of the metal being deformed, each of said oxides having a definite melting point, at least one of these melting points being above the elevated temperature and said powder mixture including components which render the same plastically deformable at the elevated temperature, deforming the workpiece, and simultaneously plastically deforming said powder mixture so that said powder mixture defines an interfacial lubricating layer between the workpiece being deformed and the tool, and a loosely adhering, readily removable, uniformly dense, space-lattice crystalline antioxidation coating on the deformed metal product.

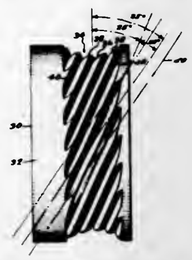
3,258,948
SHEET METAL FORMING APPARATUS
John I. Carlson, Sr., New Britain, Conn., assignor to General Electric Company, a corporation of New York
Filed Nov. 1, 1963, Ser. No. 320,731
9 Claims. (Cl. 72—57)



1. Sheet material forming apparatus comprising:
(a) a support;
(b) a casing having a bottom wall and peripheral upstanding side walls defining a cavity therein;
(c) resilient means supporting said casing on said support;
(d) a body of elastomeric material filling said cavity and having a generally planar surface thereof exposed to receive a workpiece of sheet material thereon;
(e) punch means disposed and arranged to engage said workpiece when on said exposed surface of said body of elastomeric material and to cause pivotal movement of said casing against said resilient support whereby to force said workpiece partially into said body of elastomeric material and to bend a portion of said workpiece around a corner of said punch.

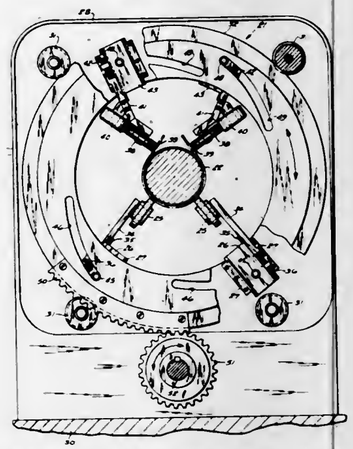
3,258,949
MEANS FOR FORMING THREADED WIRE
Charles D. Toney, Jr., Atlanta, Ga., assignor to The Auto-Soler Company, a corporation of Georgia
Original application Feb. 14, 1962, Ser. No. 173,197. Divided and this application July 21, 1965, Ser. No. 482,974
5 Claims. (Cl. 72—103)

1. A surface forming die comprising a cylindrical body having a die surface formed at a circumferential arcuate concavity of a radius of curvature greater than the radius of a cylindrical object to be formed and having configuration forming segments extending across said concavity, said concavity being shaped in relation to said configuration forming segments such as to dispose said segments in a discontinuous segmental forming array substantially fully across said concavity, said body being adapted for rolling diagonally around the length of material to im-



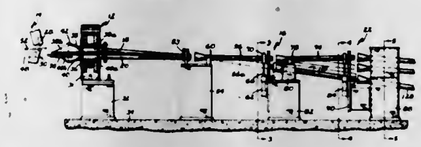
press the discontinuous configuration segments in a spiral path.

3,258,950
APPARATUS FOR SHEATHING CABLE CORES
Helmut E. Durr, Summit, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 1, 1963, Ser. No. 291,982
2 Claims. (Cl. 72—176)



1. An apparatus for sheathing a cable core advanced longitudinally along a centerline of a given path with a strip of sheathing material, which comprises:
axially aligned units fixedly mounted at spaced positions,
first carriages located at various different positions in each of the units and capable of linear movement,
individual pulleys supported by the first carriages, said pulleys being movable to various positions with respect to the cable centerline,
endless belts extending through the units and passing about peripheral grooves in the pulleys for bending the strips longitudinally about the cable core,
a rolling element connected to each first carriage for maintaining the endless belts in the peripheral groove of the pulleys,
second carriages located at various different positions in each of the units and capable of linear movement,
individual rollers supported by the second carriages, said rollers being movable to various positions with respect to the cable centerline,
independent means associated with each of the first and second carriages for individually adjusting its respective pulleys and rollers thereon with respect to the cable centerline, said independent means for each carriage including a slidable arm, a supporting member connected to each carriage, and a threaded member for each carriage threadedly connected to its associated supporting member and slidable arm of each carriage for adjustably moving its respective pulley of the first carriage and roller of the second carriage a fixed distance with respect to the cable core centerline, and
means operable for moving the first and second carriages simultaneously in all the units, prior to forming the strip about the cable core, so as to move and fixedly located the pulleys and rollers at a constant predetermined distance from the cable core centerline for forming the strip about the cable core.

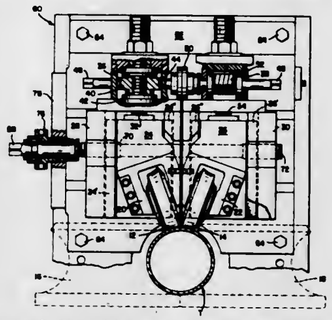
3,258,951
ROD SWITCHING APPARATUS
Roger Kinnicutt, Jr., Worcester, and Donald Sieurin, Northboro, Mass., assignors to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts
Filed Aug. 22, 1963, Ser. No. 303,841
7 Claims. (Cl. 72—203)



1. A switching means for directing moving rod to a plurality of laying reels in a rolling mill in which the time of clearing a single laying reel compared with the coiling time requires the use of three or more laying reels, said switching means comprising the combination of: a rotary rod switch positioned downstream from a dividing shear, said rod switch having upper and lower rod receiving passages extending therethrough, said lower rod receiving passage aligned to receive the leading edge of unsheared rod, said shear when actuated directing the sheared leading end of the next oncoming rod portion into said upper rod receiving passage while the preceding rod portion continues to pass through said lower rod receiving passage, means for rotating said rod switch in order to reverse the positions of said upper and lower rod receiving passages; a crop switch positioned at some distance downstream from said rotary rod switch and having crop switching passages extending therethrough, connecting means intermediate said rotatable rod switch and said crop switch for placing the downstream ends of said rod receiving passages in communication with the upstream ends of said crop switching passages, means for independently adjusting the downstream ends of said crop switching passages from a raised position to a lowered position in communication with a crop receiving device; a reel switch positioned downstream from said crop switch and having reel switching passages extending therethrough, the upstream ends of said reel switching passages in communication with the raised downstream ends of said crop switching passages, means for independently adjusting the downstream ends of said reel switching passages in order to direct rod passing therethrough to one of a plurality of laying reels.

3,258,952
UPPER WELD PRESSURE ROLL ASSEMBLY
Lewis H. Ruple, Perrysburg, Ohio, assignor to Abbey Etna Machine Company, Perrysburg, Ohio, a corporation of Ohio
Filed Apr. 8, 1964, Ser. No. 358,315
1 Claim. (Cl. 72—225)

In a tube mill for producing tubular stock from a flat strip, the edges of which are gradually caused to converge and are thereafter welded together:
an upright rigid support member having a horizontally disposed way means extending over and substantially normal to the axis of travel of the strip through the mill and positioned at a point downstream from the tube welding station;
a pair of slides movable in said way means and provided with a passageway having at least two spaced oppositely threaded portions extending horizontally therethrough and said slides having vertically extending way means;
a shaft having oppositely threaded portions engaging the oppositely threaded portions respectively of said slides, whereby movement of said shaft in one direction causes said slides to move toward one another and in the other direction causes the slides to move away from one another;
a pair of laterally aligned squeeze rolls mounted to rotate about vertical axes, each of said squeeze rolls positioned to engage respective opposite surfaces of the tubing through an arc extending substantially from a point diametrically opposite the converging

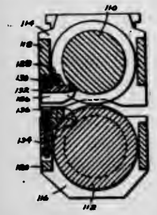


edges of the tubing to a point spaced from the converging edges of the tubing;
a pair of pressure rolls engaging respective ones of the edges of the tubing through an arc extending from the point adjacent the respective squeeze roll to the converging portion of the tubing, the longitudinal extensions of the axes of rotation of said pressure rolls forming an angle less than 180°;
a cantilevered support element for each of said pressure rolls, each element being slidably mounted in the vertically extending way means of a slide and including a vertically extending threaded shaft; and
means associated with the vertically extending threaded shafts for effecting vertical movement of said support elements in the vertically extending way means of said slides to thereby simultaneously effect movement of said pressure rolls, said means for effecting vertical movement including a pair of horizontally extending threaded shafts and means for coupling and uncoupling said shafts to effect simultaneous or independent movement of said pressure rolls.

3,258,953
STRIPPER GUIDES FOR ROLLING MILL STANDS
Robert J. Hermes, West Boylston, Mass., and Joseph W. Rodnick, Putnam, Conn., assignors to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts
Filed Feb. 18, 1964, Ser. No. 345,682
3 Claims. (Cl. 72—250)

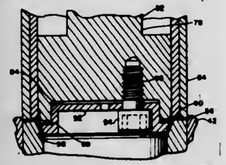
1. In a rolling mill which includes a pair of chock supported rolls, each of which has one or more grooves therein aligned with corresponding grooves in the other, a support extending closely adjacent one of said rolls from one chock to the other, another support extending closely adjacent the other of said rolls from one chock to the other, each of said supports having affixed thereto

one or more stripper guides each aligned with a groove of its said roll whereby each said guide will remain in



fixed position with regard to its respective groove regardless of adjustment that may be made to each said roll.

3,258,954
CONTAINER CLOSURE FORMING APPARATUS AND METHOD
Stanley W. Dennis, Baltimore, Md., assignor to Deniseal, Inc., Baltimore, Md., a corporation of Maryland
Original application Nov. 13, 1959, Ser. No. 852,652. Divided and this application Nov. 24, 1961, Ser. No. 154,751
20 Claims. (Cl. 72—294)

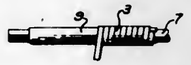


1. Apparatus for forming a container closure of the type having a top, a depending annual skirt and a radial flange at the bottom of the skirt, comprising a support, a cutting die on said support having a fixed cutting edge, a draw die fixedly mounted within said cutting die and having an upper surface, a cutting punch mounted above said cutting die for movement toward and away from said cutting die and having an outer peripheral cutting edge adapted to coact with said cutting edge of the cutting die to sever a closure blank from sheet material overlying said cutting die, a draw punch mounted above said draw die for movement toward and away from said draw die, means providing a substantially radially ribbed draw surface around the inner periphery of said draw die, means also providing an upwardly open circumferential depression around the upper part of said draw surface, means for clamping the outer periphery of the severed blank prior to drawing of said blank, means for moving said draw punch toward said draw die for forming said closure, and means providing a series of circumferentially spaced radial projections on said draw punch correspondingly located relative to said depression, so that when said draw punch descends after the blank has been cut the draw punch engages the blank to force it in forming relation over said draw surface with said ribbed surface forming corrugations in the closure flange and said projections cooperating with said depression for forming circumferentially spaced lugs in the closure skirt.

3,258,955
METHOD OF MANUFACTURING A PRESSURE SENSING ELEMENT
James E. Lindsay, Covina, Calif. (% American Standard Controls Div., 1401 S. Samrock Ave., Monrovia, Calif.)
Filed Jan. 22, 1962, Ser. No. 167,737
3 Claims. (Cl. 72—369)

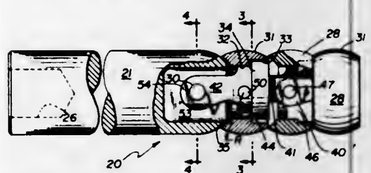
1. A method of manufacturing pressure sensing elements, characterized by:

(a) helically wrapping a first portion of a flat tube about a mandrel to form an inner multiple coil;
(b) positioning a sleeve over said inner multiple coil;
(c) forming an arcuate transition tube portion leading from said mandrel to said sleeve;
(d) helically wrapping a succeeding portion of said tube over said sleeve to form a second multiple coil;



(e) positioning a second sleeve over said second multiple coil;
(f) forming a transition tube portion from said first sleeve onto said second sleeve;
(g) and helically wrapping a next succeeding portion of said tube over said sleeve to form a third multiple coil.

3,258,956
TUBE BENDING MANDREL
Carl W. Pinkerton and Francis J. Landwehr, Wichita, Kans., assignors to Boeing Airplane Company, Wichita, Kans., a corporation of Delaware
Filed Feb. 11, 1963, Ser. No. 257,666
4 Claims. (Cl. 72—466)

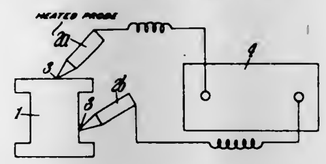


1. A flexible mandrel comprising,
shank means,
first link means having a journal pivotally connected on a fixed axis to one end of said shank means,
first ball segment means turnably journaled on said journal of said first link means,
second link means having a journal pivotally connected on a fixed axis to said first link means,
second ball segment means turnably journaled on said journal of said second link means,
third link means having a journal pivotally connected on a fixed axis to said second link means, and
third ball segment means turnably journaled on said journal of said third link means, and
said link means are formed in such a manner as to permit flexing of said mandrel in only one plane and in one direction a greater distance than is permitted in an opposite direction.

3,258,957
NON-DESTRUCTIVE TESTING OF MATERIALS
Desmond Smart, Newcastle-upon-Tyne, England, assignor to C. A. Parsons & Company Limited, Newcastle-upon-Tyne, England
Filed Jan. 21, 1963, Ser. No. 252,813
Claims priority, application Great Britain, Jan. 25, 1962, 2,796/62
1 Claim. (Cl. 73—15)

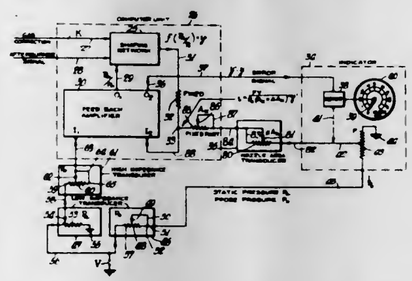
A method of non-destructive testing of metallic materials to detect the presence and location of regions of altered internal energy, due for example to strains, voids or similar localized effects, comprising the steps of:
(a) bringing into contact with spaced-apart regions of the material under test, respective contact pieces formed of different metals from said material under test, to form at least two junctions of dissimilar metals,

(b) producing a temperature difference between said junctions, and
(c) sensing the thermoelectric potential thereby produced between said junctions, while



(d) moving at least one of said contact pieces to different regions of said material under test, to reveal, by the corresponding changes in said potential, the presence and location of regions of altered internal energy in the material under test.

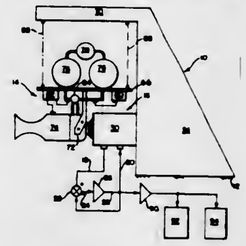
3,258,958
THRUSTMETER SYSTEM
Maurits Ten Bosch, White Plains, and Donald S. Bayley, Bedford, N.Y., assignors to M. Ten Bosch, Inc., Pleasantville, N.Y., a corporation of New York
Filed Feb. 21, 1956, Ser. No. 566,878
2 Claims. (Cl. 73—116)



1. In a thrustmeter system of the type having a tail pipe with an outlet nozzle, an afterburner in said tail pipe before said nozzle, a pressure sensing probe in said tail pipe before said afterburner and a static pressure indicator to indicate static pressure and serving to present to the pilot a direct reading of gross thrust at the nozzle having a motor to drive an indicator to indicate thrust, a computer unit including a shaping network and a double feedback amplifier producing an error signal, means to supply electrical signal information giving the ratio of static to probe pressure from the feedback amplifier to the shaping network, means to supply electrical signal information as the gas correction and from the afterburner to the shaping network, a feedback connection from the shaping network to the amplifier to supply an electrical signal giving a function of said ratio, means to supply electrical signals giving static and probe pressures to the feedback amplifier and said amplifier adding said supplied static and probe pressure signals and supplying an error signal to said motor to drive said indicator.

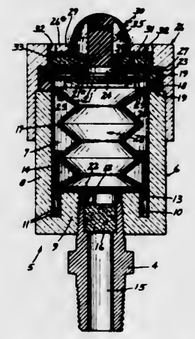
3,258,959
THRUST MEASURING SYSTEMS
Richard C. Deegan, Buffalo, N.Y., assignor to Bel Aerospace Corporation, Wheatfield, N.Y.
Filed Oct. 14, 1963, Ser. No. 315,801
5 Claims. (Cl. 73—116)

1. In a force measuring system,
a rigid and substantially immovable thrust butt,
a thrust-producing assembly,
suspension means mounting said assembly from said butt for substantially rectilinear movement relative thereto along a predetermined axis,
measuring means disposed between and bearing against both said butt and said thrust-producing assembly,
said measuring means comprising a generator element and a motor element disposed in stacked relation,
said generator element having an axis sensitive to dimensional changes therealong to produce an electrical output proportional to such dimensional changes, said motor element having an electrical



input for producing dimensional elongation along an axis of the motor element, said generator and motor elements being positioned with the stated axes thereof in alignment with each other and in coincidence with the aforesaid predetermined axis established by said suspension means, and circuit means connecting the output of said generator element to the input of said motor element whereby the magnitude of said electrical output is proportional to the magnitude of thrust force applied to said measuring means by said thrust-producing assembly.

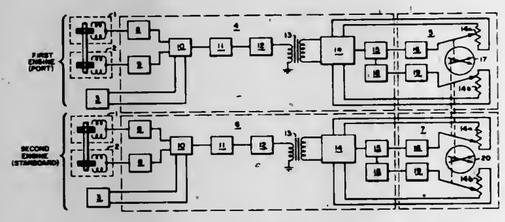
3,258,960
RESTRICTION INDICATOR FOR AIR CLEANERS
Thomas A. Baden and Stuart J. Lee, Minneapolis, Minn., assignors to Donaldson Company, Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 13, 1963, Ser. No. 287,714
2 Claims. (Cl. 73—118)



1. In a gauge for registering increasing suction in an air intake manifold,
(a) a housing defining a generally cylindrical primary chamber having a transparent wall portion,
(b) a tubular conduit for connecting one end of said housing to a manifold in a manner to cause communication between the interior of said manifold and said primary chamber,
(c) an axially extendable and collapsible bellows-type diaphragm mounted in said housing for extending and retracting movements of the free end thereof into and out of that portion of said primary chamber defined by said transparent wall portion,

(d) closure means for said other end of said housing and defining with said diaphragm a secondary chamber within said primary chamber,
(e) means yieldingly biasing said diaphragm toward a collapsed position away from said one end,
(f) check valve means permitting passage of atmospheric pressure to said secondary chamber when subatmospheric pressure of a predetermined value exists within said primary chamber whereby to extend said diaphragm against the bias of said yielding means,
(g) and means for manually rendering said check valve means inoperative whereby to permit collapsing of said diaphragm under the bias of said yielding means,
(h) said closure means for the other end of said housing comprising a cap having an axial opening therein and a breather port radially spaced with respect to said opening,
(i) said check valve means comprising:
(1) an annular valve seat the central opening of which is concentric with the opening in said cap,
(2) and a flexible valve element interposed between said valve seat and said diaphragm,
(j) said valve element having an annular sealing rib normally biased into sealing engagement with said valve seat radially outwardly of the opening therein and port means radially outwardly of said sealing rib,
(k) said means for manually rendering said check valve means inoperative comprising a flexible resilient generally hollow button projecting axially outward through the opening in the cap and having sealing engagement with said cap adjacent said opening,
(l) said button being provided with an axially inwardly projecting plunger which is adapted to project through the opening in said valve seat and engage said valve element sufficiently to cause disengagement of said sealing rib from said seat upon axial movement being imparted to said button whereby to permit passage of gas within said secondary chamber through the port means in said valve to atmosphere through the central opening in said valve seat and the breather port in said cap.

3,258,961
TORQUE MONITORING SYSTEM
Siderius Van Manen, Wayne, N.J., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York
Filed May 7, 1964, Ser. No. 365,613
11 Claims. (Cl. 73—136)



6. A system for measuring torque in a rotary shaft comprising
two discs spaced apart along said shaft,
transducer means mounted adjacent said discs for respectively generating first and second alternating signals in response to the rotation of the discs the two alternating signals having a phase displacement corresponding to the torsional deflection of that portion of the shaft between the discs,
first and second squaring circuits for receiving and converting corresponding ones of the first and second alternating signals into substantially square wave signals,
first and second differentiating circuits for receiving and differentiating corresponding ones of the two square wave signals,
a bistable switching circuit comprising two transistors for receiving corresponding ones of the first and second differentiated signals and together producing a train of output pulses the mean D.C. value of which is indicative of said phase displacement,
temperature compensating means comprising a temperature-sensitive resistance mounted adjacent said shaft and connected to the output of said switching circuits for varying the said mean value in dependence on the temperature of said shaft, and
circuit means responsive to said temperature-compensated mean value for providing an indication of the torque in said shaft in dependence on said mean value.

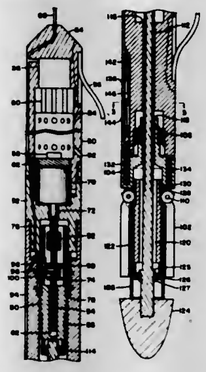
3,258,962
MAGNETO-ELASTIC FORCE MEASURING DEVICE
Orvar Dahle, Vasteras, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Feb. 4, 1964, Ser. No. 342,477
Claims priority, application Sweden, Feb. 14, 1963, 1,602/63
12 Claims. (Cl. 73—141)



1. Magneto-elastic annular device for measuring mechanical forces acting perpendicular to the centre axis of cylindrical means such as bearings, axle bars, and the like, said device having an annular core of magnetostrictive material, said core having a number of holes therein parallel to the centre axis of said core, said holes being provided with windings for generating magnetic fluxes around said holes and for measuring the change of the reluctance of said core when said core is loaded by mechanical forces.

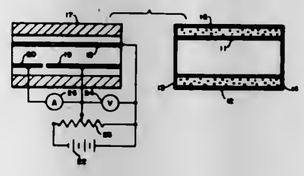
3,258,963
BOREHOLE MEASUREMENTS
Harvey L. Bryant, Tulsa, Okla., and Millage M. White, Durango, Colo., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Mar. 18, 1960, Ser. No. 16,039
4 Claims. (Cl. 73—155)

4. A well logging tool which comprises in combination: a body member having an upper portion and a lower portion, said body member adapted to be movable within a well bore; means rotatably attaching said upper and said lower portions; a shaft supported from said extending downwardly from the upper portion to the lower portion of said body member; means for moving said shaft longitudinally with respect to said body member; pivots supported by said lower portion; spinner blades mounted on said pivots; means for extending said spinner blades into a horizontal position into the path of flow of fluid within the well bore upon one longitudinal movement of said shaft with respect to said body member, such that the spinner blades are rotatably responsive to the rate of flow of fluid in the well bore, said means for extending said spinner blades also being operative for retracting said spinner blades upon the opposite lon-



gitudinal movement of said shaft with respect to said body member; and means indicating a rotation of said spinner blades with respect to said upper portion of said body member.

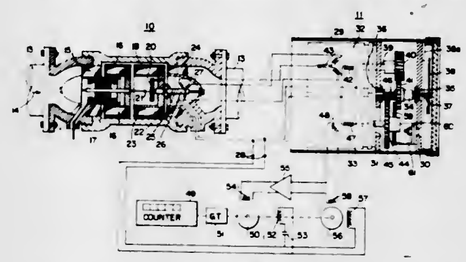
3,258,964
MASS FLOW METER
Nicholas A. Zessoules, Newton Highlands, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Oct. 28, 1963, Ser. No. 319,318
6 Claims. (Cl. 73—194)



1. A mass flow meter comprising: means for creating ions in the fluid whose mass flow rate is to be metered; means to deflect said ions relative to the direction of flow of the fluid; first means to collect ions having deflections within a predetermined limited range; second ion collection means to collect ions which have been deflected more sharply than the ions collected by said first-named ion collection means; means to determine the rate at which the ions are collected by said first ion collection means; means to vary the strength of said deflection means and thereby maximize the ion collection rate; and means to indicate the mass flow rate of the fluid in terms of the strength of said deflection means causing said maximum ion collection rate.

3,258,965
FLOWMETER SYSTEM
Dave B. Levins, Swampscott, Mass., assignor to General Electric Company, a corporation of New York
Filed July 12, 1963, Ser. No. 294,645
3 Claims. (Cl. 73—206)

1. A flowmeter system for indicating flow rate and total flow comprising
a flowmeter transmitter having an output shaft positioned in accordance with flow rate, a transmitter synchro having a rotor coupled to said output shaft, an excitation winding energized from a source of A.-C. current and an output winding inductively coupled to the excitation winding, one of said windings being mounted on said rotor for rotation relative to the other winding,
a flow rate indicator comprising a receiver synchro having a rotor, an excitation winding energized from said source of A.-C. current, a receiver winding inductively coupled to the excitation winding connected to the output winding of said transmitter synchro, one of said windings being mounted on said rotor for rotation relative to the other winding so that the rotor of the indicator moves in angular correspondence with the rotor and output shaft of the transmitter and a flow rate pointer coupled to and positioned by the rotor of said receiver synchro,
a flow rate signal generator having an input shaft, an excitation winding energized from a source of A.-C. current, and an output winding, the output winding of the flow rate signal generator producing a flow rate

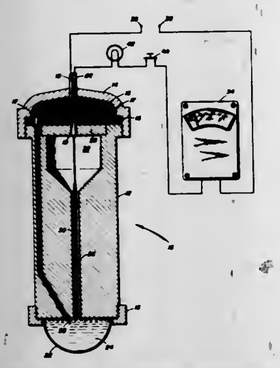


signal voltage variable in accordance with the position of the input shaft of the flow rate signal generator,
an integrator comprising an output shaft, motor means responsive to the output voltage of said flow rate signal generator for driving said integrator output shaft at a speed variable in accordance with the output voltage of said flow rate signal generator and a counter driven by said integrator output shaft to indicate integrated flow,
drive means coupling the rotor of said receiver synchro to drive the input shaft of said flow rate signal generator, and
biasing means exerting a torque on said drive means in a direction to return said flow rate pointer in a downscale direction to a zero flow position when said receiver synchro is de-energized.

3,258,966
DEPTH PRESSURE GAUGE
Edward J. St. Coeur, Joppa, Md., assignor of twenty-four percent each to William B. Snyder, Sr., and William B. Snyder, Jr., both of Joppa, Md.
Filed Dec. 6, 1963, Ser. No. 328,620
3 Claims. (Cl. 73—300)

1. A device for measuring the pressure of a fluid, comprising a solid cylindrical structure having a pair of longitudinal passages extending therethrough and a chamber communicating with the upper end of one of said passages, upper and lower cap means hermetically sealing each end of said cylindrical structure, with said lower cap means having an aperture therethrough, pressure sensitive means positioned within said aperture and forming a cavity with the lower end of said cylindrical structure, electrically conductive liquid contained in said cavity, an electrical circuit including a resistance rod element depending the length of said one passage free of electrical contact with said cylindrical structure and communicating with said electrically conductive liquid and a pair of conductors, one of said conductors communicating with said electrically conductive liquid and the other of said conductors connected to the upper end of

said resistance means so that pressure exerted against said pressure sensitive means causes said electrically conductive liquid to rise in said one passage to shunt a corresponding portion of said resistance rod element, with the diameter of said chamber being large relative to the diameter of said one passage so as to provide a space



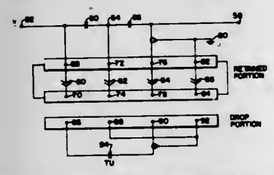
of relatively large volume for the compression of air in said chamber during said rise of said electrically conductive liquid, whereby said pressure is measurable as a change in current flowing through said electrical circuit, and insulating means positioning the upper end of said resistance rod element.

3,258,967

FUEL GAUGE CIRCUITRY FOR DROP TANKS

Harry M. Hermanson, Minneapolis, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Dec. 9, 1963, Ser. No. 328,993
7 Claims. (Cl. 73—304)



7. Apparatus for use with a detachable condition sensing unit comprising, in combination:

input and output means;

substitute impedance means connected between said input and output means;

connector means comprising first and second portions, each of said portions including first, second, third and fourth contacts which mate with the corresponding contacts on the other portion, the second portion of said connector means being a part of the detachable condition sensing unit;

first means connecting said first contact of said first portion of said connector means to said input means;

second means connecting said second contact of said first portion of said connector means to said output means;

third means for rendering said substitute impedance means ineffective upon connection to a reference means, said third means connecting said third contact of said first portion of said connector means to said substitute impedance means;

fourth means connecting said fourth contact of said first portion of said connector means to the reference means;

condition sensing unit means connected between said first and second contacts of said second portion of said connector means;

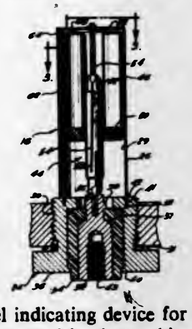
fifth means connecting third and fourth contacts of said second portion of said connector means together.

3,258,968

LIQUID LEVEL INDICATING DEVICE

Charles A. Woodcock, Springfield, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Oct. 2, 1963, Ser. No. 313,313
2 Claims. (Cl. 73—308)



1. A liquid level indicating device for use with a vessel confining a liquid, comprising in combination a metal base having a screw thread thereon for facile connection to said vessel, a metal cover connected to the base and defining within the confines of the cover and base a generally elongated cavity, a reed switch supported within the cavity and extending axially thereof, said reed switch including a sealed enclosure and a pair of elongated slender reeds having ends disposed inside and outside of the sealed enclosure, a terminal carried by said base and insulated therefrom, the external ends of the reeds being connected, respectively, to said cover and terminal for extending respective electrical connections, the internal ends of said reeds overlapping one another slightly to provide switch contacts, a float encircling said switch inside said cover and buoyed by the liquid within the cavity for axial movement in said cavity relative to said switch, an annular magnet supported by the float, said magnet being magnetized with the lines of flux disposed axially of the longitudinal center axis of the magnet and in line generally with the axis of the reed switch, said reeds being fabricated of magnetizable material and said cover and float being fabricated of nonmagnetizable material so that at various positions of the float determined by the level of liquid in the cavity the proximity of the magnet to the contacts actuates the reeds to open and close the switch contacts, said cover having therein at least one opening extending from proximate the opposite ends of the cavity operable to communicate the liquid within the vessel to and from the cavity, and an adjustably positioned nonmagnetizable filter extending over said one opening in said cover for selectively damping any flow of liquid through the opening.

3,258,969

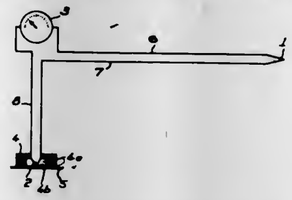
DIFFERENTIAL TEMPERATURE MEASURING APPARATUS

Albert Poirier, Paris, France, assignor to Societe Anonyme: C. Jacobsen & Cie, Paris, France, a French company

Filed Dec. 12, 1963, Ser. No. 330,056
Claims priority, application France, Dec. 14, 1962, 918,595, Patent 1,350,122
4 Claims. (Cl. 73—361)

1. Differential temperature measuring apparatus in combination a casing, a thermocouple contained in the casing, wrist-strap means attached to the casing for strapping same to an operator's wrist with said thermocouple in close heat-exchange relation with an area of the skin

of the wrist, another thermocouple, an electrical indicating instrument, and conductor means extending from said casing and connecting both thermocouples in a differen-



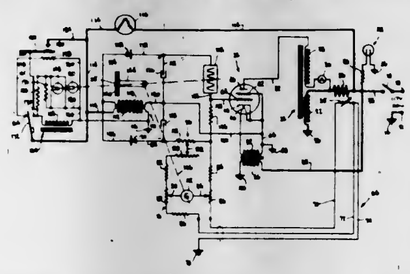
tial circuit with said instrument whereby the instrument will indicate temperatures to which the second thermocouple is exposed.

3,258,970

ELECTRIC TEMPERATURE CONTROL

Knud J. Knudsen, Middlebury, Conn., assignor to Lewis Engineering Company, Naugatuck, Conn., a corporation of Connecticut

Original application Feb. 1, 1961, Ser. No. 86,432, now Patent No. 3,116,396, dated Dec. 31, 1963. Divided and this application July 23, 1963, Ser. No. 297,064
1 Claim. (Cl. 73—362)



A resistance thermometer having errors of equal magnitude at the high and low ends of the scale for different bulb lead resistances, comprising a Wheatstone bridge having three resistor legs X, Z, R and a resistance bulb, connected in series with each other in clockwise order as given, the bulb having cold and hot resistance values at predetermined operating temperatures of b and B respectively and said bridge having bulb leads L of resistivities equal to each other connected in series with the bulb, and having a potentiometer and a galvanometer connected to the potentiometer arm, said galvanometer being also conected to the junction between the R and resistance bulb legs and the potentiometer resistance unit Y being connected between the X and Z legs, the values of X, Y and Z being given by the following equations:

$$X=\frac{K(A+1)}{a-A+M(A+1)}$$

$$Y=K-MX$$

$$Z=aX-Y$$

where:

$K=\frac{b+CB}{C}$

$C=\frac{b(\Delta b)}{B(\Delta B)}$

Δb=differential resistance per degree centigrade at the low setting

ΔB=differential resistance per degree centigrade at the high setting

$A=R/B$

$a=R/b$

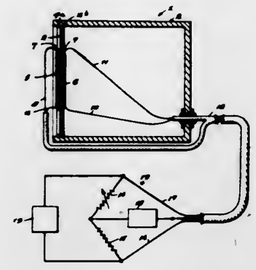
$M=C+1/C$

3,258,971

STRESS-STRAIN GAUGE

Edward D. Padgett, Morristown, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 26, 1962, Ser. No. 169,152
2 Claims. (Cl. 73—398)



1. Apparatus for measuring the change in an external condition, comprising a container having an open end, a flexible diaphragm secured over and sealing at the periphery said open end to permit the evacuation of air within the container, a piezo-electric condition sensing element bonded to the inside of the flexible diaphragm and spaced from said periphery thereof, a second sensing element of opposite polarity bonded in a corresponding position on the outside of the diaphragm, each element having a piezo resistance value responsive to a change in air pressure on respective sides of said flexible diaphragm for separate measurement of the air pressure at each element, separate lead-out wires connected to each sensing element and electrical means connected to said lead-out wires for balancing normal atmospheric pressure exerted on the flexible diaphragm after the container has been evacuated and for measuring thereafter the change in external air pressure.

3,258,972

METHOD OF STRENGTHENING DELIVERY POINTS AND STEMS OF LABORATORY GLASSWARE

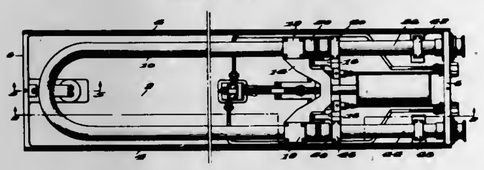
Howard L. Cassaday and Orman F. House, Vineland, N.J., and James F. Ryley, Sylvania, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed Nov. 1, 1963, Ser. No. 320,787
4 Claims. (Cl. 73—425.4)



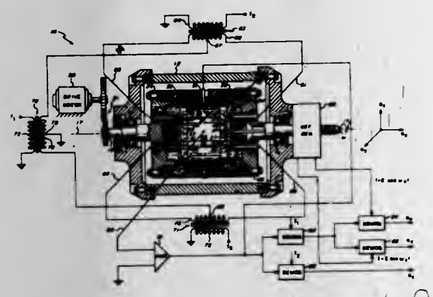
1. As an article of manufacture, a glass pipette having the tapered delivery end portion formed with a compressive stress in the outer surface corresponding to a maximum, total, optical retardation reading of from 100 mμ to 250 mμ and having a compensating tensile stress in the inside surface.

3,258,973
DENSITY METER
Robert G. Love, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Dec. 6, 1963, Ser. No. 328,728
11 Claims. (Cl. 73—434)



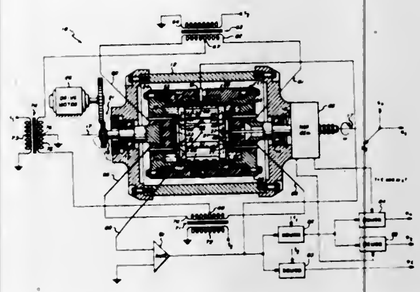
1. Fluid density measuring apparatus comprising a base; fixed inlet and outlet fluid carrying conduits on the base; a weighing beam including a counterbalanced, looped, fluid carrying tube; flexible fluid carrying couplings connecting said inlet and outlet conduits to said looped tube; means mounting the looped tube for pivoting movement relative to said inlet and outlet conduits; said mounting means including a plurality of flat springs, said springs being arranged to form a common pivot axis, first housing means securing together one end of each spring, second housing means securing together the opposite end of each spring, said first and second housing means including a common cylindrical outer surface, said surface having a central axis parallel to and spaced from said pivot axis, means for mounting said first housing means on said base and said second housing means on said tube; an air nozzle, means for conducting air to said nozzle, valve means on said mounting means and extending across said nozzle, air actuated means for pivoting said conduit in response to the position of said valve relative to said nozzle, and means for transmitting an air pressure signal from said nozzle whereby the pressure signal which is proportional to the fluid density may be recorded.

3,258,974
THREE AXIS FREE SURFACE ACCELEROMETER
Herbert B. Diamond, Valley Stream, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Aug. 27, 1963, Ser. No. 304,763
6 Claims. (Cl. 73—516)



1. In an inertial device having a fluid whose movement is representative of the magnitude and direction of conditions experienced thereby with respect to a plurality of predetermined axes.
(a) first and second variable pick-off means responsive to said fluid,
(b) said first and second pick-off means having a common output element,
(c) first and second excitation sources having first and second substantially different frequencies and connected to said first and second pick-off means whereby said common element provides an output signal having superimposed frequencies,
(d) first demodulation means responsive to said output signal and said first frequency for demodulating said output signal with respect to said first frequency for providing an acceleration measure with respect to a first predetermined axis, and
(e) second demodulation means responsive to said output signal and said second frequency for demodulating said output signal with respect to said second frequency for providing an acceleration measure with respect to a second predetermined axis.

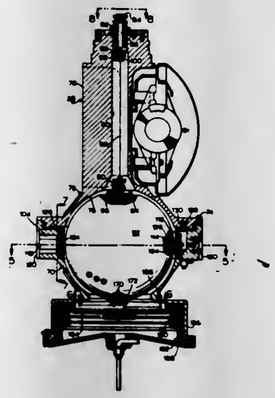
3,258,975
FREE SURFACE ACCELEROMETER
Willis G. Wing, Glen Head, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Aug. 27, 1963, Ser. No. 304,764
6 Claims. (Cl. 73—516)



1. In apparatus for detecting accelerations along and perpendicular to a predetermined axis,
(a) an enclosure filled with two mutually indissoluble fluids having substantially different densities, one of said fluids being substantially incompressible,
(b) a pair of substantially parallel planes within said enclosure,
(c) said predetermined axis passing perpendicularly through said planes,
(d) means for centrifugally distributing said fluids about said axis to a degree sufficient to maintain the higher density fluid in contact with both said planes and away from said axis between the planes,
(e) the internal surface of said higher density fluid normally defining a circle having a predetermined area with respect to said planes and having its center coincident with said axis in the absence of accelerations along or perpendicular to said axis, and
(f) means for detecting the deviation from said predetermined area and translation of the center of said circle with respect to said axis to determine components of acceleration along and perpendicular to said axis.

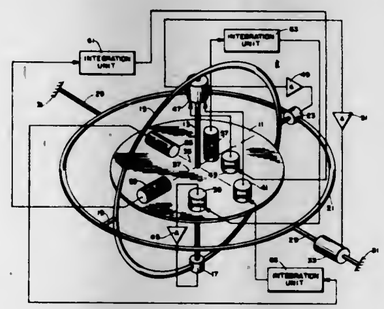
3,258,976
AZIMUTH ALIGNMENT SENSOR
Walter J. Krupick, Franklin, and Richard F. Cimera, Caldwell Township, N.J., and William F. O'Brien, Jr., Clearwater, Fla., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Dec. 31, 1962, Ser. No. 248,637
14 Claims. (Cl. 74—5.6)

1. A gyro comprising a housing, a substantially spherical gyro motor suspended within said housing by a wire suspension system, said gyro motor being free to precess about a vertical axis determined by said wire suspension system, takeoff means for producing an output signal in response to precession of the gyro motor, and torquer



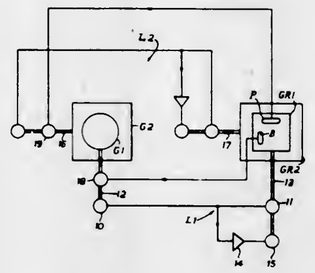
means for torquing said gyro motor about the precession axis, said torquer and takeoff means including respective coacting stationary and mobile elements mounted on the equator of said spherical gyro motor.

3,258,977
GYRO DRIFT LIMITING SYSTEM
Jay Hoffman, Livingston, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Jan. 4, 1963, Ser. No. 249,440
9 Claims. (Cl. 74—5.34)



3. In a stable platform having mounted thereon a plurality of gyros sensing deflection of said platform about respective axes of said platform and means to maintain said platform aligned with said gyros, the improvement comprising:
respective angular accelerometers mounted on said platform to sense angular acceleration of said platform about said axes of said platform and generate respective output signals; and
means, responsive to the output signals of each of said angular accelerometers, to apply to said respective ones of said gyros torques having magnitudes proportional to the double integrals of angular accelerations sensed by said accelerometers in directions to cause said gyros to precess about said axes in the directions opposite those in which said platform has rotated as a result of said angular accelerations.

3,258,978
NAVIGATIONAL APPARATUS
Heinz Pollak, Cheltenham, England, assignor to S. Smith & Sons (England) Limited, London, England, a British company
Filed Oct. 26, 1960, Ser. No. 65,174
Claims priority, application Great Britain, Oct. 28, 1959, 36,514/59
3 Claims. (Cl. 74—5.47)

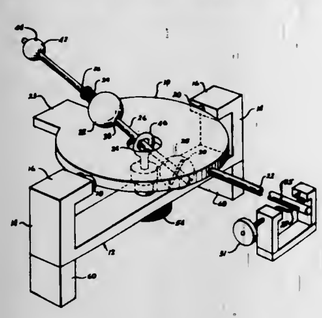


1. A gyroscopic navigational system in an aircraft for sensing the attitude thereof comprising a gyroscope device having a rotor and first and second pivotally-interconnected supports supporting said rotor, said rotor being rotatable on said first support about a first rotor axis, said first support being mounted on said second support for rotation about a second axis perpendicular to said rotor axis and athwartships of the aircraft, and said second support being mounted on the aircraft for rotation about a third axis perpendicular to said second axis and substantially aligned with the no lift axis of the aircraft, a repeater arrangement of first and second pivotally-interconnected repeater supports, servo means driving said repeater supports to execute angular displacements corresponding to the displacements of said first and second gyroscope device supports respectively and a pitch erection system comprising a gravity-sensitive device supported by said repeater arrangement and coupled mechanically to said first repeater support and a pitch-erecting torque motor for said gyroscopic device controlled by said gravity-sensitive device, the axis of said second repeater support lying in the fore and aft plane of the aircraft but depressed with respect to said third axis whereby deviations of said rotor axis from a predetermined direction at a small angle to the direction of gravitational force in turning flight are reduced.

3,258,979
MOTION CONVERSION MECHANISM
Wise Alsept, 2733 Gladstone St., Dayton, Ohio
Filed Mar. 18, 1965, Ser. No. 440,862
14 Claims. (Cl. 74—63)

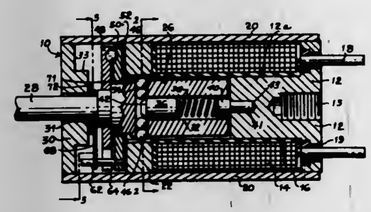
13. Motion conversion apparatus comprising, in combination, plate means having oppositely facing surfaces and having a central aperture passing through said oppositely facing surfaces, means supporting said plate means for pivotal motion about a pivotal axis substantially parallel to said plate means, elongated shaft means extending through said aperture and having a longitudinal axis inclined to said pivotal axis, first roller means disposed on said shaft means and having rolling contact with one of said oppositely facing surfaces, second roller means disposed on said shaft means in spaced relation to said first roller means and having rolling contact with the other of said oppositely facing surfaces, and means to rotate said shaft means about a rotary axis substantially perpendicular to said pivotal axis and passing through said central aperture, the construction and ar-

rangement being such that rotation of said shaft about said rotary axis causes orbital rotation of said roller



means on said oppositely facing surfaces about said rotary axis.

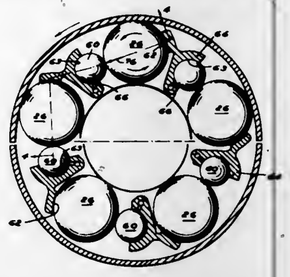
3,258,980
ROTARY ACTUATOR
Milo C. Swanson, Cleveland, Ohio, assignor to Ledex, Inc., Dayton, Ohio, a corporation of Ohio
Filed Apr. 16, 1963, Ser. No. 273,532
7 Claims. (Cl. 74—88)



1. In an apparatus for producing rotary movement of a driven element, said apparatus comprising a housing receiving said driven element and in which said driven element has freedom for limited axial and rotary movement on a predetermined axis, said housing having a brake surface occupying a plane normal to said predetermined axis, motive means to deliver a rearward axial thrust to said driven element along said predetermined axis, and motion conversion means connected with said driven element responsive to said rearward thrust and engageable with said brake surface to cause rotation of said driven element relative to said housing, the improvement comprising resilient means coacting between said driven element and said housing to oppose said rearward axial thrust and operable upon relaxation of said rearward thrust to drive said driven element forwardly to release the frictional engagement between said motion conversion means and said brake surface.

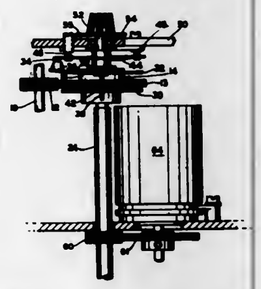
3,258,981
INFINITELY VARIABLE SPEED FRICTION DRIVE
Norman Thomas General, Orchard Lake, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,424
11 Claims. (Cl. 74—198)

1. An infinitely variable speed friction drive device comprising a pair of spaced annular friction races, a friction element cage reaction member, a main friction element rotatably mounted in said cage member and frictionally engaging portions of said races and having an axis of rotation movable to engage said main element with different portions of said races to condition said device for different drives, and a second friction element reaction member frictionally engaging said main element



to all times to be rotated thereby and being rotatably received in a conforming portion of said cage member.

3,258,982
VARIABLE CAM CORRECTOR MECHANISM
Ernest Weiss, Maywood, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Continuation of application Ser. No. 266,891, Mar. 21, 1963. This application June 9, 1965, Ser. No. 462,651
15 Claims. (Cl. 74—393)

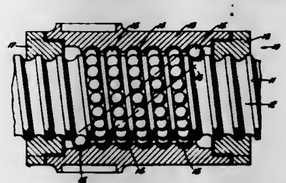


1. In a mechanism of a type including an input shaft, an output shaft, a device rotatable by said input shaft for drivingly connecting said input and output shafts, cam means, cam follower means coaxial with and engaging said cam means to adjust said connecting device so as to move the output shaft relative to the input shaft, the improvement comprising: said connecting device including a pin carried by the cam follower extending in a parallel and an offset position to said cam axis, a slotted disc carried by and in coaxial relation to the output shaft and wherein the pin is slidably mounted in driving relation in the slot of the disc so as to drivingly connect said input and output shafts and the pin being angularly adjustable by the cam follower means for angularly actuating said disc so as to adjust the output shaft relative to said input shaft in accordance with the contour of the cam means to effect a desired lead or lag of the input shaft relative to the output shaft.

3,258,983
PRELOADED BALL SCREW AND NUT ASSEMBLY
Peter Valenti, Whittier, Calif., assignor to Sargent Engineering Corporation, Huntington Park, Calif., a corporation of California
Filed Apr. 13, 1964, Ser. No. 358,988
7 Claims. (Cl. 74—469)

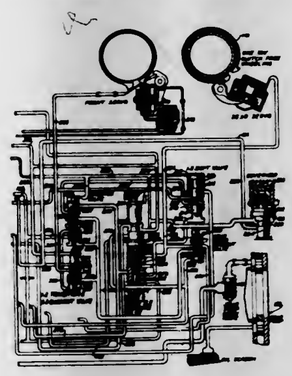
1. In a preloaded ball screw and nut assembly, the combination of: a screw having a continuous external ball-receiving groove of constant helical lead, a nut having a continuous internal ball-receiving groove, a plurality of balls in said grooves interposed between said screw

and said nut, the portions of said internal groove adjacent the opposite ends of said nut having a helical lead which is the same as that of said external groove on said



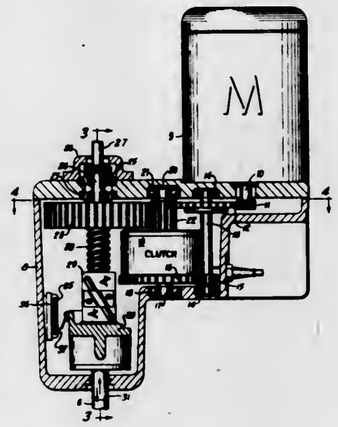
screw, and an intermediate portion of said internal groove having a different helical lead whereby backlash of the nut relative to the screw is minimized.

3,258,984
RATIO SHIFT-POINT CONTROL SYSTEM FOR A POWER TRANSMISSION MECHANISM
John James Searles, Garden City, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 31, 1963, Ser. No. 334,742
9 Claims. (Cl. 74—472)



1. In a power transmission mechanism adapted to deliver driving torque from an engine to a driven member, a gear system having relatively movable elements, one element of said gear system being connected to a driven member, means for coupling power input elements of said gear system to said engine, reaction brake means including a fluid pressure operated brake servo for anchoring a first reaction element of said gear system to accommodate driving torque reaction and condition said mechanism for first underdrive speed ratio operation, clutch means including a fluid pressure operated servo for connecting together two elements of said gear system to condition said mechanism for high speed ratio operation, said brake servo including a pressure movable brake applying member defining in part brake apply and release pressure chambers on opposed sides thereof, a fluid pressure source, conduit structure connecting said source with said clutch servo and each pressure chamber of said brake servo with a common portion thereof communicating with said apply pressure chamber and said clutch servo, a source of a pressure signal that is sensitive to changes in engine torque, shift valve means disposed in and defining in part said conduit structure for selectively distributing pressure to said common portion to establish speed ratio changes, distributor valve means communicating with said common portion and responsive to a pressure build-up therein for connecting said servo apply chamber to a low pressure region of said conduit structure during a shift interval, and a fluid connection between said pressure signal source and said distributor valve means thereby establishing a pressure signal force that opposes the influence on said distributor valve means of said pressure build-up, a second fluid pressure operated brake means for anchoring a second reaction element to obtain operation in another underdrive ratio, second shift valve means in communication with said fluid pressure source for controlling distribution of pressure to said second brake means, an auxiliary valve area on said distributor valve means, and passage means for connecting hydraulically said auxiliary area and said second brake means whereby the influence of said signal force on said distributor valve means is opposed.

3,258,985
CONTROL APPARATUS FOR VALVE ACTUATOR
Charles E. Jordan, Milwaukee, Wis., assignor to Jordan Controls, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 23, 1964, Ser. No. 353,664
9 Claims. (Cl. 74—472)

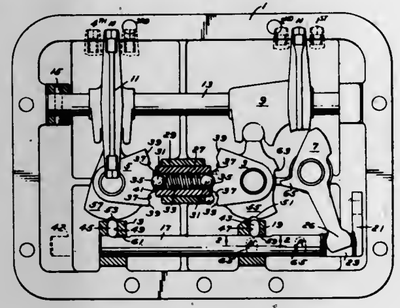


1. An apparatus for controlling the movement of a linear moving element, comprising a linear moving output member connected to the element to be controlled, resilient means operably connected to the output member for urging the output member in one direction, variable torque means for producing an output torque, and means interconnecting the variable torque means and the output member for converting rotational movement of the variable torque means to linear movement in said output member and in the opposite direction to the direction which said resilient means is urging said output member, whereby output torque of the variable torque means opposes the force of said resilient means and a given output torque will be balanced by a compression of said resilient member to hold the element at a given position.

3,258,986
SHIFT SELECTOR MECHANISM FOR MANUALLY CONTROLLED TRANSMISSION MECHANISM
Victor N. Phillips, Barking, Essex, and Clifford E. Smith, Hornchurch, Essex, England, assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 10, 1963, Ser. No. 307,875
Claims priority, application Great Britain, Sept. 11, 1962, 34,609/62
10 Claims. (Cl. 74—476)

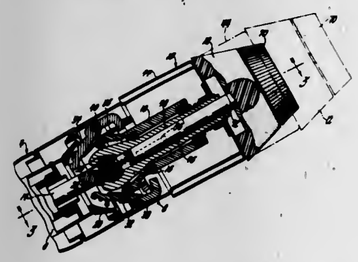
1. A gear ratio change control mechanism comprising, in combination, spaced first and second rotatable gear

ratio selector levers each rotatable independently of the other between a gear engaged position and a gear disengaged neutral position, gearshifting means engaged by said first lever for movement thereby, and means between



said levers effective when said first lever is between its positions for moving said gearshifting means and said first lever to its neutral position upon movement of said second lever to its gear engaging position.

3,258,987
ADJUSTABLE STEERING COLUMN
Philip B. Zeigler and Robert D. Wight, Saginaw, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 21, 1964, Ser. No. 397,863
8 Claims. (Cl. 74—493)



1. In combination with a steering assembly having an upper section tiltably adjustable about a transverse axis relative to a lower steering section, an upper steering shaft rotatable in said upper section, said upper shaft having an axial passage formed therein including a radially displaced axially extending groove, a steering wheel having a stub shaft attached thereto reciprocably disposed in said passage, a transversely movable key mounted in the lower end of said stub shaft engaging said groove, an axial bore formed in said stub shaft, a rod disposed in said bore threadably displaceable relative to said stub shaft and into abuttingly engaging said key, and a manually rotatable means on said steering wheel operative to threadably actuate said rod whereby said key is transversely displaced into frictional locking engagement with said groove.

3,258,988
STEERING COLUMN ASSEMBLY
Richard Schmidt, 231 High Road, Madison, Ala.
Filed June 30, 1965, Ser. No. 468,524
5 Claims. (Cl. 74—493)

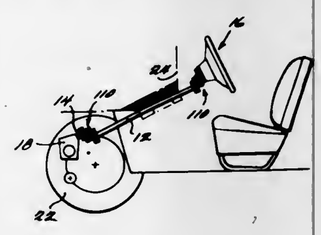
1. A steering column for transmitting steering movements to a vehicle comprising:

a steering wheel means for receiving steering and control movements from a driver of said vehicle,

a first steering shaft rigidly connected to said steering wheel means for transmitting rotary movements imparted to the steering wheel means,

a second steering shaft offset from said first steering shaft for relaying rotary steering and control movements to steering linkages which effect steering and control movements of said vehicle, said second steering shaft being connected by intermediate means to said steering linkages so as to translate rotary movements of the steering column into steering movements for said vehicle, and

torque transmitting means operatively connected between said first steering shaft and said second steering shaft for transmitting rotational movements from said first shaft to said second shaft, whereby steering movements imparted to said steering wheel will be transmitted and translated into steering and control movement for said vehicle, said torque transmitting means having: a first rotary member drivingly connected with an end of said first steering shaft for rotation therewith about a first axis of rotation, a second rotary member drivingly connected with an end of said second steering shaft and having a second axis of rotation offset relative to the first axis of rotation of said first rotary member, and means operatively connected between said first and second rotary members and having a substantially constant result-



ant centrifugal force substantially equal to zero during operation and a substantially constant resultant torque transmitting force substantially equal to zero with respect to said first and second axes of rotation during operation for transmitting rotational movement of said first rotary member about said first axis to said second rotary member about said second axis,

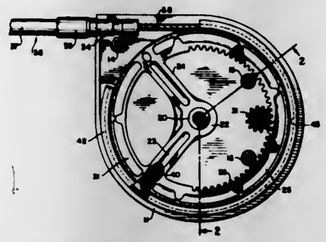
wherein said means operatively connected between said first and second rotary members further comprises:

an intermediate rotary member disposed between said first and second rotary members and having a third axis of rotation parallel with said first and second axes of rotation,

a first series of at least three link members of substantially identical construction disposed in parallel relation with respect to each other and having their ends rotatably connected respectively with said first rotary member and said intermediate rotary member about axes spaced equally within right cylindrical planes of equal diameter respectively concentric with said first axis and said third axis, and

a second series of link members of substantially identical construction disposed in parallel relation with respect to each other and having their ends rotatably connected respectively with said intermediate rotary member and said second rotary member about axes spaced equally within right cylindrical planes of equal diameter respectively concentric with said third axis and said second axis.

3,258,989
BOAT STEERING DEVICE
Clarence A. Frese, Hudson, and William J. Gilmore, Manitou Beach, Mich., assignors to American Chain & Cable Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 15, 1963, Ser. No. 324,031
2 Claims. (Cl. 74—501)

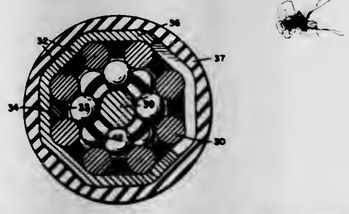


1. In a boat steering device wherein a ring is rotatable in a housing to wind and unwind a flexible member into and out of a circumferential groove in the ring through an opening in the housing with outward displacement of the flexible member resisted during unwinding by a curved plastic bearing member which the housing surrounds, said device being improved in that

(a) the plastic bearing member is rigidly abutted along substantially its entire outer curved surface by the surrounding housing so that both the bearing member and the flexible member are fixed against outward displacement during unwinding, and

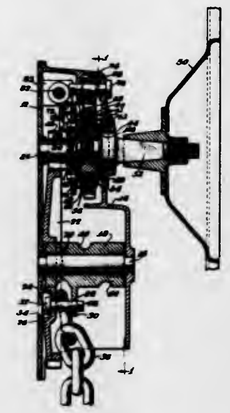
(b) the plastic bearing member is formed along its inner curved surface with a bearing groove opposed to the circumferential groove in the ring and defining therewith a space through which the flexible member passes of substantially the same cross section as the flexible member.

3,258,990
PUSH-PULL CABLE
Otto J. Bratz, Adrian, Mich., assignor to American Chain & Cable Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 20, 1964, Ser. No. 338,955
5 Claims. (Cl. 74—501)



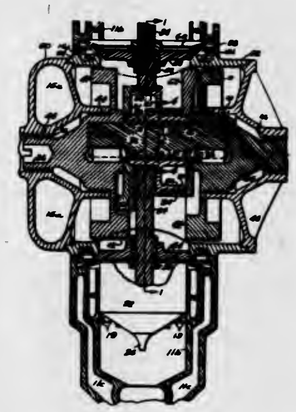
1. In a push-pull cable comprising a casing and a core element axially translatable therewithin in rolling engagement with a plurality of bearing balls inside said casing, the improvement which comprises a multiplicity of helically disposed wires bound together side-by-side throughout their length and defining the inner bore of said casing, every other one of said wires being spaced closer to the axis of the casing than the wires alongside it, a plurality of helical bearing races being formed throughout the length of the bore of said casing by the respective adjacent pairs of those wires spaced closer to the axis of the casing, said bearing balls in rolling engagement with said core element also being in rolling engagement with certain of said helical bearing races, whereby the bearing balls roll in a helical path as said core element is translated within said casing.

3,258,991
QUICK RELEASE HAND BRAKE MECHANISM
Frank A. Bezlaj, Matteson, Ill., assignor to Unarco Industries, Inc., a corporation of Illinois
Filed Oct. 14, 1963, Ser. No. 315,750
5 Claims. (Cl. 74—505)



1. A railway hand brake mechanism comprising a large gear, means for connecting said gear to a brake, a pinion engaging and driving said gear, a shaft rotatably carrying said pinion, means for turning said shaft, means for locking said shaft in a desired turned position, including a coupling plate operatively connecting said pinion to said turning means, a pivotable yoke member engaging both sides of said coupling plate, said yoke having a saddle portion, a cam shaft receiving said saddle portion, a cam on said cam shaft, said cam being aligned with said saddle portion, and means for rotating said cam shaft for moving said yoke member and thereby said coupling plate in response to the movement of said cam whereby said coupling plate disconnects said pinion from said turning means for releasing said brake.

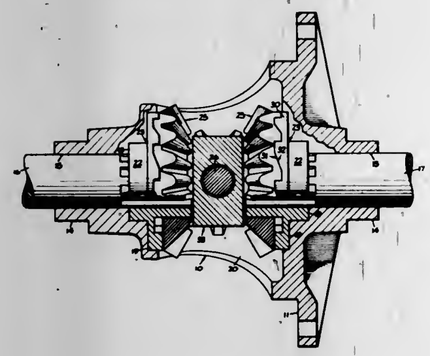
3,258,992
RECIPROCATING PISTON ENGINES
John L. Hittell, 9824 Berwick, Livonia, Mich.
Filed Feb. 25, 1963, Ser. No. 260,607
8 Claims. (Cl. 74—603)



1. In a mechanism for converting reciprocal piston motion to rotary shaft motion and vice versa, a crankpin carried in parallel offset relation to the shaft, eccentric

means rotatably journaled on the crankpin and including a first eccentric annular surface rotatably journaling a first piston assembly having a combined mass acting at one point and a second eccentric annular surface axially offset with respect to the first eccentric annular surface rotatably journaling a second piston assembly having a combined mass acting at another point and counterweight means fixedly carried by said eccentric means positioned axially adjacent and diametrically opposite said points having at least one mass acting at at least a third point such that said masses have a combined effective mass acting at the center of gravity of the crankpin during all phases of operation.

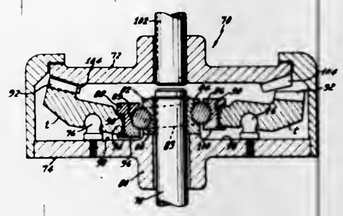
3,258,993
SELF-LOCKING DIFFERENTIAL
Louis Dupras, Marquette, Mich., assignor to The First National Bank of Waukegan, Waukegan, Ill.
Filed Dec. 11, 1962, Ser. No. 243,772
3 Claims. (Cl. 74—711)



1. A power transmission assembly comprising:
a rotatable case having a pair of coaxial output shafts journaled therein along the rotational axis of said case,
a pair of pinions rotatably mounted within said case on an axis normal to the axis of said shafts,
flanges extending radially from said shafts within said case,
side gears freely mounted for rotation on said shafts between said flanges and said pinions and disposed in engagement with said flanges,
complementary cam surfaces formed on the mating surfaces of said flanges and gears,
said cam surfaces being so formed as to effect an axial thrust of said side gears upon relative movement between said side gears and their respective mating flanges, said pinions interengaging each of said side gears, and means effecting rotatable movement of said case.

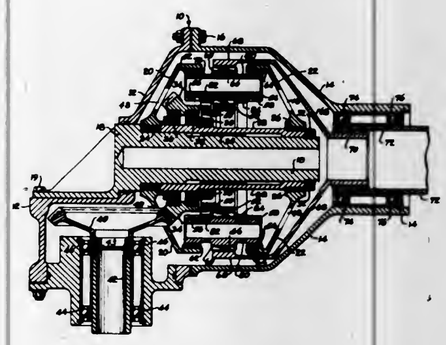
3,258,994
SPEED CHANGING DEVICE
Alex M. Gorfin, 490 West End Ave., New York, N.Y.
Filed June 3, 1963, Ser. No. 286,129
13 Claims. (Cl. 74—800)

3. A rotary speed changer comprising rotary gear means provided with beveled teeth, actuating means provided with complementary beveled teeth for engagement with said gear teeth, means mounting said actuating means against rotary movement and for composite rocking and eccentric motion of said complementary teeth to effect said engagement and for disengagement with said gear teeth, the number of gear teeth differing from the number of said complementary teeth, and rotary eccentric means operable on said actuating means to effect said composite



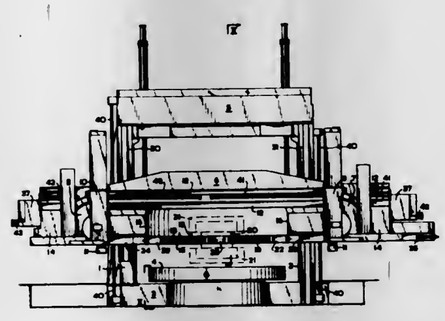
motion and successive progressive engagement and disengagement of said complementary teeth and said gear teeth.

3,258,995
COMPOUND PLANETARY SPEED REDUCER
Raymur B. Bennett, Wayne, Maurice E. Cushman, Verona, and Tofa W. Khiralla, Caldwell Township, Essex County, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed June 12, 1963, Ser. No. 287,360
3 Claims. (Cl. 74—801)



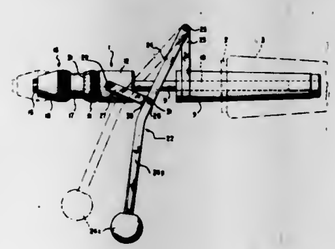
1. A speed changer comprising a fixed shaft; a pair of coaxial internally toothed substantially identical ring gears having corresponding openings in their end faces, said ring gears being spaced along and secured on the fixed shaft; a plurality of compound planetary members, each having one toothed portion in engagement with the toothed portion of one of the pair of internal ring gears and having a second toothed portion in engagement with the toothed portion of the other of said pair of internal ring gears, each of said planetary members also including a third toothed portion between the other toothed portions thereon; a third ring gear coaxial with said pair of ring gears and having an internal toothed portion in engagement with the said third toothed portion on each planetary member; an output shaft; a driving connection between the output shaft and said third ring gear; a sun gear coaxial with the ring gears, rotatable about the axis of said fixed shaft and in engagement with the third toothed portion of each planetary member; an input shaft; and a driving connection extending from said input shaft and through an opening in one of the said pair of ring gears to the sun gear.

3,258,996
BORING MILL
Erik Hansen, Gentofte, Denmark, assignor to Aktieselskabet Burmeister & Wains Maskin-OG Skibsbyggeri, Copenhagen, Denmark, a company of Denmark
Filed Feb. 15, 1965, Ser. No. 432,677
Claims priority, application Denmark, Feb. 28, 1964, 1,002/64
5 Claims. (Cl. 77—1)



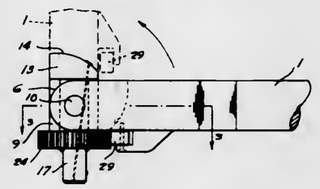
1. A boring mill, particularly for machining double cranks, comprising a rotary table, means for supporting said table, means for rotating said table, at least one vertical column located ajacent to said table, a cross slide or arm vertically displaceable along said column and means for effecting vertical displacement of said cross slide or arm, said cross slide having upper and lower guideways and a substantially vertical web interconnecting said guideways, said web having a recess extending backward with respect to said table and of such a depth that a work piece with a substantial overhang, e.g. a double crank set up on said table, can swing freely through said recess during the rotation of the table, at least one main saddle horizontally displaceable along said guideways of said cross-slide or arm and means for horizontally displacing said saddle along said guideways, and means for mounting a tool post on said saddle.

3,258,997
DRILLING DEVICE FOR LATHE TAILSTOCK
William M. Krisovitch, 1925 Troxell St., Allentown, Pa.
Filed Jan. 31, 1964, Ser. No. 341,716
5 Claims. (Cl. 77—60)



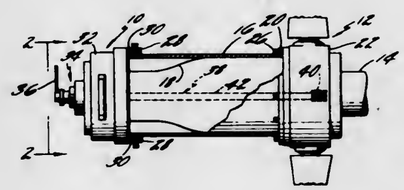
1. A drilling device of the character described adapted to be attached to the tailstock of a lathe for drilling an axial bore in a workpiece carried by the lathe headstock comprising a tapered shank adapted to be mounted within a spindle of the lathe tailstock, a rod slidably mounted within said tapered shank, a housing secured to one end of said rod, a shaft rotatably mounted within said housing, a drill chuck assembly connected to one end of said shaft, whereby the chuck assembly is rotatable relative to the housing, and linkage means operatively connected between the housing and the tapered shank, whereby the rod and associated housing and rotatable drill chuck assembly can be moved relative to the tapered shank.

3,258,998
MULTIPLE DUTY WRENCH
Jack P. Harper, Rte. 1, Benton, Miss.
Filed Feb. 19, 1965, Ser. No. 434,034
4 Claims. (Cl. 81—2)



1. A multiple duty wrench comprising a handle having a forked end, a collar pivotally connected to said handle forked end, a bit having a squared head, a cylindrical medial portion with said collar rotatably mounted thereon and a squared foot, a ratchet wheel having peripheral teeth and a squared bore keyed to said bit foot, a pawl pivotally carried by said handle for at times engaging said ratchet wheel teeth in one position of said handle relative to said bit and said handle forked end being of a configuration for mating with said bit head in further positions of said handle relative to said bit.

3,258,999
BACKLASH ADAPTER
Arthur C. Scheithauer, Canton, and Edward R. Simmons, Simsbury, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Jan. 19, 1965, Ser. No. 426,619
4 Claims. (Cl. 81—57)



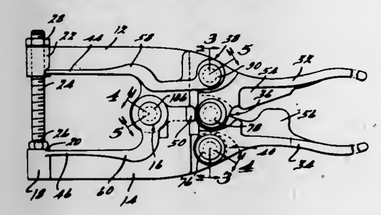
1. For a wrench adapted to tighten or loosen a nut or bolt or the like of the type having a gear train, mechanism having an elongated shaft carrying means for connecting with the nut or the like intended to be tightened or loosened, and being driven by the gear train, and mechanical driving means including a gear connected to the gear train for imposing torque to the element intended to be tightened, the improvement comprising means for eliminating backlash attendant the rotation of the elongated shaft, said means including a housing, a rotatable member rotatably supported in said housing, ratchet mechanism connected to said rotatable member and adapted to allow the rotatable member to rotate in one direction, said rotatable member having a driving surface, a rotatable driven member engageable with said rotatable member and adapted to drive the same, said rotatable driven member having a driven surface frictionally engageable with said driving surface. and means to disengage said surface so as to allow said rotatable driven member to rotate independently of said rotatable member.

3,259,000
LAWN SPRINKLER HEAD WRENCH
Cecil Arthur Lasch, Sr., 111 Heather Lane, Palo Alto, Calif.
Filed May 19, 1965, Ser. No. 457,148
4 Claims. (Cl. 81—90)



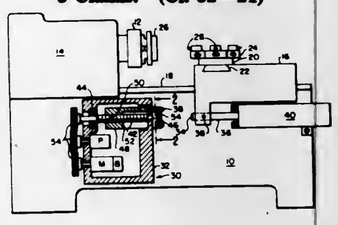
1. A device for removing lawn sprinkler heads comprising:
a straight central shaft;
a handle portion positioned at one end of said shaft at right angles to said shaft thereby defining a T;
a circular disc concentrically positioned on the end of said shaft opposite said handle at right angles to said shaft;
a first dog fixedly positioned at the outer periphery of said disc and protruding from the surface opposite said handle;
a radial slot in said disc positioned diametrically opposite to said first dog;
a second dog positioned through said slot and movable radially therein;
spring means for urging said second dog towards the center of said disc.

3,259,001
TOGGLE DEVICE
Friedrich W. Lampe, Detroit, Mich., assignor to Lapeer Manufacturing Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 18, 1965, Ser. No. 440,891
5 Claims. (Cl. 81—351)



1. A toggle device comprising:
first and second jaw members pivotally mounted for travel toward and away from each other,
first and second handle members pivotally mounted for travel toward and away from each other in response to forces applied thereto, and
means connecting said handle members and said jaw members for transmitting to said jaw members forces applied to said handle members and substantially reducing outward forces on said handle and jaw members tending to separate said members including,
interconnecting means formed on each of said jaw and handle members having a first flat portion formed in a first plane and a second flat portion formed in a second plane spaced from and parallel to said first plane,
means formed in each of said flat portions for receiving a pivot means,
said first flat portion on each of said members lying in overlapping relation to said second flat portion of the member connected thereto with said pivot receiving means in axial aligned relation, and
pivot means received in each of said axial aligned pairs of pivot receiving means for maintaining said toggle device in assembled relation.

3,259,002
AUTOMATICALLY ADJUSTABLE CARRIAGE STOP FOR MACHINE TOOLS
Joseph F. Huff, Hyde Park, and Waldron S. Macdonald, Concord, Mass., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Jan. 8, 1964, Ser. No. 336,466
5 Claims. (Cl. 82—21)

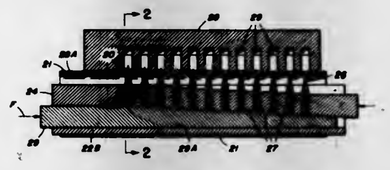


1. In a machine tool, a carriage supported for movement along a path; motive means for driving said carriage along said path; and a stop mechanism for said movable carriage, comprising a stop supported for movement along the path of said carriage for abutment therewith at preselected stop positions, further motive means drivingly connected for reversible adjusting movement of said stop along said path, first signal means responsive to the position of said stop, and independently-adjustable second signal means; said first and second signal means being connected for comprising the position of said stop with a stop position selected by said second signal means and for actuating said further motive means, when said positions do not coincide, in a direction to adjust said stop to the selected position, said carriage motive means are constructed and arranged to drive said carriage impositively and continuously into abutment with said stop, whereby movement of said stop directly re-positions said carriage.

3,259,003
METHOD AND APPARATUS FOR FORMING OPENINGS IN TUBULAR MEMBERS
James R. Griffin, Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed June 26, 1964, Ser. No. 378,371
12 Claims. (Cl. 83—54)

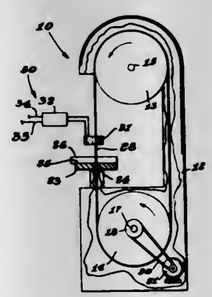
2. A means for forming a plurality of port openings through a wall portion of an elongated preformed tubular member comprising,
(a) an elongated tool base adapted to be fitted into the bore of said tubular member to prohibit the distortion of said tubular member,
(b) said tool base having an external contour closely conforming to a circumferential portion of the internal wall surface of said tubular member to brace the same,

(c) and said tool base having a longitudinally extending channelway formed therein opening to the unbraced circumferential wall portion of said tubular member,
(d) a cutting tool including a plurality of longitudinally spaced cutters adapted to be disposed in the



channelway of said tool base within said tubular member,
(e) and means defining an inclined surface disposed between the base of said channelway and said cutting tool whereby longitudinal displacement of the last said means effects radial displacement of the respective cutters to pierce the wall portion of said tubular member to form the port openings therein.

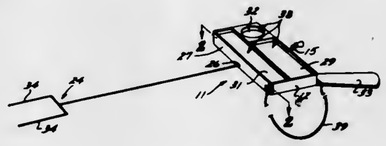
3,259,004
BAND SAW EMPLOYING A COPPER BLADE
Douglas S. Chisholm, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 10, 1964, Ser. No. 373,945
5 Claims. (Cl. 83—171)



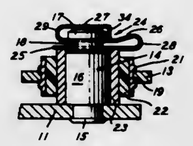
1. A band saw blade comprising an endless band of generally constant cross section adapted to be mounted on a band saw and having smooth edges of equal length and consisting of metal having a thermal conductivity greater than 0.33 calorie per second per centimeter per square centimeter per degree centigrade.

3,259,005
APPARATUS FOR ROTATING A BARBECUE SPIT
Jack D. Bello-Bridick, 821 S. Lake, Los Angeles 57, Calif.
Filed Oct. 9, 1964, Ser. No. 402,775
1 Claim. (Cl. 84—94)

Music box means including hollow housing means provided with and carrying music-producing means therein having a rotary portion adapted to audibly produce music as a result of rotation of said rotary portion thereof, said rotary portion of said music-producing means being effectively provided with torque-applying means positioned outside of said housing means for the forcible manual rotation thereof whereby to cause said music-producing means to audibly produce music; and rotary output means effectively connected with respect to said torque-applying means for rotation simultaneously with rotation thereof and with the production of music by said music-producing means, said output means being effectively provided with a coupling member cooperable for longitudinally removable but rotatively non-movable engagement with respect to a correspondingly shaped engagement end of a barbecue spit means for rotating such a barbecue spit means simultaneously with the rotation of said torque-applying means, said rotary portion of said music-producing means, and with the production of music thereby, said coupling member being positioned within one side wall of said housing means, which is provided with aperture means aligned therewith, for facilitating engagement and disengagement of said coupling member with respect to a correspondingly shaped engagement end of a barbecue spit means, said housing means being provided with carrying handle means extending outwardly therefrom in a direction having a component oppositely directed from the position of said coupling member, said housing means being provided with a multi-recessed upper surface portion effectively comprising serving tray means defining a plurality of downwardly directed serving and carrying recesses, said upper surface portion of said housing means being further effectively provided with permanent magnet means for magnetic retention with respect to a corresponding magnetic means adapted to be carried at the bottom of an auxiliary doll adapted to be positioned thereabove in upstanding relationship.



3,259,006
RETAINING CLIP
Eugene H. Dukatz, Livonia, and Edward J. Marklow, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 4, 1964, Ser. No. 372,532
1 Claim. (Cl. 85—8.8)



A spring clip retention device adapted to engage one end of a pivot stud pivotally coupling operating links together,
said stud having grooved means therearound,
said retention device comprising a resilient one-piece member having three superposed leg portions hingedly connected at alternate ends by reverse bend sections,
an adjacent two of said leg portions having aligned elongated apertures and the third leg portion being unapertured and terminating in an inturned flange extending at substantially right angles to said third

leg and overlying said apertures adjacent one end thereof in contiguous relation to the middle one of said three leg portions,

said apertures being closed at each end thereof with the width of said apertures being greater than the diameter of the end of said stud, whereby said apertured leg portions are adapted to axially receive said end of said stud with said third leg portion being flexed away from said middle leg portion as the flange thereon abuts the end surface of said stud,

the aperture in the middle leg portion being reduced at the end thereof remote from said inturned flange to a size complementary to the size of the groove means,

said member being movable in one direction transversely of the stud to position a marginal edge of said reduced aperture end in abutting relation to a wall of said groove thereby inhibiting axial removal of said member from said stud,

said flange of the third leg portion upon transverse movement of said member in said one direction being restored to contiguous relationship to said middle leg portion, whereby said flange extends alongside the end of said stud to prevent transverse movement of said member in the opposite direction,

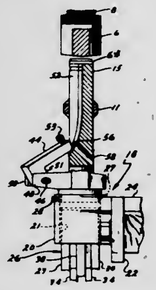
said apertured leg portions extending at a diverging angle to each other when in the free position.

3,259,007

CARTRIDGE RELOADING TOOL WITH IMPROVED PRIMER INSERTION AND EXTRACTOR MEANS

Richard S. Havourd, Suffield, Conn., and William S. Winton, Chicopee Falls, Mass., assignors to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed July 21, 1964, Ser. No. 384,185
5 Claims. (Cl. 86—36)



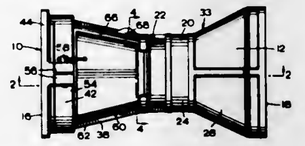
1. In an ammunition reloading tool having a frame and plunger, a primer arm disposed on said frame and pivotable betwen primer receiving and primer inserting positions, said plunger including a longitudinally extending slot, for ejected primer caps, terminating at its lower end in an outwardly extending cam surface, said primer arm extending into said slot and being engaged by said cam surface when the plunger is raised, said arm thus being pivotable in response to reciprocable plunger movement whereby said arm is automatically moved by said plunger from an upwardly extending primer receiving position to a generally horizontal position for inserting a primer into a cartridge, said longitudinal slot terminating at its lower end in communication with a port extending from the slot through the wall of the plunger, the end of said primer arm terminating at said port when the plunger is at one end of its stroke whereby said primer arm serves to deflect ejected primers from said slot through said port.

3,259,008

OSCILLOSCOPE TRACE COPY ATTACHMENT

Willard E. Buck, P.O. Box 418, Saratoga, Calif.

Filed May 27, 1963, Ser. No. 283,362
8 Claims. (Cl. 88—24)



1. An attachment for use with a lens and a film back containing a high-speed self-processing emulsion to form a copy camera adapted to photographically reproduce oscilloscope traces which comprises: a housing open at both ends having an intermediate tubular section adapted to receive a camera lens that separates a light-tight portion that form the camera body from a lens-shading portion that has a viewing port in the wall thereof, the openings at the ends of said housing lying in spaced parallel relation to one another normal to the axis of the tubular section, the rear end opening cooperating with the body portion to define a mask framing the film with a film back in place thereon, and said front opening being of a size and shape adapted to encircle the face of an oscilloscope tube upon which the trace to be photographed appears; means carried by the rear of the camera-body portion of the housing bordering the opening therein adapted to receive a film back of the type used with self-processing films of light-tight relation; means carried by the lens-shading portion of the housing bordering the front opening therein adapted for attachment to the face of an oscilloscope in position such that the trace is visible through the viewing port in the wall; means for mounting a camera lens within the tubular section of the housing in light-tight relation to the camera-body portion including a tubular lens mount attached within said tubular housing section for axially adjustable movement to vary the ratio of the size of the reproduced image with respect to the actual image; and, gate-means carried by the lens shading portion of the housing for movement from an open position uncovering the viewing port into a closed position covering the latter which substantially excludes extraneous light.

3,259,009

MECHANISM FOR PROVIDING A PRECISE REDUCTION RATIO IN PHOTOGRAPHIC COPIERS

Gerard O. Walter, Westbury, N.Y., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 11, 1963, Ser. No. 329,821
4 Claims. (Cl. 88—24)

1. In a machine for producing photographic copies of documents, mechanism for providing a precise reduction in the size of said document copies relative to the actual size of the documents photographed, said machine including a document conveyor for transporting documents to be copied at a first certain speed past an illuminated photograph zone lying in an object plane and a film transport for transporting film past a certain image projection zone lying in an image plane, said image plane being spaced from said object plane, said film transport conveying said film at a second certain speed in predetermined synchronism with the speed of travel of said document in accordance with a predetermined reduction ratio, a lens, a lens holder encasing said lens, means removably securing said lens holder at a certain distance from said image plane and with the optical axis of said lens in alignment with said projection zone, said lens holder having a shoulder portion positioned at a predetermined point along the optical axis of said lens, light deflecting means interposed along the optical axis of said lens and positioned for receiving the images of documents passing through said photograph zone, said deflecting means providing a folded optical path and directing said document images from said photograph zone through said lens onto said film moving past said

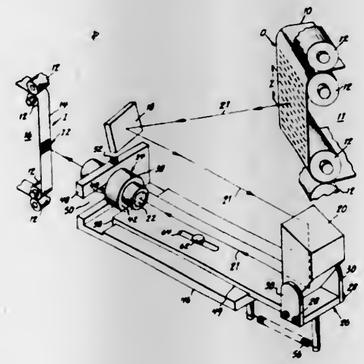


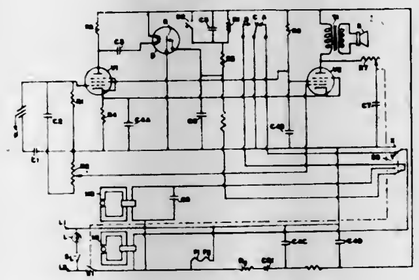
image projection zone, means mounting said deflecting means against movement transverse to the optical axis of said lens and allowing movement thereof along said optical axis, said mounting means including a portion formed for abutting relationship with said lens holder shoulder, and means yieldably urging said abutting portion against said shoulder to establish the position of said deflecting means carried by said mounting means with respect to said lens.

3,259,010

SYNCHRONIZING MEANS FOR AUDIO-VISUAL APPARATUS

Marvin I. Mindell, Great Neck, N.Y., assignor to Viewlex, Inc., Holbrook, N.Y.

Filed May 29, 1963, Ser. No. 284,083
1 Claim. (Cl. 88—28)



In audio-visual presentation means,

a phonograph motor,

a film frame advance motor,

a phonograph pickup adapted to pickup audio content and inaudible synchronizing pulses from a record,

means to separate said audio content and said synchronizing pulses,

means to amplify said synchronizing pulses,

means to connect to said amplifying means to detect said synchronizing pulses comprising integrating means,

a control relay connected to said integrating means, said relay being adapted to control said film motor,

two position switch means connected to said control relay, said film motor and said phonograph motor to stop said phonograph motor and a push button switch connected across said integrating means and adapted to start said phonograph motor, said two position switch means being connected to provide two modes of operation,

said two position switch means being connected in said first position to continuously energize said phonograph motor and connected to said relay to stop said film motor when a pulse is received,

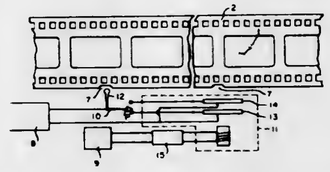
said two position switch means being connected in said second position to energize said phonograph motor through said relay until a pulse is received and then to stop said phonograph motor until manually restarted by said push button switch.

3,259,011

AUTOMATIC SYNCHRONIZING CHANGE-OVER APPARATUS OF SOUND SLIDE PROJECTOR

Masayoshi Yamada, 51 Zenpukuji-machi, Suginam-ku, Tokyo-to, Japan

Filed July 5, 1963, Ser. No. 292,835
2 Claims. (Cl. 88—28)



1. Apparatus for synchronizing a pair of longitudinally traveling picture-bearing and sound-bearing media, said sound bearing medium (1) having recorded thereon an explanation voice signal (3), a pair of main control signals (4, 5) each consisting of longitudinally recorded signals, one of said main control signals (4) having a length (*l*) that corresponds with the time for one frame change (*t*) of the picture bearing medium (2), and the other of said main control signals (5) having a length (L) that is several times longer than that of the first main control signal (4), said sound bearing medium having also recorded thereon a synchronizing signal (6) having a different frequency than that of said main control signals, said picture bearing medium containing also longitudinally spaced synchronizing mark means (7) corresponding to the synchronizing means (6) recorded on said sound-bearing medium;

frequency discriminating means (11) including first frequency responsive means (13) responsive to said main control signals (4, 5) for generating first film advancing signals, and second frequency responsive means (14) responsive to said synchronizing signals (6) for generating second film advancing signals;

signal-responsive means (8) for advancing the film (2);

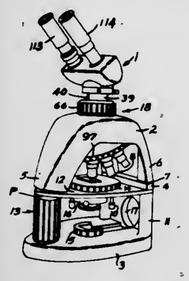
switch means (10) having a first position (P) operable to connect said first frequency-responsive means (13) with said film advancing means (8), and a second position operable to connect said second frequency responsive means (14) with said film advancing means;

and means (12) responsive to the instantaneous position of said synchronizing mark means (7) for displacing said switch means (10) from said first position to said second position.

3,259,012
MICROSCOPE HAVING BRIDGE TYPE SUPPORT ARM FOR BODY TUBE AND FOCUSING MECHANISM

Marcel Locquin, Montreuil, France, assignor, by mesne assignments, to Inventions Finance Corporation, a corporation of Delaware

Filed Sept. 12, 1960, Ser. No. 55,340
10 Claims. (Cl. 88—39)

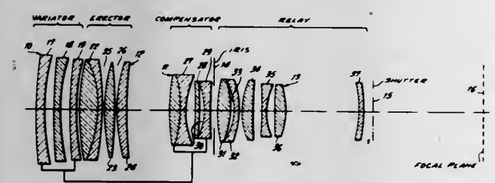


1. A microscope comprising in combination a base, a body tube and a body tube carrying arm in the form of a bridge spanning the base, said arm being supported from both sides of said base in no more than three localized bearing areas, said bearing areas being localized into a point, a line, and a small area plane, said bridge-like arm resting at one end on a movable driving piece connected to the base by a fine adjustment focusing mechanism for elevating and lowering said end of the arm, and the other end of said arm resting upon two spaced ball bearings, one seated in the base in a conical opening and the other seated in a straight line channel having a V-shaped cross section, said fine adjustment focusing mechanism comprising an elongated tubular core affixed at one end to said base, the exterior of one portion of said core having threads of a selected pitch, a sleeve slidable on another portion of the core and having external threads of a slightly different pitch, an elongated nut having separate internal sections with threads of different pitches meshing with the threads of said core and sleeve, and means moved by said sleeve in engagement with said driving piece to move the latter and said arm upon turning movement of said nut.

3,259,013
VARIFOCAL LENS SYSTEM FOR CAMERAS USING LEAF TYPE SHUTTERS

Frank G. Back, 55 Sea Cliff Ave., Glen Cove, N.Y.

Filed Feb. 21, 1963, Ser. No. 260,123
2 Claims. (Cl. 88—57)



1. A varifocal lens assembly for use with cameras employing a leaf type shutter immediately behind the lens comprising in the order of the entrant light beam, a variator lens group of spaced negative lenses enclosing two air lenses, an erector lens group of spaced fixed positive lenses enclosing two bi-concave air lenses, a compensator lens group of spaced lenses of negative power the last two elements of which enclose an air lens, said variator lens group and compensator lens group being linked together in fixed spaced relationship and axially slidable with respect to the erector lens group, and a relay consisting of a telephoto system preceded by a collimating lens group consisting of a bi-convex positive element followed by a negative meniscus, said collimating lens group enclosing an air lens of negative power and in which the elements have the following optical characteristics wherein N_D is the refractive index for the D line, V is Abbe's dispersion number, LaF stands for Lanthanum Flint, LaK stands for Lanthanum Crown, SF stands for Dense Flint, LaSF stands for Dense Lanthanum Flint, BK stands for Borosilicate Crown, SK stands for Dense Crown:

Lens No.	Radius (R) mm.	Thickness (t) Air Spacing (s)	Glass Cat. Ref.	Index N_D	Dispersion V
		VARIATOR			
17	R_1 = 883.57	t_1 = 2.50	LaF-2	1.744	44.90
	R_2 = 79.58	s_1 = 3.50			
18	R_3 = 250.10	t_2 = 2.50	LaF-2	1.744	44.90
	R_4 = 80.70	s_2 = 3.50			
19	R_5 = 270.88	t_3 = 2.50	LaF-2	1.744	44.90
	R_6 = 98.67	s_3 = 1.93 to 16.33.			
		ERECTOR			
22	R_7 = 93.11	t_4 = 7.00	LaK-10	1.720	50.31
	R_8 = −40.45	t_5 = 1.50	SF-18	1.7215	29.28
	R_9 = −160.61	s_4 = .25			
23	R_{10} = 63.85	t_6 = 4.00	LaK-9	1.691	54.79
	R_{11} = −240.37	s_5 = .25			
24	R_{12} = 56.17	t_7 = 4.16	LaK-9	1.691	54.79
	R_{13} = 310.44	s_6 = 15.15 to .75.			
		COMPENSATOR			
27	R_{14} = 84.77	t_8 = 4.50	SF-18	1.7215	29.28
	R_{15} = −43.06	t_9 = 1.50	LaK-10	1.720	50.31
	R_{16} = 26.21	s_7 = 3.50			
28	R_{17} = −97.46	t_{10} = 1.60	LaSF-2	1.8374	43.47
	R_{18} = −763.85	s_8 = 1.90			
29	R_{19} = −32.28	t_{11} = 1.74	LaSF-2	1.8374	43.47
	R_{20} = 1323.99	s_9 = 1.00 to 15.40.			
		IRIS			
		s_{10} = 1.00			

Lens No.	Radius (R) mm.	Thickness (t) Air Spacing (s)	Glass Cat. Ref.	Index N_D	Dispersion V
		RELAY			
31	R_{21} = +40.86	t_{12} = 5.00	BK-7	1.5168	64.19
	R_{22} = −35.35	s_{10} = 1.40			
32	R_{23} = −20.77	t_{13} = 2.00	LaF-7	1.7495	34.99
	R_{24} = −30.16	s_{11} = .50			
34	R_{25} = +23.57	t_{14} = 4.50	SK-16	1.6204	60.29
	R_{26} = +182.45	s_{12} = 3.00			
35	R_{27} = −233.63	t_{15} = 2.00	LaK-10	1.720	50.31
	R_{28} = +20.35	s_{13} = 3.00			
36	R_{29} = +108.73	t_{16} = 4.50	SK-16	1.6204	60.29
	R_{30} = −25.16	s_{14} = 22.30			
37	R_{31} = −39.23	t_{17} = 2.00	SF-18	1.7215	29.28
	R_{32} = −96.03	s_{15} = 2.75			
		SHUTTER			
		s_{16} = 36.76			

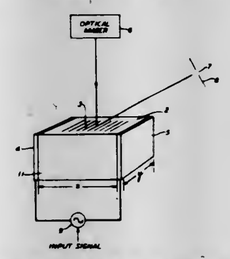
LaF = Lanthanum Flint.
LaK = Lanthanum Crown.
SF = Dense Flint.
LaSF = Dense Lanthanum Flint.
BK = Borosilicate Crown.
SK = Dense Crown.

wherein the lens elements are numbered in order from front to rear in the first column, the radii of curvature R of the lens surfaces are given in the second column, the respective surfaces being numbered from front to rear and being respectively identified by the subscript numeral used with each R, with plus and minus values of R indicating curved surfaces which are respectively convex and concave toward the front of the lens, the axial thicknesses *t* of the respective lens elements and the axial thicknesses *s* of the air spaces between lens elements being given in the third column, the respective lens element thicknesses and air spaces being separately numbered from front to rear and being respectively identified by numerical subscripts used with each *t* and *s*.

3,259,014
LIGHT MODULATOR USING A VARIABLE SPACING DIFFRACTION GRATING

Leo F. Johnson, North Plainfield, and Dawon Kahng, Somerville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed June 30, 1961, Ser. No. 121,139
3 Claims. (Cl. 88—61)

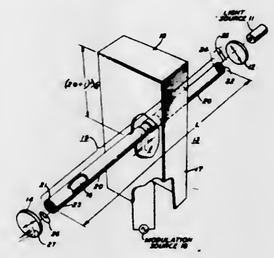


1. Light modulating apparatus comprising a piezoelectric member having on a surface thereof an optical diffraction grating characterized by a predetermined grating spacing, means for projecting a beam of light to be modulated onto said grating thereby producing a diffraction pattern, means for applying to said member a modulated oscillatory electric field for causing said member to vibrate in a fundamental resonant mode, the frequency of said field being substantially equal to the fundamental natural resonance of said member, thereby producing corresponding oscillatory changes in the grating spacing and consequently in the diffraction pattern, means for modulating said oscillatory electric field, and output means responsive to the modulation of said oscillatory changes of the diffraction pattern.

3,259,015
MULTIPLE REFLECTION OPTICAL WAVE MODULATOR

Enrique A. J. Marcatili, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 30, 1962, Ser. No. 190,882
14 Claims. (Cl. 88—61)



1. Apparatus for modulating an optical wave at a microwave frequency comprising in cascade:
a wave polarizer;
a differential phase shifter;
and a wave analyzer;
characterized in that said differential phase shifter is a microwave resonator comprising;
a hollow, conductive cylinder having conductively terminated ends;
said ends also being highly reflective for said optical wave;
a rod of electro-optical material located within said cylinder with its optical axis aligned parallel to the cylinder axis;
the dimensoins of said resonator being proportioned to support wave energy at said microwave frequency in a TM_{01p} mode;
said resonator being further proportioned to have a length L along the resonator axis given by

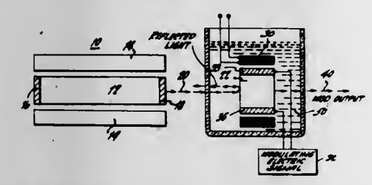
$$L = \frac{p}{2} \cdot \frac{v_m}{f}$$

where:
p is the length of the resonator along the axis expressed as the number of half periods of the microwave frequency,
v_m is the velocity of propagation of the optical wave in the electro-optical material, and
f is the microwave frequency;
means for exciting said resonator at said microwave frequency;
means for introducing an optical wave into said resonator through one of said ends;
and means for extracting said optical wave from said resonator through one of said ends.

3,259,016
TUNABLE SEMICONDUCTOR OPTICAL MODULATOR

Bruce Rosenblum, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 28, 1962, Ser. No. 240,610
2 Claims. (Cl. 88—61)

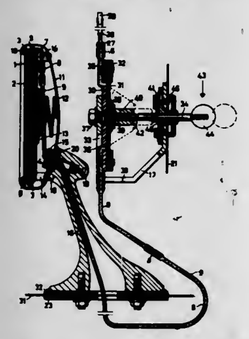


1. In combination,
(a) means for generating an optical beam at a first frequency,
(b) a semiconductor positioned in the path of said optical beam, said semiconductor having an absorption edge at a frequency lower than said first frequency and said semiconductor being capable of exhibiting an additional absorption edge at a frequency at or near said first frequency,
(c) magnetic field means for establishing Landau levels, and thereby addition absorption edges including said additional absorption edge at a frequency at or near said first frequency, in said semiconductor, and
(d) means for shifting the frequencies of said absorption edges in said semiconductor in response to and in accordance with a modulating signal.

3,259,017
DIMMING REAR-VIEW MIRROR CONTAINING LIGHT ABSORBING LIQUID AND HAVING PUMP MEANS

Tillo Faulhaber, 34 Ulmenstrasse, Frankfurt am Main, Germany

Filed Sept. 19, 1962, Ser. No. 224,865
Claims priority, application Germany, Sept. 20, 1961, B 64,063
12 Claims. (Cl. 88—77)

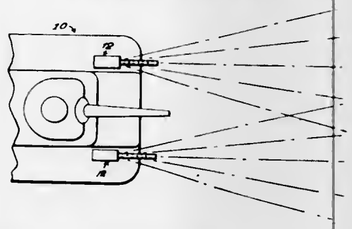


1. In a rear view mirror for a vehicle, in combination:
(a) a housing formed with an opening therein;
(b) a transparent plate member extending across said opening and having an inner face in said housing;
(c) a reflecting plate member in said housing and having a face opposite said inner face, said plate members having respective peripheral portions extending about the corresponding faces;
(d) sealing means of pliable material connecting said peripheral portions for movement of said plate members between a first position in which said faces thereof are closely adjacent each other and a second position in which said faces are remote from each other, said sealing means and said plate members in said second position defining therebetween a substantially sealed chamber having one transparent wall and one reflecting wall;
(e) a light absorbing liquid substantially filling said chamber when said plate members are in said second position thereof; and
(f) pump means communicating with said chamber for withdrawing said liquid therefrom and for thereby moving said plate members toward said first portion, and for returning the liquid to said chamber for thereby moving said plate members from said first toward said second position thereof, whereby a dimmed reflected image appears on the surface of said transparent plate member in said second position of the plate members, and a substantially brighter image appears on said surface in said first position of the plate members,
(1) said pump means including a pump and a conduit connecting said pump with said chamber, the internal volume of said conduit being smaller than the volume of said chamber.

3,259,018
AUTOMATIC TRAVERSING MACHINE GUN UNIT

George O. Noville, Woodland Hills, and Samuel L. Sola, Los Angeles, Calif., assignors to the United States of America as represented by the Secretary of the Army

Filed Nov. 9, 1956, Ser. No. 621,489
4 Claims. (Cl. 89—41)



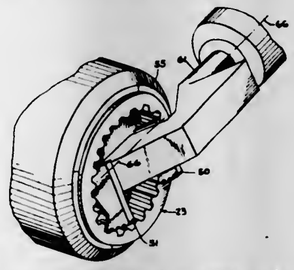
1. A traversing mechanism for a machine gun comprising a pivotally supported base, a cradle slidingly carried by said base, a machine gun in said cradle so that recoil of said gun will reciprocate said cradle, a shaft rotatably journaled in said base, a crank member adjustably attached to said shaft so that rotation of said shaft rotates said crank member, a roller pivotally mounted in said crank member in eccentric relation to said shaft, fixed guide members engaging said roller and preventing rotational movement of said roller, and means connecting said cradle to said shaft whereby reciprocation of said cradle rotates said shaft and crank member thereby oscillating said base.

3,259,019
METHOD AND APPARATUS FOR MANUFACTURING TOOTHED MACHINE ELEMENTS

William H. Bibbens, Birmingham, Mich. (14230 Birwood Ave., Detroit, Mich.)

Filed July 31, 1964, Ser. No. 386,506
9 Claims. (Cl. 90—1.4)

1. In a method of cutting arcuate recesses in the working faces of internal teeth of a toothed machine element having circularly arranged internal teeth, on both sides of each tooth, the steps of providing an oscillating broach unit having its radius of oscillation equal to the radius of arcuate recesses, and two broach cutters spaced and shaped to cut simultaneously recesses in the working faces of two spaced teeth, the faces of which in an end view are substantially parallel to a cord of the gear circle, which cord is substantially parallel to the axis of oscillation of the broach, disposing said broach unit within the workpiece to have its axis of oscillation coincide with the

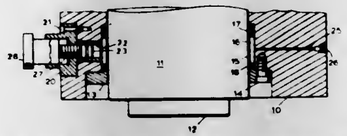


axes of the predetermined recesses to be cut, and oscillating said broach unit for cutting the recesses on said two teeth, and for returning the unit to the starting position.

3,259,020
MACHINE TOOL QUILL CLAMPING MECHANISM

Robert O. Walker, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed July 20, 1964, Ser. No. 383,709
6 Claims. (Cl. 90—11)



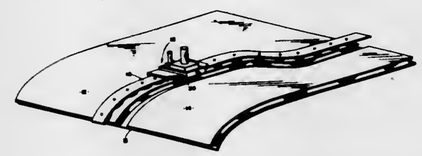
1. In a machine tool having a housing wherein an axially adjustable quill is received, a quill clamping mechanism comprising in combination:
(a) a bushing fixed in the housing and extending around the quill, said bushing having a thin annular section around the quill and an annular space between said thin section and the housing,
(b) a cylinder in said housing having a bore opening at one end into said annular space,
(c) a piston slidably received in the cylinder bore,
(d) an incompressible, hydraulic medium filling said annular space and cylinder bore between said piston and bushing,
(e) mechanical means for selectively producing a force to move said piston toward the annular space to pressurize the hydraulic medium therein to bulge said thin section forcibly against the quill whereby a restraint is provided to resist axial movement of the quill, and
(f) means to limit said force to a predetermined magnitude to prevent excessive pressure in said annular chamber.

3,259,021
MULTIPLE PURPOSE FABRICATION APPARATUS AND METHOD

Joseph S. Appleton, Gardena, and Latham Pollock, Pacific Palisades, Calif., assignors to North American Aviation, Inc.

Filed May 5, 1961, Ser. No. 108,111
16 Claims. (Cl. 90—13)

1. In self-guided mobile fabrication apparatus:
tool means including a tool for performing a fabrication operation on a workpiece,
carriage means for mounting said tool means in operative relationship with said workpiece,
track means for supporting said carriage means movably with respect to said workpiece,
roller means connected to said carriage means and operatively engaging said track means,
force means supported on said carriage means including a pneumatic cylinder for applying force to said

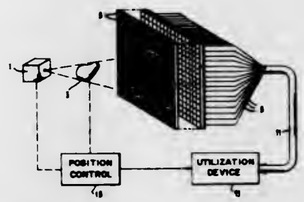


roller means to maintain said operative engagement of said roller means with said track means, and
moving means on said carriage means for moving said carriage means relative to said track means during operation of said tool.

3,259,022
OBJECT SCANNING TECHNIQUES

Thomas Vietorisz, New York, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 17, 1963, Ser. No. 331,157
34 Claims. (Cl. 90—13.5)



1. An apparatus for scanning a three-dimensional object comprising, in combination:
a single source of radiation directed toward the object;
a radiation-sensitive surface;
and means for sequentially altering the relative position of the source, the object and the surface so that regions of the object are examined by tangential radiations during the alternation.

3,259,023
METAL WORKING MACHINE AND MACHINING PROCESS

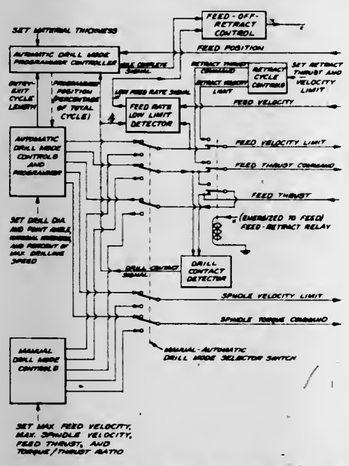
Richard F. Rieger, Bonita, Thomas W. Schafer, Chula Vista, and Ivan Dale Wells, National City, Calif., assignors to Applied Machine Research Inc., El Cajon, Calif., a corporation of California

Filed Jan. 8, 1965, Ser. No. 424,362
19 Claims. (Cl. 90—13.5)

1. In a metal working machine for moving a cutting tool through a work piece, the combination of:
a spindle including means for carrying a cutting tool therein;
first drive means for advancing said spindle;
second drive means for rotating said spindle;
means for securing the torque of said spindle;
means for sensing the advance feed thrust of said spindle;
means for sensing the rotational velocity of said spindle;
means for sensing the advance feed velocity of said spindle;
first control means having the outputs of said feed thrust, and feed velocity sensing means as inputs

and providing an output to said first drive means for varying the output thereof to maintain the feed thrust substantially equal to a predetermined value; and

second control means having the outputs of said torque and rotational velocity sensing means as inputs and

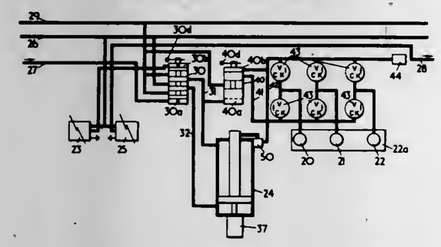


providing an output to said second drive means for varying the output thereof to maintain the spindle torque substantially equal to a predetermined proportion of the feed thrust.

3,259,024
MINE ROOF SUPPORT REMOTE CONTROL SYSTEMS

John Dunbar Kibble, London, and Ronald George Penn, Hounslow, Middlesex, England, assignors to Coal Industry (Patents) Limited, London, England

Filed Mar. 2, 1964, Ser. No. 348,487
Claims priority, application Great Britain, Mar. 8, 1963, 9,326/63
10 Claims. (Cl. 91—1)

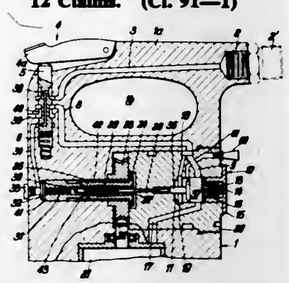


1. A mine roof support system comprising a plurality of fluid operated mine roof support units each having at least one fluid extensible prop and being arranged at spaced intervals along a mineral face for operation in at least two separate successive groups of support units each group being operated according to predetermined group sequence and including a master support unit connected in series with said master support unit and at least one slave support unit; each said master support unit being connected in parallel to a control unit anchorage means common to all of the support units; at least one fluid operated jack associated with and connected between each support unit and the anchorage means for advancing the associated support unit relative to the mineral face; a fluid pressure supply line for applying operating fluid to the support units and jacks; support unit control means associated with each support and responsive to a control signal for controlling the operational sequence of the associated support unit and its associated jack, said control unit operable from a remote position for each master unit for initiating operation of the support unit control means of the first support unit to be advanced in a group sequence; a control signal connection between each support unit of a group linking the support unit control means of one support unit with the support unit control means of the next support unit to be operated for transmitting a control signal to the next support to initiate operation of same; and means associated with the last support unit to be advanced in each group to provide at said remote position an indication that the group has completed its operational sequence.

3,259,025
ROTARY IMPACT TOOL

Leo Kessler, 4 Koenigsberger Strasse, Niederhoechstadt, Taunus, Germany, and Jens P. Friebel, 1 Schoenbornring, Neu-Isenburg, Germany

Filed Feb. 3, 1964, Ser. No. 342,027
Claims priority, application Germany, Feb. 2, 1963, F 38,916
12 Claims. (Cl. 91—1)



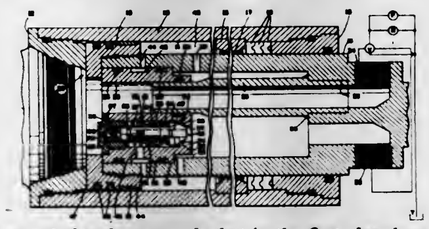
1. In a rotary impact tool, in combination, a rotary motor; arresting means movable between an initial non-arresting position and a second arresting position in which said motor is arrested; means operatively connected with said motor and arranged to move said arresting means from said initial non-arresting position to said second arresting position in response to said motor completing a predetermined number of revolutions; and means operative to shift said arresting means back from said second arresting to said initial non-arresting position thereof independently of rotation of said motor so that said arresting means are in said initial position thereof preparatory to starting the next operation of the tool.

3,259,026
FLUID PRESSURE MOTOR WITH UNLOADING VALVE

Rolf A. Madland, Arlington Heights, and Walter W. Davis, Palatine, Ill., assignors to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Nov. 5, 1964, Ser. No. 409,112
15 Claims. (Cl. 91—26)

1. In a fluid pressure motor, a hollow body, a movable wall forming first and second chambers within said body, a first passage for conducting fluid to and from the first chamber, a second passage for conducting fluid to and from the second chamber, cooperating means carried by the movable wall and the body for trapping fluid within said second chamber when the wall is near one end of its travel for cushioning the movement of the wall, a valve chamber containing valve means, a third passage connecting the first chamber with the second passage, a fourth passage connecting the second chamber with the valve chamber, said valve means having areas subject to fluid pressures in said chambers and second passage such that the valve means closes said third passage when fluid pressure in said first chamber is greater than that in the second chamber, opens communication between the first chamber and the second passage when the pressure of fluid in

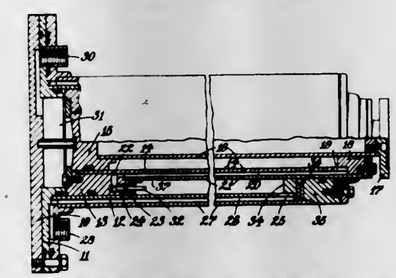


the second chamber exceeds that in the first chamber and opens communication between the second passage and second chamber when the fluid pressure in the second passage exceeds that in the second chamber.

3,259,027
TWO-STAGE FLUID PRESSURE OPERATED PISTON AND CYLINDER ASSEMBLIES

Alan Phillipson, Basil Harry Royston Spiller, Robin Smith, and Harry Cheesman, all of London, England, assignors to Decca Limited, London, England, a British company

Filed Sept. 11, 1964, Ser. No. 395,871
Claims priority, application Great Britain, Sept. 17, 1963, 36,583/63
8 Claims. Cl. 91—169)



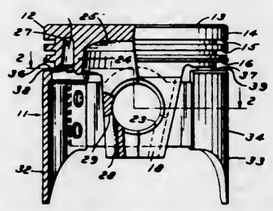
1. A two-stage double acting piston and cylinder assembly comprising an inner piston and cylinder, an outer piston and cylinder, the inner cylinder being movable with the outer piston within the outer cylinder, means for applying fluid pressure at one end of the assembly to one face of both pistons in the direction to force the pistons outwardly from said one end, an outlet path for the fluid from the other face of the inner piston at the other end of the inner cylinder remote from said one end through the outer piston into the outer cylinder, and valve means in said outer piston normally closing said outlet path to the passage of fluid, said valve means having valve opening means arranged to be actuated by the outer piston when the outer piston is at the outward limit of its travel; said valve means being openable also under fluid pressure when pressure is applied to the outer cylinder to return the pistons towards said one end.

3,259,028
PISTON

Frank C. Hutto, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Mar. 20, 1964, Ser. No. 353,384
8 Claims. (Cl. 92—228)

2. A lightweight pistion for an internal combustion engine comprising a head portion having a piston ring belt area, integral piston pin bosses depending from diametrically opposite sides of said head portion, said piston pin bosses being spaced radially inwardly from the outer circumference of said piston ring belt area, said head portion and said piston pin bosses being formed from a lightweight metal having a high coefficient of thermal expansion, a first strut embedded in one of said piston pin bosses, a second strut embedded in the other of said piston pin bosses, said struts being formed from a material having a lower coefficient of thermal expansion than said head portion, said struts having perforations in the outer

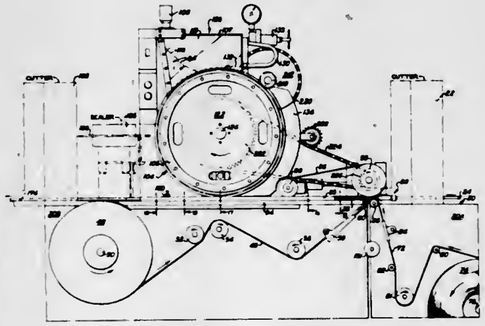


ends thereof, first and second skirts formed from a lightweight metal, each of said skirts extending circumferentially around a respective side of said piston to provide a cylinder wall engaging surface, each of said skirts being affixed at one side to one end of said first strut and at the other side to one end of said second strut by portions that extend through the perforations in said struts.

3,259,029
APPARATUS AND PROCESS FOR MAKING FILTER TIPS FOR CIGARETTES

Floyd V. Hall and Tipton P. Sutton, Durham, N.C., assignors to Liggett & Myers Tobacco Co., New York, N.Y., a corporation of New Jersey

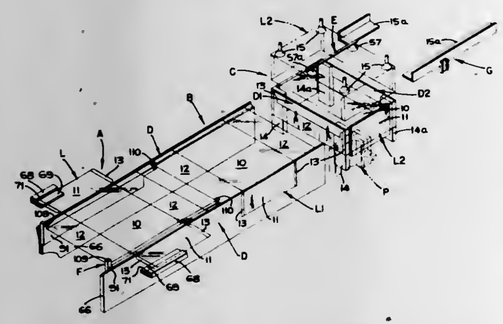
Filed July 11, 1963, Ser. No. 294,811
31 Claims. (Cl. 93—1)



1. Apparatus for the production of cigarette filter tips having a multi-sectional internal construction, said apparatus comprising (1) a base, (2) a transporting means carried by the base, said means including a traveling conveyor belt, (3) means for feeding a strip of mouthpiece paper to and onto the traveling conveyor belt for conveyance thereby, (4) means for continuously feeding and successively cutting a rod of entrainment-type, fibrous filter material into equal-length filter elements, and depositing these elements in an axially aligned sequence onto the traveling mouthpiece paper, (5) means for driving and accurately maintaining the speed of the conveyor belt and the mouthpiece paper thereon at a determined speed in excess of the speed of the fibrous filter elements leaving the cutting means for accelerating these elements and providing a determinate space between successive fibrous filter elements as deposited or said mouthpiece paper, (6) means for injecting a charge of granular adsorption-type filter material into each determinate space between successive fibrous filter elements, (7) means for forming and

sealing the mouthpiece paper into an overlapped tube fully enclosing and forming a rod-shaped assembly of alternate fibrous filter elements and granular materials, and (8) means for cutting the rod-shaped assembly into successive filter tip assemblies of determinate length.

3,259,030
FABRICATION OF BOX PARTS FROM PLASTIC MATERIAL
Charles F. H. Crathern III and Frederick D. Roberts, Contoocook, N.H., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Mar. 21, 1963, Ser. No. 267,058
23 Claims. (Cl. 93—49)

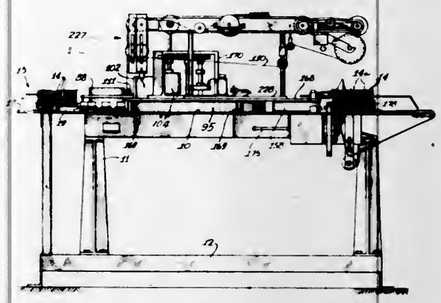


2. Apparatus for forming box parts having inside tabs from corner notched blanks of thermoplastic sheet material, which blanks provide a main panel, a pair side panels, a pair of end panels, and sealing tabs on said end panels; said apparatus comprising a blank registration station, first and second folding stations, longitudinally reciprocable feed means for advancing blanks from station to station, and means for removing completed boxes from said second folding station; laterally spaced, longitudinally extending die sets at said first folding station for folding the end panels and associated tabs, longitudinally spaced, laterally extending die sets at said second folding station for folding the side panels, corner forming and sealing means at said second folding station, said corner forming means each comprising a corner anvil, a gripper for pressing the margin of the end panel against the corner anvil, a plunger having a solvent applicator for applying solvent to the tab upon initial advance of the plunger, additional advance of the plunger trapping the tab between the plunger and the anvil to bend the tab 90°, means for thereafter operating said laterally extending die sets to fold the side panels so as to bring their margins against the solvent coated tabs, and means for pressing the margins of the side panels against the tabs to effect a seal.

3,259,031
TEAR STRIP APPLYING MACHINE
John R. Paulson, Lachute, Quebec, Canada, assignor to Paulson Machine Company Limited, Lachute, Quebec, Canada
Filed Aug. 5, 1963, Ser. No. 299,789
10 Claims. (Cl. 93—61)

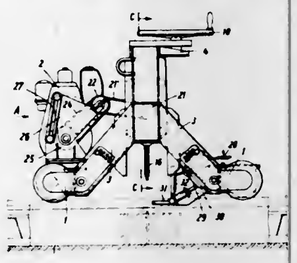
4. A machine for applying tear strips to envelopes which comprises

(a) a supporting table,
(b) means defining a path of travel on said table having an entrance end and an exit end,
(c) a plurality of envelope moving devices mounted on said table in successively arranged relation along said path of travel,
(d) envelope stacking means adjacent said entrance end of said path of travel,
(e) means for feeding envelopes from said stack in single file into said path of travel,
(f) an envelope closure flap opening member mounted on said table in said path of travel,
(g) one of said envelope moving devices comprising a pair of envelope-receiving nipping rolls,



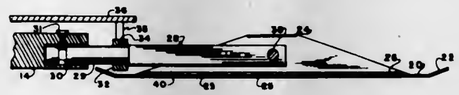
(h) means for driving one of said rolls,
(i) guide rollers feeding a tear strip between said rolls,
(j) a tear strip severing device mounted on said table in said path of travel following said nipping rolls,
(k) an envelope closure flap closing device mounted on said table in said path of travel following said severing device,
(l) and envelope stacking means adjacent said exit end of said path of travel.

3,259,032
JOINT FORMING APPARATUS
Günther Suhr, Hameln (Weser), and Karl-Heinz Ringe, Kirchohsen, near Hameln, Germany, assignors to Firma ABG-Werke Gesellschaft mit beschrankter Haftung, Hameln (Weser), Germany
Filed Mar. 27, 1963, Ser. No. 268,317
4 Claims. (Cl. 94—39)



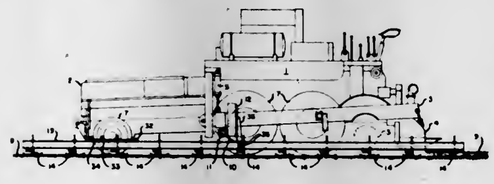
1. Apparatus for introducing joint boards by vibration vertically into concrete road surfaces under construction, comprising a frame, means mounted on the frame forming a pocket member to receive a joint board and having side plates, a pair of spaced side projecting members secured to the frame, a vibratory beam suspended from and mounted on the side projecting members and to which the pocket member is secured to introduce the pocket member together with a joint board into the compacted concrete by vibration and thereafter to withdraw the pocket member upwardly leaving the joint board in the concrete, and stops suspended from the frame adapted to retain the joint board in position when the pocket member is withdrawn, said stops being adapted to advance to the position into which the joint board has been vibrated.

3,259,033
BLADE ASSEMBLY FOR A TROWELING MACHINE
Herschell W. Kelley, 312 Dixie Road, Forest Park, Ga.
Filed June 12, 1963, Ser. No. 287,265
3 Claims. (Cl. 94—45)



1. A troweling machine including a central rotatable hub, radial arms fixed to said hub for rotation therewith, blade assemblies for each of said arms, a transverse pivot for pivotally mounting each blade assembly on each arm, and a crank arm fixed to each radial arm for rotating each radial arm to tilt the blade pivotally attached thereto.

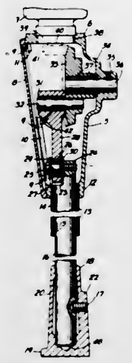
3,259,034
REFERENCE PLANE FOR PAVING MACHINES
Donald R. Davin, Shelbyville, Ill., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 15, 1963, Ser. No. 273,105
8 Claims. (Cl. 94—46)



4. A continuously effective reference plane for a paving machine working upon a sub grade comprising beam means having a surface which constitutes the reference plane, said beam means positioned alongside the paving machine and extending in the direction of travel thereof, a plurality of spaced foot members connected to the beam member for vertical slidable movement relative thereto, yielding means urging said foot members downwardly and supporting said beam means, and means connecting the paving machine and said beam means whereby forward movement of said paving machine advances the beam means.

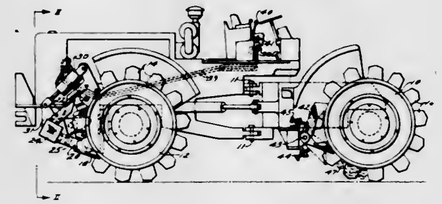
3,259,035
HYDRAULICALLY OPERATED TAMPER
George M. Pfundt, 87 Bustleton Pike, Churchville, Pa.
Filed Mar. 9, 1964, Ser. No. 350,311
3 Claims. (Cl. 94—49)

1. A tamper of the character defined comprising a vertically elongated housing having a large upper end and a reduced lower end, means for supporting a motor to extend above the upper end of the housing, said motor having a rotatable shaft, an elongated reciprocating member slidably mounted in the lower end portion of the housing and projecting therefrom directly below and parallel to the shaft of the motor, a tamper head at the lower end of said member, an elongated bearing support for said member extending beyond the reduced lower end of said housing, said support comprising a tube fixed to the housing, said member having bearings spaced longitudinally thereof, a drive link pivotally coupled with the upper end portion of said member and operating entirely within the housing, a bevelled gear freely rotatable on a bearing support in and at one side portion of the housing, a bevelled pinion driven by said motor shaft and operatively engaging said bevelled gear, said bevelled gear having a pivotal support projecting from a surface thereof, said link having a hub-type bearing mounting on said pivotal support, the other side of the housing being open



throughout the full height and the major portion of its width, and a detachable cover closing said open side of the housing for easy access to the gear link assembly.

3,259,036
CLEANER BLADES FOR COMPACTOR WHEELS
Robert A. Peterson, San Leandro, Calif., and Gerald E. Grant, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Oct. 4, 1963, Ser. No. 314,006
2 Claims. (Cl. 94—50)



1. Means for cleaning the surface of a compactor wheel on a tractor comprising a pair of blades mounted at an angle to each other which diverges toward the wheel and means pivotally supporting the blades as a unit for swinging either of the blades toward the wheel to a cleaning position while the other is swung away from the wheel, a hydraulic jack for swinging said blades, means at the operator's station of the tractor for controlling the operation of the jack, and stop means to limit the swinging movement of the blades to positions closely adjacent the peripheral surface of the wheel.

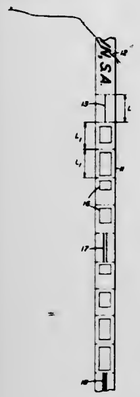
3,259,037
ORDERED RECORD FILE AND THE METHOD OF MAKING
Giles A. Wilkinson, Jr., Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 11, 1963, Ser. No. 287,053
Claims priority, application Great Britain, Feb. 21, 1963, 7,103/63
8 Claims. (Cl. 95—1)

1. A method for preparing an ordered file which comprises:

(a) recording on a strip of material
(1) a plurality of separately distinguishable patterns, each pattern being longitudinally spaced

along the strip from the preceding pattern and identifying the portion of the strip on which it is recorded, and between the spaced patterns,

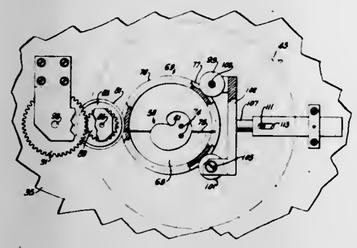
(2) selected groups of information which are to form the file; and



(b) severing the strip through said patterns between each of said groups in a manner such that complementary parts of each severed pattern are carried by distinct segments of said strip;

(c) whereby order and integrity of the severed segments is indicated by the complementary parts of patterns carried by said segments.

3,259,038
LIGHT ATTENUATOR
Glen A. Burdick, Waterloo, and George R. Kautz, Seneca Falls, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Dec. 27, 1963, Ser. No. 333,914
12 Claims. (Cl. 95—1)



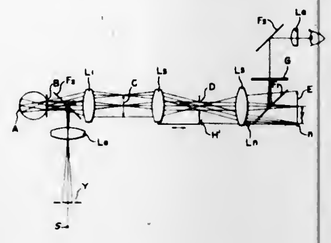
1. An optical system having a refractive medium for exposing a light sensitive surface through a negative in an electron discharge device having an axis comprising:

a point light source of substantially constant intensity positioned opposite said negative and spaced therefrom to provide light transmission therethrough to said screen; and

a rotatable substantially modified cardioidal-shaped blade disposed between said light source and said surface and relative to said refractive medium to provide diminishing attenuation for a portion of the exposure light from said source as the radial distance from said axis increases; and

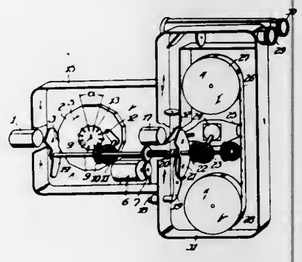
means for imparting predetermined rotation and lateral oscillatory movement to said blade.

3,259,039
OPHTHALMOSCOPIC CAMERA
Hirokazu Okajima, Ohta-ku, Tokyo, Japan, assignor to Nippon Kogaku K.K., Chuo-ku, Tokyo, Japan, a corporation of Japan
Filed Aug. 29, 1963, Ser. No. 305,368
Claims priority, application Japan, Sept. 18, 1962, 37/40,157
5 Claims. (Cl. 95—1.1)



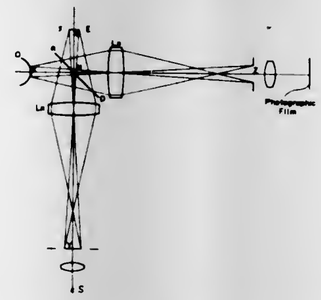
1. An ophthalmoscopic instrument comprising a first, a second and a third lens group arranged on a common optical axis, the second lens group being movable axially relative to the first lens group to position the image formed by the first lens group in combination with the optical system of the eye being examined of the retina of such eye, the position of which image is variable in dependence on the refractive conditions of such eye, coincident on the front focal plane of the second lens group to provide for the third lens group an object at infinity, means for illuminating the retina of such eye through an annular portion of the cornea of such eye with the cornea positioned at the front focus of the first lens group, and an axially apertured stop at the rear focal plane of the second lens group and movable in unison therewith, the aperture size being so limited that with the cornea so positioned an image of said annular portion of the cornea is formed on the stop surrounding the cornea.

3,259,040
CAMERA APPARATUS HAVING A TEMPORARY MEMORY MECHANISM
Takashi Kumagai, 231-8 Kinuta-cho, Setagaya-ku, Tokyo-to, Japan
Filed Apr. 3, 1963, Ser. No. 270,420
Claims priority, application Japan, May 12, 1962, 37/18,648
1 Claim. (Cl. 95—11)



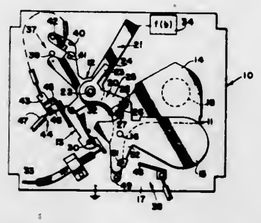
A camera comprising, a movable, driven image-retaining member having a plurality of image-retaining surfaces each comprising a material capable of rendering visible latent images from modulated radiant energy having said latent images therein and received on said surfaces, said material having the characteristic of retaining the images visible for a limited time, means comprising first lens means for receiving modulated radiant energy having latent images therein and transmitting said latent images to said image-retaining member, means driving said surface-retaining member in operation to position said image-retaining surfaces successively in a respective first position for receiving said modulated radiant energy from said first means thereby to receive said latent images and render them visible and to another position in which the individual surfaces are not in said first position and said images are visible, photographic mechanism comprising a shutter, means comprising clutch means operable selectively for coupling and uncoupling at will said shutter and said means driving said image-retaining member to effect photographic exposures of selected ones of said surfaces having visible images thereon when at said another position, and including means to view said images on said surfaces thereby to permit an operator to select which surfaces having residual visible images are to be subjected to photographic exposure.

3,259,041
OPTICAL SYSTEM FOR OPHTHALMOSCOPIC CAMERA FREE FROM INFLUX OF DETRIMENTAL LIGHT RAYS
Hirokazu Okajima, Ohta-ku, Tokyo, Japan, assignor to Nippon Kogaku K.K., Tokyo, Japan, a corporation of Japan
Filed Sept. 25, 1963, Ser. No. 311,570
Claims priority, application Japan, Oct. 2, 1962, 37/42,710
9 Claims. (Cl. 95—11)



1. An optical instrument comprising a main optical system, a half-silvered mirror surface and an objective lens in the main optical system, the half-silvered surface being in front of the objective oblique to the optical axis of the main optical system, the half-silvered surface providing two optical axes intersecting each other at the half-silvered surface corresponding respectively to light incident on said surface which is reflected by, and transmitted through, said surface, an illuminating optical system obliquely in front of the half-silvered surface and so positioned that the two optical axes of the main system also constitute the two optical axes of the illuminating optical system corresponding to light in the illuminating optical system incident on the half-silvered surface transmitted through and reflected by the half-silvered surface, an aperture stop in an image plane of one of the axes of the main optical system conjugate with an object plane thereof, and a light intercepting means in the other axis of the main optical system substantially conjugate in shape with the aperture of the aperture stop and positioned substantially in a plane conjugate with that of the aperture stop.

3,259,042
REMOTE CONTROLLED FLASH PHOTOGRAPHY SYSTEM
Sholly Kagan, Natick, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 328,043
7 Claims. (Cl. 95—11.5)

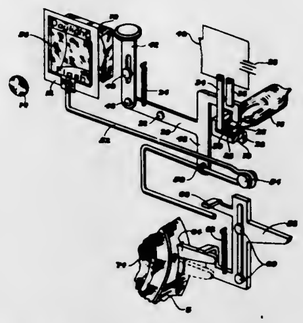


1. In combination with a camera having a pair of flash contacts whose closing occurs a predetermined time prior to maximum shutter opening, and flash apparatus remote from the camera responsive to a received burst of CW signal of a certain duration less than said predetermined time for causing said apparatus to produce an impulse of light for illuminating the scene being photographed at the end of said certain duration and coincident with maximum shutter opening, transmitter means for synchronizing initiation of said signal with the closing of said contacts, said transmitter means comprising:

(a) oscillator means responsive to the application of a control voltage thereto for generating and broadcasting a CW signal of said certain duration; and

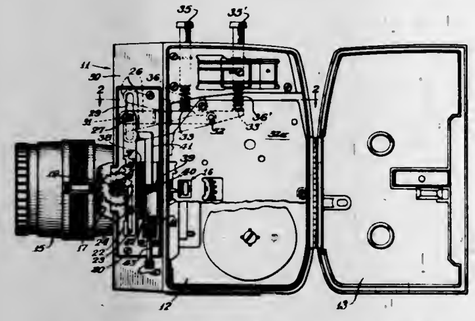
(b) control means for applying said control voltage to said oscillator means after a delay substantially equal to the difference between said predetermined time and said certain duration.

3,259,043
FLASH BULB INDICATOR FOR PHOTOGRAPHIC CAMERA
Armin Booth Pagel, Janesville, Wis., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 22, 1965, Ser. No. 427,362
11 Claims. (Cl. 95—11.5)



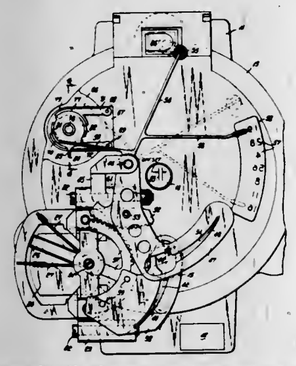
1. In a photographic camera the combination of a viewfinder; a lamp socket adapted to releasably secure a flash lamp in firing position; a flash signal movable into and out of the field of said viewfinder; means for firing an unfired lamp secured in said socket; and means for moving said flash signal into the field of said viewfinder when a lamp is inserted into said socket and means for moving said flash signal out of the field of said finder upon actuation of said lamp firing means and when there is no lamp in said socket.

3,259,044
MANUALLY POWERED ZOOMING MECHANISM
David M. MacMillin, Wilmette, and Arni Arnason, Northfield, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 27, 1963, Ser. No. 326,632
15 Claims. (Cl. 95—45)



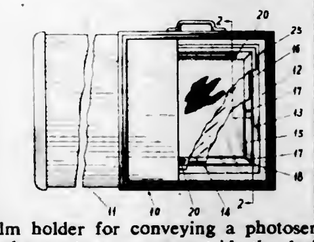
1. A camera including a zooming lens, a pair of manual power finger buttons one of which is adapted to apply power for wide angle zooming adjustment and the other of which is adapted for telephoto zooming adjustment, a rock lever pivotally mounted and coupled for respectively opposite pivotal movements by said finger buttons, a rack bar attached to said rock lever for reciprocation thereby and serving as a manual power transmission element, means coupling said rack bar to the zoom lens for effecting zooming adjustments, and means associated with said rack bar for resisting application of power to said buttons whereby to assure level zooming speed.

3,259,045
AUTOMATIC DIAPHRAGM CONTROL
Jan A. Van den Broek, Ann Arbor, Mich., assignor, by mesne assignments, to Mansfield Industries, Inc., Chicago, Ill., a corporation of Delaware
Filed Oct. 28, 1958, Ser. No. 770,043
1 Claim. (Cl. 95—64)



An automatic diaphragm arrangement comprising an electrical instrument having a magnetic structure including a flux gap; a supporting member having a central opening formed therein, two spaced sides of the member comprising front and rear instrument bridge members; means securing the instrument magnetic system to one of the said bridge members within the central opening formed therein; a movable coil having one side passing through the flux gap formed in the magnetic structure; means pivotably mounting the movable coil between the front and rear bridge members about the coil pivot axis; a first vane secured to the movable coil and rotatable coaxially therewith; an arm extending from the supporting member; a second vane pivotably mounted on the said arm about a pivot axis parallel to the coil pivot axis; means forming first and second arcuate apertures in the respective first and second vanes, the arcuate aperture axes overlapping to form a diaphragm opening; and means coupling the first and second vanes together for simultaneous rotation of the said vanes upon rotation of the moving coil about the coil pivot axis.

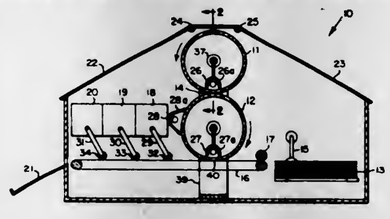
3,259,046
VACUUM SUCTION TYPE FILM HOLDER
Saburo Nishimura, Sakyo-ku, Kyoto, Japan, assignor to Dainippon Screen Seizo Kabushiki Kaisha (Dainippon Screen Mfg. Co., Ltd.), Kamikyo-ku, Kyoto, Japan
Filed Oct. 14, 1963, Ser. No. 315,987
2 Claims. (Cl. 95—66)



1. A film holder for conveying a photosensitive film from a darkroom to a camera outside the darkroom and for subsequently exposing the film in the camera comprising a generally rectangular, substantially flat casing provided with a slidable front shutter plate for sealing the casing against the entry of light while a film is being conveyed in the holder, said casing having a rear wall, a flat base plate of magnetic material secured to said rear wall, said base plate being formed with a plurality of similar closed-figure grooves of different size, one within the other and spaced to have substantially the same center point, said grooves being located so that the outer closed-figure groove surrounds the major portion of the area of the base plate, said base plate being formed with additional grooves interconnecting said spaced grooves, conduit means connected to said casing in communication with said grooves for connecting said grooves to a vacuum pump, and a pair of elongated relatively narrow permanent magnet bars of substantial length receivable in the casing at opposite marginal portions thereof for clamping the corresponding marginal portions of a film to said base so that the film may be subsequently exposed in the camera while being clamped to the base plate with the major portion of the film substantially unobstructed by said magnet bars, said length being of the same order as opposite marginal portions of the magnetic base plate, said magnet bars comprising flexible strips of rubber-like material admixed with permanently magnetized ferromagnetic material.

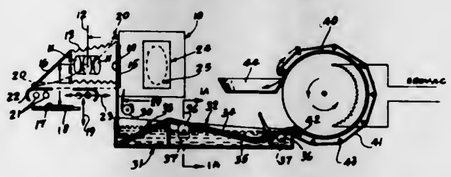
3,259,047
DATA PROCESSING SYSTEM AND METHOD THEREFOR
Elliot Berman, Braintree, and David F. Loeb, Wayland, Mass., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Apr. 15, 1964, Ser. No. 360,005
3 Claims. (Cl. 95—73)

1. Apparatus for making a plurality of copies of an original document and comprising in combination: a pair of drums rotatable in peripheral proximity and in timed relation, a first one of said drums having means for holding said original document, and a second one of said drums having a peripheral coating of a photochromic data storage medium; a first source of radiation fixed in position within said first drum for directing radiation through said first drum and said original document at the zone of proximity of said second drum and onto said photochromic medium on said second drum for repeatedly forming a negative image of said original document in said photochromic medium; a second source of radiation fixed in a position within said second drum and located rotationally beyond said proximate zone of said imaging of said photochromic medium for directing radiation through said negative image; means operable in timed relation with rotation of said drums for feeding a succession of sheets of photosensitive material into contact with said second drum adjacent said second source of radiation so that each



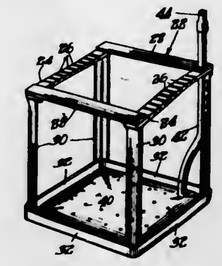
of said photosensitive sheets is exposed to radiation from said second source in the image pattern of said negative image for forming a positive latent image of said original document on each of said photosensitive sheets; means operable in timed relation with said exposure of said photosensitive sheets for developing said positive latent images to produce positive copies of said original document; and means arranged adjacent said second drum and rotationally beyond the zone of said exposure of said photosensitive sheets and rotationally before said proximate zone of said imaging of said photochromic medium for erasing each of said negative images after said exposure of said photosensitive sheets.

3,259,048
APPARATUS FOR MAKING POSITIVE COPIES
John Wesley Smith, % Philadelphia Air Transport Co., Box 27, Norristown, Pa.
Filed Dec. 1, 1961, Ser. No. 156,546
2 Claims. (Cl. 95—94)



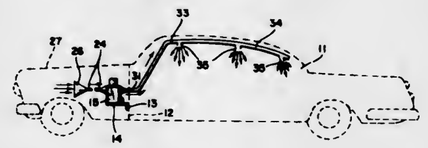
1. Photographic developing apparatus, comprising a tray, at least one partition dividing said tray into a series of successive non-communicating chambers, at least the first of said chambers being adapted to contain a photographic processing solution, and a plurality of slatted photographic sheet carriers, including rods extending from the first chamber to the second across said partition, and means intermittently moving said carriers to conduct a photographic sheet through the processing solution in the first chamber, then over the partition and into and through the second chamber, wherein the second chamber is adapted to contain a washing liquid, the photographic sheet being developed and fixed in the photographic processing solution in the first chamber and being washed in the second chamber, said photographic sheet carriers having upwardly inclined portions which extend upwardly from the first chamber over the partition, and downwardly sloping portions extending downwardly from above the partition into the second chamber, the photographic processing solution being drained off the photographic sheet while the same is being carried diagonally upwardly on the upwardly inclined portion of the carrier, and said photographic sheet carriers being also provided with additional upwardly inclined portions extending upwardly from said downwardly sloping portions, said additional upwardly inclined portions being adapted to carry the photographic sheet diagonally upwardly out of the second chamber, thereby draining said photographic sheet of the washing liquid.

3,259,049
GAS AGITATING DEVICE
Christian Uithoven, % V & A Plating Supplies Inc., 502 S. Cornell, Villa Park, Ill.
Filed Dec. 14, 1962, Ser. No. 244,813
10 Claims. (Cl. 95—100)



1. Apparatus for gas-agitating liquids comprising a hollow manifold of substantially flat and relatively long and wide construction, said manifold having an upper surface with perforations distributed in a universal pattern over the entire upper surface for passing of gas up into a liquid in which said manifold is immersed and a substantially flat bottom adapted to rest on an underlying supporting surface, a gas flow tube connected to said manifold and opening interiorly thereof for introducing gas into said manifold, and supporting structure secured to said manifold and extending thereabove, and adapted to support articles in depending position above said manifold.

3,259,050
AIR MODIFYING SYSTEM FOR VEHICLES
John E. Grimm III, New York, N.Y., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Oct. 31, 1963, Ser. No. 320,315
6 Claims. (Cl. 98—2)

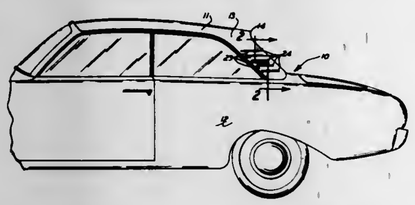


1. In an automobile having an enclosed body containing a built-in air conditioning system comprising means defining an air intake member positioned at the forward portion of said automobile and a conduit system extending from said member into the body and having a plurality of air discharge outlets into the interior of said body, the improvement comprising means for supporting a container of pressurized air modifying medium in said vehicle with a normally closed control nozzle disposed for discharging said medium into the air stream flowing through said conduit system, and power operated means under control of the operator for selectively actuating said control nozzle.

3,259,051
VENTILATING SYSTEM FOR THE PASSENGER COMPARTMENT OF MOTOR VEHICLES

Heinz Boche, Cologne-Dellbruck, Hans Kling, Cologne-Lindenthal, and Georg Mies, Bergisch-Gladbach, Germany, assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed May 18, 1964, Ser. No. 368,293
Claims priority, application Germany, May 20, 1963, F 39,795
7 Claims. (Cl. 98—2)

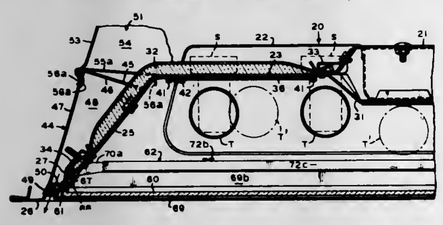


1. In a motor vehicle body having a passenger compartment, a roof structure, pillars supporting said roof structure at the rear thereof, and a rear window located beneath the rear edge of said roof structure and extending transversely of said vehicle body between said pillars;
- a ventilation system comprising an exhaust duct within said roof structure extending laterally thereacross above said window,
- air inlet openings providing communication between said passenger compartment and exhaust duct,
- at least one of said pillars having spaced interior and exterior walls forming a chamber therein in communication with said exhaust duct,
- at least one baffle being provided at the top of said chamber to prevent water carry-over from said chamber into said exhaust duct,
- and openings in said exterior wall placing said chamber in communication with the atmosphere,
- said air inlet openings, exhaust duct, pillar chamber and exterior wall openings providing for exhaust air flow from said passenger compartment to the atmosphere.

3,259,052
COMBINED LIGHTING AND AIR HANDLING APPARATUS

Richard D. Bradley, Glendale, Erwin C. Hoelscher, Crestwood, Robert A. Homeier, Arnold, Murray L. Quin, Overland, and Irvin J. Scheveling, Affton, Mo., assignors to Emerson Electric Co., a corporation of Missouri

Filed Aug. 8, 1963, Ser. No. 300,806
12 Claims. (Cl. 98—40)

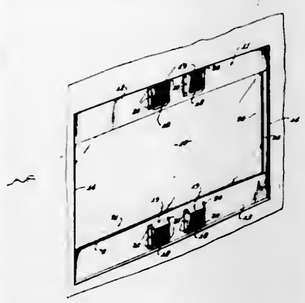


1. An assembly of lighting fixtures for a given space including in combination: at least one fixture having a body with a substantially closed back side and an opposite open said facing the given space, lamps in said body, a closure for said open side constructed with air inlet means for admitting space air into said body for exhaust, means on said body forming an outlet for escape of lamp heated exhaust air from said body, ventilating air supply means for the given space including conduit means mounted on said closed back side and having an inlet to receive ventilating air, said body including air flow means opening to said given space through said closed back side and separate from but adjacent said open side, said conduit means enclosing said air flow means and said inlet opening means for said closure being spaced from said air flow means; and at least one other fixture having a body with a substantially closed back side and an opposite open side facing the given space, lamp means in said body, a closure for said open side, means on said body forming an outlet for escape of lamp heated air from said body, and heat dissipating means in said other fixture body engaged upon said lamp means to affect the temperature of the same, whereby said assembly of fixtures have substantially the same color appearance when the lamps are on and in the presence of ventilating air and exhaust air flow.

3,259,053
COMBINATION WINDOW AND AIR CIRCULATOR

John F. Steel, P.O. Box 401, Palm Beach, Fla.

Continuation of application Ser. No. 168,052, Jan. 23, 1962. This application June 7, 1965, Ser. No. 465,828
5 Claims. (Cl. 98—94)



1. In combination:
- a window frame having head, sill and jamb portions joined together to be positioned in a window opening, one of said portions having spaced inner and outer walls with spaced openings therein;
- a housing disposed between said walls formed of two longitudinal sections secured together, each section being provided with internal partitions which are in abutment when the sections are secured together, said partitions of the two sections together forming a duct extending between respective openings in said inner and outer walls, each section also including a semi-circular rib intermediate the ends of each duct and at right angles to said inner and outer walls, said semi-circular ribs together forming respective circular openings when said sections are in abutment;
- a shaft extending through the centers of said circular openings and the opposed sides of said ducts;
- a fan mounted on said shaft in each circular opening; and
- motor means for rotating said shaft, thereby to rotate said fan and cause air to be drawn through said duct.

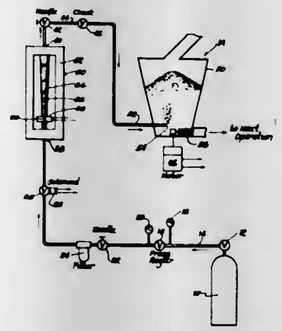
3,259,054
CURING MEANS

Emanuel Vanzo, Jr., Oradell, and Barbato A. Roccanova, Paramus, N.J., and Hugo H. van der Helde, Nyack, N.Y., assignors to The Matheson Company, Inc., East Rutherford, N.J., a corporation of New Jersey

Filed Apr. 29, 1964, Ser. No. 363,465
6 Claims. (Cl. 99—254)

1. In combination with a machine for making a sausage-type meat product having a mixing station into which raw-meat product is introduced and from which

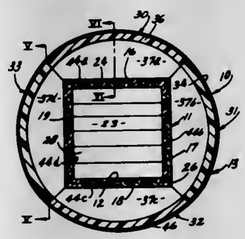
preserved meat product is discharged, a source of fluid preservative, conduit means interconnecting said source of fluid preservative and said mixing station for introducing fluid preservative into said mixing station to preserve said raw-meat product, a flow meter downstream of said source of fluid preservative and upstream of said mixing station for measuring the rate of flow of said fluid preservative, adjustable means operatively connected to said flow meter for sensing a predetermined minimum rate of flow of said fluid preservative, and means responsive to said adjustable means for discontinuing the discharge of meat product from said mixing station when the rate of flow of said fluid preservative drops below said predetermined minimum rate of flow.



3,259,055
CONTAINER ASSEMBLY FOR AGING WHISKEY

Carlos B. Laba, 318 Henrietta, Kalamazoo Township, Kalamazoo County, Mich.

Filed June 5, 1964, Ser. No. 372,786
3 Claims. (Cl. 99—277.1)

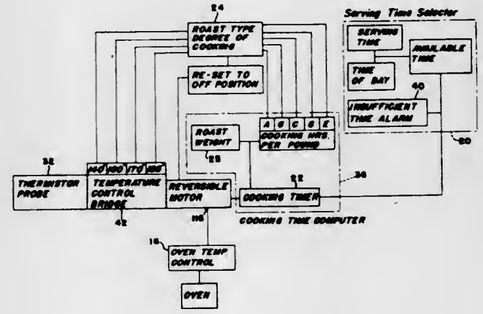


1. A container assembly for aging whiskey, said container being constructed so that the parts thereof can be reused after the aging is completed, comprising:
- a plurality of flat, elongated and wooden side elements of substantially the same length, width and thickness, said elements having interengageable joint means along the lengthwise edges thereof;
- four elongated corner elements of L-shaped cross section and having joint means along the lengthwise edges thereof similar to said joint means on said side elements, said side elements and said corner elements having transverse, aligned grooves in the inner sides thereof at two corresponding locations near the opposite ends thereof;
- a plurality of end elements of substantially the same length and thickness arranged to form two end walls extending into the grooves at the opposite ends of said side and corner elements whereby said side and corner elements are positioned to form the four side walls of a rectangular container, said container being fabricated completely from white oak;
- a plurality of bands extending around said side walls of said container transversely thereof to hold said walls together;
- four substantially identical side members having a plurality of transverse ribs extending toward and engaging, respectively, the side walls of said container, said side members presenting a barrel-shaped external surface of circular cross section and of smaller diameter at both axial ends than at the center thereof, the minimum diameter of said external surface being greater than the maximum transverse dimension of said container; and
- a plurality of annular bands encircling said side members and tightly engaging said external surface whereby said transverse ribs are held tightly against the side walls of said container, and said side and corner elements are held in substantially liquid-tight engagement with each other and with said end walls.

3,259,056
AUTOMATIC OVEN HEAT CONTROL BY WEIGHT AND TYPE OF ROAST

Jack B. King, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

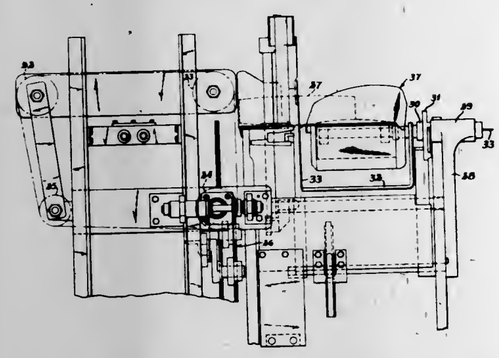
Filed Mar. 26, 1963, Ser. No. 267,975
23 Claims. (Cl. 99—325)



1. In combination with a cooking oven having heating means adapted for roasting meat and weighing means adapted for weighing meat, thermostat means for controlling said heating means and operable from an off position to set a temperature for said oven, electrical bridge means having a first portion preselectable for establishing a temperature for said oven suitable for roasting a type of meat and a second portion insertable into a body such as a meat roast to be roasted in said oven for sensing an internal temperature of the body, means for preselecting said first portion, reversible drive means operable forwardly in response to an unbalance signal from said electrical bridge means in one direction for operating said thermostat means to increase the oven temperature setting on said thermostat means and operable reversely in response to an unbalance signal from said electrical bridge means in the opposite direction for operating said thermostat means to decrease the oven temperature setting on said thermostat means, said electrical bridge means including a feedback means operated concurrently with said reversible drive means for rebalancing said electrical bridge means to terminate the operation of said reversible drive means, a D.C. power source actuatable for energizing said electrical bridge means, and means for computing the time required for roasting said body and for actuating said D.C. power source, said computing means including a plurality of preselectable cook-

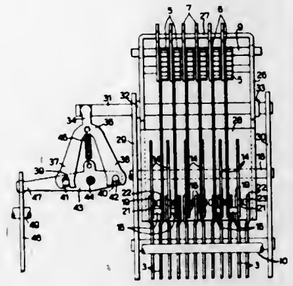
ing time cams rotatable in response to the operation of said weighing means when loaded, each of said cooking time cams being configured to reflect a cooking time band indicative of a particular type of meat and degree of doneness, means for selecting a serving time for said body, a plurality of preselectable cooking time lever means associated respectively with each of said cooking time cams and manually rotatable out of engagement with their respective cooking time cams a predetermined distance in response to the selection of a serving time for said body, said predetermined distance being greater as the serving time is more remote from the time of selection, means for preselecting one of said cooking time cams and thereby one of said cooking time lever means to form a roast cycle start switch, an A.C. power source connectible through said start switch to actuate said D.C. power source, timing means operable for returning the selected cooking time lever means to the selected cooking time cam thereby to close the roast cycle start switch and actuate said D.C. power source for initiating a roasting cycle, reset means actuated by the combined operation of said timing means at said serving time and said weighing means when unloaded for negating the preselection of said cooking time cam and the preselection of a temperature for said oven, said reset means including means for energizing said reversible drive means for operation in said reverse direction to operate said thermostat means to said off position, thereby to terminate said roasting cycle, and signal means energizable when said selected cooking time lever means is in engagement with said selected cooking time cam before the initiation of said roasting cycle for indicating an insufficient time for said roasting cycle when the serving time selected does not allow sufficient time to complete the roasting cycle.

3,259,057
TYING MACHINE TABLE
Walter D. Ayres, Jr., Chicago, Ill., assignor to B. H. Bunn Company, Chicago, Ill., a corporation of Illinois
Filed July 8, 1964, Ser. No. 381,155
8 Claims. (Cl. 100—7)



1. In combination, a fixed tying machine table for partially supporting an article to be tied, a second tying machine table adjacent the fixed table for partially supporting said article, a fixed tying machine frame member, a horizontal shaft rotatably mounted in said fixed machine frame member, and means supporting the second tying machine table from the horizontal shaft for swinging movement therearound, means for propelling an article from the fixed table to the second table, and deflector means on the second table in the path of movement of the propelled article and adapted to change the direction of the article while it is propelled.

3,259,058
PRINTING DEVICE FOR ADDING OR LIKE MACHINE
Teresio Gassino and Luciano Rattin, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Oct. 6, 1964, Ser. No. 401,938
Claims priority, application Italy, Oct. 10, 1963, 21,186/63
6 Claims. (Cl. 101—79)

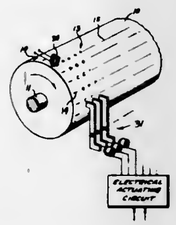


1. In an adding and like machine having a set of actuators arranged in paired relationship and differentially movable according to the multiorder amount under the control of a cyclically operable universal bar, and a printing device for printing said amount with orders horizontally spaced a predetermined printing pitch, said device comprising a plurality of typecarriers mutually transversely distanced twice said pitch and each one associated with a pair of adjacent actuators of said set, said device being adapted to print said amount during two subsequent cycles of said universal bar, the combination comprising:

(a) connecting means for alternately mechanically connecting each one of said typecarriers to the actuators of said pair,

(b) and shifting means for alternately shifting said typecarriers transversely according to said pitch at the end of each one of said cycles.

3,259,059
HIGH SPEED PRINTER TYPE DRUM
Charles H. Doersam, Jr., Port Washington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Nov. 23, 1964, Ser. No. 413,123
5 Claims. (Cl. 101—93)



1. In a high speed drum printer apparatus,

an array of hammers arranged along a print line parallel to the axis of the drum,

an electrical circuit for actuating said hammers responsive to a combination of information input signals from a source external to the printer and timing signals representative of a line of type characters available for printing,

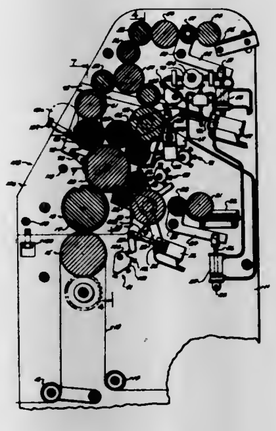
a print drum supporting the type characters for striking by said hammers,

said drum comprising a plurality of type characters arranged on the surface of said drum in a plurality of angularly spaced lines with each of said lines having identical type characters and being parallel to the axis of said drum so that the type characters on each line arrive at said print line simultaneously, and

separate character-identifying means arranged on the surface of said drum adjacent to one end of each of said type character lines with each of said character-identifying means having precisely the same angular position relative to the type character line associated therewith so that the angular spacing between adjacent character-identifying means is the same as the angular spacing between the type character lines associated therewith even though the angular spacing between the type character lines may differ slightly, and

means to adjustably support a transducer in sensing relationship with said character-identifying means in advance of said print line to enable the precise angular position of the transducer relative to said print line to be adjusted while said drum is rotating, whereby said character-identifying means corresponding to the lines having characters to be printed will produce a timing signal cooperating with said electrical circuit signals for actuating the hammers to print the type characters at said print line.

3,259,060
OFFSET ROTARY PRINTING PRESS
Ralph E. Martin, Fort Worth, Tex., assignor, by mesne assignments, to Stevens Corporation, Fort Worth, Tex., a corporation of Texas
Filed Dec. 23, 1963, Ser. No. 332,756
23 Claims. (Cl. 101—144)



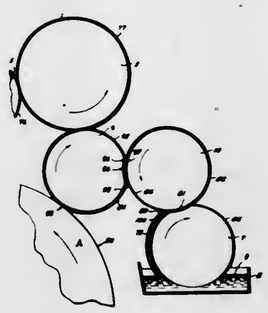
1. In a rotary printing press, the combination comprising a main frame including a pair of spaced main side frame elements; said elements having means for locating an auxiliary frame in operative relation thereto, said auxiliary frame including a pair of spaced auxiliary side frame elements; means cooperating with said locating means for detachably securing said auxiliary frame elements and said main frame elements, a plate cylinder rotatably supported by said auxiliary frame, inking mechanism including a rotatable ink form roller for inking said plate cylinder; means supporting said form roller on said main frame, means for moving said form roller out of engagement with said plate cylinder, yieldable means for moving said form roller toward said plate cylinder, and adjustable stop means carried by said auxiliary frame for limiting movement of said form roller toward said plate cylinder when said frames are secured.

3,259,061
LITHOGRAPHIC PRINTING PLATES AND METHODS OF PREPARING SAME
Charles M. Wiswell, Westbrook, Maine, assignor to S. D. Warren Company, Boston, Mass., a corporation of Massachusetts
Filed Mar. 11, 1964, Ser. No. 351,125
8 Claims. (Cl. 101—149.2)

1. Process which comprises (1) positioning adjacent to and face-to-face with a surface of a sheet bearing a heat-absorptive image upon a less heat-absorptive background, a flexible sheet bearing a layer of "delayed-tack" resinous composition; (2) irradiating said image with infra-red rays until said image has absorbed sufficient heat to soften and render tacky in the "delayed-tack" resinous composition adjacent thereto a corresponding inverted image; (3) cooling said inverted image below the initial fusion temperature of said composition; and (4) positioning said tacky inverted image in face-to-face contact with a lithographic plate to transfer said tacky inverted image to said lithographic plate as a direct oleophilic image.

8. A lithographic printing plate made by the process defined in claim 1 and consisting essentially of a lithographic master and an image thereon consisting of a "delayed-tack" resinous composition.

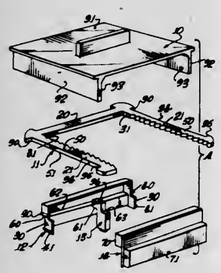
3,259,062
PROCESS FOR APPLYING A WATER-SOLUBLE ORGANIC DAMPENING FLUID
Harold P. Dahlgren, 6919 Blackwood, Dallas 31, Tex.
Filed Nov. 30, 1964, Ser. No. 414,699
6 Claims. (Cl. 101—149.2)



1. A process for dampening the plate on a lithographic press comprising the steps of: Providing a transfer roller having a continuous, uninterrupted, hard, polished, hydro-

philic surface thereon; applying a film of a water soluble, volatile organic, ink receptive dampening fluid to the surface of the transfer roller as it rotates; rotating the film of dampening fluid in contact with an ink coating on the surface of a cylindrical member to divide the film of dampening fluid and deposit a portion thereof on the surface of the ink coating; rotating the cylindrical member in contact with a lithographic printing plate; the cylindrical member and transfer roller being rotated at different surface speeds to cause slippage therebetween at their tangent point.

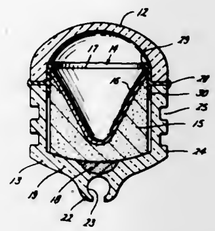
3,259,063
MARKING DEVICE
Ray C. Rothman, 511 Calatrana Drive, Woodland Hills, Calif.
Filed Dec. 14, 1964, Ser. No. 417,884
7 Claims. (Cl. 101—381)



1. A stamping device comprising:
a plurality of cartridges, said cartridges defining upward facing shoulders, said cartridges defining at the ends thereof outwardly facing detents;
a plurality of printing characters, said characters defining downward facing shoulders cooperatively engaged with said cartridge shoulders;
a holder adapted to receive said plurality of cartridges, said holder being generally U-shaped and having a bottom member and side members, said cartridges arranged serially along said side members of said holder, said detents of said cartridges engaging said side members of said holder;
a brace, said brace being adapted to retain said cartridges in said holder, said brace defining an upper rib, said upper rib facing inwardly of said holder and cooperatively engaged with said shoulder of said printing characters; and
a transparent cap member, said cap member being adapted to receive said holder.

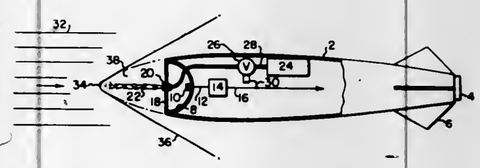
3,259,064
SHAPED CHARGE DEVICES
Nevyl Gregory Owens, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed July 8, 1964, Ser. No. 381,117
2 Claims. (Cl. 102—24)

1. A shaped charge device comprising: a frangible, multi-part, hollow charge case sized and adapted to receive an explosive charge, said case including a dished cover portion and a container portion having abutting marginal surfaces adapted to be joined and sealed together; shaped explosive charge means having a forward peripheral edge of selected diameter received in said case; and firming adhesive means for sealingly joining said case portions and having a portion abuting and securing said charge means against forward longitudinal movement relative to said case and being the sole forward support for the charge means within the case, the case having an



internal diameter larger than the selected diameter forwardly of said forward peripheral edge of the charge means.

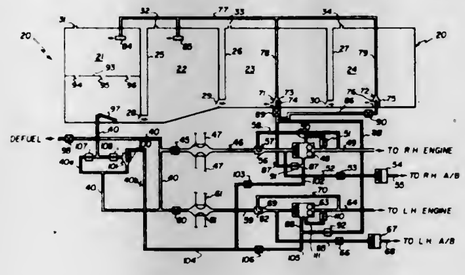
3,259,065
SHOCK WAVE INDUCING MEANS FOR SUPERSONIC VEHICLES
Don H. Ross, Newton, and Eugene S. Rubin, Waban, Mass., assignors, by mesne assignments, to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Apr. 30, 1959, Ser. No. 810,178
9 Claims. (Cl. 102—50)



1. In a supersonic vehicle, means carried by said vehicle for generating a shock wave inducing virtual spike in advance of said vehicle comprising means for ejecting gas forwardly of said vehicle, said gas interacting with an atmosphere moving at supersonic velocities with respect to said vehicle.

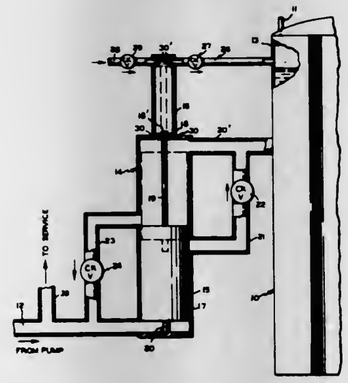
3,259,066
FUEL FEEDING SYSTEMS
Robert L. Williams, 2027 Brentwood, Wichita, Kans.; Howard E. Corner, 102 S. Robin Road, Wichita, Kans.; and Carl L. Norris, 3606 Dawnwood Drive, Huntsville, Ala.
Filed Jan. 2, 1964, Ser. No. 335,219
13 Claims. (Cl. 103—5)

1. A fuel feeding system for an aircraft engine comprising, a fuel tank, fuel intake means disposed in said fuel tank, a first pump having first intake line means and first discharge line means, said first pump being located externally of said fuel tank, said first pump intake line means being connected to said fuel intake means, first ejector pump means having first eductor means and first nozzle means, said first ejector pump eductor means being connected into said first pump intake line means externally of said fuel tank, first pressure boost feedback line means connecting said first pump to said first ejector pump nozzle means for boosting the pressure in said first pump intake line means, a second pump having second intake line means and second discharge line means, said second pump being located externally of said fuel tank, said second pump intake line means being connected into said first pump intake line means between said first pump and said first ejector pump means, second pressure boost feedback line means connecting said second pump into said first pressure boost feedback line means, first valve means in said first pressure boost feedback line means between said first pump and said second



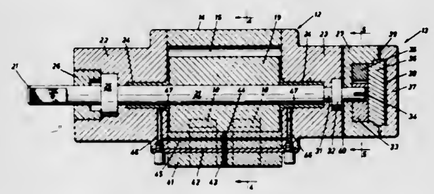
pressure boost feedback line means for preventing reverse flow into said first pump from said second pressure boost feedback line means, and second valve means in said second pressure boost feedback line means for preventing reverse flow into said second pump from said first pressure boost feedback line means and said valve means being located in such a manner as to permit fuel to be discharged through said discharge line means independently of and parallel to said valve means.

3,259,067
HYDRAULIC AIR INJECTOR
Lloyd Bryan, 1780 Atlas Park Road, Napa, Calif.
Filed Dec. 4, 1963, Ser. No. 327,917
2 Claims. (Cl. 103—6)



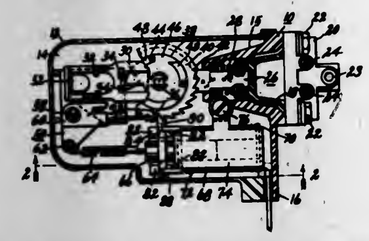
1. A hydraulic air injector for the pressure tank of a water system or the like comprising a water tank, a water line leading into said tank, a pipe to service mounted in said line, an injection apparatus interposed in said line, between said pipe and said tank, said apparatus comprising a pair of vertically spaced cylinders, connected pistons mounted in said cylinders, a valved passageway from the lower cylinder to the water line for admitting water to said tank when the piston in said cylinder is in its fully raised position and a return valved passageway from said cylinder to said water line for admitting water to said line and to the service pipe when the piston is in its fully lowered position, said upper cylinder having a valved passageway extending into the upper portion of the tank for admitting air and water into the top of the tank, a second-valved passageway at the upper end of the upper cylinder for admitting air to the upper end of the upper cylinder, and a bypass formed at the lower end of the upper cylinder.

3,259,068
AIR-OIL PUMP
Eric Colin-Smith, Wellesley, Mass., assignor to Combustion Research Corporation, West Newton, Mass.
Continuation of application Ser. No. 91,953, Feb. 27, 1961. This application Dec. 20, 1963, Ser. No. 333,790
2 Claims. (Cl. 103—9)



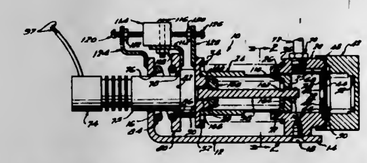
1. A reversible air and oil pump device adapted to be driven in a first direction or a reverse direction comprising: a fixed housing defining, an air pump chamber, and an oil pump chamber; a reversible rotary air pump device rotatably mounted in said air pump chamber, a reversible rotary oil pump device rotatably mounted in said oil pump chamber; a common drive means for said air and oil pump devices; said housing including, a mounting face, and further characterized in defining, a plurality of individual passage means constituting inlet and outlet passages to said oil pump chamber, and a plurality of individual passage means constituting inlet and outlet passages to said air pump chamber, said passages to said air pump chamber terminating in openings on said mounting face, said openings being substantially symmetrical and regularly disposed about an axis; a flow-control unit associated with each of said pump outlets to receive the fluid delivered thereby, said units each including; an outlet passage formation communicable with their respective pump outlets and with an external installation, adjustable valve means for controlling volume flow through said outlet passage, an air by-pass communicating said air outlet passage with the atmosphere and adjustable pressure delivery valve means controlling air flow therethrough, an oil by-pass communicating said oil outlet passage with an intake side of said oil pump and adjustable pressure delivery means controlling oil flow therethrough, said air flow control unit including an air intake passage formation, said air intake and air outlet passage formations having openings communicable with the respective openings of said housing, said air flow control unit further including a mounting face, said air intake and outlet passage formations each having at least one opening cooperable with the respective inlet and outlet openings of said housing mounting face, said oil flow control unit comprising; an oil control block adapted to be mounted in face to face relationship with a face of said air control unit opposite to said mounting face; said oil control block having a well therein communicable with said oil outlet passage formation; and bleed passage means communicating said oil block well through said air block and said housing mounting face with said air pump chamber, said bleed passage terminating in a bore of reduced diameter intermediate said inlet and outlet passage means to provide therebetween in cooperation with said air pump an oil seal, and means controlling oil feed through said bleed passage means.

3,259,069
WINDSHIELD WASHER PUMP
Deno J. Rogakos, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 20, 1963, Ser. No. 310,241
10 Claims. (Cl. 103—23)



1. A washer unit for a vehicle windshield adapted to be driven by an angularly movable cam including, a frame, a cam follower slidably supported on said frame, a pump supported on said frame having an intake stroke and a delivery stroke, a reciprocable pump rod having a driving connection with said cam follower for operating said pump, solenoid actuated spring means for establishing a driving connection between said cam follower and said cam to initiate operation of said washer unit, mechanical means for maintaining said driving connection between said cam follower and said cam to continue operation of said washer unit independently of said solenoid, and means operable to release said mechanical means to interrupt said driving connection.

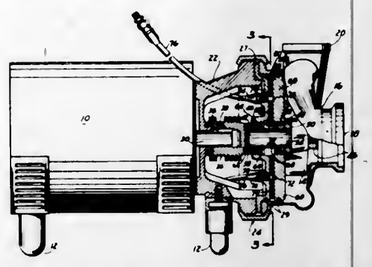
3,259,070
PUMP
William G. McKenzie, Racine, Wis., assignor to Walker Manufacturing Company, a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 408,069
15 Claims. (Cl. 103—43)



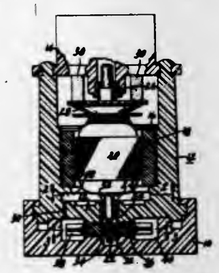
1. In a fluid pumping device, a housing defining a pumping chamber, piston means reciprocable within said chamber, valve means controlling the fluid flow to and from said chamber, actuating means for effecting movement of said piston means within said chamber, control means for effecting energization of said actuating means, and means including spring means interconnecting said piston means with said actuating means whereby said piston is movable in one direction to force fluid from said chamber and said actuating means is movable in the opposite direction into engagement with said control means to effect deenergization of said actuating means.

3,259,071
ASEPTIC PUMP
Charles N. Nellis and Gino Mercuriali, Cedar Rapids, Iowa, assignors to Cherry-Burrell Corporation, Cedar Rapids, Iowa, a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,898
2 Claims. (Cl. 103—87)

1. An aseptic pump comprising a housing, a back plate separable from said housing and defining with said housing a product chamber, first and second seals extending continuously between the adjoining outer surfaces of said housing and back plate, said seals being spaced apart and defining an annular space between them, a product inlet and a product outlet in said housing, a rotatable impeller in said chamber to move the product through said inlet and discharge it through said outlet, power means to rotate said impeller, a shaft extending through said back plate and operatively interconnecting said power means and impeller, inner and outer concentric seals between said shaft and said back plate, said seals being spaced apart axially with respect to said shaft to define an annular space around said shaft, means providing a first passageway in said back plate extending radially of said shaft and intercommunicating said annular space around said shaft and said annular space between said housing and back plate, means providing a second passageway in said back plate extending radially of said shaft and intercommunicating the said annular space around said shaft and the said annular space between said housing and said backplate, means providing an inlet to said first passageway between said annular spaces and adapted for connection to a source of sterilizing medium, and means providing an outlet from said second passageway between said annular spaces for exhausting said sterilizing medium from said space.

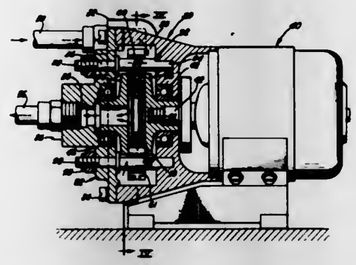


3,259,072
ROTARY FUEL PUMP
Keith H. Carpenter, Pittsford, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,291
6 Claims. (Cl. 103—87)



1. A fuel pump including, a housing, an electric motor disposed in said housing having an armature, a shaft connected to said armature and journalled in said housing, said housing having a pair of chambers therein separated by a wall with the armature shaft extending therethrough, a peripheral pump impeller disposed in one of said chambers and connected to said armature shaft for rotation therewith, a volute formed in the other chamber of said housing and coacting with said armature to constitute a centrifugal pump, and passage means in said wall interconnecting said volute and said peripheral pump chamber whereby the output of said centrifugal pump modifies the output characteristics of said peripheral pump in accordance with the operating condition thereof.

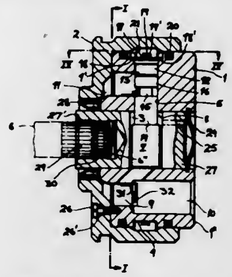
3,259,073
PLANETARY GEAR PUMP
Wilson A. Burtis, 5011 Harvard Ave., Westminster, Calif.
Filed Oct. 24, 1963, Ser. No. 318,670
7 Claims. (Cl. 103—126)



1. A fluid pump comprising:
a hollow housing;
an annular sun gear rotatably mounted in the housing having a central bore and generally radial passageways communicating said bore with the spaces between successive teeth;
a planetary gear rotatably mounted in the housing and meshing with the sun gear, the planetary gear teeth and sun gear teeth being equal in axial dimension;
axially spaced flange means sealingly bounding the sun gear space during meshing engagement therein of a planetary gear tooth;
means preventing fluid flow outwardly through all passageways except the passageway communicating with a sun gear space receiving a planetary gear tooth, including
a tubular output member fixedly mounted centrally of the sun gear and having a generally radial channel therein, the output member having its inner axial end closed and its outer axial end constituting the pump outlet port,
a shoe movably carried by the output member for movement generally radially thereof, the outer surface of the shoe having a cylindrical contour in sealing engagement with the portion of the sun gear bore surface defining the inner end of said excepted passageway, and the shoe having said channel formed therein;
said housing being provided with a fluid inlet port in communication with the meshing zone of said gears;
and means for rotating the sun gear.

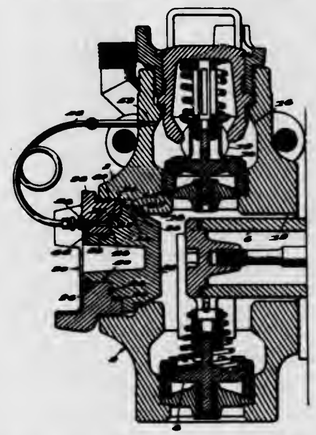
3,259,074
RADIAL-PISTON MACHINES
Hans Erdmann, Frankfurt am Main, Germany, assignor to Alfred Teves Maschinen- und Armaturenfabrik Kommandit-Gesellschaft, Frankfurt am Main, Germany, a corporation of Germany
Filed Feb. 17, 1964, Ser. No. 345,152
Claims priority, application Germany, Feb. 16, 1963, T 23,484, T 23,485
12 Claims. (Cl. 103—174)

1. A radial-piston machine comprising:
housing means having an axis and provided with an axially extending cavity;
cylinder-block means received within said cavity and defining with said housing means an annular first channel lying generally in a plane transverse to said axis and an axially extending second channel spaced from said first channel;
fluid-inlet means and fluid-outlet means formed in at least one of said cylinder-block means and said housing means, each of said fluid-inlet means and said fluid-outlet means communicating with a respective one of said channels;
an eccentric shaft journaled in said cylinder-block means, said cylinder-block means being provided with at least two angularly spaced generally radial cylinder bores lying substantially in said plane and communicating with said channels at spaced locations along said bores;
a radially reciprocable piston slidably disposed in each of said bores and in force-transmitting relationship with said eccentric shaft; and



respective unidirectional valve means at the junction of each of said cylinder bores with said first channel for admitting said fluid medium from said bores to said first channel under the pressure of said pistons, each of said valve means including a respective valve seat surrounding each of said bores; a respective radially movable plate in annular contact with said cylinder-block means around the respective cylinder bore at the respective valve seat, said pump further comprising an annular resilient member surrounding said cylinder-block means and urging both said plates radially inwardly.

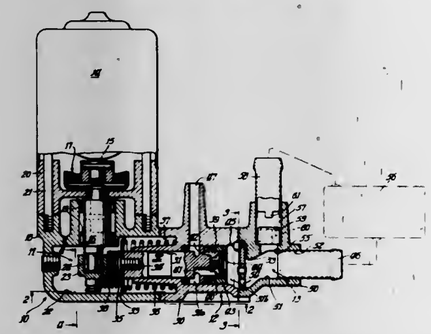
3,259,075
PUMP CYLINDER HEAD
Morris Roth, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Oct. 28, 1964, Ser. No. 407,049
8 Claims. (Cl. 103—202)



1. In a pump of the type having a housing with a cylinder therein, a piston mounted for reciprocation in the cylinder, intake and exhaust manifolds, and a cylinder head, said head comprising a cover element extending

across said cylinder, a cover retainer secured in said housing on the side of the cover element opposite said cylinder, said cover element and said cylinder each having a radial shoulder therein, sealing means interposed between said radial shoulders, said retainer and said cover element having opposed radial surfaces therebetween, and means for conducting fluid from said exhaust manifold to said surfaces, whereby the exhaust fluid pressure imposes an axial force on the cover element to reduce cyclic loading on the sealing means while the pump is operating.

3,259,076
VARIABLE CAPACITY FUEL PUMP
Robert W. Halberg, Des Plaines, Abraham L. Detweiler, Barrington, and Renee W. Danforth, Palatine, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Original application Feb. 5, 1960, Ser. No. 6,946. Divided and this application Mar. 10, 1965, Ser. No. 448,225
3 Claims. (Cl. 103—205)



1. In a fluid pump having a variable stroke pumping plunger and driving means including a rotatable output shaft for reciprocating the plunger, the combination of a casing, an eccentric or crank shaft journaled within said casing at right angles to the pumping plunger, first resilient means interconnecting said crank shaft with the output shaft of the driving means, a sleeve rotatably journaled on an end of said crank shaft, second resilient means mounted in said casing and engaging said sleeve and effective to force said sleeve and crank shaft away from the plunger and thereby minimize noise due to bearing clearances, and third resilient means mounted on the end of the pumping plunger and adapted to be contacted by said sleeve for moving the plunger, said three resilient means collectively being effective to minimize noise due to intermittent contact between said sleeve and the pumping plunger.

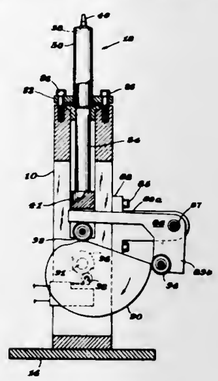
3,259,077
MULTI-SYRINGE-TYPE PUMP
Ralph M. Wiley, Midland, and Thomas D. Ray, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,463
2 Claims. (Cl. 103—227)

1. In a multi-syringe-type pump having a body resting on a base, a plurality of syringes supported by said body, each syringe having a hollow cylinder, a plunger shaft snugly and slidably fitted within said cylinder, each cylinder having an orifice at its end and a nozzle positioned over said orifice, and a liquid inlet and a liquid outlet in communication with each of said syringes of said pump, the improvement which comprises:

(a) an electrically operated 4-way inlet and outlet valve system in communication with each pair of said syringes; and

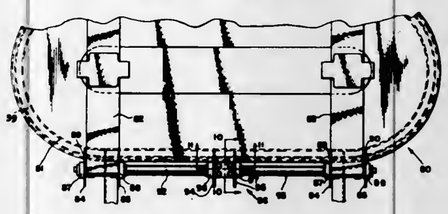
(b) a two directional plunger drive mechanism in communication with each syringe, said drive mechanism comprising:

(1) a shaft rotatably mounted in the pump body below said plunger shaft of said syringe;
(2) power means to drive said shaft;
(3) a plate cam fixedly mounted on said shaft;
(4) a cam roller rotatably mounted on the plunger shaft of said syringe and in contact with said plate cam;
(5) an L-shaped return arm pivotally attached to the pump body, one leg of said L-shaped mem-



ber being positioned on top of and in contact with said cam roller; said cam roller thereby being positioned intermediate said return arm and said plate cam;
(6) a return arm roller rotatably mounted on the second leg of said L-shaped return arm and in contact with said plate cam;
(7) a valve cam fixedly attached on said shaft; and
(8) a switch contacting said valve cam and activated by said valve cam, said switch electrically being connected to said electrically operated 4-way valve system.

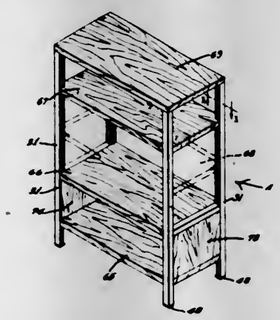
3,259,078
TROUGH HATCH COVER AND OPERATING MECHANISM
Charles R. Radey, Michigan City, Ind., and John Holden, Jr., Cuyahoga Falls, Ohio, assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 396,332
2 Claims. (Cl. 105—377)



1. A hatch cover and operating arrangement for use on a covered hopper car comprising an upstanding hatch coaming surrounding an opening formed in a roof covering an upper portion of said car, said hatch coaming having a curled upper edge for cooperating with a gasket, a hatch cover mounting said gasket and being adapted to close off said opening by overlying said coaming, said hatch cover being formed from semicircular end sections

joined to opposite ends of a straight center section of rectangular form, hinge means mounting said hatch cover for pivoting movement adjacent one side of said hatch coaming, said hinge means including spaced strap hinge means overlying said hatch cover, an operating means to bias said hatch cover from an open and closed position in the absence of external forces, said operating means including an elongated torsion bar, means clamping the opposite ends of said torsion bar to said spaced strap hinge means for rotary movement therewith, rotary stop means clamped to said torsion bar intermediate the ends thereof for rotary movement therewith as said hatch cover is moved from the open and closed position, and angularly spaced second stop means fixed to said roof and in the path of said rotary stop means and position to apply a predetermined torsion force on said torsion bar when said hatch cover is in the open and closed positions.

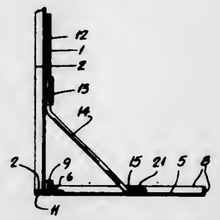
3,259,079
ADJUSTABLE SHELVING FOR KNOCK-DOWN FURNITURE
Paul E. Freeman, Tallahassee, Fla., assignor to Lok Trim Corporation, Tallahassee, Fla., a corporation of Florida
Original application Dec. 6, 1962, Ser. No. 242,762, now Patent No. 3,195,968, dated July 20, 1965. Divided and this application July 19, 1965, Ser. No. 473,106
3 Claims. (Cl. 108—59)



1. A knock-down furniture shelving construction comprising in combination, a bottom panel, and a plurality of vertically adjustable shelves, vertically disposed corner members consisting of right angularly disposed channel shaped members, said channel members including anguposite sides, a substantially U-shaped filler member dislarly disposed flanges extending inwardly from their opposed between said flanges providing a vertical way and having sides angularly disposed from said way at each side, a web member disposed in said way, and shelf supporting brackets having an integral stud provided with an enlarged head, and having angular side members extending from the stud, said stud guidingly fitted within the way and the side members engaging the sides of the filler member, and a locking member extending through the stud and engaged with the rear surface of the way to lock the brackets in vertically adjusted position.

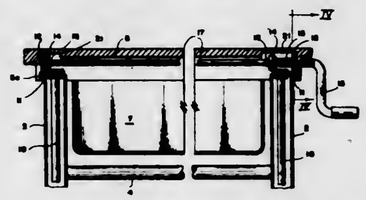
3,259,080
COLLAPSIBLE SPRING STAND
André Laroche, 1830 Visitation St., Montreal, Quebec, Canada
Filed Dec. 3, 1965, Ser. No. 511,517
Claims priority, application Canada, Jan. 19, 1965, 921,176
8 Claims. (Cl. 108—131)

1. A collapsible stand comprising a main frame member adapted to be disposed in upright position, a table top hinged to the upper edge of said main frame member and a floor-engaging member hinged to the lower edge of said main member, said table top and floor-engaging member pivotable with respect to said main frame between an erected position in which they extend substantially at right angles to said main frame member and on the same side thereof, and a collapsed position in which they extend alongside said main frame member and on the same side thereof, and means to releasably maintain said table top and floor-engaging member is erected position comprising a rod extending longitudinally of said main frame member and rotatably connected thereto for rotation about its own axis, said rod having at both



ends angular extensions adapted to engage the underside of said table top and floor-engaging member, to maintain the same in erected position in an active rotated position of said rod member in which its extensions extend in a plane at substantially right angles to said main frame member, spring means connected to said rod and to said main frame member and urging said rod to take said last-named active rotated position, rotation of said rod against the action of said spring bringing said rod extensions in a plane flat against said main frame member to allow collapsing pivoting movement of said table top and floor-engaging member.

3,259,081
SCHOOL DESK OF ADJUSTABLE HEIGHT
Paul Gunnar Stålnacke, Farsta, Sweden, assignor to Aktiebolaget Skrivrit, Sollentuna, Sweden, a corporation of Sweden
Filed May 9, 1963, Ser. No. 279,285
Claims priority, application Sweden, May 10, 1962, 5,249/62
4 Claims. (Cl. 108—147)



1. In a school desk of adjustable height having a substantially horizontal frame and a pair of legs each of which comprises a pair of sections which are mutually displaceable in the axial direction thereof through the action of a screw spindle mounted in each leg, adjustment apparatus comprising: first bevel pinions fixed to the upper ends of said screw spindles for imparting rotation thereto; second bevel pinions in meshing engagement with said first bevel pinions for rotation therewith; a longitudinal drive shaft supporting said second bevel pinions for rotation therewith; substantially vertically disposed journal plates fastened to the upper ends of the upper leg sections and to the frame and having upwardly opening journal slots formed therein; bracing means extending between and connecting said upper leg sections and other points of the frame, means mounted on said drive shaft for rotation therewith and journalled in said

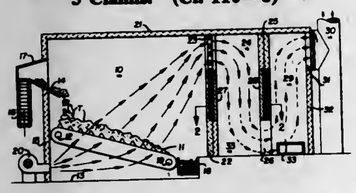
upwardly opening slots to support said drive shaft, said last mentioned means being restrained against axial movement in one direction by said journal plates; shoulders formed on said drive shaft for preventing axial movement of said last mentioned means in the other direction; and means for vertically retaining the journalled means in said slots by closing the upper ends of said slots.

3,259,082
PORTABLE SHELF
Carol N. Williams, 601 S. Vermont St., Los Angeles, Calif.
Filed Apr. 23, 1965, Ser. No. 450,375
3 Claims. (Cl. 108—152)



1. In a device of the character disclosed, a shelf provided with an elongated body having an upper and a lower surface, one end of said body provided with a descending step portion extending from the top surface of the body and provided with a step portion in descending relationship to the bottom surface of the body, the upper and lower portions having threads which lie in the same plane.

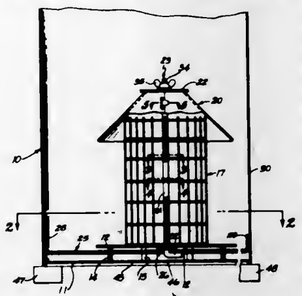
3,259,083
INCINERATOR WITH AFTERBURNER
Trevor E. Evans, 530 Glenwood Ave., Youngstown, Ohio
Filed June 11, 1963, Ser. No. 287,022
5 Claims. (Cl. 110—8)



1. The combination of an incinerator and an afterburner for completely consuming the products of combustion originating in the incinerator, said incinerator including grate means in a first chamber, a second chamber, a partition separating said first chamber from said second chamber, a communicating opening between said first and second chambers, said second chamber having oppositely disposed walls including hollow porous radiant units, means to supply a mixture of fuel gas and air to said radiant unit, said second chamber comprising said afterburner and an outlet communicating with said secondary chamber.

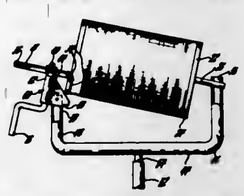
3,259,084
REFUSE INCINERATOR INSERT FOR CONTAINERS
Edward A. Hance, 5 Willow Road, New Hyde Park, N.Y.
Filed July 29, 1963, Ser. No. 298,391
2 Claims. (Cl. 110—18)

1. A waste material incinerator insert in combination with a hollow container having a bottom wall and an outer wall, substantially perpendicular to the bottom wall, the bottom wall of the container being spacedly located relative to the ground on which the container is mounted, comprising a bottom plate spacedly located relative to and substantially parallel to the bottom wall of the container, means located adjacent the bottom plate operative to radially locate the bottom plate relative to the outer wall of the container, a tubular body formed of a perforated material supported by the bottom plate, said bottom plate having means formed thereon, operative to radially locate the body relative to the bottom plate, a cap formed of a thin sheet material fitted to one end of the body, said cap being of substantially frusto-conical contour, said cap having an opening through the free end thereof, a top plate located adjacent the free end of the cap, said top plate covering the opening through the cap, and a clamping bolt inserted through the bottom plate and the top plate, said clamping bolt extending through the body and the cap, said clamping bolt having means integral therewith operative to engage one face of the container outer wall locating means, and means threadable fitted to the portion of the clamping bolt extending through the top plate, operative to engage the top plate, thereby to clamp the top plate to the bottom plate and the container outer wall locating means, the body being of substantially circular cross-sectional contour, the lower portion of the frusto-conical cap extending beyond the



circumferential outer wall of the body to shield the body, the bottom plate having a plurality of openings therethrough located within the area of the bottom plate surrounded by the interior of the body, the bottom wall of the container having a plurality of openings therethrough located in the general area in which the openings through the bottom plate are located, means elevating the container to spacedly locate the bottom wall thereof relative to the ground on which the container is mounted, combustible waste material being deposited in the area between the circumferential outer wall of the body of the insert and the inner surface of the container outer wall, the openings through the bottom wall of the container and the bottom plate allowing a stream of air to pass therethrough, the air passing through the inner area of the body of the insert toward the inner surface of the cap, the projecting frusto-conical inner surface of the cap directing the stream of air toward the waste material to facilitate combustion of the waste material.

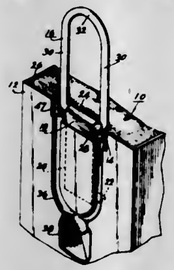
3,259,085
TRASH BURNER
Orville E. Campbell, 2184 St. Joseph, Pontiac, Mich.
Filed Aug. 2, 1963, Ser. No. 299,554
5 Claims. (Cl. 110—18)



4. A trash burner comprising a cylindrical drum having its opposite ends closed, a hinged cover at one end, one stub shaft mounted on the hinged cover and another stub shaft mounted on the other end of the drum, a stand

rotatably supporting the stub shafts for rotation of the drum about a horizontal axis, a bracket pivotally mounted on the stand and engaging said one stub shaft so that the latter can be pulled to open said one drum end by disengaging the cover therefrom and to tilt said one drum end above the horizontal for filling the drum.

3,259,086
HINGED REFRACTORY BRICK HANGER
Joseph L. Stein, Philadelphia, Pa., assignor to General Refractories Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 25, 1964, Ser. No. 369,909
4 Claims. (Cl. 110—99)



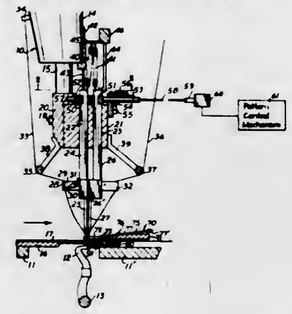
1. A refractory brick having a hinged hanger assembly secured thereto, said assembly comprising a clip anchored in the brick extending along a brick face in flush relation therewith, said clip including a bight-shaped portion forming a hanger socket, said hanger socket being parallel to and closely adjacent an end edge of the brick, a plate on a face of the brick proximate said end edge of the brick, a hanger pivotally mounted in said hanger socket, said hanger being adapted to pivot from a retracted position along said plate to an extended position for mounting the brick in a roof or wall, groove means in said plate permitting said hanger to lie in flush relation with said plate in the retracted hanger position, and a depression in said plate underlying said groove means for facilitating the pivoting of the hanger from the flush retracted position.

3,259,087
FERTILIZER APPLICATOR BLADE
Donelson B. Horton, % John Blue Co., Inc., Huntsville, Ala.
Filed Jan. 27, 1964, Ser. No. 340,312
6 Claims. (Cl. 111—7)



1. An improved applicator blade assembly for distributing a liquid fertilizer below the surface of the soil as the blade is drawn through the soil which comprises: a shank having means for attachment to a traction device; conduit means associated with said shank for delivering fertilizer to below the surface of the soil; a removable boot abutting against the front of said shank; said boot having a heel portion extending rearwardly from the front thereof and below said shank, said heel portion abutting against the bottom of said shank; and means for fastening said boot and said heel to said shank, whereby said boot absorbs the substantial part of the wear of said applicator blade and may be replaced when worn to avoid discarding the entire applicator assembly, one of the abutting surfaces of said boot and said shank being convex and the other being concave so that the area of contact between said boot and said shank is greater than their cross-sectional area, whereby twisting movements between said shank and said boot are reduced without increasing their thickness; said conduit being fastened by disengageable coupling means to said shank such that the conduit is not in direct contact with other parts of the applicator blade, thereby minimizing heat transfer between the conduit and other members of the assembly to prevent undue chilling thereof and permitting replacement of said conduit if damaged, the rear portion of said heel having a relatively enlarged opening from top to bottom therethrough, said conduit means extending loosely through said opening such that said conduit means is essentially free floating therein.

3,259,088
MULTI-COLOR TUFTING MACHINE
John T. Rockholt, Chatsworth, Ga.
Filed Aug. 10, 1961, Ser. No. 130,604
9 Claims. (Cl. 112—79)

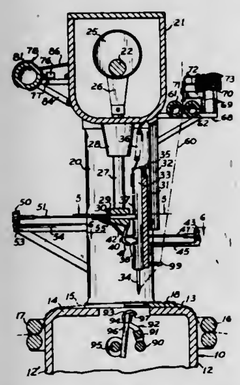


1. A tufting machine comprising a frame, a needle bar carrying member provided with a pair of slots, means for reciprocating said needle bar carrying member, a pair of parallel needle bars slidably and essentially wholly carried within said slots by said carrying member, said means for reciprocating said needle bar carrying member reciprocating the same in a path parallel to said needle bars, needles projecting from the ends of said needle bars and reciprocal in planes displaced from each other for inserting yarns through a base fabric passed therebeneath at intervals displaced from one another, said needles being closely adajcent each other and aligned along the path of travel of said base fabric, a single looper means for said pair of needles carried by said frame beneath said base fabric for temporarily engaging and holding and thereafter releasing in an uncut condition the yarns inserted by said needles through said base fabric, and selector means carried by said needle bar carrying member for selectively coupling said needle bars to said carrying member for reciprocation therewith.

3,259,089
TUFTING MACHINE
John T. Rockholt, Chatsworth, Ga.
Filed Sept. 13, 1962, Ser. No. 223,349
1 Claim. (Cl. 112—79)

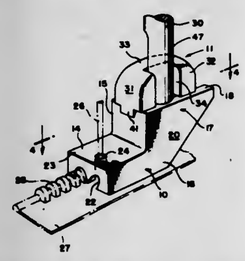
A tufting machine comprising a drive means, means for feeding a base fabric along a predetermined path through a tufting zone, a bank of individually movable needles in said tufting zone, variable speed yarn feed means for feeding yarn to said needles in said tufting zone, pattern control means driven by and synchronized

with said drive means, first actuating means operatively connected to said pattern control means for selectively connecting various ones of said needles to said drive means, second actuating means operatively connected to said pattern control means for selectively connecting all of said needles to said drive means, said variable speed yarn feed means being operatively connected to and synchronized with said pattern control means and being constructed and arranged to feed said yarn to said needles at a predetermined speed when said needles are connected



to said drive means by said first actuating means and at a speed different from said predetermined speed when said needles are connected to said drive means by said second actuating means, and looper mechanisms each including upper and lower looper bills whereby yarn being fed at said predetermined speed is caught by one of said looper bills and when fed at said speed different from said predetermined speed is caught by the other of said looper bills.

3,259,090
ZIPPER FOOT ATTACHMENT FOR SEWING MACHINES
Robert B. Howell, Seattle, Wash., assignor to Unique Zipper Distributing Co., Tacoma, Wash., a corporation of Washington
Filed Oct. 4, 1962, Ser. No. 228,481
8 Claims. (Cl. 112—240)

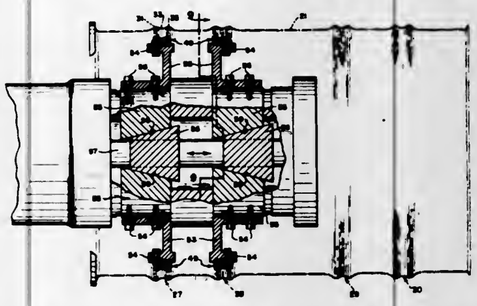


1. A foot attachment device so arranged that a foot is able to be secured to any selected one of a plurality of different types of sewing machine presser bars, said device comprising:

(a) a foot component comprising a foot having an ankle portion fixed to, and being upstanding from, the heel thereof, a forked member fixed to said ankle and having two rearwardly extending spaced tines to define a slot opening therebetween, by which tines said foot component can be secured to a first selected presser bar by hold screw means which reaches through said slot opening and engages said tines in a manner to hold said foot component to said presser bar,

(b) an adapter by which said foot component can be secured to a second selected presser bar different from said first presser bar, said adapter comprising means to secure said adapter to said foot component and a body portion defining a vertical recess in alignment with and opening into the slot opening between said tines to allow said second presser bar to extend therethrough so as to receive and engage said second presser bar, hold screw means, said body portion presenting a laterally facing surface portion having a laterally aligned opening receiving said hold screw means in a manner that said adapter can be properly secured to said second presser bar by said hold screw means passing therethrough and into engagement with said presser bar so as to cause said body portion to properly engage said second presser bar.

3,259,091
METHOD OF PRODUCING A ROLLING HOOP FORMATION IN THE SHELL OF A SHEET METAL DRUM
Andrew H. Campbell, Elizabeth, N.J., assignor, by mesne assignments, to American Light Gage Drum Corporation, New York, N.Y., a corporation of New York
Filed Mar. 28, 1963, Ser. No. 268,721
1 Claim. (Cl. 113—120)



The method of producing in the shell of a sheet metal drum a rolling hoop formation having a concave face which comprises forcing the metal of the shell outwardly throughout the periphery of the shell at two restricted areas spaced apart corresponding to the width of the rolling hoop and forming two external circular ribs, thus producing a circular concave recess between the two areas, the depth of the concave recess below the tops of the ribs depending upon the strength and pliability of the metal of the shell and being proportional to the spacing of the ribs.

3,259,092
BOAT HULLS
Joseph J. Kara, Jr., 226 S. Main St., Milltown, N.J.
Filed May 27, 1965, Ser. No. 459,335
2 Claims. (Cl. 114—66.5)

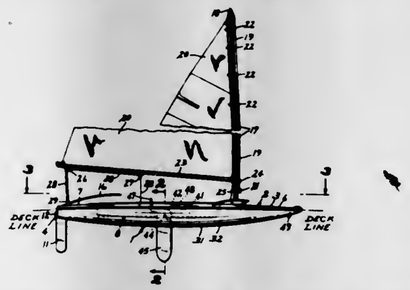
1. In a boat capable of planing upon the surface of the water and having a single-hull configuration including a bottom, sides intersecting the bottom and running longitudinally along the bottom from a stem to a lateraly stern, and a center line extending along the bottom from stem to stern of the hull, the bottom extending continuously from the center line toward each intersection of a side and the bottom and at least a portion of the bottom between the center line and each said intersection being planar, at least two strakes joined to the bottom of the hull, depending downwardly from the planar portions of the bottom and extending longitudinally along the hull

from stem to stern thereof, said strakes each having a longitudinal inner and outer edge and a longitudinally continuous bottom surface, the forward portions of the strakes converging toward the stem and the center line of the hull extending downwardly between the converging portions of the strakes and below the converging portions so that the forward portions of the inner edges serve to cushion the hull at speeds below the planing speed and the after portions of the inner and outer edges define the lateral boundaries of portions of the bottom surfaces providing planing surfaces, the thickness of the strakes being such that the planing surfaces are dis-



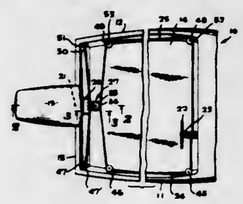
placed downwardly from the bottom a relatively short distance great enough to raise the remainder of the hull above the surface of the water into a planing position at planing speed, each strake having a lateral width between inner and outer edges less than the lateral distance between the center line of the bottom of the hull and the intersection of a side and the bottom but great enough to enable the strakes to support the weight of the hull in said planing position at said planing speed, the inner edge of each strake being adjacent the center line and displaced therefrom and the outer edge of each strake being adjacent the intersection of a corresponding side and the bottom and displaced therefrom.

3,259,093
SAILBOAT HULL
Stephen M. Taylor, 13 10th Ave. S., Hopkins, Minn.
Continuation of application Ser. No. 395,832, Sept. 11, 1964. This application Oct. 7, 1965, Ser. No. 495,766
7 Claims. (Cl. 114—66.5)



1. A sailboat hull comprising an elongated bottom and an upwardly projecting transom at the stern end of said bottom, said bottom and transom having an upper marginal edge defining a deck line, said bottom having a cross-sectionally downwardly facing concave central portion extending substantially the full length of the hull, said bottom including bottom side portions curving laterally outwardly and upwardly from opposite sides of said central bottom portion to said deck line, said bottom defining a pair of keel lines disposed in laterally spaced relation for substantially the full length of the hull, each of said keel lines for substantially the full length of that portion of the hull below its normal load water line being disposed in a different one of a pair of planes, each plane extending in a direction substantially parallel to the longitudinal dimension of the hull and each plane being angularly displaced from the vertical and sloping upwardly and inwardly toward the plane of the opposite keel line, said keel lines being curved generally upwardly in their respective planes from the longitudinally central portions of said keel lines toward the opposite ends thereof, whereby vertical projections of said keel lines are bowed in directions in which said keel lines are spaced apart a greater distance at the longitudinally central portions of said keel lines than at the opposite ends thereof and horizontal projections of said keel lines curve upwardly from the longitudinally central portions of said keel lines toward the opposite ends thereof, said concave central bottom portion at the longitudinally central portion thereof being disposed below the normal load water line of the hull when the hull is level from side to side, said concave central portion and said keel lines forwardly of the longitudinally central portions thereof curving upwardly above the normal load water line of the hull at the bow end thereof, said concave central bottom portion and said keel lines rearwardly of the longitudinally central portions thereof curving generally upwardly toward said transom, said concave central bottom portion being a smooth and continuous uninterrupted concave curved surface for substantially the full length of the hull between said keel lines, the depth of the concavity of the central bottom portion gradually diminishing adjacent the stern portion of the hull to define a generally flat planing surface, the arrangement being such that, when the hull is tilted laterally in a given direction to a predetermined degree, one of said keel lines for substantially the full length of that portion of the hull below its normal load water line is disposed in a vertical plane substantially parallel to the longitudinal dimension of the hull.

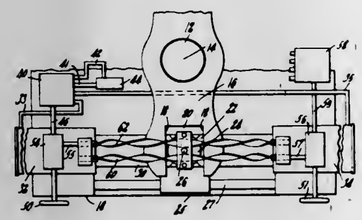
3,259,094
STEERING RIG FOR OUTBOARD MOTORS
William H. Schuler, 8502 S. Hoover St., Los Angeles, Calif.
Filed Feb. 2, 1965, Ser. No. 429,820
3 Claims. (Cl. 114—144)



1. A steering rig for a boat having an outboard motor and a pivot mount for said motor on the transom of said boat, said rig comprising, in combination, a bracket on said motor in fore and aft alignment with said pivot mount, said pivot mount passing vertically through the longitudinal centerline of said boat, a vertical idler shaft disposed on said bracket, two idler pulleys rotatably mounted on said shaft, a steering drum rotatably mounted on said boat, the axis of said drum being disposed substantially parallel to the centerline of said boat, respective starboard and port steering cables operatively coupled to said drum and extending transversely outwardly from the opposite sides thereof, fore and aft idler pulley means operatively mounted on each side of said boat intermediate said steering drum and said motor for receiving said respective starboard and port steering cables in guided relationship therewith, one of said cables extending transversely inwardly toward said bracket from the corresponding one of said aft pulley means and being reeved over one of said pulleys and secured to the starboard side of the boat, the other of said cables extending transversely inwardly toward said bracket from the corresponding one of said aft pulley means and being reeved over the other

of said pulleys and secured to the port side of the boat, and means mechanically coupling the ends of said starboard and port steering cables to the respective starboard and port sides of said boat in spring tension relationship therewith whereby said motor is rotated about said pivot mount by operation of said steering drum to selectively steer said boat.

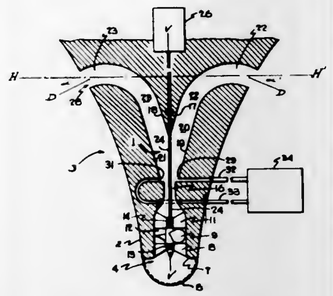
3,259,095
HYDRAULIC STEERING SYSTEMS FOR SHIPS
Frederic David Gilmore, Woolwich, Maine, assignor to Hyde Windlass Company, Division of Bath Iron Works Corporation, Bath, Maine, a corporation of Maine
Filed Mar. 22, 1965, Ser. No. 441,527
11 Claims. (Cl. 114—150)



1. In a ship steering system including
a rudder stock rotatable about an axis and operating means therefor,
differential means connected to said operating means angularly to displace said stock and
a steering control connected to said differential,
that improvement which consists of:
follow-up means connected between said rudder stock and said differential, said follow-up means including
a tiller mounted on said rudder stock and movable in an arcuate path to effect rotative movement of said stock,
a rotary member connected to said differential, said rotary member having a helically twisted flat surface and mounted for rotation about a helix axis extending in a direction perpendicular to and spaced from said rudder stock axis adjacent the outer end of said tiller and
connecting means including a contact member mounted on said outer end of said tiller for linear movement of said contact member along said helix axis responsive to arcuate movement of said tiller,
said contact member having a flat contact surface of limited longitudinal extent relatively to said rotary member and extending transveresly thereof in sliding contact with said surface of said rotary member for linear movement of said contact member along said helix axis responsive to arcuate movement of said tiller to rotate said rotary member about said helix axis and operate said differential to decrease the displacement of said stock following an initial displacement thereof by said steering control.

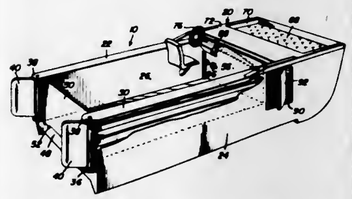
3,259,096
THRUSTER APPARATUS FOR CRAFT
Romald E. Bowles, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Mar. 10, 1964, Ser. No. 350,885
14 Claims. (Cl. 114—151)

1. A force generator system for water-borne craft having a hull, said system comprising an opening in said hull, a passage communicating with said opening, a propeller located in said passage for inducting water into said passage through said opening in said hull, a pure fluid amplifier having a power nozzle, at least one control nozzle, and two output passages positioned to receive water issued by said power nozzle, two ports in said hull, said ports adapted to issue water in generally opposite directions, each of said ports being in flow communication with a different one of said output passages, said power nozzle receiving water under pressure from



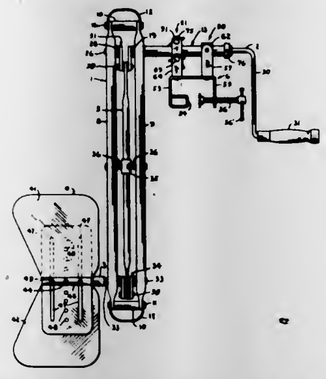
said passage and means for controlling flow of fluid in said control nozzle to effect deflection of said power stream so as to control the proportioning of said stream between said output passages said outlet passages being depressed at an angle relative to the horizontal so as to issue water through said ports at an angle of between five and ten degrees below the horizontal of said craft.

3,259,097
AIR-PROPELLED BOAT
John Van Veldhuizen and Edna M. Van Veldhuizen, both of P.O. Box 27, Vacation Village, Plantation Key, Homestead, Fla.
Filed July 10, 1964, Ser. No. 381,693
23 Claims. (Cl. 115—15)



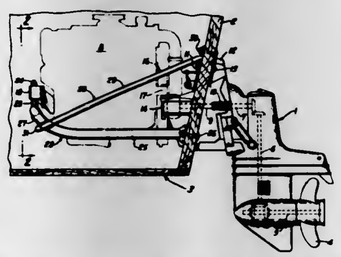
1. An air propelled boat including a bottom section, a pair of upstanding sides extending along and projecting upwardly from opposite longitudinal edge portions of said bottom section and including longitudinally extending hollow portions disposed above said bottom section, a bow section interconnecting the forward ends of said sides, portions of said bow section and said hollow portions of said sides defining air passage means including an inlet end portion in said bow section and also a pair of branch passages defined by said hollow portions communicated with said inlet end portion at their forward ends and opening rearwardly through the rear end portions of said sides above said bottom section, air pump means in said air passage means operable to pump air therethrough, said sides and said bow section each including portions projecting slightly below said bottom section, said sides including outlets communicated with said branch passages and opening inwardly through the portions of said sides which depend below said bottom section.

3,259,098
PROPULSION DEVICE
Louis G. Knaver, 6914 Alabama Ave., Hammond, Ind.
Filed Feb. 5, 1965, Ser. No. 430,526
19 Claims. (Cl. 115—23)



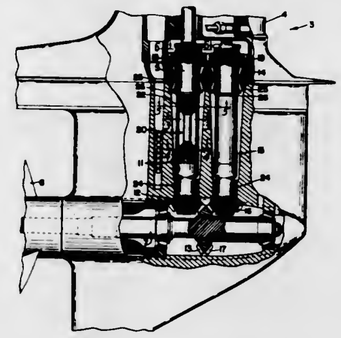
1. A device of the kind described comprising an elongate frame having a pair of spaced longitudinally extending side members, a drive shaft journalled in an upper extremity of said frame and a driven shaft journalled in a lower extremity of said frame, elongate means disposed between said side members and having ends respectively operatively connected to said shafts, propulsion means responsive to the operation of said driven shaft, the arrangement being such that operation of said drive shaft will effect rotation of said driven shaft and operation of said propulsion means.

3,259,099
ALIGNED INBOARD ENGINE SUSPENSION FOR INBOARD-OUTBOARD DRIVES
Elmer Carl Kiekhaefer, Winter Haven, Fla., assignor to Kiekhaefer Corporation, Fond du Lac, Wis., a corporation of Delaware
Filed June 8, 1964, Ser. No. 373,155
4 Claims. (Cl. 115—34)



3. In an inboard-outboard drive for watercraft having a transom:
(a) an outboard propulsion unit carried by said transom,
(b) an engine disposed inboard of the watercraft and forwardly of the said transom and drivingly connected to said propulsion unit by a drive shaft,
(c) rear support means secured to the transom and supporting said engine at two points on opposite sides of said shaft,
(d) and front support means secured to the transom extending forwardly to the front of the engine and supporting the latter at at least one point thereof, said front support means comprising:
(1) a support member of generally U-shaped configuration having transversely spaced generally parallel arms secured at their rear ends to the transom and extending forwardly adjacent the floor of the watercraft and generally in parallelism therewith,
(2) said arms merging into a transverse forward end portion,
(3) a stirrup of general U-shaped configuration having transversely spaced generally parallel arms secured at their rear ends to the transom above said support member and extending diagonally downwardly in a forward direction,
(4) said stirrup arms merging into a transverse bar with the stirrup positioned so that said support member is cradled within said stirrup,
(5) means securing said support member to said stirrup,
(6) and a resilient engine mount secured to the central portion of the transverse forward end portion of said support member and providing a front engine support.

3,259,100
DUAL DRIVE FOR OUTBOARD PROPULSION UNIT
Elmer Carl Kiekhaefer, Winter Haven, Fla., assignor to Kiekhaefer Corporation, Fond du Lac, Wis., a corporation of Delaware
Filed July 22, 1964, Ser. No. 384,391
6 Claims. (Cl. 115—34)



1. In an outboard drive for boats having a streamlined underwater propulsion unit with a substantially horizontal propeller shaft extending longitudinally thereof, and a source of power carried by the boat; a dual pinion drive connecting said power source with said propeller shaft and comprising a substantially vertically disposed main drive shaft between said power source and said propeller shaft, at least one auxiliary drive shaft disposed substantially parallel to said main drive shaft and coupled thereto at its upper end and to said propeller shaft at its lower end, said upper coupling comprising intermeshing spur gears having a minimum free running clearance, and means to take up said clearance and tending to substantially equalize the torque transmittal of said main and auxiliary shafts in driving the propeller under load.

3,259,101
SIGNALLING DEVICE
Walter Olevsky, 288 Paterson Plank Road, East Rutherford, N.J.
Filed May 13, 1964, Ser. No. 367,147
4 Claims. (Cl. 116—114)

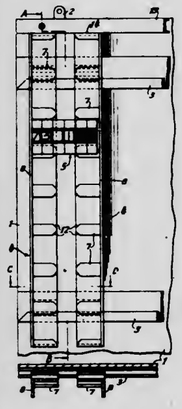
1. A signalling device adapted for hand use comprising a segmentally alternately folded sheet of a light reflective material, said member being capable of being compressed along said folds to a minimum volume and of be-

ing expanded to maximum light reflecting surface, a housing having a closed bottom portion and a pair of slotted registered apertures in respective opposite sides thereof, a member adapted to be moved along said slotted apertures, one end of said sheet being affixed in its compressed state to said member, the movement of said member



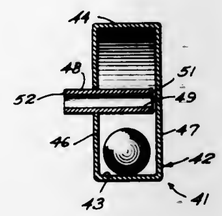
downward along said apertures causing the retraction of said sheet in its compressed minimum volume state into said housing and the movement of said member in the opposite direction causing said sheet to be projected out of said housing to permit it to be expanded to its maximum light reflecting surface.

3,259,102
PLANNING BOARDS OR INDICATORS
Arthur Rex Jackson, Pinner, England, assignor of one-half to Planomatic Limited, Watford, England
Filed Sept. 21, 1964, Ser. No. 397,807
Claims priority, application Great Britain, Sept. 20, 1963, 37,129/63
5 Claims. (Cl. 116—133)



1. A planning board comprising a base board having at least two parallel support rails extending in a lateral direction along said base board, at least one carrier member slidably mounted on said support rails for movement in a lateral direction with respect to said base board, said carrier member having at least one column of projections depending outwardly therefrom, said column extending in a longitudinal direction with respect to said base board, and a plurality of indicia carrying units mounted between adjacent projections in each of said columns.

3,259,103
ULTRASONIC INTERRUPTER
Roy D. Buell, Jr., Hinsdale, and Ben B. Peterson, Worth, Ill., assignors to Buell Manufacturing Company, Lyons, Ill., a corporation of Illinois
Filed Oct. 21, 1963, Ser. No. 317,675
3 Claims. (Cl. 116—137)



1. A spin ball pressure interrupter for use in an ultrasonic sound system having a source of pressurized fluid, a fluid operated resonator adapted to produce ultrasonic sound waves at a frequency which varies with variations in pressure of the fluid, and means communicating the source of fluid with the resonator, said interrupter being arranged for interposition in the communicating means for varying the pressure of the fluid to the resonator, said interrupter comprising

a housing having an annular side wall and a pair of end walls and forming a cylindrically shaped chamber within said walls,

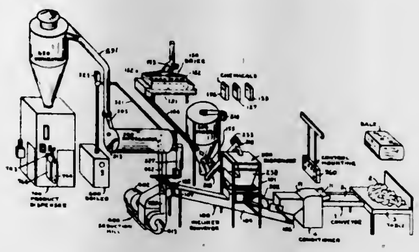
means forming a fluid inlet in said side wall for receiving pressurized fluid from said source and for directing the fluid in a non-radial direction into said chamber,

a tubular conduit having a circular cross-section along its entire length and having an outside diameter which is substantially less than the inside diameter of said chamber and extending from one of said end walls into said chamber and having an open inner end terminating in spaced relation to the other of said end walls to provide a non-closeable outlet for the fluid in the chamber, and

at least one ball carried within the chamber and having a diameter which is less than the distance between said conduit and said side wall so as to be moved around said conduit and over said fluid inlet to interrupt the flow of fluid through said inlet and to vary the fluid pressure at said outlet, the distance between the open inner end of said conduit and said other end wall being less than the diameter of said ball.

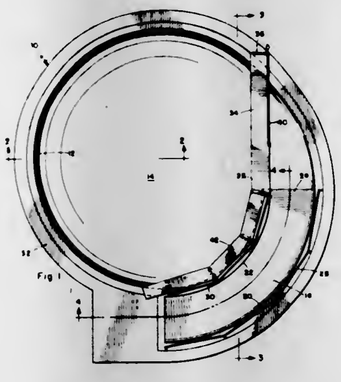
3,259,104
APPARATUS FOR MANUFACTURING A PRODUCT
Milton L. Gerber, R.R. 1, Craigville, Ind.
Filed Mar. 13, 1962, Ser. No. 179,426
22 Claims. (Cl. 118—8)

8. Apparatus for manufacturing insulation of the flowable type comprising: means for reducing the size of an absorbent material into pieces and forming the latter into a layer, a conveyor for directing the material to said reducing means, means for conveying the layer in a predetermined direction, dispenser means for depositing a dry chemical onto the layer in proportion to the density of the layer, a mill for receiving and reducing the size of the pieces into small particles and mixing the chemical therewith to form a relatively fluffy mass, means for receiving and conducting the mass through a chamber, and means for subjecting the mass to steam while being conveyed through the chamber for a period of time sufficient to dissolve the chemical so that it will be absorbed by the



majority of the particles to produce an impregnated product.

3,259,105
SWIMMING POOL FOR HORSES
Robert H. Shepard, 10703 Eureka Road, Spring Valley, Calif.
Filed Oct. 12, 1964, Ser. No. 403,266
6 Claims. (Cl. 119—29)



1. A swimming pool for exercising and conditioning horses comprising:

an open topped tank having a sidewall and a bottom;

a ramp extending from one ege of the tank downwardly toward the bottom of said tank and having an inner wall and an outer wall, the latter being an extension of said sidewall;

a walkway around the outer edge of said tank; and

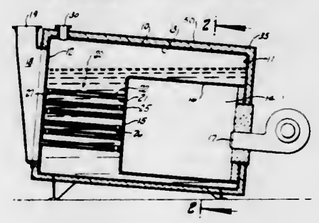
removable means bridging one end of said inner wall and an adjacent portion of said sidewall.

3,259,106
PROTEIN FEED BLOCK HOLDER
Murt C. Ray and Theodore Molczyk, Spalding, Nebr.
Filed Oct. 14, 1964, Ser. No. 403,791
2 Claims. (Cl. 119—51)

1. A cattle feed block holder comprising a frame for receiving and supporting a protein feed block, said frame including end angle bars comprising vertical outer flanges and horizontal inwardly extending lower flanges for receiving the block thereon between said outer flanges, said frame further including inverted V-shaped side bars extending between the end bars and having their end portions resting on and affixed to said lower flanges, supporting legs on the frame, and upstanding inverted U-shaped retaining members for the block mounted on said frame.



3,259,107
STEAM AND HOT WATER BOILER
David Dalin, Geneva, Switzerland (P.O. Box 2016, Milwaukee 1, Wis.)
Filed Aug. 2, 1963, Ser. No. 299,642
10 Claims. (Cl. 122—136)



1. A boiler comprising:

(A) a generally horizontally elongated vessel adapted to contain liquid to be heated and having front and rear ends;

(B) means in the front end portion of the vessel defining a combustion chamber having outer and inner ends, the means defining the inner end of the combustion chamber comprising a tube sheet spaced from the front and rear ends of the vessel;

(C) means defining a flue gas receiving chamber adjacent to the rear of the vessel, said last named means comprising a second tube sheet, near the rear of the vessel;

(D) a plurality of substantially parallel fire tubes extending between the tube sheets and providing passages through which combustion gases can flow from the combustion chamber to the flue gas receiving chamber in heat exchange relation with liquid in the vessel, said fire tubes being inclined so that one end of each is higher than its other end;

(E) a plurality of water tubes, said water tubes being disposed in the fire tubes with their axes parallel to those of the fire tubes and their walls radially spaced from those of the fire tubes so that combustion gases flowing through the fire tubes move in heat exchange relation to the water tubes, each of said water tubes

(1) having a length substantially equal to that of the fire tube in which it is disposed, and

(2) having its opposite ends closed;

(F) a pair of tubular laterally extending bridging members for each water tube, one near each end thereof, each communicating the interior of its water tube with the exterior of the fire tube in which the water tube is disposed, to provide for thermal circulation of liquid from the interior of the vessel upwardly along

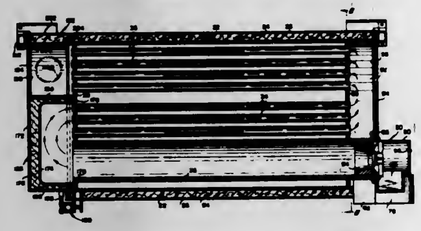
the inclined water tubes in heat exchange relation with combustion gases flowing through the fire tubes; and

(G) extended surface in the space between the fire and water tubes having intimate contact with at least one of said tubes.

3,259,108
BOILERS

Sam N. Craig, Devon, Pa., and Peter B. Seasholtz, Kewanee, Ill., assignors to Orr & Sembower, Inc., Reading, Pa., a corporation of Pennsylvania

Filed May 12, 1964, Ser. No. 369,344
2 Claims. (Cl. 122—149)



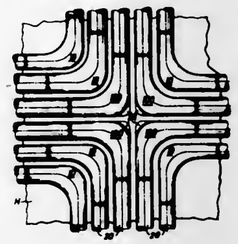
1. A boiler comprising a cylindrical boiler shell, front and rear tube sheets secured to said shell adjacent the opposite ends thereof, a combustion tube extending through said tube sheets, the axis of said combustion tube being laterally offset a substantial distance from the axis of said boiler shell toward one side of said boiler shell, one end of said combustion tube projecting beyond the adjacent tube sheet to dispose one end thereof essentially flush with the end of said shell and being adapted to detachably support a burner, first and second groups of fire tubes extending between said tube sheets in the region between said combustion tube and the other side of said boiler shell, the uppermost of said fire tubes being substantially at the level of the top of said combustion tube, a front cover swingably mounted at the other side of said boiler shell for engagement with the end of said shell and the end of said combustion tube and extending over said first and second groups of fire tubes and around a portion only of said combustion tube, whereby said front cover may be opened without detaching said burner from said combustion tube and a pair of rear doors mounted at the rear of said boiler, means on one of said doors sealingly engaging said tube sheet in the area surrounding said combustion tube and said first group of fire tubes, and said one of said doors being recessed to form a sealed gas reversal chamber connecting the end of said combustion tube and said first group of fire tubes, and the other door forming a sealed chamber connecting said second group of fire tubes to an exhaust stack, one of said doors extending across a portion of the rear of said boiler and the other door extending across the remainder of the rear of said boiler whereby said doors can be opened independently.

3,259,109
TUBING

Paul Grasme, Berlin-Spandau, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Apr. 17, 1964, Ser. No. 360,634
Claims priority, application Germany, Apr. 18, 1963, L 44,657
7 Claims. (Cl. 122—235)

1. In combination: a boiler having a heating surface; and meander-shaped tubing associated with said heating surface, said tubing incorporating a plurality of tube sections, at least some of said tube sections being curved, each of said curved tube sections having, at each end region, a generally circular cross section and, at its region of maximum curvature, a flat ellipitical cross section, the major axis of said elliptical cross section extending in the plane in which the respective tube section curves, the transition of the cross section of each tube section, from

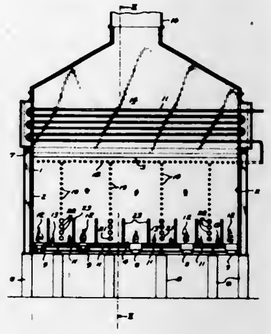


end region to region of maximum curvature to end region, being continuous, said tube sections being disposed uniformly on said heating surface and the size of said curved tube sections being such that the uncovered portion of said heating surface is maintained substantially constant between straight and bent portions of said tubing so as to provide uniform cooling of said heating surface.

3,259,110
FIRED HEATER ARRANGEMENT FOR FILM TEMPERATURE CONTROL

Harold L. Beggs, St. Davids, Pa., assignor to Alcorn Combustion Company, New York, N.Y., a corporation of Delaware

Filed Apr. 28, 1964, Ser. No. 363,182
2 Claims. (Cl. 122—356)



1. A vacuum heater comprising

a setting which has a floor and defines a radiant chamber,

a plurality of main burners penetrating the setting and communicating with the radiant chamber to introduce fuel and air therein and arranged so that two main flame bursts are formed and combustion gases are generated,

means for exhausting the combustion gases from the radiant chamber,

at least one tube coil disposed in the radiant chamber to define a generally horizontal serpentine configuration,

the tube coil communicating in flow series with a source of liquid hydrocarbon so that the liquid hydrocarbon courses generally downward therethrough,

the main burners arranged so that the main flame bursts are spaced from each other,

the tube coil disposed between the main flame bursts so that the coil is double fired,

the coil including at least one critical tube having a substantially enlarged diameter and path of liquid hydrocarbon flow, shield means for limiting heat transfer from the main flame bursts to the critical tube,

the main burners penetrating the setting via the floor,

the shield means including a pair of shielding walls each positioned between one of the main flame bursts and the tube coil and each projecting upward from the floor approximately as high as the top of the critical tube,

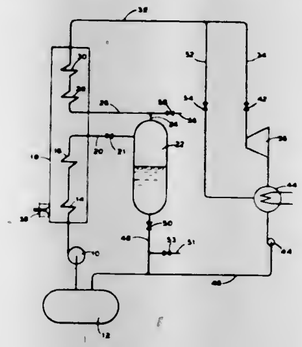
trim burners disposed on each side of the critical tube and between the shielding walls,

means for adjusting the heat output of the trim burners.

3,259,111
START-UP SYSTEM FOR FORCED FLOW VAPOR GENERATOR

Paul H. Koch, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed June 25, 1964, Ser. No. 377,939
2 Claims. (Cl. 122—406)

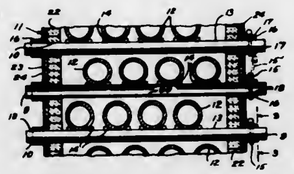


1. The method of starting a power plant system in which, during normal operation, vaporizable fluid is successively passed through a heating zone, a receiving zone, and a superheating zone to a vapor turbine, said method comprising passing a vaporizable fluid under a substantial pressure through the heating zone while passing heating gases in indirect heat-transfer relation with the fluid, passing the fluid so heated to the receiving zone while reducing the pressure of the fluid to cause part of it to flash into vapor, effecting separation of the vapor portion of the fluid in the receiving zone and then passing it through the superheating zone, while recirculating the remaining fluid from the receiving zone to the heating zone, condensing the vapor discharge from the superheating zone and recirculating it to the heating zone, increasing the rate of heating gas flow and of vaporizable fluid flow through said zones until predetermined conditions of fluid temperature and pressure for starting the turbine are attained, discontinuing the recirculation of fluid from the receiving zone to the heating zone and from the superheating zone to the heating zone so that all of the fluid from the heating zone passes to the receiving zone for mixing therein and then passes through the superheating zone to the vapor turbine, while raising the pressure of the fluid in the receiving and superheating zones and loading the turbine.

3,259,112
REMOVABLE TUBE SUPPORT

Frank A. Lee, Westwood, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed Sept. 2, 1964, Ser. No. 393,843
4 Claims. (Cl. 122—510)



1. A removable support arrangement comprising:

an external heater shell defining a convection section;

aperture means defining opposed openings through the shell and communicating with the external atmosphere;

horizontal tubes disposed in said convection section;

at least one hollow open ended rigid tube disposed in touching engagement underneath one of the horizontal tubes in the convection section for supporting the horizontal tube;

said rigid tube being slidably engaged and supported by said aperture means and disposed in the opposed openings, the rigid tube being in communication with the external atmosphere;

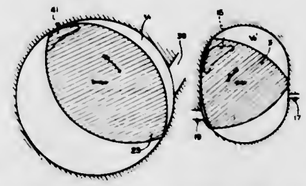
locking means arranged to retain said rigid tube in fixed engagement with said aperture means; and

the aperture means being arranged to permit longitudinal withdrawal of the rigid tube therethrough.

3,259,113
ROTARY DIESEL ENGINES

Yoshitsugu Hamada, Nishinomiya-shi, Japan, assignor to Yanmar Diesel Engine Co., Ltd., Osaka, Japan, a corporation of Japan

Filed June 5, 1962, Ser. No. 200,172
Claims priority, application Japan, Aug. 16, 1961, 36/29,062
2 Claims. (Cl. 123—8)



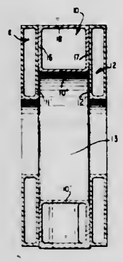
1. A rotary diesel engine comprising, in combination a fore compressor including a first housing having an inner peripheral wall surface of approximately single-lobe epitrochoidal configuration, a crankshaft journaled in said housing and having a first offset portion, a fusiform rotor mounted on said first offset portion for rotation on its own axis at half the speed of said crankshaft and having two edge portions slidably contacting said inner peripheral wall surface, intake and output openings in said first housing; and an internal-combustion engine being arranged coaxially and contiguous with said compressor and including a second housing having an inner peripheral wall surface of approximately double-lobe epitrochoidal configuration, a second crank shaft journaled in said second housing and having a second offset portion, both said crankshaft being integrally connected, a generally triangular rotor mounted on said second offset portion for rotation on its own axis at one-third the speed of rotation of said second crankshaft and having three edge portions slidably

contacting said inner peripheral wall surface of the second housing, intake and exhaust openings in said second housing, said compressor output being connected to the inlet of the engine so that the air taken into the engine is compressed to a degree sufficient for effecting ignition of the fuel.

3,259,114
ROTARY PISTON INTERNAL COMBUSTION ENGINE CONSTRUCTION

Johannes Gassmann, Altbach, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Nov. 16, 1962, Ser. No. 238,252
Claims priority, application Germany, Nov. 18, 1961, D 37,487
6 Claims. (Cl. 123—8)



1. In a housing structure for rotary piston internal combustion engines, especially for those having working chambers of trochoidal shape in cross section, in which rotate pistons of polygonal shape having substantially arcuately formed working surfaces, and of which the working chambers are effectively subdivided into a relatively warmer section generally comprising the combustion and exhaust sections, and into a relatively cooler section generally comprising the intake and compression sections,

the improvement essentially consisting of inner wall means, generally disposed about on axis, defining at least in part said working chamber, the length, generally measured along said axis, of said inner wall means being slightly smaller within said relatively warmer section than the length thereof within the relatively cooler section.

3,259,115
ROTARY-PISTON INTERNAL COMBUSTION ENGINE

Wolf-Dieter Bensinger, Stuttgart-Unterturkheim, Hans-Otto Deradinger, Stuttgart-Wangen, Rainer Schick, Esslingen-St. Bernhard, and Helmut Dobler, Stuttgart-Mohringen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Nov. 19, 1963, Ser. No. 324,665
Claims priority, application Germany, Nov. 23, 1962, D 40,341
20 Claims. (Cl. 123—8)

1. A rotary-piston internal combustion engine of trochoidal construction, comprising:

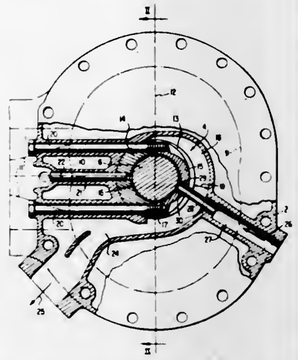
housing means provided with arched inner surface means,

shaft means rotatably supported within the engine and provided with eccentric means;

at least two polygonal piston means disposed one behind the other in the axial direction and rotatably supported on a respective eccentric means, said piston means rotating relative to said shaft means and to said housing means and sliding with the radial seals arranged at the piston corners thereof along the inner surface means of said housing means,

said housing means including partition wall means disposed between two successive piston means and provided with a bearing bore for accommodating therein said shaft means,

and bearing means for rotatably supporting the shaft means within the bearing bore of said partition wall means including split bearing body means, and threaded means for holding together the split bearing body means,

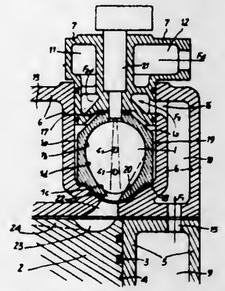


one of the bearing body means being constructed with the outer radial dimension thereof smaller than the bearing bore provided in said partition wall means, and a pocket provided within the partition wall means adjacent to said one bearing body means and starting from the bearing bore, the radial depth of said pocket corresponding substantially to the dimensions of the oppositely disposed bearing body means.

3,259,116
INTERNAL COMBUSTION ENGINES

Constant Bricout, Paris, France, assignor to Les Applications Techniques Industrielles L.A.T.I., Paris, France, a civil company of France

Continuation of application Ser. No. 282,368, May 22, 1963. This application Oct. 22, 1965, Ser. No. 500,841
Claims priority, application France, May 28, 1962, 899,009
2 Claims. (Cl. 123—32)

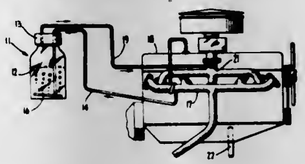


1. In an internal combustion engine of the cylinder and piston type, the combination comprising a combustion chamber associated with each cylinder, said combustion chamber formed by an upper cap having an internally spherical surface and provided with an opening for fuel injection, a lower cap having an internally spherical surface and provided with a transfer orifice and having a radius of curvature smaller than that of said upper spherical cap and an internally toroidal surface interconnecting said caps, a transfer channel communicating between said cylinder and said combustion chamber through the orifice in said lower cap, said channel being formed at least adjacent said orifice by a plurality of smoothly merging internal wall portions, one of said wall portions being of cylindrical configuration and coinciding with a geometrical cylinder circumscribable about the internal spherical surface of said upper cap, the cross-section of said channel at said wall portions having a center of gravity located substantially closer to said cylindrical wall portion than to any other of said wall portions.

3,259,117
METHOD AND APPARATUS FOR SMOG CONTROL

Jess M. Ritchie, Oakland, Calif., assignor to Fog-Aire, Inc., Oakland, Calif., a corporation of California

Filed July 8, 1964, Ser. No. 381,129
3 Claims. (Cl. 123—119)



1. Apparatus for reducing the concentration of unburned hydrocarbons in automobile exhaust gases comprising a container sealed at its upper end by a removable cap, an intake conduit communicated adjacent one end with the lower interior end region of said container and adapted at the other end for communicable connection to the crankcase interior of an internal combustion engine, an exit conduit communicated at one end with the upper interior end region of said container and adapted at the other end for communicable connection to the intake manifold of said engine, and a normally closed check valve mounted in said cap in communication with the interior of said container.

3,259,118
ENGINE IGNITION SYSTEM

William Y. Peters, Tucson, Ariz., assignor to Jasper N. Cunningham, Los Angeles, Calif.

Filed Mar. 18, 1963, Ser. No. 265,744
13 Claims. (Cl. 123—148)



6. In an engine ignition system having a timing switch means arranged to operate in synchronism with the operation of an associated engine, the combination of:

a saturated core transformerd having primary and secondary windings connected in series;

a series resonant circuit comprising a capacitor and the secondary winding of the saturable core transformer;

output means coupled to the series circuit for developing a voltage signal in response to changing current flow in the series circuit;

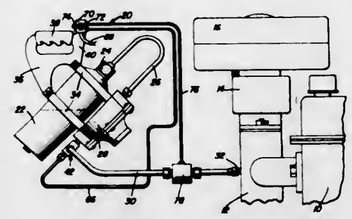
a direct signal source;

and normally open input switching means coupled to the direct signal source and the series circuit for momentarily closing in response to the operation of the timing switch means to couple the direct signal source across the primary winding of the saturable core transformer.

3,259,119
PRIMER ATTACHMENT FOR INTAKE MANIFOLD

Stanley E. Kivela, Rte. 1, Box 94, Marengo, Wis.

Filed Apr. 17, 1964, Ser. No. 360,491
15 Claims. (Cl. 123—187.5)

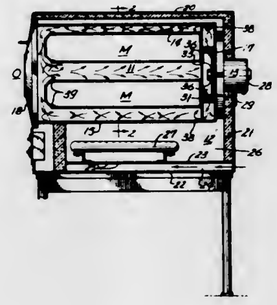


1. An internal combustion engine of the type having an intake manifold with a fuel and air mixing means connected thereto and supplying a first combustible fuel mixture and an attachment connected to said manifold and supplying thereto a second enriched combustible fuel mixture, said attachment including a source of a second fuel under pressure, a conduit means connected to said source and to said intake manifold, a pressure reduction valve assembly in said conduit means disposed between and connecting said second fuel source to said intake manifold, preheating means disposed in said conduit means and between said pressure reduction valve assembly and said intake manifold and applying heat to said second fuel prior to its introduction into said intake manifold to compensate for the temperature reduction of said second fuel during its passage through said pressure reduction valve assembly, a control valve disposed in said conduit means and regulating the flow of said second fuel into said intake manifold and fuel control means connected to said control valve.

3,259,120
PIE-BAKING FACILITY

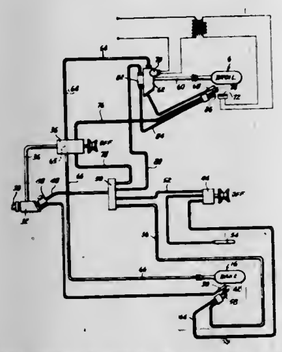
Richard T. Keating, 144 N. Cuyler Ave., Oak Park, Ill.

Filed Apr. 29, 1964, Ser. No. 363,560
7 Claims. (Cl. 126—21)



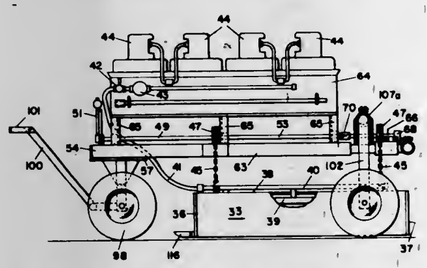
1. In combination with a high velocity oven, a pie-baking facility comprising a shallow box-type muffle structured with a front end opening to permit the insertion and removal of pies, means for suspending said muffle within said oven in spaced relation with the top, bottom, and sides thereof, and deflector means positioned over the front end opening of the muffle to dispose upper and lower deflecting portions overhanging said opening for diverting from entrance into the front end of the muffle the turbulent air flow circulating around the muffle in the said high velocity oven.

3,259,121
BROIL-BAKE OVEN GAS CONTROL SYSTEM
Earl A. McGee, Cleveland, Tenn., assignor to Magic Chef, Inc., Cleveland, Tenn.
Filed Aug. 18, 1964, Ser. No. 390,341
6 Claims. (Cl. 126—39)



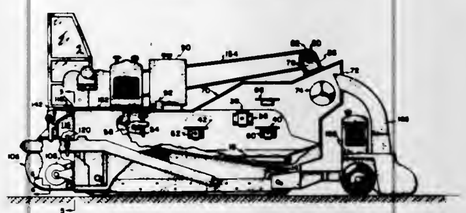
1. In a gas oven having a bake burner and a broil burner therein; a selector valve having an inlet arranged to receive gas from a supply thereof, said selector valve having at least two outlets for gas; a first conduit leading from one of said outlets to one of said burners; a second conduit leading from the other of said outlets to the other of said burners; a heat controlled valve normally closing said first conduit; a pressure responsive igniter means arranged to be responsive to the differential pressures, in said first conduit, on opposite sides of said heat controlled valve; said selector valve being selectively operable to connect either of said outlets to said inlet and to isolate both outlets from said inlet, said selector valve being further arranged to establish communication between said first and second conduits when said outlets are both isolated from said inlet whereby to direct atmospheric pressure from said burners to opposite sides of said heat controlled valve.

3,259,122
PAVING DEVICE
Earl A. Lenker, 2916 Michele Drive, Norristown, Pa.
Filed July 5, 1963, Ser. No. 293,003
18 Claims. (Cl. 126—271.2)



4. A paving heating device adapted to be conveyed over an area, and comprising:
a frame;
a heater carried by said frame;
a wheel assembly comprising:
a plurality of frame-supporting wheels, and
a mounting mechanism for one of said wheels and mounted on said frame;
said mounting mechanism comprising a plurality of alternative mounting devices for said wheel, and being disposed in a manner to enable said last-mentioned wheel to be alternatively mounted in a plurality of parallel planes operably selectively to dispose said heater in a plurality of positions with respect to said wheel and to said area.

3,259,123
SNOW LOADING AND MELTING MACHINE
Peter Sangivanni, 500 Kensington Ave., Meriden, Conn.
Filed May 3, 1963, Ser. No. 277,860
7 Claims. (Cl. 126—343.5)



1. A snow melting machine which comprises (1) a tractor apparatus having a front end and a back end and including power drive means, (2) a pre-melting chamber mounted and defined in and on said tractor apparatus and having open area at least near the front end of said tractor apparatus wherethrough a stream of snow may flow into and a stream of combustion products may flow out of the chamber, and having further a bottom surface defined at least in part by at least one belt-type conveyor, said conveyor being actuated by the power drive means of said tractor apparatus, (3) snow shredding means positioned within said pre-melting chamber to be impinged upon by snow flowing into said pre-melting chamber through said open area, said snow shredding means being actuated by the power drive means of said tractor apparatus, (4) baffle means within said pre-melting chamber extending from the interior wall surfaces thereof substantially transversely to the overall direction of flow of snow through said chamber, said baffle means serving to regulate the dispersion of snow flowing from said shredding means, and (5) a final melting chamber mounted and defined at the back end of said tractor apparatus, said final melting chamber being in snow and water flow communication with said pre-melting chamber to receive snow and water leaving said pre-melting chamber, both said pre-melting and final melting chambers being of the direct flame impingement type and including burner units disposed toward the rear of them so that the flow of combustion products through said machine is generally counter-current to the flow of snow and the water of melting therethrough, and said final melting chamber having drain means to discharge water of melting.

3,259,124
CATHETER TRANSDUCER FOR IN VIVO MEASUREMENTS
Douglas R. Hillier, Palo Alto, Henry Faigh, Sunnyvale, and Boyd W. Coon, Berkeley, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed July 19, 1963, Ser. No. 296,250
6 Claims. (Cl. 128—2.1)



1. In a device for making in vivo measurements of a constituent in a body fluid or the like, the combination of:
a catheter;
electrochemical sensor means in one end of said catheter, said sensor means including a pair of electrodes, one of said electrodes surrounding and being concentrically mounted with respect to the other electrode and spaced therefrom, an electrolyte joining said electrodes and a membrane permeable to the constituent being measured separating said electrodes and electrolyte from the body fluid;
first and second conductors electrically connected to said electrodes and extending through said catheter to the other end thereof, a nonconductive tube surrounding said first conductor, said second conductor comprising a wire spirally wound over said nonconducting tube to form a coil, and each convolution of said coil abutting the next adjacent convolution thereof to thereby provide highly flexible electrical shielding for said first conductor; and
means at said other end of said catheter connected to said first and second conductors for connecting said conductors to an external circuit.

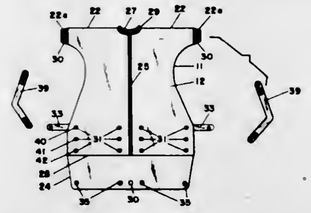
3,259,125
HERNIAL SUPPORTER
Arthur Watson, 2504 Glenwood Ave., Eldorado, Ill.
Filed July 22, 1964, Ser. No. 384,318
8 Claims. (Cl. 128—96)



5. A hernial supporter comprising an elongate body having an inside surface adapted for engagement with the torso of a person, a belt attached to said body for holding the supporter against the torso, two spaced legs projecting rearwardly from the lower edge of said body, said legs each having an inside surface for engaging the torso and forming a smooth continuation of the inside surface of said body, said legs being flexible and wider at said body than at the outer ends thereof, the inside surface of each of said legs having a shallow recess bounded at the sides and bottom by a narrow ridge for accommodating and confining hernias, said legs each being curved along its inside surface from said body to the outer end of the leg with said outer end being beneath a hernia in said recess to push in and up from beneath the hernia.

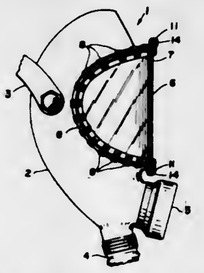
3,259,126
GARMENT FOR CHILD
Walter A. Greiert, Madison, Wis., assignor to Indianland Enterprises, Inc., Madison, Wis., a corporation of Wisconsin
Filed Feb. 12, 1964, Ser. No. 344,499
2 Claims. (Cl. 128—134)

1. A garment for a child, said garment having a top opening for the child's neck, a bottom opening and sleeves, fastening means extending from said top opening substantially to said bottom opening whereby said garment may be opened and closed to facilitate the putting on and the taking off of said garment; a flap extending from the bottom of said garment, said flap being foldable over said bottom opening and against a surface of said garment to close said bottom opening; means to fasten said flap at a plurality of different positions against said surface of said garment whereby the length of said garment may be varied; a pair of tabs secured to said garment so that one of said tabs extends from each side of said garment, each of said tabs having means thereon for holding said flap in a second position which leaves said bottom opening uncovered by said flap, and a pair of straps adapted to be



looped around a portion of a crib and secured to said pair of tabs to prevent the child wearing said garment from rolling over.

3,259,127
LENS CLAMPING ASSEMBLY FOR GAS MASKS
Guy G. Klinger, Shillington, George R. Hoffmaster, Reading, Charles J. Boyer, West Reading, and Jack N. Simpson, Reading, Pa., assignors to The Electric Storage Battery Company, Philadelphia, Pa.
Filed Apr. 13, 1964, Ser. No. 359,321
3 Claims. (Cl. 128—141)



1. A face mask including a face piece provided with a lens receiving opening of substantially oval shape bounded by a channel shaped bead portion having a groove, a lens having a perimetrical portion snugly fitted in said groove, and a clamping assembly for clamping the sidewalls of said bead portion throughout the perimeter of said bead portion, comprising a pair of wires extending snugly directly against the entire length of the sidewalls of said bead portion so as to compress said sidewalls, a plurality of evenly spaced, inverted U-shaped clamping elements bridging said wires and snugly embracing three adjoining walls of said bead, forming the channel shape, the inner surfaces of opposing sides of said clamping elements having vertically spaced projections between which said wires extend and to which the wires are integrally welded, a terminal secured to each of two free ends of said clamping assembly, each terminal comprising an inverted U-shaped element having a plurality of depending legs extending from each side of the element, and including clamping means extending outwardly of said clamping elements for drawing together said two free ends so as to form an endless loop for tightly grasping said bead.

3,259,128
EAR PROTECTOR FROM NOISE AND DIRT
Howard S. Leight, 1930 S. Robertson Blvd., Los Angeles 34, Calif.
Filed June 11, 1964, Ser. No. 374,376
7 Claims. (Cl. 128—152)

1. An ear protector comprising a triple air-filled cylindrical sectioned body having a base section including a solid cylindrical portion and an air-filled cylindrical por-

tion, the surface of the end of said solid portion being concave, an intermediate cylindrical section of smaller diameter than said base section and joined thereto by a convex curved portion, a tip section of smaller diameter



than said intermediate section and joined thereto by a convex curved portion, said tip section being convexly curved, and a tab attached to the central area of said concave surface of said solid base portion.

3,259,129
APPARATUS FOR CORRECTING TONGUE THRUST PROBLEMS
Harry William Tepper, 11633 San Vicente Blvd., Los Angeles, Calif. 90049
Filed June 17, 1964, Ser. No. 375,712
5 Claims. (Cl. 128—172.1)



1. A device for producing electrical stimuli for correcting tongue thrust problems of a wearer of the device, comprising:

a full palate retainer positionable in said wearer's mouth against the palate thereof, said retainer being made from an impression of said palate and including means for maintaining said retainer in position in said mouth against said palate;

a pair of electrodes mounted in said palate retainer in such a manner that said electrodes are located approximately one millimeter from the lingual surface of the upper incisors of said wearer when said palate retainer is in position in said mouth, said electrodes including tips which project toward the tip of the wearer's tongue about two millimeters from said incisors when said palate retainer is in position in said mouth;

a battery means mounted in said palate retainer; and

electrical circuit means mounted in said retainer for connecting said electrodes in series with said battery means, whereby said tongue will close said circuit and receive electrical stimuli when said tongue contacts said electrodes.

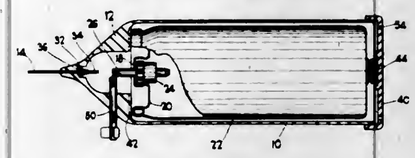
3,259,130
HYPODERMIC SYRINGE
Martin Krauthamer, Bayside, N.Y., assignor to Universal Brass Turning Co., Inc., a corporation of New York
Filed May 23, 1963, Ser. No. 282,605
4 Claims. (Cl. 128—218)

1. In a hypodermic syringe having a magazine for holding a medicament containing ampule with a piston stopper reciprocably disposed within said ampule and a plunger reciprocably mounted on said syringe for longitudinal movement within said magazine, a hook member fixed on the forward end of said plunger for embedding engagement with said piston stopper to allow for positive retraction of said piston stopper upon retraction of said plunger, said hook member comprising a flat shank portion having at the lower end thereof oppositely disposed faces extending substantially parallel to the longitudinal axis of said plunger and a triangular shaped



barb portion extending laterally from said lower shank portion, the upper portion of said barb portion being laterally displaced with respect to the faces of said shank portion, the lower portion of said barb portion merging laterally with the lower end of said shank portion, said barb portion including an inclined edge converging toward the outer edge of the lower end of said shank portion to form a point at the juncture of said inclined edge and said outer edge of said shank portion.

3,259,131
CRYOGENIC PROBES FOR SURGICAL USE
Maurice S. Kanbar, New York, Owen F. Van Brocklin, Baldwin, and Stello J. Elmi, Hempstead, N.Y., assignors to A. Schrader's Son, Division of Scovill Manufacturing Company, Brooklyn, N.Y., a corporation of Connecticut
Filed Apr. 13, 1964, Ser. No. 359,195
4 Claims. (Cl. 128—303.1)



1. A self-contained lightweight cryogenic probe for surgical uses comprising,

(a) a hollow elongated cylindrical housing having a cross-sectional dimension such that it may be readily held in the hand of the surgeon,

(b) said housing defining a cylindrical receptacle at one end thereof and an expansion chamber adjacent said receptacle, said receptacle opening directly into said expansion chamber,

(c) a container of a liquified gas within said receptacle, said container including a dispensing valve for controlling the flow of liquified gas from said container directly into said expansion chamber,

(d) an elongated solid heat-conductive slender probe rigidly supported intermediate its ends in a wall of said expansion chamber, said probe having a relatively small cross-sectional dimension in comparison to its length and such that it may be employed to probe the eye, the inner end of said probe extending into said expansion chamber,

(e) means for actuating said dispensing valve,

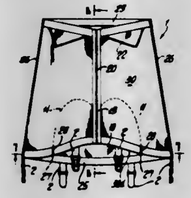
(f) and vent means for exhausting spent gases from said housing.

3,259,132
AIR-ACTIVATED UTENSIL
Gene S. Katter, Box 204, Brownsville, Oreg.
Filed Nov. 18, 1963. Ser. No. 324,455
2 Claims. (Cl. 128—344)



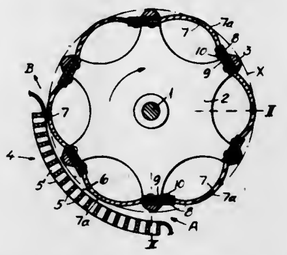
1. An air-activated utensil including an integral body of rigid material having a stem portion and an outer end working portion, said outer end working portion formed with a concave working face and a correspondingly convexly curved back face, an air channel extending longitudinally along through the stem portion and terminating on said concave working face of said working portion, a sheath of thin flexible stretchable water proof material extending entirely over said body and normally conforming closely to said body, the end of said sheath secured to the end of said stem portion opposite from said outer end working portion with an air tight seal, and a squeezable bulb connected with said latter mentioned end of said stem portion and with said air channel for delivering air under pressure beneath said sheath at the outer terminal of said air channel and in said concave working face of said working portion of said body, whereby to cause said sheath temporarily to be lifted from said concave working face of said outer end working portion when said bulb is squeezed while said sheath continues to conform closely to said convex back face and said stem portion of said body, said bulb enabling said air to exhaust from beneath said sheath for returning said sheath to normal position on said concave working portion when squeezing pressure on said bulb is released.

3,259,133
DOUBLE LAYER FOUNDATION GARMENT
Henriette Clover, Flushing, N.Y., assignor to Van Raalte Company, Inc., New York, N.Y., a corporation of New York
Filed June 1, 1964, Ser. No. 371,418
5 Claims. (Cl. 128—552)



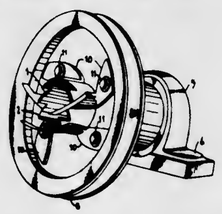
1. A foundation garment of two-way stretch material comprising an outer tubular portion and an inner tubular portion within said outer tubular portion, said tubular portions, along the vertical edges thereof, being joined to form a front seam, the upper ends of said tubular portions being anchored together, the lower edge of said outer tubular portion being upwardly shallowly concave in the rear of the garment and there extending above the rear lower edge of said inner tubular portion and positioned, shaped and proportioned to locate supportingly against the bottom of the wearer's buttocks, the lower edges of said tubular portions registering and being secured together at respective points intermediate the front center and sides of the garment and being otherwise completely unsecured to each other, said inner tubular portion having an edge extending upwardly from each said point and then curving concavely until meeting the front seam, the edges of said inner tubular portion between said points and said front seam positioned, shaped and proportioned to extend supportingly against the wearer's abdomen.

3,259,134
THRESHING CYLINDER
Sigmund Stokland, Brumunddal, Norway
Filed Mar. 2, 1965, Ser. No. 436,602
Claims priority, application Norway, Mar. 9, 1964, 152,341; Jan. 28, 1965, 156,536
4 Claims. (Cl. 130—27)



3. In a thresher for grain and the like and including a separator casing and concave structure, a bar-type separator cylinder assembly including a shaft, a plurality of beater bars secured evenly distributed around said shaft and radially spaced therefrom tubular member of elastic yieldable material mounted concentrically about said shaft and extending over the substantial length of the cylinder, said tubular member having curved surface portions projecting outwardly between adjacent beater bars and completely closing the space between same, said curved surface portions having a greatest radial distance from the cylinder axis substantially equal to the maximum operating radius of the beater bars and a smallest radial distance substantially smaller than said greatest distance.

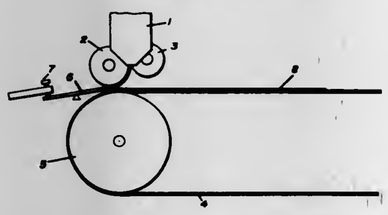
3,259,135
HARVESTING APPARATUS
Robert James Heatherington, St. Lambert, Quebec, Melvin Ward, New London, Prince Edward Island, and George Wright, Sherwood, Prince Edward Island, Canada, assignors to Prince Edward Island Frosted Foods Limited, Sherwood, Prince Edward Island, Canada, a company of Prince Edward Island, Canada
Filed Nov. 18, 1963, Ser. No. 324,463
Claims priority, application Canada, Nov. 22, 1962, 862,877
5 Claims. (Cl. 130—30)



1. A device for use in removing appendages from a main stalk comprising; a cylindrical guide means having an entrance and exit end, means mounting said cylinder guide means for rotation, a cutting edge provided on the entrance end of said cylinder to define an inner cutting

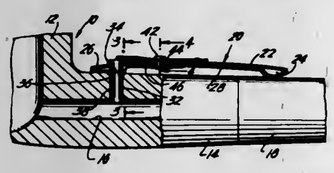
means, a pulley coaxially mounted on and adjacent the entrance end of said cylinder, cutting means mounted on the side of said pulley adjacent said entrance end and radially spaced from said inner cutting means for defining an outer cutting means, said outer cutting means, being designed so that upon rotation of said pulley, said outer cutting means will circumscribe a circle having a larger diameter than the circle defined by the inner cutting means.

3,259,136
DEVICE FOR MANUFACTURING TOBACCO WEBS AND SHEETS
Ragnar Jansson, Solna, Sweden, assignor to Arenco Aktiebolag, Vallingby, Sweden
Filed Apr. 1, 1965, Ser. No. 444,592
Claims priority, application Sweden, Jan. 26, 1961, 790/61
3 Claims. (Cl. 131—133)



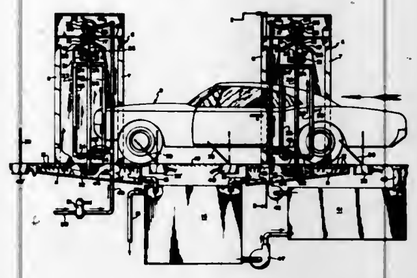
2. A device for manufacturing tobacco webs and sheets from a paste of tobacco comprising a casting roll having a casting roll surface, a conveyor belt mounted below and slightly spaced from said roll moving in a direction opposite to that of said casting roll surface adjacent said belt, a blade having a wiper edge arranged in the spacing between said casting roll and said conveyor belt, the top edge of said wiper blade abutting said casting roll surface in a plane through the axis of said casting roll which is substantially perpendicular to the surface of said conveyor belt adjacent said casting roll, said wiper blade operating on said casting roll surface with said wiper edge directed opposite to the direction of movement of said casting roll surface to guide a layer of tobacco paste from said surface, said spacing being between 2.0 mm. and 11.0 mm.

3,259,137
SMOKER'S ARTICLE
Stanley Meyer, Sr., Rte. 5, Canaan, N.Y.
Filed Sept. 22, 1965, Ser. No. 489,111
7 Claims. (Cl. 131—186)



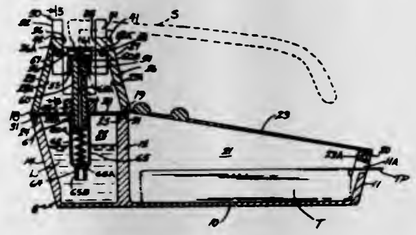
1. A smoker's article comprising a tubular stem having a small passageway therethrough and a pocket clip attached to said stem, said pocket clip including a shank portion, a nose at one end of said shank portion and a base at the other end of said shank portion, said clip having an opening at the other end of said shank portion and extending through said clip base portion, a corresponding opening formed in the wall of said tubular stem, and an eyelet rivet passing through said openings, securing said clip to said stem and providing a ventilating opening into the passageway through said stem.

3,259,138
WASHING APPARATUS FOR MOTOR VEHICLES
Kurt J. Heinicke, Hollywood, Fla., assignor to Heinicke Instruments Co., Hollywood, Fla., a corporation of Florida
Filed Oct. 29, 1964, Ser. No. 407,304
3 Claims. (Cl. 134—45)



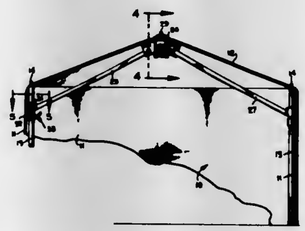
1. A cleaning apparatus for motor vehicles embodying a first washing station and a second rinsing station, the washing station being provided with an upper horizontally arranged spray head of V-shape, the spray head being carried by a tubular shaft that is journaled in a housing, a motor for driving the shaft and to oscillate the spray head, spray heads within the housing that are disposed upon opposite sides of the vehicle and with the spray heads being vertically arranged and journaled in brackets at their upper ends and bearings at the lower end that are rotatable in a flow area of the apparatus, the vertical spray heads being oscillatable by an extension upon the shaft of the upper spray head and whereby the motor drive for the upper spray head is transmitted to the vertical spray heads so that all of the spray heads will oscillate simultaneously for spraying a detergent upon the body of the vehicle and upon the wheels of the vehicle, a detergent containing tank having an outlet line, a pump connected to the outlet line and said pump being connected to pipes that extend upwardly through the housing and connected to the several spray heads by flexible piping, each of the spray heads being perforated to project a forceful spray of detergent fluid over the entire body of the vehicle and the wheels, a sump disposed upon a floor to collect drainage fluid from the spray heads, the sump being connected to a fluid supply tank and a pump operatively connecting the fluid supply tank to the detergent tank, a first feeler switch at the entrance side of the housing and a second feeler switch in the exit end of the housing, the feeler switches having upstanding plates that are normally biased to an upright position and with the plates being in the line of movement of the vehicle through the housing so that the plates are biased downwardly by engagement with the underneath portion of the vehicle to actuate the pump for the detergent throughout the movement of the vehicle and with the second switch having its plate biased downwardly by the vehicle so as to maintain the flow of detergent from the spray heads throughout the passage of the vehicle through the housing and with the first and second switches being biased upwardly after the vehicle has passed through the housing to de-energize the motor and the pump, the rinse station being substantially identical to the wash station and having the identical spray heads therein, first and second feeler switches for the rinse station whereby to energize the solenoid valve to permit the flow of rinse water upwardly to the several spray heads to rinse the detergent from the vehicle and with the second feeler switch of the rinse station biased upwardly after the vehicle has passed entirely through the rinse housing, to de-energize the motor for driving the spray heads and to de-energize the solenoid valve, the rinse housing also being provided with a sump for the drainage of rinse water to a fluid tank.

3,259,139
SPECTACLES CLEANING UNIT
Raymond F. Bell, 6909 38th Ave. N.; Ray K. Casper, 4027 Maryland Ave. N.; and Robert A. MacDowell, 6326 Humbolt Ave. S., all of Minneapolis, Minn.
Filed May 14, 1964, Ser. No. 367,319
9 Claims. (Cl. 134—47)



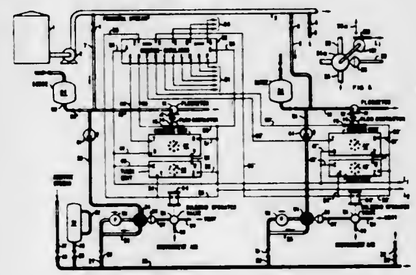
1. A device for applying cleaning fluid to spectacles having a nose piece and right and left lenses mounted thereon comprising a frame having a slot therein for supporting the spectacles with the lenses generally vertical, a transverse wall across said slot for locating the nose piece of spectacles and the lenses in the slot, pump means mounted on the frame, and manually movable means connected to the pump means for actuating it, a reservoir, a suction inlet tube on the pump means extending into said reservoir, and delivery channels connected to the outlet of the pump means, said channels terminating in orifices for delivering fluid simultaneously to at least one corresponding face of each lens of the spectacles.

3,259,140
ADJUSTABLE TENT ROOF SUPPORT
Kermit H. Burgin, R.R. 1, Whitestown, Ind.
Filed July 27, 1964, Ser. No. 385,345
1 Claim. (Cl. 135—1)



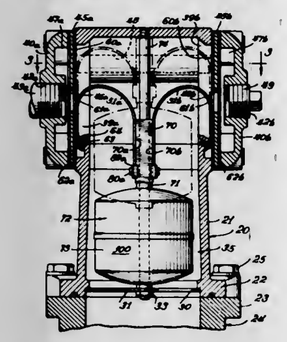
A four sided wall tent comprising
a flexible member defining the four side walls;
a flexible roof inclined upwardly from said walls toward a central zone thereof and interconnected by its lowermost portion with the uppermost portion of the side wall;
a plurality of posts at least as high as the height of said wall, each post being spaced from the others defining corners in said wall, the posts being inside of said wall;
said roof and wall interconnection being the sole means of interconnecting upper portions of said posts;
said roof being carried by the posts;
a center plate within the roof top central zone and having means engaging that zone and holding the plate against shifting therefrom;
pairs of spaced ribs radiating from the center, underside of the plate, each pair being directed generally one toward each of said posts; roof ribs extending between said plate and each post;
each roof rib entering by its upper end portion between the plate ribs of each pair and being rockably retained therebetween;
said roof ribs each having a length extending diagonally downwardly to each of said posts;
each of said roof ribs having means at its lower end portion slidingly engaging an upper portion of each post, the upward sliding of the lower roof rib ends causing said roof zone to be elevated; and
said plate ribs restraining the roof rib upper ends against lateral rocking.

3,259,141
METHOD AND DEVICE FOR MONITORING AND SIMULATING OPERATION OF BLENDING APPARATUS
John E. Brendon, Vancouver, British Columbia, Canada, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 6, 1962, Ser. No. 208,046
13 Claims. (Cl. 137—3)



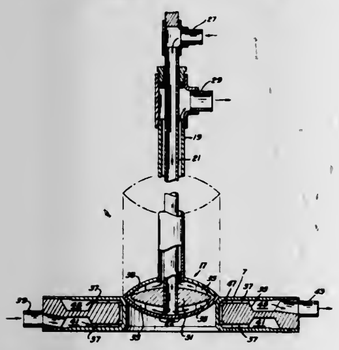
1. In a blending system, the combination comprising:
a first conduit having a flow meter including a signal emitter which emits a series of pulse signals, the number of said signals being directly proportional to the volume of a variable flow of a principal stream therethrough with each signal corresponding to a predetermined fixed quantity of said principal stream;
a second conduit for an additive stream merging with said first conduit, said second conduit having flow control means including a flow controller which is movable between open and closed positions to permit intermittent flow of said additive stream into said principal stream and an operator for moving said flow controller between said open and closed positions, said flow control means further including means responsive to a predetermined number of said signals for causing said operator to move said controller to an open position for a predetermined time and thereafter move said controller to a closed position for each sequence of said predetermined number of signals; and
a monitoring device including an accumulator operatively connected to said flow meter for counting the number of said signals to measure the indicated quantity of flow of said principal stream, and a cumulating meter connected to said flow control means to measure the indicated quantity of said additive stream.

3,259,142
ACTUATOR MECHANISM
George B. Richards, Lake Forest, Ill., assignor to Liquid Controls Corporation, North Chicago, Ill., a corporation of Illinois
Filed Dec. 5, 1962, Ser. No. 242,484
19 Claims. (Cl. 137—202)



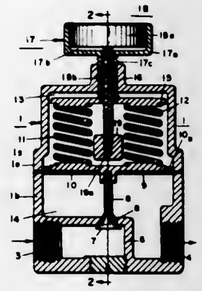
14. An actuator mechanism comprising means providing a set of faces opposed relatively to an axis, an actuator movable along said axis and a plurality of normally flat resilient strip members, said strip members having first portions secured to said means adjacent said faces, respectively, and second portions secured to said actuator, said first and second portions of each strip member being spaced apart by a third and intermediate portion which is free and maintained in bowed shape, each strip member having at each of various portions along the length of the intermediate portion a different resistance to bending stress, each of said strip members being bent back upon itself and being of sufficient length so it forms two generally opposed portions, one lying against the corresponding face whereby each of the strip members exerts a force on the face with which it cooperates and said strip members position the actuator on the axis for movement therealong between a first position wherein said strip members lie against the corresponding faces to a predetermined extent and a second position wherein said strip members lie against said faces to a lesser extent.

3,259,143
COOLED VALVE FOR HIGH TEMPERATURE GASES
Russell A. Powell and Rufus Easton, Pittsburgh, Pa., assignors to Koppers Company, Inc., a corporation of Delaware
Filed Nov. 6, 1963, Ser. No. 321,841
3 Claims. (Cl. 137—340)



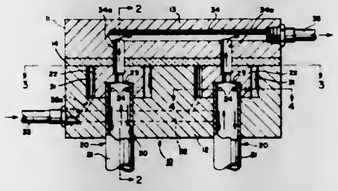
1. A valve for a hot blast stove comprising:
(a) a hollow seat;
(b) an insert in said hollow seat defining narrow annular fluid passages therein;
(c) means for introducing and removing cooling fluid from said annular fluid passages in said seat;
(d) a hollow valve disc having a lenticular configuration for cooperation with said valve seat to form a fluid seal therewith;
(e) a tubular conduit joined to said disc for moving the same and having a fluid conducting passage therein;
(f) a lenticular shaped member fixed substantially coaxially within said hollow valve disc and annularly spaced therefrom, said annular spaces narrowing as the distance from the common axis increases and being narrowest adjacent the point of maximum width of said disc; and
(g) means to introduce cooling fluid into said disc annular spaces whereby the same traverses said annular spaces seriately and emerges from said disc via said tubular conduit.

3,259,144
PRESSURE REGULATOR WITH INTEGRAL GAGE
John F. Taplin, 15 Sewall St., West Newton, Mass.
Filed June 1, 1964, Ser. No. 371,411
7 Claims. (Cl. 137—505.41)



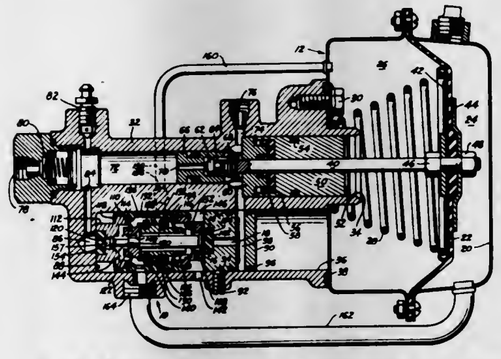
1. A pressure regulator for gaseous media comprising in combination:
(a) a valve housing defining an inlet duct and an outlet duct and having a partition separating said inlet duct from said outlet duct and defining a valve opening, said valve housing further including a lateral wall having an internal projection defining a passageway having an inlet adjacent said lateral wall communicating with said outlet duct of said valve housing and an outlet remote from said lateral wall;
(b) a diaphragm separating said housing into a first chamber including said inlet of said passageway and a second chamber accommodating said projection;
(c) a valve element supported by said diaphragm movable inside said valve opening;
(d) spring means in said second chamber biasing said diaphragm to move said valve element relative to said valve opening;
(e) an abutment for the end of said spring means remote from said diaphragm;
(f) an adjustment screw for said abutment, said adjustment screw including a screw head defining a cavity and a hollow externally screw-threaded shaft having an end remote from said screw head bearing against said abutment and forming a slip joint with said abutment; and
(g) a pressure gage including a gage housing arranged inside said cavity of said screw head of said adjusting screw, said pressure gage further including a hollow stem projecting from said gage housing through said hollow shaft of said adjusting screw and having an end remote from said gage housing communicating with said passageway defined by said internal projection of said lateral wall of said valve housing.

3,259,145
VORTEX TUBE MANIFOLD ASSEMBLY
Thomas H. Engle, East Cleveland, Ohio, assignor to Cleveland Technical Center, Inc.
Filed Mar. 11, 1963, Ser. No. 272,174
(Filed under Rule 47(b) and 35 U.S.C. 118)
8 Claims. (Cl. 137—608)



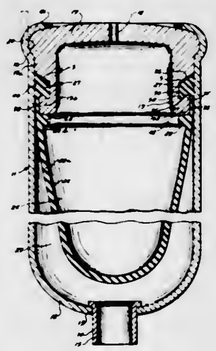
1. In combination, the structure comprising a manifold body member including first and second portions, said first and second body portions being formed as separate members, said first portion of said body member having a plurality of spaced, vortex tube mounting chambers, an inlet passage in one portion of said body member connected to each of said chambers, and an outlet passage in said second portion of said body member connected to each of said chambers; and a plurality of vortex tube mechanisms, each of said mechanisms including a tube having an inlet nozzle near one end portion for introducing gas into the tube to create a vortex flow, a first outlet in said one end portion for exhausting the cold gas component of the vortex flow and a second outlet spaced from said first outlet for exhausting the hot gas component of the vortex flow, each of said mechanisms having its one end portion seated in one of said chambers so that the inlet nozzle of the mechanism is in fluid communication with said inlet passage and said first outlet of the mechanisms is in fluid communication with said outlet passage.

3,259,146
FLUID CONTROL MEANS
Robert R. Hager, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed June 21, 1963, Ser. No. 289,486
2 Claims. (Cl. 137—627.5)



1. In a fluid control system, a cartridge type valve body comprising:
a valve housing including first and second end portions connected by a cylindrical portion, said cylindrical portion having a centrally located depending annular valve seat and radial openings in said cylindrical portion to either side of said annular valve seats;
a ring valve seat;
a first diaphragm connecting said ring valve seat to said housing, said first diaphragm biasing said ring valve seat inwardly from one of said end portions;
a first spring in said housing and operatively connecting said first end portion and said ring valve seat and assisting said first diaphragm in biasing said ring valve seat inwardly of said one of said end portions;
a poppet retainer of cylindrical construction;
a second diaphragm connecting said poppet retainer to said housing, said second diaphragm biasing said retainer towards said ring valve seat;
a second spring in said housing and operatively connecting said second end portion and said poppet retainer and assisting said second diaphragm in biasing said retainer toward said ring valve seat;
a first poppet mounted on said retainer and adapted to cooperate with said ring valve seat;
a second poppet mounted on said retainer and adapted to cooperate with said depending annular valve seat of said housing; and
a valve operating means operatively connected to said ring valve seat to move said ring valve seat in opposition to said first diaphragm and said first spring means with said second spring means urging said poppet retainer to follow until said second poppet abuts said depending annular valve seat of said housing.

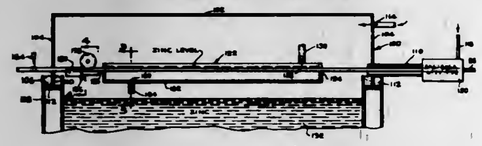
3,259,147
PRESSURE VESSEL
Jean Mercier and Jacques H. Mercier, New York, N.Y.; said Jacques H. Mercier assignor to Mercier Olaer Patent Corporation, Wilmington, Del., a corporation of Delaware
Filed Oct. 12, 1964, Ser. No. 403,306
4 Claims. (Cl. 138—30)



1. A pressure vessel comprising a rigid hollow container having an enlarged diameter mouth and having a port at the other end, a cover member positioned in the mouth of said container, said cover member having a port, means securely to retain said cover member in place, a flexible bladder of resilient deformable material positioned in said container and intervening between said ports, said bladder having an enlarged mouth with two spaced annular beads positioned on the inner side of the bladder at said mouth, said cover member having a cylindrical portion extending into the container and transversely spaced therefrom, said cylindrical portion having an annular groove on its outer surface accommodating the annular bead most adjecent the opening of the mouth of

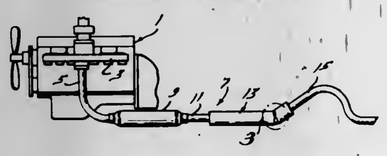
the bladder, the wall of said annular groove remote from the inner end of said cylindrical portion being inclined upwardly from the inner end of the groove to the outer portion thereof, the adjacent surface of the bead in said groove having an inherent inclination less than that of said inclined wall, said first bead having a laterally outwardly extending annular flange on its outer surface and the remaining portion of said bead being of thickness such as to be compressed laterally when said cover member with the bladder mounted thereon is positioned in said container, whereby said flange portion will be under greater compression than the remaining portion of said first bead, with the lower edge of said flange defining a relatively sharp step with respect to the outer surface of the remaining portion of said first bead, the distance between said annular beads being inherently such that when said first bead is under compression the free end of the extending portion of said cylindrical portion will react against said second bead thereby maintaining the portion of the bladder between the beads under tension.

3,259,148
GALVANIZED STEEL TUBING
Theodore H. Krengel, Chicago, and Emil Wilk, Park Forest, Ill., assignors to Allied Tube & Conduit Corporation, Blue Island, Ill., a corporation of Illinois
Original application May 1, 1961, Ser. No. 106,699, now Patent No. 3,122,114, dated Feb. 25, 1964. Divided and this application Dec. 12, 1962, Ser. No. 244,099
5 Claims. (Cl. 138—145)



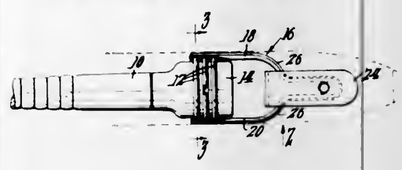
1. A hollow steel tubing hot dip galvanized on the exposed outer surfaces of the tubing while the interior surfaces of the tubing remain free of galvanize, comprising a steel base having a blue oxide of iron on the inner surfaces and thereby completely free of zinc, and the outer surfaces of which have a galvanize coating consisting solely of an inner portion of an alloy of iron and zinc and an outer portion consisting of zinc with the portions of the galvanized coating strongly bonded one to the other end and with the inner portion strongly bonded to the steel base.

3,259,149
SHEET METAL TUBULAR EXHAUST GAS ELEMENT DEFORMED TO PROVIDE ELBOW
Myron C. Curtis, Chelsea, and Eldred G. Stray, Grass Lake, Mich., assignors to Walker Manufacturing Company, a corporation of Delaware
Filed Nov. 12, 1964, Ser. No. 410,683
1 Claim. (Cl. 138—178)



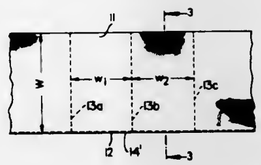
A gas conveying component of an exhaust gas system comprising an elongated tubular housing of substantially uniform diameter along its length, means providing for the bending of one longitudinal section of the housing relative to an adjacent longitudinal section of the housing with a minimum of wrinkling and distortion of the housing comprising a reduced diameter section in the housing located between said two longitudinal sections of the housing, said longitudinal sections extending at an angle to each other, said reduced diameter section serving as an elbow between the two longitudinal sections and including a plurality of pinches extending from the reduced diameter section outwardly to substantially the diameter of the housing, the concave side of the reduced diameter section being free of said pinches.

3,259,150
SPRING CLIP FOR BOBBINS
Walter C. Gustafson, Paxton, Mass. (% Sancliff, Jefferson, Mass.)
Filed Apr. 2, 1964, Ser. No. 356,737
6 Claims. (Cl. 139—207)



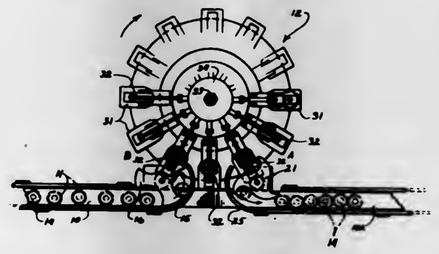
4. A spring clip for holding a bobbin in a shuttle, said spring clip comprising a pair of resilient spaced arms, said arms being generally parallel, generally parallel indentations on said arms located on arcs of circles which are less in diameter than the diameter of the head of the bobbin which is to be held between the spring arms, a series of depressions at the inside aspects of said arms, said depressions being oppositely facing each other and forming a series of shoulders, the shoulders and the aforesaid indentations providing a series of annularly spaced gripping points at the inside aspects of said spring arms, and metal inserts harder than the spring arms arranged in said spring arms at said gripping points.

3,259,151
CURTAIN AND CURTAIN FABRIC FOR ITS MANUFACTURE
Rudolf Schmitz, Emsdetten, Westphalia, Germany, assignor to Gardisette G.m.b.H., Zug, Switzerland
Filed June 7, 1963, Ser. No. 286,237
Claims priority, application Germany, June 20, 1959, G 27,335; Aug. 31, 1959, G 27,846
12 Claims. (Cl. 139—425)



1. A curtain essentially consisting of textile fabric having lengthwise edges forming selvage-like borders and intended to be freely suspended near only one of said edges, said fabric being of such suppleness and shapeless nature that it can follow substantially over its entire extent, at right angle to the direction of said edges, inclusive the other of said edges, the contour imparted thereto owing to an approximately horizontal suspension along the said one edge, means in said curtain along the other of said edges to form in effect a relatively narrow, continuous channel extending substantially along the entire other edge, and highly supple, continuous weight means extending uninterruptedly in said relatively narrow channel for weighting down said other edge without impairing the capability of the curtain to follow the folds resulting from its suspension, said continuous weight means being of a cross section such that the cross section of said channel tightly surrounds said continuous weight means and holds the same against displacements in the direction of said edges as well as in a direction perpendicular thereto, whereby the appearance of the entire curtain remains completely unimpaired by any hem substantially from the one to the other edge and the weight means are at all times confined to said other edge in a manner that is neat and appealing to the eye.

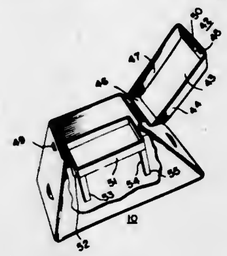
3,259,152
APPARATUS FOR FILLING AND SHAKING A CAN
Erwin H. Schimkat, Glendale, N.Y., assignor to Auto Prod, Inc., Brooklyn, N.Y., a corporation of New York
Filed Jan. 31, 1963, Ser. No. 255,374
5 Claims. (Cl. 141—20)



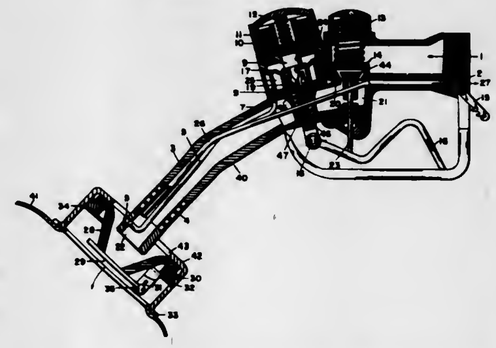
1. A machine for simultaneously injecting pressurized propellant into and shaking cans, said machine comprising: a rotary frame, frame drive means connected to said frame for effecting rotation thereof, a plurality of rods carried by said frame in parallelism with and circumferentially spaced about the axis of frame rotation, said rods being mounted on said frame for rotation therewith and longitudinal reciprocatory movement relative to said frame, a plurality of can-receiving platforms respectively carried by said rods for rotative movement therewith about a closed path through a loading and unloading region, a plurality of rotary eccentric drives on said frame and each connected to a respective rod for effecting longitudinal vibratory reciprocation thereof during rotation with said frame, eccentric-drive actuating means operatively connected to said eccentric drives to disable each eccentric drive during movement of its associated platform through said loading and unloading region, a plurality of injection nozzles each located adjacent to a respective platform and carried by the associated rod for rotation and reciprocation with the adjacent platform to inject propellant into a can on the adjacent platform during its rotative and reciprocatory movement, and a plurality of nozzle-spacing means carried by said frame each operatively connected to a respective nozzle to space the latter from its adjacent platform during platform movement through said loading and unloading region.

3,259,153
ICE, SNOW AND PICNIC KIT
Louis R. Hasse, 5743 1st Ave., Baltimore, Md.
Filed June 6, 1963, Ser. No. 285,946
8 Claims. (Cl. 141—110)

7. A container comprising a rectangular receptacle having an open top and closed bottom, the four sides of said receptacle being tapered so that said bottom is greater in area than said top, two of said sides substantially parallel to the longitudinal axis of said receptacle being wider at the top and bottom than the two other sides, said open top provided with a lid hingedly attached to one of said other sides and having four sides, said four sides being tapered to engage said tapered sides of said rectangular receptacle.



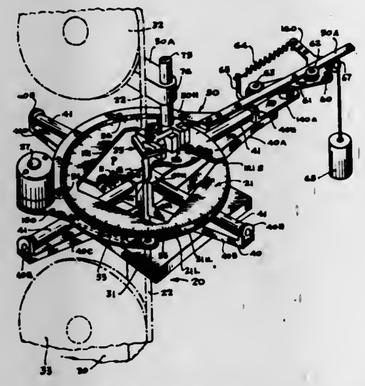
3,259,154
APPARATUS FOR DISPENSING A FLUID
Albert Scherer, Postfach Meggen, Lucerne, Switzerland
Filed July 19, 1965, Ser. No. 473,039
4 Claims. (Cl. 141—209)



1. A fuel-dispensing apparatus for automotive vehicles, comprising a valve housing provided with inlet means for liquid fuel to be dispensed, a fuel-discharge nozzle on said housing insertable into a tank of an automotive vehicle to be powered by said fuel, valve means in said housing normally blocking the passage of fuel from said inlet means to said nozzle, manual operating means for displacing said valve means into an unblocking position whereby said fuel is allowed to flow into said nozzle for discharge therefrom, and control means for disabling said operating means in the absence of an operative relationship between said nozzle and an entrance port of said tank, said control means including a first element on said nozzle and a co-operating second element on said entrance port, said housing containing a vacuum chamber communicating with said inlet means in the unblocking position of said valve means for the creation of suction in said chamber and means including a pressure-responsive element in said chamber for restoring said valve means to blocking position independently of said manual operating means upon a drop in the pressure of said chamber below atmospheric level, said chamber being provided with an air tube extending therefrom within said nozzle and having a test aperture at the insertion end of said nozzle normally connecting said chamber with the atmospbere whereby said pressure-responsive element is rendered effective to block the passage of fuel upon the liquid level in said tank reaching said test aperture, said first element normally obstructing said test aper-

ture and being displaceable by said second element into a nonobstructing position upon insertion of said nozzle into said entrance port.

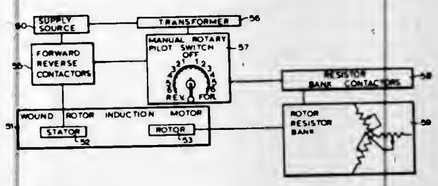
3,259,155
AUTOMATIC BAND SAW AND METHOD
James S. Kawabata, Chicago, Ill., assignor to Continental Machines, Inc., Savage, Minn., a corporation of Minnesota
Filed July 24, 1963, Ser. No. 297,251
16 Claims. (Cl. 143—26)



1. In a band saw having a frame with upper and lower guide wheels mounted thereon and an endless saw blade operated thereby to draw the working run of the saw blade downwardly at one side of said wheels through a sawing zone, a work table having an open central area through which said working run of the saw blade may extend and opposite which area a pattern and a work piece may be clamped to the table, a stationary guide on and in fixed relation to the frame and adjacent said working run of the blade and against which guide the control edge of such a pattern may abut, means for supporting said table for rotative as well as coordinate movement in a horizontal plane, an actuating frame for said table having means for imparting yielding feed movement to the table in the general plane of the saw blade and for imparting lateral movement to the table generally at right angles to the plane of the saw for maintaining such a pattern in engagement with the guide, means including a reversible electric motor on said actuating frame for imparting rotation in either direction to said table, sensing means supported on said frame and engaging said working run of the saw blade as it moves toward the sawing zone and shiftable in response to lateral deviation of the sensed position of the blade, and circuit control means for said motor governed by shifting movement of said sensing means for operating the motor in one direction when the sensing means is shifted in one direction from a predetermined normal position and for operating the motor in the other direction when the sensing means is shifted in the other direction from said normal position.

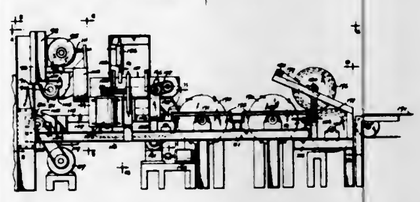
3,259,156
SAWMILL CARRIAGE DRIVE
Edward Samuel Pearce, Zebulon, N.C., assignor, by direct and mesne assignments, of one-third each to William S. Ward, Martha Ward Chapman, and Robert E. Ward, Jr., all of Raleigh, N.C.
Filed May 13, 1964, Ser. No. 367,120
5 Claims. (Cl. 143—52)

1. In sawmill apparatus of the type having a carriage for conveying uncut wood, a track mounting said carriage, a saw, an alternating current power source, a first motor connected to said source and driving said saw, a drum and cable drive connected to reciprocate said carriage on said track, in combination therewith, a second alternating current multi-phase induction motor having a wound rotor, a wound stator, and an external multiphase bank of resistors connected to said rotor; a first set of electrically actuated contactors connected between said source and stator and being arranged to connect said stator and source and selected the phase relation therebetween; a second set of electrically actuated contactors connected to said bank and being arranged to alter the value of bank phase resistance connected to the respective phases of said



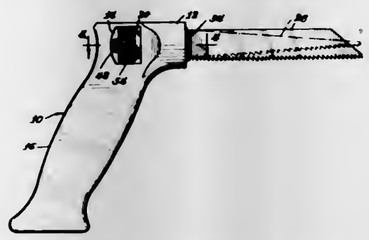
rotor; means mechanically connecting said induction motor and drum; and a manual bi-directional rotary pilot switch including a third set of mechanically actuated contactors, said third set of contactors being effective to close said second set of contactors in a predetermined sequence in each direction of rotation of said switch and thereby control speed and torque of said second motor as said saw enters said wood, said third set of contactors being further effective to selectively close said first set of contactors and thereby control direction of rotation of and braking of said second motor according to the direction of rotation of said switch.

3,259,157
PRODUCTION OF DIMENSIONAL LUMBER FROM SMALL-DIAMETER LOGS
Ernest E. Runnion, 828 Cota St., Shelton, Wash.
Continuation of application Ser. No. 209,549, July 13, 1962. This application Apr. 23, 1965, Ser. No. 453,547
20 Claims. (Cl. 144—312)



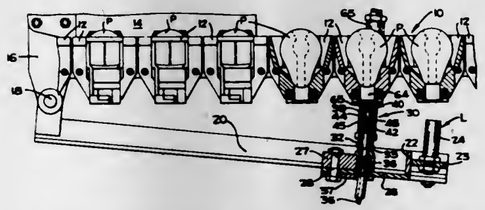
1. The method of cutting a log which comprises conveying the log along an established linear travel path through a succession of localized in-line cutting station, and as the log traverses said stations in course of said conveyed travel first progressively profiling the log so as to produce, at each of the opposite sides of a vertical diameter of the log, pyramided steps ascending above and descending below the horizontal diameter of the log with the riser faces of said ascending steps lying parallel to one another and being co-planar with the riser faces of the descending steps, and then producing dimensional lumber from the profiled log by sawing the same longitudinally on the planes of said riser faces, at least a respective one of the riser faces which said profiling provides located below the horizontal diameter of the log at each of the opposite sides of said vertical diameter together with the run component of a downwardly facing step which meets said respective riser face being employed as guide surfaces to hold the log against lateral displacement throughout substantially the entire period of the log's following conveyed travel commencing as soon as each said concerned riser face and run component of the step takes shape upon the leading end of the log.

3,259,158
ADJUSTABLE KEYHOLE SAW
Frank Garamy, Louisville, Ky., assignor to Vermont American Corporation, Louisville, Ky., a corporation of Kentucky
Filed July 7, 1964, Ser. No. 380,781
6 Claims. (Cl. 145—108)



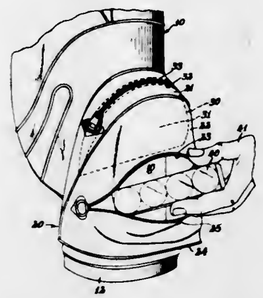
1. A saw comprising, in combination, a handle having a gripping portion and a socket portion, an opening formed in the front of said socket portion and communicating with the rear thereof, a blade mounting member disposed in said opening and seated therein, a saw blade, an opening in said mounting member having opposed tapered end walls for seating the rear end of said saw blade, tension means extending through the rear of said mounting member and anchored to the rear end of said blade for pulling the blade rearwardly to seat the rear end of said blade against said tapered end walls in said mounting member and also seat said mounting member in said opening in said socket, said tension means including a threaded rear end which extends rearwardly of said socket, and nut means threaded on the rear end of said tension means for pulling said tension means rearwardly to secure said saw blade in a predetermined adjustable rotary position.

3,259,159
FRUIT TRIMMING MECHANISM
Gerald R. Anderson, Campbell, and Donald W. Chamberlin, Los Gatos, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Jan. 13, 1964, Ser. No. 337,284
12 Claims. (Cl. 146—81)



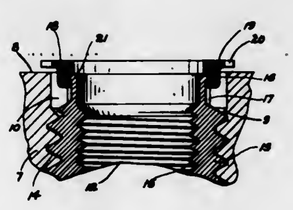
1. A fruit trimming mechanism comprising a rotatable cutting member adapted to be continuously rotated while in abutment with one of the ends of the fruit to trim said end into a planar form, said member including a plurality of cutting edges defining a flat cutting plane, said cutting edges being surrounded by an imperforate integral band providing an annular surface portion coplanar with said cutting edges which acts as a gauge allowing said cutting edges to trim the fruit until said annular surface portion comes in contact with the fruit and to thereby determine the maximum diameter of the trimmed end of the fruit.

3,259,160
GOLF BAG
Anthony G. Penna, Jupiter Colony, Fla., assignor to Brunswick Corporation, a corporation of Delaware
Filed Mar. 11, 1965, Ser. No. 438,842
4 Claims. (Cl. 150—1.5)



1. A golf bag for carrying golf clubs and golf balls in trays comprising:
- a generally tubulous body open at the top and closed at the bottom,
- a first pocket for receiving trays of golf balls formed on said body and extending around at least half of the periphery of said generally tubulous body, said pocket having an outwardly extending portion and a substantially vertical portion,
- a second pocket enclosed in said first pocket,
- a generally horizontal access aperture extending across said first pocket vertical portion,
- a first slide fastener mounted around said horizontal access aperture for closing said horizontal aperture,
- another access aperture extending across the top of said outwardly extending portion and communicating with said second pocket, and
- a second slide fastener mounted around said another access aperture for closing said another aperture.

3,259,161
FASTENER WITH CAPTIVE LOCKING RING
José Rosán, San Juan Capistrano, Calif., assignor to Rósan Engineering Corp., Newport Beach, Calif., a corporation of California
Filed Nov. 12, 1963, Ser. No. 322,878
5 Claims. (Cl. 151—41.73)



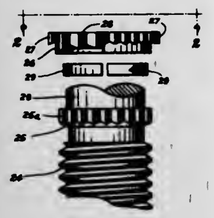
1. A fastener adapted to be installed in a bore in a workpiece, the combination of:
- a cylindrical body, said body provided with a plurality of serrations on the outer periphery thereof;
- a locking ring, said locking ring provided with a plurality of serrations on the outer periphery thereof and provided with inwardly extending serrations on the internal periphery thereof, said serrations being in constant axial slidable engagement with the serrations of said body, thereby providing preset alignment with said bore;

means for securing said locking ring to said body comprised of an outwardly projecting flange provided by said body adapted to coact with the said internal locking ring overlying the crests of the serrations so as to prevent axial disengagement of said locking ring from said body.

3,259,162
INSERT WITH FRICTIONALLY INTERLOCKED LOCKING RING

José Rosán, San Juan Capistrano, Calif., assignor to Rosan Engineering Corp., Newport Beach, Calif., a corporation of California

Filed Feb. 6, 1964, Ser. No. 342,954
6 Claims. (Cl. 151—41.73)



1. In a fastener adapted to be installed in a bore in a workpiece, the combination of:

a cylindrical body;

an integral, radial flange projecting from said body, said flange provided with a plurality of longitudinal serrations on the outer periphery thereof;

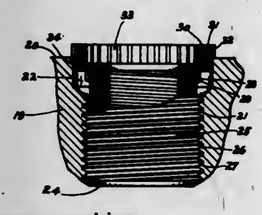
a locking ring provided with a plurality of serrations on the outer periphery thereof and a plurality of serrations on the internal periphery thereof, said internal serrations being engaged with the serrations of said flange;

means nonintegral to either of said locking ring and said body, said means being a separate frictional element interposed between said locking ring and said body for temporarily rigidly securing said locking ring to said flange.

3,259,163
FASTENER WITH SNAP-ON CAPTIVE LOCKING RING

José Rosán, San Juan Capistrano, and Marvin P. Reece, Dana Point, Calif., assignors to Rosan Engineering Corp., Newport Beach, Calif., a corporation of California

Filed Sept. 16, 1964, Ser. No. 396,867
9 Claims. (Cl. 151—41.73)



1. A fastener comprising:

a cylindrical body, said body being provided with a plurality of serrations on the outer periphery thereof;

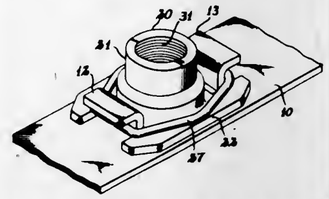
a locking ring, said locking ring provided with a plurality of serrations on the external periphery thereof and a plurality of internal serrations, said serrations being in axial slidable engagement with the serrations of said body, thereby providing preset alignment with said body;

nesting means for securing said locking ring to said body comprised of projections carried by the internal serrations of the locking ring and corresponding cavities defined by horizontal webs in vertically spaced relationship disposed in the roots of the serrations carried by the body, said projections being positioned so as not to extend beyond the ends of said locking ring and having a longitudinal dimension less than the longitudinal dimension of said corresponding cavities, said projections extending inwardly and laterally relative to the axis of the locking ring.

3,259,164
GANG NUT STRIP

Paul Hernadi, Torrance, Calif., assignor to VSI Corporation, Pasadena, Calif., a corporation of Illinois

Filed June 5, 1964, Ser. No. 372,892
6 Claims. (Cl. 151—41.76)



1. A gang nut strip particularly adapted for use in joining structural members and the like together comprising an elongated strip, an aperture in said strip formed by punching two tab members out of said strip, each of said tabs projecting generally upwardly from the face of said strip and being curled at their outer ends into an axially projecting flange extending away from said aperture, a flanged nut having a tubular barrel portion integral with a flat base portion, said flat base portion having slots at opposite ends thereof to form a generally H shape, said slots being loosely interfitted with said tabs to permit slight movement laterally and longitudinally of said strip while maintaining said barrel portion of said nut within the limits defined by said aperture in said strip, said slots forming said H-shaped base having side portions thereof engageable with side portions of said tab members when torque is applied to said flanged nut, and spring retainer means having at least a part thereof positioned beneath said each of flange on said tabs and overlying at least a portion of said base to prevent withdrawal of said nut in a direction generally perpendicular to said face on said strip.

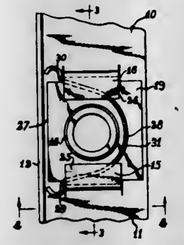
3,259,165
FLOATING NUT RETAINER ASSEMBLY

Alberto J. Tobian, Hayward, and Paul Hernadi, Torrance, Calif., assignors to VSI Corporation, Pasadena, Calif., a corporation of Illinois

Filed July 14, 1964, Ser. No. 382,607
4 Claims. (Cl. 151—41.76)

1. A floating nut retainer assembly comprising an angle strip, said angle strip having a pair of lugs formed by punching out an opening in a generally planar portion thereof, said opening being of sufficient dimension to allow passage of a fastener, each of said lugs having a portion thereof projecting towards the center of said opening above the surface of said strip to form a retainer flange, a flanged nut member having a flat base portion and an upstanding barrel portion, a threaded bore in said barrel portion adapted to receive a threaded fastener, said flat base portion being inserted laterally between an upwardly projecting portion of said lugs beneath said retainer flanges, an upstanding leg portion on said angle strip adjacent said lugs to limit the lateral insertion, said

flat base being finally disposed with an edge portion thereof closely spaced from said upstanding leg on said strip, and spring retainer means positioned beneath the retainer flanges of each of said lugs, means formed on

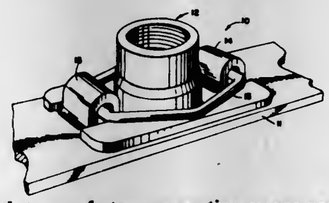


said spring retainer means to maintain said spring retainer means positioned beneath said retainer flanges thereby to limit the lateral movement of said nut away from said upstanding leg thereby to maintain the threaded bore in said nut floatingly positioned over said opening.

3,259,166
FASTENER STRIP

Paul Hernadi, Torrance, Calif., assignor to VSI Corporation, Pasadena, Calif., a corporation of Illinois

Filed July 19, 1965, Ser. No. 472,958
7 Claims. (Cl. 151—41.76)



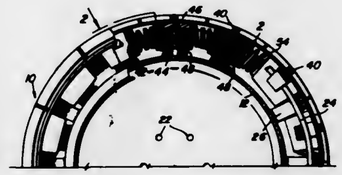
1. A high torque fastener mounting means particularly adapted for use in joining structural members and the like together comprising a fastener retainer strip, an aperture in said strip, two retainer tabs deformed out of said strip adjacent said aperture, each of said retainer tabs projecting generally upward from the plane of said strip and being reversely bent and extending back into the plane of said strip, a fastener having a base portion with slots at opposite ends thereof, said slots dimensioned for loose inter-engagement with the upward projecting and reversely bent part of said retainer tabs to permit limited movement of said fastener laterally and longitudinally of said strip while maintaining said fastener positioned generally within the limits defined by said aperture in said strip, and retainer means co-operating with the underside of said retainer tabs and overlying a part of said base portion to prevent withdrawal of said fastener in a direction generally perpendicular to said face on said strip thereby retaining said slots floatingly engaged with said retainer tabs to hold said fastener against rotation, said reversely bent retainer tabs providing increased resistance to torque.

3,259,167
RESILIENT WHEEL

William I. Uyehara, 2522 Date St., Honolulu, Hawaii

Filed Jan. 14, 1965, Ser. No. 425,473
13 Claims. (Cl. 152—13)

1. A resilient wheel comprising a generally cylindrical rim portion including means adapted to be secured to a wheel hub, outer retaining means defining a ring of larger diameter than and concentric with said rim portion and disposed between parallel planes containing the opposite ends of said rim portion, support means spaced circumferentially about said rim portion and connected between the latter and said retaining ring supporting the latter from the former, a plurality of tread members disposed outwardly of said retaining ring means and including means defining a lost motion connection with said retaining means limiting radial outward and inward movement of said tread members relative to said retaining ring means, resilient means operatively connected between

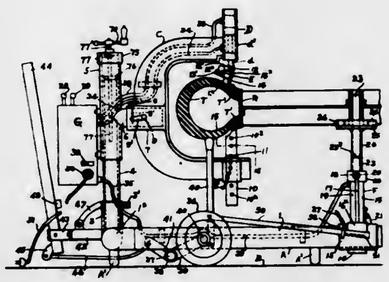


said tread members and the confronting opposite end portions of said rim portion on opposite sides of said retaining ring means yieldingly urging said tread members toward their radial outermost positions relative to said rim portion, said lost motion connection defining means each also including means oscillatably receiving said retaining ring means for oscillation of the corresponding tread member about an axis disposed generally tangentially relative to said retaining ring means.

3,259,168
HYDRAULICALLY CONTROLLED TIRE CHANGING MACHINE

William L. Schultz and Matthew J. Schultz, both of Red Lake Falls, Minn.

Filed Oct. 24, 1961, Ser. No. 147,373
4 Claims. (Cl. 157—1.26)

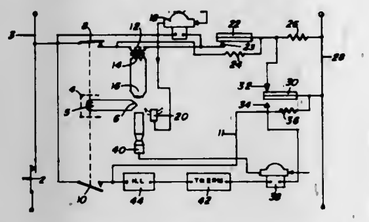


1. A tire changing machine, in combination, a rigid base frame, an upstanding post fixedly anchored to the frame, a vertically disposed sleeve endwise slidable and rotatable on the post, a horizontally disposed stub shaft fixedly secured to and turnable laterally with the sleeve, a tubular bearing rotatable on the stub shaft and provided with means to prevent escapement of the bearing from the stub shaft, a spread, two armed clamping member fixedly and centrally secured to the bearing to rotate therewith, means for locking the bearing against rotation in either an upstanding, vertical position of the clamping member or a turned horizontal position thereof, means for shifting the sleeve endwise on the post and retaining it in any shifted position and fluid pressure applying means supported by the opposing ends of the clamping member to engage with and release a tire from the retaining flanges of a wheel entered between said arms.

3,259,169
BURNER SAFETY CONTROL SYSTEM

Russell B. Matthews, Oconomowoc, Wis., assignor to Penn Controls, Inc., Goshen, Ind., a corporation of Indiana

Filed Mar. 24, 1964, Ser. No. 354,353
6 Claims. (Cl. 158—28)

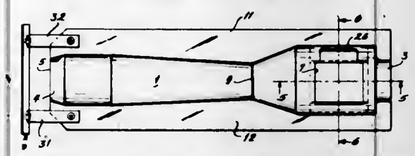


1. A fuel and ignition control system which comprises the following elements:
- a main fuel burner located in a combustion zone,
- electro-responsive valve means for regulating the flow of fuel to said burner,
- a pilot burner disposed in igniting relation to said main fuel burner,
- electro-responsive valve means for regulating the flow of fuel to said pilot burner,
- igniting means electrically actuated and disposed in igniting relation to said pilot burner,
- a flame switch disposed in flame detecting relation to said burners and operatively connected to a first normally closed switch and a second normally open switch,
- a first thermo-responsive switch having a normally closed first contact and a normally open second contact,
- a thermal device for actuation of said first thermo-responsive switch,
- a second thermo-responsive switch having a normally closed contact,
- a thermal device for actuation of said second thermo-responsive switch,
- an electro-responsive relay operatively connected to a first normally closed switch and a second normally open switch,
- a resistance element bridging said first normally closed switch,
- circuit means operatively connecting said elements to each other and to a source of electrical potential so that the flow of electric current through said second thermo-responsive switch and said first normally closed switch of said electro-responsive relay actuates said electro-responsive valve means to permit a flow of fuel to said pilot burner and a concomitant flow of electric current through said igniter ignites said pilot burner,
- the flame switch actuated by the flame from said ignited pilot burner opening said normally closed first switch and closing said normally open second switch,
- the opening of said normally closed first switch interrupting the flow of electric current through said electro-responsive relay and causing said first normally closed relay switch to open and said second normally open relay switch to close whereupon current continues to flow through said electro-responsive valve means, regulating the flow of fuel to said pilot burner through said resistance element holding it in the open position and allowing current to flow through said thermal device of said first thermo-responsive switch thereby actuating said switch to open said first normally closed contact and close said second normally open contact, the closing of the second contact permitting the flow of electric current to actuate said electro-responsive valve means allowing a flow of fuel to said main burner which is ignited by said pilot burner,
- the elements also being operatively connected so that the absence of flame from said burners actuates said flame switch so as to interrupt the flow of electric current through said igniter, both electro-responsive valve means, and said thermal device for said first thermo-responsive switch for a period of time sufficient to purge any unburned fuel from said combustion zone.

3,259,170
GAS BURNER

Henry L. Koehrer, St. Louis, Mo., assignor to McQuay-Norris Manufacturing Company, St. Louis, Mo., a corporation of Delaware

Filed June 12, 1964, Ser. No. 374,676
5 Claims. (Cl. 158—118)

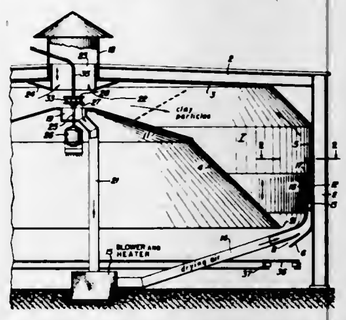


1. In a burner for gas-burning appliances having an outlet, a gas inlet, and a venturi between the outlet and the inlet, a cylindrical chamber between said inlet and said venturi, said chamber having a circumferential port to admit air thereto, and means to regulate the flow of air through said port comprising, an incompletely cylindrical shutter within said chamber and having a sliding fit therewithin, said shutter having axial and circumferential dimensions less than that of said cylinder but greater than that of said port, and part of said shutter extending through said port to limit relative rotation between asid shutter and said chamber about the axis of the latter.

3,259,171
METHOD AND APPARATUS FOR PARTICLE FORMING AND SPRAY DRYING

Ernst A. Siemssen, Norristown, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania

Filed Jan. 15, 1964, Ser. No. 337,887
8 Claims. (Cl. 159—4)

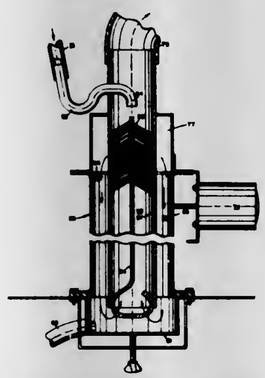


6. The method of making and collecting small particles of a clay-like material which comprises
- moving moist plastic clay-like material outwardly from an axis into a confined annular space through a multiplicity of small orifices that shape the material into cylinders by the extruding action of centrifugal force,
- thereby breaking the cylinders into small particles of substantially uniform size and shape after the cylinders have passed through the orifices, the particles moving radially through a predetermined trajectory in said space,
- moving an annular blanket of warm air first upwardly along the periphery and then radially inwardly of the space, the air moving counter-current first to the falling particles and then to the particles as they approach the periphery of the space, the air serving to brake the travel of the particles and thereby reduce the distance they travel and also serving to dry the particles, removing air and vapor axially of the space and
- collecting the dry particles at an annular location below the point where they are contacted by the blanket of air.

3,259,172
EVAPORATIVE CONCENTRATOR FOR REGENERATING HYDROSCOPIC LIQUIDS

Donald C. Wellman, Marcellus, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Oct. 17, 1963, Ser. No. 316,828
1 Claim. (Cl. 159—13)



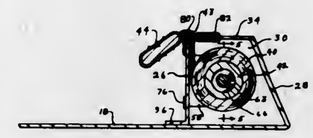
In a device for reconcentrating a liquid medium, the liquid medium being adapted to remove impurities such as odors and moisture from an air stream into which it is to be elsewhere discharged, the combination of a vertical outer tube, a vertical inner tube placed in the outer tube and spaced from the inner wall of said outer tube to form a passageway therewith, said inner tube being open at both ends and extending beyond the upper end of the outer tube, a chamber surrounding the extended end of the inner tube and closing the adjacent outer tube end and in communication with the space between the inner and outer tubes forming the passageway, a liquid collecting cup closing the outer end of the outer tube, means for supplying liquid to be reconcentrated to the upper end of the inner tube, means for supplying a heated stream of air to the chamber, through the passageway to heat the wall of the inner tube and through the inner tube, and means for distributing liquid to be reconcentrated in heat exchange relation with the air stream passing through the inner tube and the heated inner wall of the tube.

3,259,173
MACHINE COVER

Matthew C. Manning, 1709 E. Michigan Blvd., Michigan City, Ind.

Filed Aug. 28, 1963, Ser. No. 305,061
4 Claims. (Cl. 160—238)

1. A retractable business machine cover, comprising a rectangular base plate extending the full width of the machine for receiving the machine on a supporting surface, an elongated container mounted on and above said base plate along one edge thereof, said container having end walls, a rear wall formed integrally with said base plate, a top wall formed integrally with said rear wall and a front wall removably secured to said end walls and spaced from said top wall to provide an elongated opening in said container, a reel in said container, means at each end of said reel for supporting said reel on said front wall, a panel of flexible transparent material on said reel

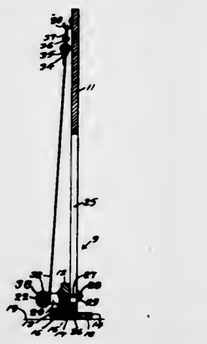


secured at one end to said reel, an elongated stiff hand portion attached to the forward edge of said panel and being of a width larger than said opening, a spring in said reel for winding said panel thereon, a plurality of pawls on said reel for retaining said panel in any desired unwound position, a felt-like member mounted on the forward edge of said top wall, and a felt-like cleaning member mounted on the upper edge of said front wall, said members engaging and cleaning opposite surfaces of said panel simultaneously each time said panel is retracted.

3,259,174
PROJECTION SCREEN

Luther A. Pidgeon, 316 N. Washington St., Knightstown, Ind.

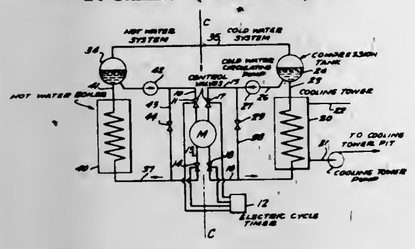
Filed Oct. 30, 1964, Ser. No. 407,792
7 Claims. (Cl. 160—290)



1. A projection screen comprising an elongated base having a bottom portion extending from end to end thereof and adapted to rest on a supporting surface, an elongated bar rising from said bottom portion and extending longitudinally thereof, said bar having opposite sides disposed substantially perpendicular to the plane of the bottom portion and between and spaced from the side edges thereof, a pair of longitudinally spaced shade roller brackets fixed to the bar and projecting laterally from one of said sides above said bottom portion, a spring operated roller rotatably supported by said brackets, a fabric screen member wound on and having one end secured to the roller, an elongated standard disposed on the other side of said bar above said bottom portion, means slidably and pivotally connecting the standard to the bar for securing the standard in an upright operative position relative to the base or in a folded position against the bar and substantially parallel to the base, and means detachably connecting the other end of the screen member to an upper part of the standard, in the

operative position of the standard, for holding the screen member in an extended unwound position against the spring action of the roller.

3,259,175
HEATING AND COOLING SYSTEM FOR MOLDS
Robert A. Kraus and Edmund J. Kraus, both of 1401 Magnolia Ave., Monrovia, Calif.
Filed June 15, 1964, Ser. No. 375,263
14 Claims. (Cl. 165—12)



1. In combination with a device to be heated and cooled, said device having a passageway therethrough, an arrangement for heating and cooling said device comprising

a first hydraulic system,

a second hydraulic system,

means for selectively connecting said systems to said passageway,

a bypass in each of said systems for bypassing said passageway, said means for selectively connecting said systems to said passageway including valve means for alternately and individually connecting said systems to said passageway and preventing flow through the bypass of the system so connected to said passageway while simultaneously connecting the other of said systems to the bypass of said other system and preventing flow from said other system through said passageway,

a liquid material,

said material being pressed in both of said systems,

pump means for continuously circulating said fluid in said systems at substantially equal pressure heads in said systems,

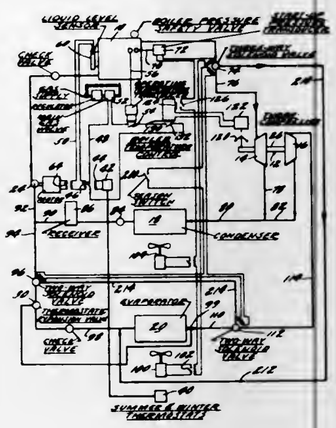
means for heating said liquid material in one of said systems,

means for cooling said liquid material in the other of said systems, and means for simultaneously pressurizing said liquid material in both of said systems to substantially equal pressure sufficient to prevent vaporation of said liquid material,

whereby said liquid material in said passageway causes heating and cooling of said device.

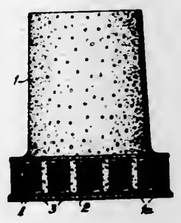
3,259,176
ENVIRONMENTAL CONTROL SYSTEM
Ned C. Rice, East Hartford, William R. Davison, Wapping, and Frank R. Biancardi, Vernon, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 9, 1963, Ser. No. 293,638
13 Claims. (Cl. 165—26)

1. A convertible heating-cooling system utilizing heat energy as a source, an energy receiving generator comprising a supply of a single working liquid which becomes a working gas at elevated temperature, a turbine receiving working gases from said generator, a condenser receiving the exhaust working gases from said turbine, means for liquefying said working gas in said condenser, a pump connected to said condenser and receiving a part of the working liquid therefrom for circulating said liquid back to said generator, an expansion valve receiving another part of the working liquid from said condenser, an evaporator receiving the expanded working fluid from said valve, said condenser including heat exchange means for exchanging energy, a compressor on the outlet side



of said evaporator for compressing the working fluid received therefrom, means for conducting fluid from said compressor to said condenser, and valve means in the system whereby the flow of working fluid passes from said generator and flows only to said evaporator and said pump thereby making said turbine, compressor and condenser ineffective.

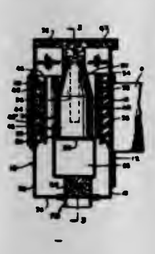
3,259,177
LIQUID COOLER AND CONTROL THEREFOR
Johann Christoph Niemann, Bochum, Germany, assignor, by mesne assignments, to GEA Luftkuhlergesellschaft Happel G.m.b.H. & Co. KG., Bochum, Germany
Filed June 25, 1963, Ser. No. 290,448
Claims priority, application Germany, July 11, 1962, G 35,433 Ia/17f
14 Claims. (Cl. 165—34)



1. An air conditioned surface cooler for liquids comprising, in combination, a chimney-like tower open at the top and having a lower peripheral wall portion formed with openings therethrough; a plurality of heat exchange elements respectively located in said openings so that cooling air will be drawn over said heat exchange elements by the draft produced by the chimney-like tower, said heat exchange elements each including a substantially vertical

distributing chamber, a substantially vertical collecting chamber transversely spaced therefrom, and a plurality of heat exchanger pipes connecting said chamber with one another; means, including an inflow conduit and a return flow conduit, for feeding liquid to be cooled into said heat exchange elements each including a substantially vertical from; and control means co-operating with said heat exchange elements for varying the height of the liquid level therein to thereby regulate the size of the effective heat exchange surface area.

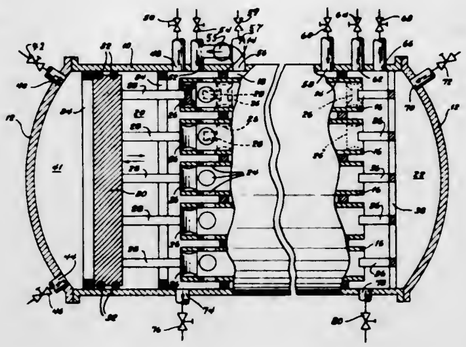
3,259,178
INDUCTION UNIT FOR HEATING, AIR CONDITIONING AND VENTILATING
Edwin M. Tarnoff, Frost Bldg., 520 West Ave., Norwalk, Conn.
Filed Jan. 11, 1962, Ser. No. 165,633
1 Claim. (Cl. 165—39)



An air distribution unit for conditioning air in a room, comprising a sheet metal casing having front, rear, end, top and bottom walls, a duct connected to the bottom wall to receive conditioned air under pressure from a remote source thereof, a plurality of nozzles with flattened, constricted oppositely directed mouths opening into the casing from said duct, said rear wall having a first passage to pass fresh air into the casing, a movable damper assembly mounted at said first passage, said front wall having a central second passage to pass room air into the casing, another damper assembly mounted at the second passage, motor means for actuating the damper assemblies, said front wall having a plurality of third passages spaced laterally of the second passage and opening into the room for discharging conditioned air mixed with room air and fresh air into the room, a thermostat in circuit with said motor means and responsive to condition of the air in the room to actuate the motor means and damper assemblies, simultaneously, air deflector columns in the casing located to guide conditioned air mixed with room air and fresh air from the nozzle mouths and the first and second passages to the third passages, air filter elements located in said third passages, and pads lining certain of said walls to insulate the same and suppress noise of air flow in the casing, whereby the relative proportions of conditioned air, room air and fresh air discharged into the room is automatically controlled.

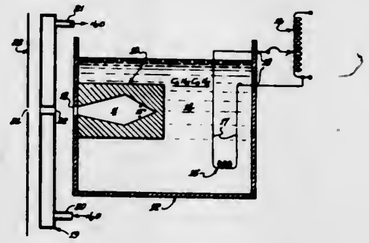
3,259,179
TUBE CLEANER
John M. Leach, Box 350, Port Jefferson, N.Y.
Filed Apr. 6, 1964, Ser. No. 357,701
9 Claims. (Cl. 165—95)

9. An apparatus for cleaning tubes comprising a closed compartment, at least one tube having an open end extending into said compartment and having an access opening extending through its side wall near said open end and within said compartment, a piston scraper positioned in said tube between said access opening and said open end, means to direct fluid under pressure into said compartment and into and through said access opening and said tube, means operative to move said piston scraper away from said end of the tube and to the opposite side of said



access opening where it impedes flow of said fluid through said tube which fluid exerts force upon the outer end of said piston scraper which force moves the piston scraper through the tube and scrapes all deposits from the interior of said tube.

3,259,180
CONSTANT TEMPERATURE INFRARED RADIATION SOURCE
Paul E. Suit, Ontario, and Walthew T. Barnes, San Gabriel, Calif., assignors to General Dynamics Corporation, a corporation of Delaware
Filed Oct. 21, 1965, Ser. No. 499,473
9 Claims. (Cl. 165—104)



1. A constant-temperature black body source of infrared radiation comprising: a vessel containing a fluid which, when raised to the boiling point, will maintain a constant temperature as long as it is kept at the boiling point and constant pressure; radiator means constructed of suitable material operatively mounted in said vessel, said radiator means having a cavity adjacent to and aligned with an aperture in said vessel; means for heating said fluid to its boiling point; means for controlling said heating means; baffle means located adjacent said vessel aperture; a plate located adjacent said baffle means, said baffle means and said plate being provided with apertures therethrough which align with said aperture of said vessel, whereby all radiation is isolated or masked off except that emitted from said cavity of said radiator means.

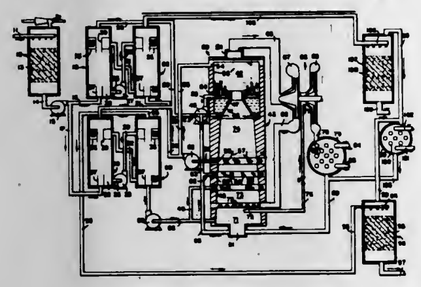
3,259,181

HEAT EXCHANGE SYSTEM HAVING INTERMEDIATE FLUENT MATERIAL RECEIVING AND DISCHARGING HEAT

Carlyle M. Ashley, Manlius, and Cyrus M. Bosworth, De Witt, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Original application Nov. 8, 1961, Ser. No. 150,980. Divided and this application Sept. 15, 1965, Ser. No. 487,633

2 Claims. (Cl. 165—107)



1. A heat exchanger for exchanging heat between an aqueous saline solution entering a saline water conversion apparatus and an effluent liquid discharged from said saline water conversion apparatus comprising:

(A) an inlet heat exchanger adapted to contain a quantity of an aqueous saline solution entering said apparatus, and having means for introducing aqueous saline solution into said inlet heat exchanger;

(B) an outlet heat exchanger adapted to contain a quantity of an effluent aqueous liquid discharged from said apparatus, and having means for introducing aqueous effluent liquid into said outlet heat exchanger;

(C) passage means passing liquid octafluorocyclobutane into direct contact with the aqueous saline solution in said inlet heat exchanger to exchange heat therewith;

(D) passage means passing liquid octafluorocyclobutane from said inlet heat exchanger to said outlet heat exchanger in direct contact with the aqueous effluent liquid therein to exchange heat therewith;

(E) passage means passing liquid octafluorocyclobutane from said outlet heat exchanger to said inlet heat exchanger for recontact with aqueous solution therein;

(F) a stripping vessel comprising a low pressure region;

(G) passage means passing the aqueous effluent liquid from said outlet heat exchanger to said stripping vessel for evaporation of octafluorocyclobutene in said low pressure region remaining in said effluent liquid; and

(H) condenser means condensing and recovering liquid octafluorocyclobutane from octafluorocyclobutane vaporized in said low pressure zone.

3,259,182

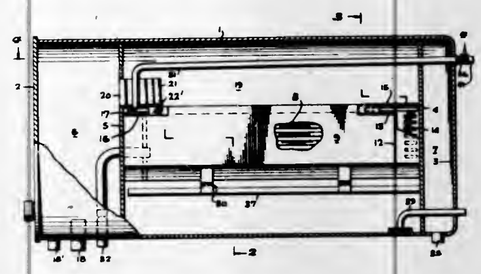
APPARATUS FOR THE REMOVAL OF FIXED GAS FROM ABSORPTION REFRIGERATION PROCESS

Judson S. Swearingen, Los Angeles, Calif., assignor to Electronic Specialty Co., Los Angeles, Calif., a corporation of California

Original application Dec. 15, 1961, Ser. No. 159,531, now Patent No. 3,221,510, dated Dec. 7, 1965. Divided and this application Jan. 25, 1965, Ser. No. 432,934

8 Claims. (Cl. 165—111)

1. A reflux condenser comprising a shell, a vapor plenum in said shell, a vapor inlet connected to said vapor plenum; a tube bundle composed of a plurality of inclined flattened condenser tubes positioned in said shell, the tubes of said tube bundle being formed of pairs of spaced rectangular plates sealed together along their edges and spaced apart at one end thereof to form an open end and forming a fluid passageway between said plates, a plenum connected to said open ends of said tubes, a separating wall separating said last named plenum from said vapor plenum in said shell, said flattened tubes being spaced



apart to provide vapor passageways between said tubes; a plate closing the upper end of said vapor passageways and extending along one edge of all of said passageways, the other end of said passageways connecting to said vapor plenum; and a vapor discharge conduit connected to said vapor passageways to pass uncondensed vapors from said vapor passageways, and a liquid outlet from said shell.

3,259,183

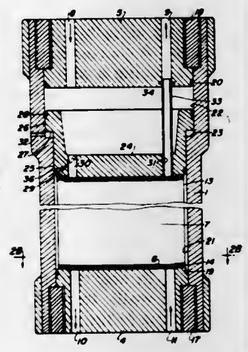
PLATE TYPE HEAT EXCHANGER UTILIZING MOVABLE PLATE

Otto Konrad, Schriesheim, Bergstrasse, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Dec. 27, 1962, Ser. No. 247,726

Claims priority, application Germany, Dec. 30, 1961, B 65,381

5 Claims. (Cl. 165—166)



1. In a plate heat exchanger for the exchange of heat between two fluids under high pressure, said heat exchanger consisting of a plurality of circular plates, said circular plates forming a set of plates and being spaced apart from each other, every second of the spaces between said plates being in fluid communication with one of said two fluids, the remainder of said spaces being in fluid communication with the other of said two fluids, the improvement which comprises: arranging said set of plates within a cylindrical vessel, said vessel being closed by a stationary end plate at both the top and bottom, said end plates being provided with inlet and outlet means for said two fluids, said vessel having a wider portion and a narrower portion, a stepped movable piston having a wider section fitting into said wider portion of said vessel and a narrower section fitting into said narrower portion of said vessel, said movable piston being provided with an inlet for one of said fluids and an outlet for the other fluid, said set of plates being located and pressed together by pressure in said narrower portion of said vessel between said stationary end plate on the top of said vessel and said stepped movable piston, said inlet in said movable piston being in communication with the space between said movable piston and said adjacent stationary end plate on the top of said vessel, and said outlet in said movable piston communicating with said outlet in said adjacent stationary end plate.

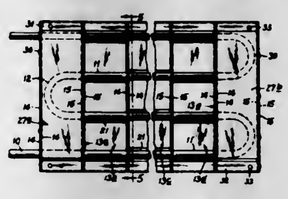
3,259,184

EVAPORATOR PLATE COIL UNIT

Frank R. Trulaske, Grafton, Ill., assignor to True Manufacturing Co. Inc., St. Louis, Mo., a corporation of Missouri

Filed Jan. 22, 1964, Ser. No. 339,534

7 Claims. (Cl. 165—171)



1. A plate coil unit comprising:

(a) a coil having a plurality of adjacent lengths interconnected by reverse bends, the coil lengths having a predetermined cross section,

(b) a plurality of plate members located in adjacent side by side relation across the coil lengths,

(c) each plate member including a flange provided with a plurality of recesses, each recess having an entrance and partially defined by a margin offset to one side of the entrance, the offset margin conforming substantially to a part of the cross section of the coil length received in such recess and providing a portion overlapping the coil length received in the recess,

(d) the associated coacting recesses of adjacent plate members receiving the same coil lengths being relatively reversed so that the said offset margins face in opposite directions, the said offset margins of associated coacting recesses of adjacent plate members cooperating to embrace and overlap the predetermined original cross section of the coil length extending therebetween so as to fix the plate members to the coil, the entrances of associated coacting recesses of adjacent plate members being displaced out of alignment relative to each other, and

(e) means securing the plate members together.

3,259,185

METHOD OF PROLONGING THE USEFULNESS OF PRODUCTION WELLS IN THERMAL-RECOVERY PROCEDURES

Charles F. Gates, San Marino, Calif., assignor to Mobil Oil Corporation, a corporation of New York

No Drawing. Filed Oct. 27, 1958, Ser. No. 769,559

7 Claims. (Cl. 166—11)

1. The method of prolonging the useful life of a production well employed to withdraw petroleum fluids from an oil sand being operated by a procedure wherein combustion of combustible material in said oil sand has been initiated and is maintained by injection of an oxygen-bearing gas into said oil sand through an injection well and petroleum fluids enter said production well from said oil sand which comprises: circulating a coolant fluid through said production well in contact with said petroleum fluids at least when the temperature of the fluids in the bottom of said production well reaches the greater of the two temperatures 200° F. and the temperature 100° F. more than the original temperature of the oil sand, and controlling the volume of flow of said coolant fluid so that the temperature in said production well bottom remains less than the ignition point of the combustible fluids therein.

3,259,186

SECONDARY RECOVERY PROCESS

Daniel N. Dietz, The Hague, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 5, 1963, Ser. No. 300,056

2 Claims. (Cl. 166—11)

1. A method of recovering hydrocarbons from hydrocarbon-bearing, earthen formations comprising:

(a) penetrating a hydrocarbon-bearing formation with a plurality of boreholes spaced from one another;

(b) injecting hot aqueous fluids into a significant portion of said formation through said boreholes at a pressure which is less than overburden pressure at the injection levels, said hot aqueous fluids having a temperature sufficient to vaporize only some of the hydrocarbons in said reservoir;

(c) retaining said hot aqueous fluids injected into said formation within said formation for a period permitting adsorption of heat by said formation from said aqueous fluids and condensation of some of the vaporized hydrocarbons within said formation;

(d) backflowing effluents in said formation to said boreholes through the same portion of said formation which was injected with said hot aqueous fluid by reducing the pressures in said boreholes to less than said hot aqueous fluid injection pressures;

(e) recovering hydrocarbons entering said boreholes; and

(f) subsequently injecting additional hot aqueous fluids into some of said boreholes and recovering hydrocarbons from adjacent boreholes driven thereinto by said subsequent injection.

3,259,187

SECONDARY RECOVERY OF HYDROCARBONS WITH SULFUR TRIOXIDE

Michael Prats and Phillip J. Closmann, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 19, 1963, Ser. No. 324,822

2 Claims. (Cl. 166—11)

1. A method of producing liquid or liquefiable hydrocarbons from a hydrocarbon-containing subsurface formation, said formation being penetrated by at least one well, said method comprising

introducing into a well a quantity of sulfur trioxide in an amount sufficient to react with a portion of the hydrocarbon of said formation,

contacting and reacting said hydrocarbon with a portion of said sulfur trioxide to form petroleum sulfonates in said formation,

maintaining said petroleum sulfonates in contact with said petroleum of said formation for a time sufficient to reduce the surface tension of the petroleum and heat the formation,

heating in situ hydrocarbon of said formation further by contacting and reacting another portion of said sulfur trioxide with formation water whereby the heat of reaction raises the temperature of the adjacent

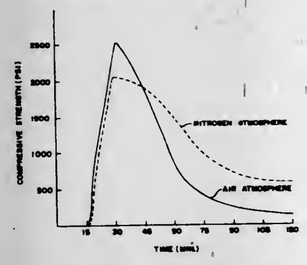
formation to reduce the viscosity of the hydrocarbon, displacing the previously formed petroleum sulfonates, the hydrocarbon of reduced viscosity and additional quantities of sulfur trioxide into the hydrocarbon-bearing formation,

said petroleum sulfonates and said hydrocarbon being forced toward a second well in communication between the formation and the surface,

said hydrocarbon-producing formation including carbonate material which neutralizes said sulfur trioxide which is converted to sulfuric acid by formation waters, said acid being substantially neutralized by said carbonate material as the acid is displaced from said first to said second well, and

producing hydrocarbon of reduced viscosity to the surface.

3,259,188
CARBOHYDRATE SAND CONSOLIDATION
Stephen M. O'Brien, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Nov. 18, 1963, Ser. No. 324,416
7 Claims. (Cl. 166—25)



1. An improved method of consolidating loose particles of earthen formations in subterranean reservoirs penetrated by a borehole which gives superior consolidation integrity comprising:

(a) injecting into portions of said reservoir to be consolidated a fluid having a carbohydrate entrained therein; and

(b) subsequently heating said portions of said reservoir in the absence of oxygen to a temperature sufficient to carbonize said carbohydrate while balancing the differential pressures between the borehole and said portion of said reservoir being consolidated to consolidate said loose particles in said reservoir into a permeable mass.

3,259,189
AIR DRILLING SHALE CONTROL
Henry C. H. Darley, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed Apr. 3, 1963, Ser. No. 270,164
6 Claims. (Cl. 166—29)

1. A method of preventing subterranean shale formation from caving into boreholes penetrating the same when drilling with a gaseous circulating fluid comprising:

(a) interrupting drilling operations in said borehole when a shale formation has been penetrated and prior to encountering a formation from which water flows into said borehole;

(b) blowing said borehole free of water and solid particles;

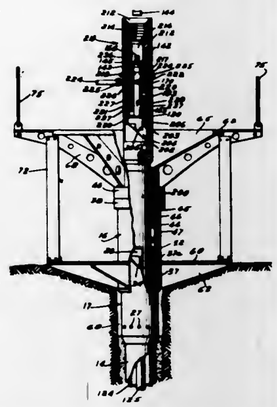
(c) introducing an aqueous solution of an alkali metal silica into said borehole whereby said shale formation exposed in the borehole is contacted by said solution; and

(d) subsequently blowing said borehole free of remaining aqueous solution prior to resuming drilling operations.

3,259,190
METHOD OF IMPROVING FLUID FLOW IN WELLS
Richard L. Parsons, Redwood City, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed Mar. 30, 1961, Ser. No. 179,504
(Filed under Rule 47(b) and 35 U.S.C. 118)
6 Claims. (Cl. 166—42)

1. A method of increasing fluid flow from a formation having at least one fracture created therein and penetrated by a well comprising determining the temperature of said formation, selecting a material fusible at less than said temperature, particulating said material, segregating a predetermined size range of said material, combining said material in a predetermined ratio with preselected propping agents to form a mixture of said material and said propping agents, suspending said mixture in a liquid, forcing said liquid containing said mixture into said fracture while maintaining the competency of said fusible material and removing the said fusible material from said fracture without the application of an extraneous source of heat thereto.

3,259,191
SUBSEA BLOWOUT PREVENTION AND LANDING APPARATUS
Ross A. McClintock, 17051 Santiago Blvd., Rte. 3, Orange, Calif.; Raymond E. Thompson, 3620 Rose Drive, Rte. 1, Placentia, Calif.; and Kenneth E. Waggener, 921 E. Elm, Brea, Calif.
Filed May 5, 1958, Ser. No. 733,031
15 Claims. (Cl. 166—85)



15. In well head apparatus adapted to cooperate with a well casing and installing means: a production head assembly, said production head assembly including means for producing well fluids and including an upper part having means for detachable engagement by said installing means; and remotely controllable releasable latching means for detachably connecting said production head to a cooperating part of said well casing.

3,259,192
METHOD AND APPARATUS FOR INJECTING FLUID
Walter E. Hyde, Duncan, Okla., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
Filed Oct. 22, 1963, Ser. No. 318,000
9 Claims. (Cl. 166—150)

1. A tool for injecting fluid into material, said tool comprising:

laterally distensible and contractable packer means carried by said tool;

first valve means through which pressurized fluid may be directed to pass from the interior of said tool to said packer means to effect lateral distension of said packer means;

valve operating means comprising piston means connected with said first valve means and responsive to fluid pressure within said tool for operating said first valve means to direct said pressurized fluid to said packer means;

second valve means connected and operable simultaneously with said first valve means and through which



pressurized fluid serving to distend said packer means may be vented so as to allow contraction of said packer means, said second valve means being operable to effect said venting when said first valve means is closed; and

third valve means adapted to allow a flow of pressurized fluid out of said tool and into said material in response to the attainment of a predetermined fluid pressure within said tool, said third valve means being adapted to be in fluid communication with pressurized fluid serving to distend said packer means.

3,259,193
RETRACTABLE DRILL COLLAR STABILIZER
Jackson M. Kellner, Tulsa, Okla., assignor to Esso Production Research Company, a corporation of Delaware
Filed Feb. 9, 1960, Ser. No. 7,671
8 Claims. (Cl. 166—237)



1. Rotary drilling apparatus which comprises:

a mandrel provided with means at its upper and lower ends for connecting said apparatus at an intermediate point in a rotary drill string, said mandrel including a longitudinal passageway for the transmission of drilling fluid and a lateral passageway extending through the mandrel wall from said longitudinal passageway to a port in the outer surface of said mandrel;

a tubular sleeve slidably mounted on said mandrel over said port for longitudinal and rotational movement thereon, said sleeve containing a plurality of vertically and circumferentially spaced wall openings to permit the centering of said sleeve and mandrel in the borehole by shoes mounted in said openings;

a plurality of laterally-extensible shoes positioned in said wall openings in said sleeve;

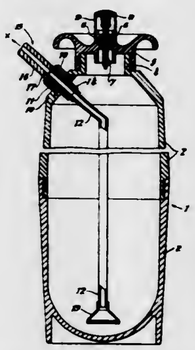
an elastic member bonded to said shoe within each of said wall openings and connected to the surrounding sleeve, said elastic member forming a fluid-tight seal about said shoe and biasing said shoe in a normally retracted position with respect to said sleeve while permitting extension of said shoe in response to fluid pressure between said sleeve and mandrel;

means for limiting the extension of said shoes and thereby preventing the anchoring of said apparatus in said borehole;

upper and lower seal members positioned between said sleeve and mandrel respectively above and below said wall openings;

and means limiting longitudinal movement of said sleeve with respect to said mandrel.

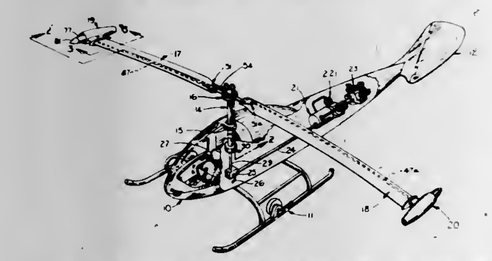
3,259,194
LIGHT-WEIGHT PORTABLE FIRE EXTINGUISHERS
Patrick McCrossan, Haywards Heath, Sussex, England, assignor to Stoppafire Limited, Manchester, England
Filed Apr. 20, 1964, Ser. No. 360,995
8 Claims. (Cl. 169—31)



3. A container for a portable fire extinguisher adapted to receive a high pressure gas cartridge and wherein the container must withstand high internal pressure up to approximately 500 p.s.i. comprising two molded cups each formed of reinforced thermosetting resin of high tensile strength, said two cups being interconnected with one another by male and female threads formed on the respective cups at the open ends thereof, said two cups when in assembled relationship defining a generally barrel-shaped outer configuration for the container with its maximum dimension at an intermediate portion of the container adjacent said threaded ends of the cups, one of said cups having a generally dome-shaped closed end and defining a strengthened bottom for the container, the other of said cups including a heavy shoulder portion spaced a substantial distance from the threads formed thereon, said shoulder portion joining with a relatively narrow neck having an open end, a cap closing off the open end of

said neck, a striker mechanism movably supported by said cap and being adapted to reach a vulnerable part of a high pressure gas cartridge supported by the container, said shoulder having a recess formed therein, a mounting ring snugly disposed within said recess and sealed with respect to said container, said ring having a bore formed therethrough, and a tubular member extending through the bore in said mounting ring and sealed with respect thereto for discharging liquid from the interior of said container outwardly of said tubular member.

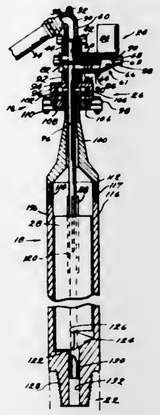
3,259,195
AIRCRAFT WITH NON-COMBUSTION, AIR REACTION ENGINE
Paul W. Chaney, 42142 Little Road, Mount Clemens, Mich.
Original application Apr. 23, 1962, Ser. No. 189,443, now Patent No. 3,194,011, dated July 13, 1965. Divided and this application Nov. 12, 1964, Ser. No. 410,696
10 Claims. (Cl. 170—135.4)



1. In an aircraft having a fuselage and at least one rotor blade operatively mounted on a rotor shaft extended into the fuselage, the combination comprising: a compressed air storage means; a compressor means for supplying compressed air to said compressed air storage means; a power means for driving said compressor means; said compressed air storage means, compressor means and power means being carried in said fuselage; an air driven reaction engine disposed adjacent the tip of said rotor blade; a support tube connected at one end to said rotor shaft and passing through said rotor blade and having the other end thereof connected to said reaction engine for supporting the same; a compressed air conduit system connected at one end thereof to said compressed air storage means and at the other end thereof to said one end of said support tube; and a flow control means interconnected in said compressed air conduit system for controlling the flow of compressed air to said reaction engine for operating the engine to drive the rotor blade and operate the aircraft; said reaction engine including an air driven motor operatively connected to an air compressor for providing a dynamic thrust reaction on the rotor blade for rotating the same; said reaction engine being provided with a starter means for positioning the working parts of said air-driven motor to receive the compressed air from said compressed air storage means to operate said motor; and said starter means comprising a compressed air operated starter adapted to be driven by compressed air drawn from said compressed air storage means and operatively connected to said air-driven motor for starting operation thereon.

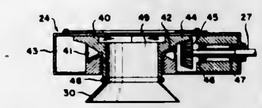
3,259,196
ROTARY KELLY HAMMER
Herbert J. Hawthorne, P.O. Box 7301, Houston, Tex.
Filed Feb. 19, 1964, Ser. No. 345,916
17 Claims. (Cl. 173—78)

8. Well drilling equipment comprising: a rotary kelly having an exterior surface constructed and arranged to be driven about its axis by a rotary table and movable downwardly through the table; a hammer carried within said kelly and having a longitudinal bore therethrough; a hollow shaft joined to said hammer and extending upwardly through said rotary kelly; a swivel housing including a swivel joint received at the upper end of said rotary kelly for free rotation, said shaft extending upwardly into



said swivel housing; means carried by said swivel housing in cooperative relationship with said shaft; said swivel housing adapted to transmit cutting fluid downwardly through said shaft, said hammer, and said rotary kelly; said actuating means being operative to impart hammer impulses to said rotary kelly via said shaft and said hammer.

3,259,197
WELL DRILLING APPARATUS
John E. Lacy, Metairie, and Fines F. Martin, New Orleans, La., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Oct. 9, 1963, Ser. No. 314,936
5 Claims. (Cl. 175—5)



1. Apparatus for use with well tools and equipment used in drilling oil and gas wells, said apparatus comprising

a rotary table housing having aligned openings in the top and bottom thereof and adapted to be secured in a fixed manner to a drilling platform,

a rotary table mounted within said rotary table housing for rotation about a vertical axis, said rotary table having a vertically-disposed axial bore therethrough for passing well tools and equipment therethrough, said bore being in register with the aligned openings of said rotary table housing,

tool and equipment guide means substantially rigidly mounted to said apparatus adjacent and below said rotary table and coaxially with the bore therethrough, said guide means having a central opening of an internal diameter no greater than the axial bore of said rotary table, said guide means extending downwardly and outwardly from said rotary table at an angle sufficient to guide upwardly moving tools and equipment into the axial bore of said rotary table, and to a point laterally-displaced from the opening at the bottom of said rotary table housing to aid in aligning tools within the opening.

3,259,198
METHOD AND APPARATUS FOR DRILLING UNDERWATER WELLS
Norman E. Montgomery, Metairie, and Fines F. Martin, New Orleans, La., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 28, 1963, Ser. No. 283,844
13 Claims. (Cl. 175—7)



1. Apparatus for drilling an underwater well from a floating vessel positioned at an offshore location, said apparatus comprising:

(a) a floating vessel;

(b) a drilling wellhead structure positioned below the surface of the water beneath said vessel, said wellhead structure having a vertical throughbore aligned with a well in the ocean floor;

(c) a drill string adapted to extend from said vessel and into the throughbore of said wellhead structure;

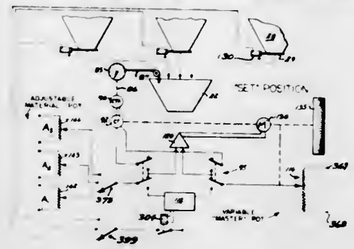
(d) packer means adapted to be in operative sealing engagement between said wellhead structure and the outer surface of said drill string to seal the throughbore of said wellhead structure about said drill string and prevent all fluid from leaving the well except through said drill string;

(e) said drill string having multiple conduit means at least extending from a point adjacent said vessel to a point below said packer means of said wellhead structure; and

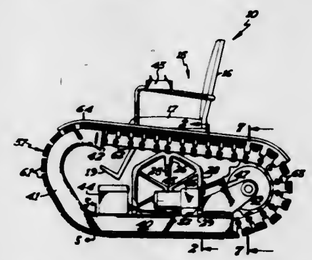
(f) said multiple conduit means being simultaneously rotatable together and axially slidable through said packer means while remaining in substantial sealing engagement therewith during drilling operations.

3,259,199
ELECTRONIC BATCH CONTROL SYSTEM
Jack D. Noble, 3649 Happy Valley Road, Lafayette, Calif., and William Fleming, Oakland, Calif.; said Fleming assignor to said Noble
Filed Oct. 4, 1960, Ser. No. 60,510
26 Claims. (Cl. 177—70)

1. In a weighing apparatus having a weigh-hopper, material supply means for said weigh-hopper, valve means on said material supply means, and scale means for said weigh-hopper; the combination of an electrical circuit having a power source and control-switch means; a master potentiometer means associated with said weigh-hopper; an indicator means calibrated in pounds and mechanically connected to said master potentiometer means servo-drive means connected with said scale means on said weigh-hopper to move said master potentiometer means so that its resistance value is constantly proportional to the weight of material in said weigh-hopper; an adjustable potentiometer means for use with said indicator means to pre-set a value to be obtained by said master potentiometer means to correspond to a predetermined weight of material to be weighed into said weigh-hopper; means for opening the valve means for said weigh-hopper when said control-switch means is closed; and valve-closure means actuated by said master potentiometer means when it attains the said predetermined value for closing said valve means thereby stopping the flow of material into said weigh-hopper when said resistance value indicates that the predetermined weight has been weighed out.



3,259,200
FOLDING SELF-PROPELLED INVALID CHAIR
William Rudolph Maijala, 4029 Xenia Ave. N., Robbinsdale, Minn.
Filed Apr. 26, 1965, Ser. No. 450,610
3 Claims. (Cl. 180—9.24)

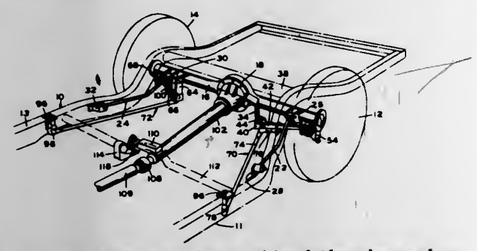


1. In a chair, the combination of frame means, endless track means mounted on the frame means on opposite sides of said chair, a transverse cross member attached to said frame means, a seat pivotally mounted on said transverse cross member, a threaded nut attached to said cross member, a motor attached to said seat said motor connected to a threaded shaft threaded in said nut whereby said seat may be tlited about said transverse cross member in response to actuation of said motor means for removably connecting opposite ends of the transverse cross member to said frame means whereby the seat and cross member can be removed from the frame means and endless track means.

3,259,201
LINKAGE TYPE REAR SUSPENSION SYSTEM FOR A MOTOR VEHICLE
William D. Allison, Grosse Pointe Farms, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 18, 1964, Ser. No. 419,482
12 Claims. (Cl. 180—73)

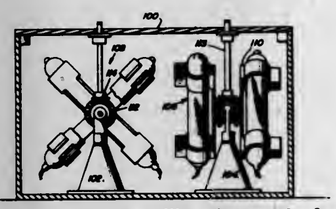
1. A vehicle suspension system including a vehicle frame, an axle housing, a pair of road wheels situated at the outer ends of said axle housing, suspension means interconnecting said frame and said axle housing, said suspension means comprising a pair of suspension links, each of said links having one end pivotally connected to said axle housing and the other end pivotally connected

to said frame, laterally resilient means interconnecting said frame and said axle housing and constructed to position said axle housing laterally with respect to the longitudinal center line of said vehicle frame, a torque reaction means constructed to resist rotation of said axle housing, said torque reaction means comprising a tube having



its rear end rigidly secured to said axle housing and extending forwardly therefrom, shackle means interconnecting the other end of said tube and said frame, said shackle means being constructed to prevent the rotation of said torque tube about the axis of said axle housing while permitting fore and aft movement of said torque tube.

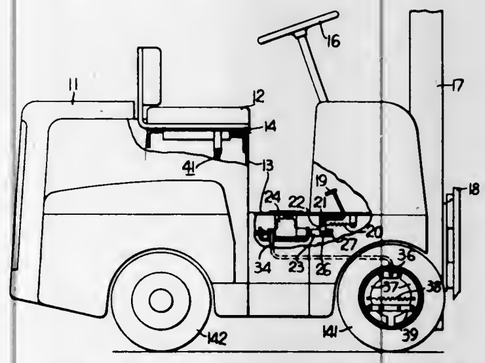
3,259,202
MERCURY SWITCH SYSTEM FOR AUTOMOTIVE IGNITION CUT-OFF
Thurman F. Griffeth, Weston, Idaho
(% Cache Valley Enterprises, Inc., Preston, Idaho)
Filed Aug. 27, 1963, Ser. No. 304,847
13 Claims. (Cl. 180—82)



1. In a device for controlling the speed of a moving vehicle, at least four mercury switches arranged in opposing pairs, each of said switches being supported on the vehicle at an angle with respect to the horizontal, one switch of each pair being oppositely oriented with respect to the other switch, electrical circuit means operatively connecting each of said switches to means controlling actuation of the prime mover of the vehicle for interrupting its operation upon a sensing by said switches of any undue shock, tilt, pivotal motion or excessive speed of the vehicle, the switches being supported in a housing mounted on the vehicle, each pair of said switches being separately supported in a relative orientation displaced 90° from each other, and rotatable means carried by the housing for simultaneously tilting at least one pair of said switches in opposite directions.

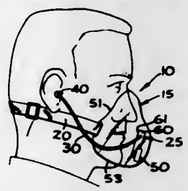
3,259,203
SEAT ACTUATED VEHICLE BRAKE MECHANISM
Neil J. Ryskamp, Markham, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 30, 1964, Ser. No. 379,317
9 Claims. (Cl. 180—82)

1. A braking system for the wheels of a vehicle comprising:
a vehicle chassis,
a friction type wheel brake including a wheel cylinder,
a master cylinder having a plunger in communication with said wheel cylinder,
brake adjusting means for automatically compensating for wear of said wheel brake,
a brake pedal pivotally mounted on said chassis,
operating linkage connecting said brake pedal to the plunger of said master cylinder,
a seat pivotally connected to said chassis for vertical swinging movement between an operator occupied position and a raised unoccupied position, and
a brake actuating linkage between said master cylinder and said seat including,
a pair of toggle links having their adjacent ends pivotally connected to one another on a first axis,
means pivotally connecting one of said links to said chassis on a second axis parallel to and spaced from said first axis,



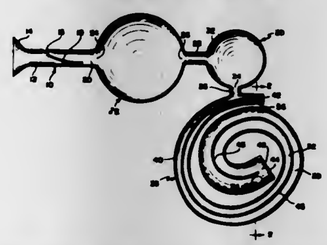
means providing a lost motion connection between said one link and said plunger and effecting movement of said plunger when one link is pivoted in a first direction about said second axis,
means pivotally connecting the other of said links to said seat on an axis spaced from said first and second axes and from the pivot connection between said seat and said chassis,
resilient biasing means urging said one link to pivot in said one direction to a brake applying position,
said biasing means swings said seat to its unoccupied position, when unoccupied, and simultaneously effecting actuating of said brake, the mecanical advantage of said resilient biasing means on said seat and said plunger increasing as said seat moves toward its unoccupied position.

3,259,204
SOUND REFLECTING DEVICE
James A. Gerwick, 682 Radar Squadron, Almaden Air Force Station, New Almaden, Calif.
Filed Sept. 21, 1964, Ser. No. 397,719
4 Claims. (Cl. 181—20)



1. A sound reflecting device comprising a mask adapted to confront the mouth of the user and to confine the sound created by the user to a predetermined region, means attached to said mask adapted to detachably secure said mask to the head of the user, sound conducting means projecting into said mask to conduct sound to the ears of the user, a compartment mounted within said mask to form a chamber between said mask and the mouth of the user and connected to said sound conducting means in communication therewith to receive sound created by the user and to direct the sound to said sound conducting means, a diaphragm disposed within the chamber of said compartment, and a perforated cover mounted on said compartment confronting the mouth of the user.

3,259,205
MECHANICAL DEVICE FOR IMPROVING HEARING
Irvine L. Dubow, 117 Riverwood, Little Falls, Minn.
Filed Oct. 8, 1965, Ser. No. 494,072
9 Claims. (Cl. 181—23)



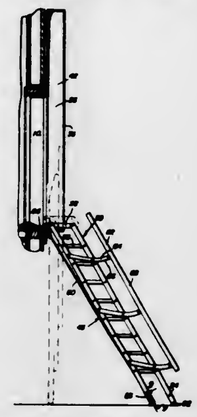
1. A mechanical device for improving hearing comprising a tapered housing, a membrane dividing said housing into two passages each having a relatively small end and a relatively large end, said relatively large end being connected for the transfer of sound energy from one passage to the other, means for introducing sound energy into one of said passages adjacent its smaller end, and said passages having at least one opening for removing sound energy from said housing.

3,259,206
EXHAUST PIPE SILENCER WITH SIDE BRANCH CHAMBERS AND BAFFLED ELBOW SECTIONS
Eldred G. Straw, Grass Lake, Mich., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed June 18, 1964, Ser. No. 376,108
3 Claims. (Cl. 181—59)



2. In an exhaust conduit for conducting exhaust gases from an automotive engine, a hollow tube providing a passage for exhaust gas, said tube having a bent section providing a gas passage section that is not straight, said bent section having a concave side and a convex side, the concave side of said tube bent section having a triad of inwardly extending projections one of which extends crosswise of the tube and a pair of which extend lengthwise of the tube and are located respectively at opposite ends of said crosswise projection, said projections being adapted to restrict the flow of exhaust gases through the tube and increase the turbulence of the gases to remove sound energy from the gases and improve the sound attention of the tube.

3,259,207
FOLDING FIRE ESCAPE STAIRWAY
William A. Schoeffler, 4011 California Ave., Carmichael, Calif.
Filed Oct. 1, 1964, Ser. No. 400,677
7 Claims. (Cl. 182—96)

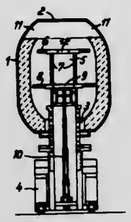


1. In combination with a wall structure having an exit opening formed therein elevated above a support surface disposed below said opening on the outside of said wall structure and extending away from the latter at least one-third the distance said opening is elevated above said surface, a folding fire escape stairway assembly including open bottom upstanding housing means secured to the outer surface of said wall structure defining a pair of upstanding guides on opposite sides of said opening, an elongated stairway structure including two pairs of longitudinally extending and generally parallel opposite side members, a plurality of vertically spaced generally horizontally disposed tread members pivotally secured between said pairs of opposite side members forming a parallelogram linkage system with said stairway structure movable between a collapsed position with the corresponding side members on each side of the stairway structure spaced closely adjacent each other and said stair treads also disposed closely adjacent each other and an extended position with said corresponding side members and also said stair treads spaced apart, said structure being telescopingly receivable upwardly through the bottom of said housing only when in a collapsed condition, means carried by the upper end of said stairway structure engageable with said housing means when said stairway structure is in the extended position and inclined downwardly and outwardly away from the lower portion of said exit opening and operable to support said upper end of said stairway structure from said housing means, the uppermost tread of said stairway structure being generally horizontally disposed and aligned with and spaced outwardly of the lower extremity of said opening when said stairway structure is in the extended and downwardly and outwardly inclined position.

3,259,208
APPARATUS FOR LINING OF METALLURGICAL FURNACES, PARTICULARLY CONVERTERS
Hugo Behr, Essen, Germany, assignor to Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung, Essen, Germany, a corporation of Germany
Filed Oct. 13, 1964, Ser. No. 403,529
Claims priority, application Germany, Nov. 8, 1963, B 74,187
3 Claims. (Cl. 182—128)

1. An apparatus for lining of a metallurgical furnace which has a bottom opening of a larger diameter than the top of said furnace, comprising

a main working platform having an outer diameter substantially complementary to said bottom opening of said furnace,
means for lifting and lowering said main working platform,
the latter having a large unobstructed opening adapted to pass lining material therethrough into said furnace, and



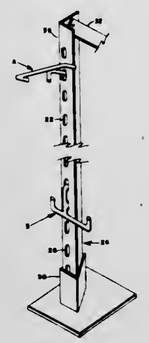
an auxiliary working platform smaller than said main working platform, and adapted to fit into the top of said furnace,
said auxiliary platform being received in and liftable from said main working platform and having an unobstructed opening smaller than that of said main working platform, said smaller opening being adapted to pass lining material therethrough into said furnace.

3,259,209

LADDER

Charles C. Brown, Groves, Tex., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 7, 1964, Ser. No. 365,591
8 Claims. (Cl. 182—189)



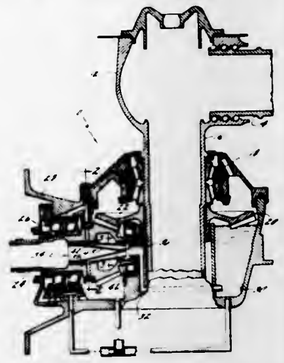
3. A detachable step for use in a ladder assembly, said step having only a single hanger means in the form of a U-bend and adapted for supporting an unbalanced load substantially without rotational movement comprising shank means having a U-bend at one end thereof and load receiving means at the other end thereof for receiving an unbalanced load, stud means extending from said shank means at an intermediate position along the length thereof, said stud means projecting from said shank means on the same side of said shank means as said U-bend and on the same plane as said U-bend, said plane being substantially perpendicular with respect to said load receiving means.

3,259,210

LUBRICATION PUMP

Donald L. Beebe, West Granby, and Ernest B. Gardow, Granby, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 16, 1964, Ser. No. 360,336
4 Claims. (Cl. 184—6)



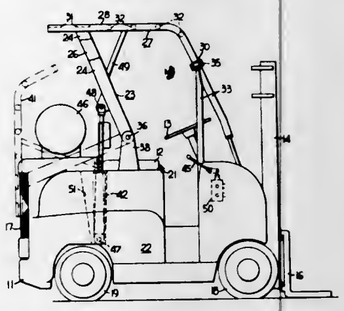
1. A self-contained lubrication system for a gear box having a rotating gear, an integral hollow shaft projecting rearwardly from said rotary gear, a frusto-conically shaped element centrally disposed in said hollow shaft defining with the inner wall of said gear a cavity portion, radially extending vanes in said cavity portion attached to said frusto-conically shaped element, a plurality of spaced radially extending holes in said hollow shaft communicating with said cavity portion, a stationary transfer bearing surrounding said holes, and in close sliding relation to the outer peripheral surface of said hollow shaft, a plurality of recesses formed in the outer peripheral surface of said hollow shaft communicating with said holes, diffuser means formed in said transfer bearing intermittently registering with said recesses for leading fluid to the members intended to be lubricated, and means for leading fluid to said hollow shaft.

3,259,211

RETRACTABLE OVERHEAD GUARD

Neil J. Ryskamp, Markham, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed July 20, 1964, Ser. No. 383,876
11 Claims. (Cl. 187—9)



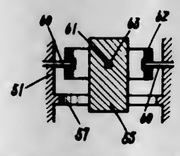
9. In a lift truck, the combination comprising:
a chassis, a vertical mast assembly,
an operator's seat mounted on said chassis,
an overhead guard pivotally connected on a transverse pivot axis to said chassis at opposite lateral sides of said seat for vertical swinging movement between raised and rearwardly retracted positions,
support structure rearward of said mast assembly and forwardly of said seat including upright supports rigidly secured to laterally opposite sides of said chassis and extending upwardly to a height less than the height of said guard in its upright position,
a forwardly and downwardly extending part on said guard in vertical load transmitting relation to said support structure in the raised position of said guard and
power means interconnected between said chassis and said guard and selectively operable to pivot said guard between its raised and retracted positions,
said guard in its retracted position being of less height than in its raised position.

3,259,212

METHOD AND APPARATUS FOR DAMPING THE VIBRATION OF POLES

Kunio Nishioka, Kyoto, Kyoto, Seiichi Nishimura, Nishinomiya, Hyogo, Susumu Hamahata, Amagasaki, Hyogo, and Suguru Sakamoto, Fuse, Osaka, Japan, assignors to Sumitomo Metal Industries Limited, Osaka, Japan, a corporation of Japan

Filed July 1, 1964, Ser. No. 379,506
Claims priority, application Japan, July 5, 1963, 38/35,711; Sept. 2, 1963, 38/66,352; Dec. 30, 1963, 38/71,657
7 Claims. (Cl. 188—1)



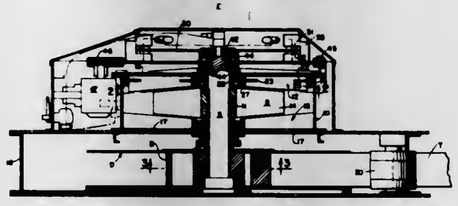
1. Apparatus for damping vibration of a structural member comprising a pendulum, means secured to said structural member for suspending said pendulum for free swinging motion in any direction, stopper means secured to said structural member and positioned to permit said pendulum to strike said stopper means upon said pendulum being displaced a predetermined angle.

3,259,213

FRICTION AND HYDRAULIC BRAKE FOR ARRESTING GEAR MEANS

Charles J. Daniels, 908 Hillside Road, and Howard S. Green, 105 Holland Drive, both of Wilmington, Del., and Meridith C. Wardle, Box 502, Ring Road, Chadds Ford, Pa.

Filed Oct. 9, 1964, Ser. No. 402,699
3 Claims. (Cl. 188—86)



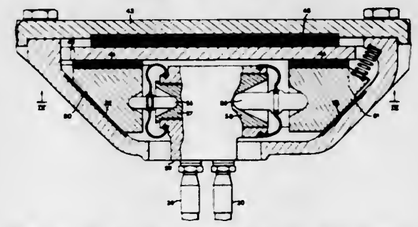
1. In a hydraulic rotary arresting engine including
an enclosing casing and supporting base,
a liquid filled housing on said base in said casing,
a tape storage drum in the supporting base below the said housing,
a vertical shaft,
said drum being mounted on the lower portion of said shaft,
vertically spaced bearings mounted centrally of said housing and in said base vertically below said housing,
said vertical shaft being journalled to revolve in the respective vertically spaced bearings,
said shaft having
a first extension in said base secured to said tape drum,
a paddle wheel likewise secured to said first shaft extension in said housing,
angularly adjustable stator vanes vertically adjacent said paddle wheel journalled in means on the wall of said housing,
a second extension of said shaft projecting exteriorly of the top of said housing,
a disc secured to said second shaft extension and rotatable therewith above the housing,
a brake engageable with said disc,
vane control means for angularly moving said vanes, and
brake control means for operating said brake into engagement with said disc.

3,259,214

SELF-ENERGIZING, SPOT TYPE BRAKE MEANS

Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, a corporation of France

Filed May 21, 1964, Ser. No. 369,213
Claims priority, application France, May 25, 1963, 936,017
23 Claims. (Cl. 188—152)



1. A brake or the like, especially for automotive vehicles, comprising a rotating member fast for rotation with a wheel, a first gripping jaw, a second gripping jaw comprised of at least one part, said jaws being nonrotatably disposed on each side of said rotating member with freedom of movement in the gripping direction for the purpose of braking, said first jaw having a circumferential or tangential degree of freedom with a mean direction perpendicular to the axis of said wheel, said second jaw having a circumferential or tangential degree of freedom with respect to the first jaw and having a travel limited with respect to the first jaw, a fixed cylinder device comprising two pistons coupled to said second jaw, a hydraulic control device to supply fluid under pressure to at least one of said pistons for the purpose of braking, whereby the braking action produced by said one piston generates a braking reaction, and means for transmitting said braking reaction from said one piston through said first jaw to the other said piston.

3,259,215

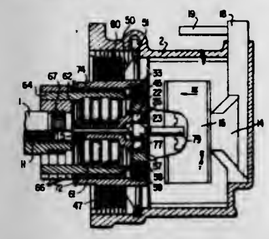
ELECTROMAGNETICALLY OPERATED BRAKING DEVICES

Nobert Riedel, Hochbucherweg 45, Lindau (Bodensee), Germany, and Rudolf Schubert, Lindau (Bodensee), Germany; said Schubert assignor to said Riedel

Filed June 22, 1962, Ser. No. 204,521
Claims priority, application Germany, June 23, 1961, R 30,598; Oct. 14, 1961, R 31,290
15 Claims. (Cl. 188—161)

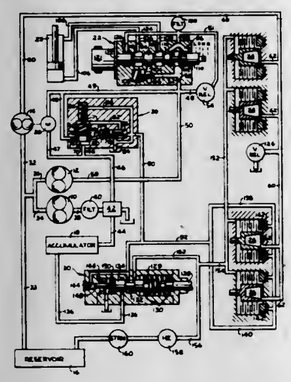
1. A braking device for a rotatable member comprising braking means adapted to be operatively connected to said member, means including servo means operatively

connected with said braking means for control thereof, said servo means including a rotary key member having an exterior peripheral surface and clamping means including a plurality of movable clamping members operatively connected with said rotatable member, said clamping means further including rotary clamping bodies engaging said peripheral surface, means including locking



means for said rotary key for moving said rotary clamping bodies into positions abutting said clamping members wherein said clamping members are pressed radially outwardly by said rotary clamping bodies into operative engagement with said braking means, and means including stationarily fixed electro magnetic means controlling said locking means.

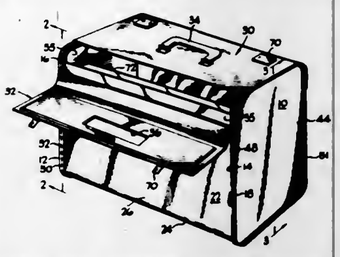
3,259,216
BRAKE COOLING SYSTEM
Frederick C. Klaus, Lockport, and Jackson C. Medley, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Aug. 18, 1964, Ser. No. 390,392
7 Claims. (Cl. 188—264)



1. A brake cooling system comprising, selectively operable means for establishing communication between a source of pressure fluid and a brake to cause actuation of the brake, fluid pressurizing means for providing cooling fluid flow to the brake, a fluid motor for driving said fluid pressurizing means and operable simultaneously with said selectively operable means, and a valve element operable in response to said selectively operable means for directing pressure fluid derived from said source to said fluid motor and thus cause operation of said fluid pressurizing means.

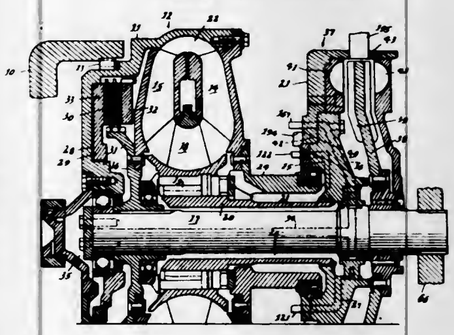
3,259,217
CARRYING CASE
Sidney Platt, Highland Park, Ill., assignor to Platt Luggage, Inc., Chicago, Ill., a corporation of Illinois
Filed May 21, 1965, Ser. No. 457,623
7 Claims. (Cl. 190—48)

1. A carrying case adaptable for transporting relatively heavy contents comprising opposed molded generally rectangular end shells having rounded corners and being fabricated of relatively rigid material, said end shells each being provided with a peripheral flange which extends outwardly therefrom around substantially the entire periphery of the shell and is reversed upon itself to define an inwardly facing channel, a unitary U-shaped member defining a bottom wall and a pair of side walls, a reinforcing panel secured to the bottom wall, said unitary member having its opposed ends including opposed ends of said reinforcing panel secured within said opposed channels to connect said end shells and cooperate therewith to define an open-topped generally rectangular enclosure, a pair of pivotally mounted overlapping lid pieces



each having a side extension curving around the upper side edges of said case and respectively secured to said side walls of said unitary member, means for pivotally securing each of said lid pieces to its respective side wall along a region spaced downwardly from the top of said side wall, said lid pieces being curved so as to seat on the arcuate flanged corners and the upper flanged portions of said end shells when said lid pieces are in a closed position, means for structurally reinforcing said lid pieces, a lifting handle rigidly secured to one of said lid pieces, and means defining a hole adapted for receiving said handle therethrough in said other lid piece when said lid pieces are in a closed position.

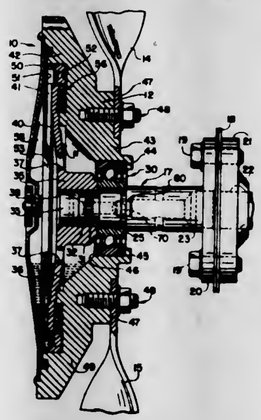
3,259,218
POWER TRANSMISSION
James B. Black, James J. Jameson, and Joseph B. Snoy, Rockford, Ill., assignors to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 25, 1963, Ser. No. 267,402
7 Claims. (Cl. 192—3.5)



1. In a power transmission including an hydraulic torque converter having an impeller arranged for connection to a power source, a turbine and a stator cooperably related to form a toroidal circuit, a shaft connected to the turbine, an hydraulically actuated, friction plate, lockup clutch engageable to connect the impeller and turbine to provide direct drive to the turbine shaft, a plurality of constant mesh, gear trains having respectively different gear ratios and connection with the turbine shaft and a load shaft, and a plurality of hydraulically actuated,

friction plate clutches associated with the gear trains, the combination of an hydraulic system including a pressure liquid source, the toroidal circuit, lockup and gear train clutches, a selector valve movable to connect the pressure liquid source with a selected gear train clutch, means shiftable between positions disconnecting and connecting the pressure liquid source from and to the lockup clutch to provide converter and direct drive through the transmission, respectively, comprising a lockup valve, spring means acting against one end of and biasing the lockup valve to the position disconnecting the pressure liquid source from the lockup clutch at one determined speed of the turbine shaft, liquid pressure generating means whose presssure output is responsive to turbine shaft speed, and an uncontrolled passage connecting with the output of the liquid pressure generating means for supplying pressure to the opposite end of the lockup valve to move the same to the position connecting the pressure liquid source to the lockup clutch at a higher turbine shaft speed.

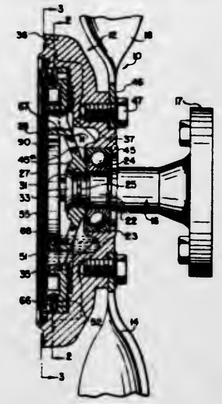
3,259,219
VISCOUS COUPLING
Keith A. Boyd, Mount Clemens, Mich., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 14, 1963, Ser. No. 315,973
11 Claims. (Cl. 192—58)



3. A drive coupling comprising a first coupling member defining a fluid operative chamber, a second coupling member rotatable relative to said first coupling member in said fluid chamber, a shaft member operatively connected to said second coupling member for rotating said coupling member upon rotation of said shaft member, and vent means for venting said fluid operating chamber to the atmosphere surrounding said fluid coupling and including a vent passageway in said drive shaft member and extending axially thereof and communicating with said fluid operating chamber and with the atmosphere, and means located in said vent passageway and blocking flow of fluid through said vent passageway and operable to open said vent passageway at a predetermined temperature.

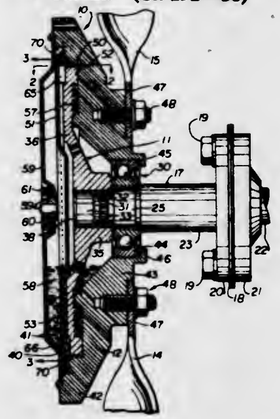
3,259,220
ROTATABLE COUPLING
Daniel W. Roper, Rochester, Mich., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 25, 1964, Ser. No. 347,135
15 Claims. (Cl. 192—58)

3. A fluid coupling of the shear type including first and second coupling members, said first coupling member defining a fluid reservoir chamber, said second coupling member defining a fluid operating chamber in which said first coupling member is rotatable, said first and second coupling members having opposed spaced parallel surface portions defining therebetween a fluid shear space forming a portion of said operating cham-



ber, fluid passageway means communicating said fluid reservoir chamber with a portion of said fluid operating chamber adjacent to said shear space, and pump means operatively associated with said first coupling member for maintaining the fluid in said operating chamber in the shear space portion thereof.

3,259,221
VISCOUS COUPLING
Ward L. Godfrey, Bellevue, Mich., assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 2, 1964, Ser. No. 348,546
9 Claims. (Cl. 192—58)



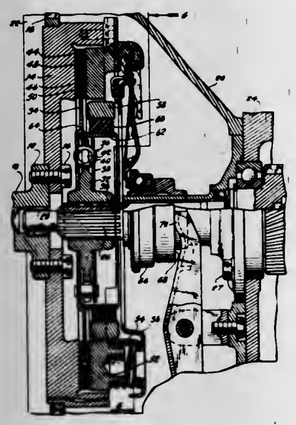
1. A fluid coupling of the shear type comprising a first coupling member defining a fluid working chamber, a second coupling member rotatable in the fluid working chamber, said second coupling member having fluid working chamber portions on the opposite axial sides thereof, one of said working chamber portions being defined by opposed spaced surfaces on said first and second coupling members and providing a fluid shear space therebetween, said opposed spaced surfaces being cooperable with the fluid shear medium in the shear space to transmit torque between the coupling members and means defining a plurality of notches in the outer periphery of the second

coupling member and each of which have a length and width with the length being substantially less than the circumference of the second coupling member and which intersect one axial side only of said second coupling member and terminate at their intersection with said one axial side.

3,259,222
FRICTION CLUTCH WITH VIBRATION DAMPER

Zbigniew J. Jania, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Sept. 1, 1964, Ser. No. 393,559
5 Claims. (Cl. 192—68)



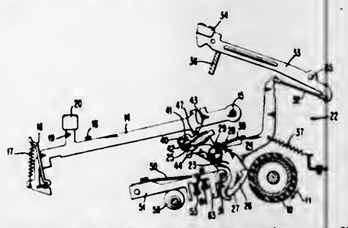
1. A friction clutch assembly in a torque delivery driveline comprising a driving member, a driven member, said driving member being connected to a source of torque, a friction disc having friction surfaces formed thereon, a pressure plate, means for urging said pressure plate into frictional driving engagement with said friction disc thereby establishing a frictional driving connection between said driving member and said clutch plate, damper spring means for connecting the inner periphery of said drive plate with said driven member, an energy absorbing flywheel in the form of a mass radially spaced from the axis of said driven member, and a rubber member bonded to said flywheel and to portions of said disc thereby establishing a viscous connection between said flywheel and said discs, said flywheel and said damper spring means cooperating with the torque delivery elements of said clutch system to provide positive, hysteretic damping of vibration forces established during clutch engagement thereby achieving asymptotic stability of the system.

3,259,223
IMPRESSION CONTROL APPARATUS EMPLOYING TWO SETS OF STOPS

William A. Heidt and Neil D. Walton, Lexington, Ky., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Sept. 21, 1964, Ser. No. 397,701
9 Claims. (Cl. 197—17)

1. A power driven typewriter having a plurality of type elements;
a continuously rotating power roll;
a plurality of rockable cams associated with said type elements;
keyboard means responsive to operator actuation operative to move a rockable cam corresponding to a selected character into driven relation with said power roll to impart a driving force to the associated type element;
means to disengage said rockable cams from said power roll to limit the driving forces imparted to said type elements;
said means to disengage comprising a first stop member having a first group of stops thereon;
a second stop member having a second group of stops thereon;
operator controlled means mounting said first and second groups of stops for relative movement of said first and second groups with respect to each other through a range of movement;

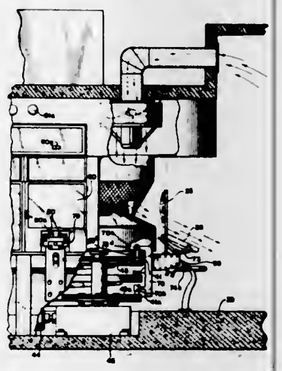


said second stop group being operative to disengage said rockable cams during the latter portion of said range of movement; and
said second stop group defining means for limiting the maximum driving forces imparted to at least a portion of the type elements while permitting further adjustment in the driving forces imparted to other type elements.

3,259,224
SENSING DEVICE FOR COLOR TUBE APPARATUS

Raymond J. Pekosh, Chicago, Ill., assignor to The Rauland Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 25, 1964, Ser. No. 392,010
8 Claims. (Cl. 198—19)

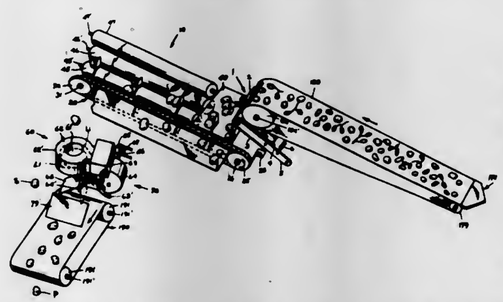


1. In cathode-ray tube processing apparatus having a conveyor transporting a multiplicity of workholders through a plurality of work stations, a control system comprising:
a probe, for sensing the presence of a cathode-ray tube component within a workholder, supported adjacent said conveyor and movable from a rest position to a fully actuated position which it may assume only if the workholder being sensed does not contain a cathode-ray tube component;
an actuator for yieldably advancing said probe from said rest position towards said actuated position;
means for energizing said actuator in timed relation to the movement of said conveyor to effect sensing of one of said workholders by said probe;
a control member for each of said workholders, movable with said conveyor, and displaceable into a position to control the processing function conducted in at least one of said work stations;
and means, responsible to the position attained by said probe during sensing, for determining the position of the control member associated with the workholder, instantaneously sensed by said probe.

3,259,225
MARSHALLING APPARATUS

Henry C. Lehde, Northport, N.Y. (P.O. Box 415, Midway City, Calif.), and John J. Dickerman, 22 Oak St., Northport, N.Y.

Original application Feb. 16, 1960, Ser. No. 8,649, now Patent No. 3,200,888, dated Aug. 17, 1965. Divided and this application Feb. 25, 1963, Ser. No. 268,209
17 Claims. (Cl. 198—30)



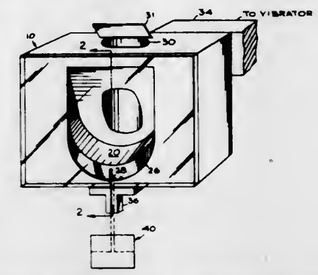
1. Apparatus for marshalling and advancing objects of varied shape and size into a single file column and in individually spaced order, including in combination; a receiving area to which the objects are supplied, an object guiding and supporting trough of generally V-shaped cross-section which extends longitudinally at an upwardly inclined angle from said receiving area, said trough being defined between an upper quarter surface of a substantially cylindrical tumbling roll of substantially uniform diameter and an adjacent guide surface extending parallel to the longitudinal and upwardly inclined axis of said tumbling roll, a column of spaced object advancing elements each designed to overlap the object supporting quarter surface of said tumbling roll and having a transverse width which is not substantially more than the transverse width of said trough, means for driving said column of spaced object advancing elements through the receiving area and along said trough to thereby withdraw objects from the receiving area and advance the withdrawn objects along said trough, means for rotating said upwardly inclined tumbling roll while the objects are being advanced by said spaced advancing elements along the upwardly inclined trough to thereby tumble the advanced objects in a manner to effectuate lateral ejection of all but one of the objects from the advancing influence of each object advancing element, and an object return surface positioned along one side of said trough and extending at a substantially corresponding downwardly inclined angle for conducting ejected objects to said receiving area for recycle.

3,259,226
ARTICLE HANDLING APPARATUS

Michael P. Peratis, Inglewood, Calif., assignor to Ampex Corporation, Culver City, Calif., a corporation of California

Filed Feb. 5, 1965, Ser. No. 430,547
3 Claims. (Cl. 198—33)

1. In a core handling apparatus, a block having a recess extending into a vertically disposed front surface thereof; a forwardly and downwardly sloped core storage surface in said recess defining an upper end and a lower end proximate to said front surface; a face plate; means securing said face plate to said vertically disposed front surface opposite to said recess; said vertically disposed front surface having a relieved portion having a dimension substantially equal to the thickness of one of said cores and extending from said lower end of said storage surface

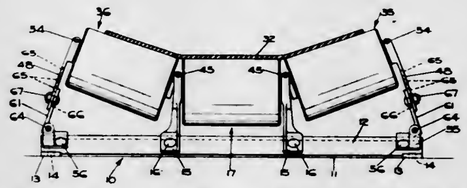


and terminating in a U-shaped substantially horizontally oriented surface thereby defining a core orienting region between said face plate and said relieved portion; and a discharge opening defined in said core orienting region having respective cross-sectional dimensions substantially equal to the thickness and diameter of said cores.

3,259,227
ADJUSTABLE TROUGHING IDLER

Walter C. Steinmetz, Columbus, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio

Filed Nov. 4, 1963, Ser. No. 321,044
6 Claims. (Cl. 198—192)



1. In an idler assembly having an idler roll disposed on an inclined axis, a base for said idler assembly, an upstanding support on said base, a bracket for supporting one end of the idler roll on said upstanding support, a roll pin securing said bracket to said upstanding support and forming a pivotal connection to pivotally mount said bracket on said upstanding support to permit the inclination of said idler roll axis to be varied, a depending leg at the other end of the idler roll, a roll pin securing said depending leg to said other end of the idler roll and forming a pivotal connection of the depending leg to the idler roll, a second support on said base for said other end of the idler roll, an upstanding leg adapted to be secured to the depending leg, a roll pin securing said upstanding leg to said second support and forming a pivotal connection of the upstanding leg to said second support, and means for securing said depending leg to the upstanding leg at a selected one of several positions to thereby selectively set the inclination of the axis of the idler roll.

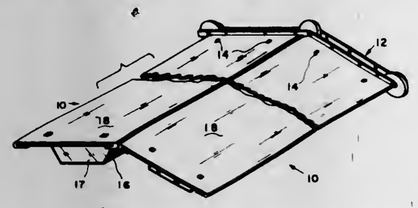
3,259,228
CONVEYOR SLAT FOR BULK HANDLING OF TOBACCO

Edwin L. Wilding, Louisville, Ky., assignor to Griffin Industries, Inc., Louisville, Ky.

Filed July 27, 1964, Ser. No. 385,250
4 Claims. (Cl. 198—195)

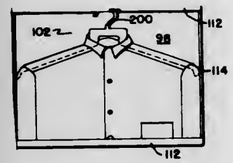
1. A conveyor comprising; spaced parallel support rails, conveyor chain means on each side of said conveyor and adapted to be moved over said support rails and

comprising a plurality of link members having holes in the ends thereof, link pins in said holes pivotally joining the ends of adjacent links, a flange roller rotatably mounted on each said link pin and adapted to roll over a respective one of said support rails, a plurality of slat members extending from side to side of the conveyor between said chain means, each said slat member being generally U-shaped in cross section and opening upwardly and having flange portions extending laterally outwardly from the upper ends of the legs thereof in a common plane, a generally planar surface



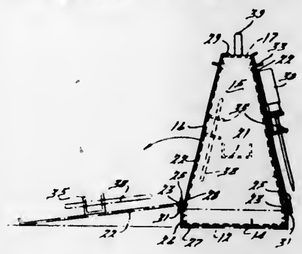
member with each opposed side thereof having a reverse bend therein to provide a recess in which the pertaining said flange portions are secured, and means connecting the ends of said slat members with said chain means between a pair of said rollers, the side edges of each said slat member being in substantially abutting engagement with the side edges of the adjacent slat members to form a continuous apron for handling bulk materials the region of abutment of adjacent ones of said slats being stubstantially axially aligned with the axes of the supporting rollers of said flange rollers.

3,259,229
GARMENT PACKAGE
Lawrence A. Brittingham, Philadelphia, Pa., assignor to Cluett, Peabody & Co., Inc., Troy, N.Y., a corporation of New York
Filed Dec. 31, 1963, Ser. No. 334,804
4 Claims. (Cl. 206—7)



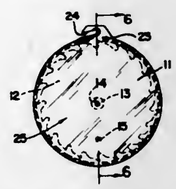
4. The combination of a garment box with a garment hanger having a hook portion, said box comprising a body portion and an integrally formed side portion, said side portion having a substantially rectangularly-shaped channel construction including an inner wall and an outer wall, said inner wall having spaced apertures defined by edges within said inner wall and forming a support member therebetween, said support member extending substantially vertically of said inner wall and having a width along said inner wall corresponding to a cord of the inner arc of said hook portion, a hook portion of a garment hanger positioned in said apertures and on said support members, said edges of said inner wall engaging the arc portion of said hook at separated points to limit movement of said hook portion in the direction along said inner wall when said hook portion is positioned in said apertures and on said support member, said inner wall and said outer wall being spaced to receive said hanger hook therebetween and to limit movement of said hanger hook in a direction away from said support member.

3,259,230
TOOL BOX
Louis F. Jaeger, 3215 Garden, Royal Oak, Mich.
Filed June 10, 1964, Ser. No. 374,112
8 Claims. (Cl. 206—16)



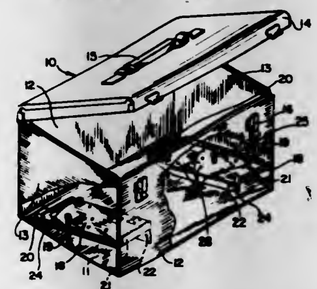
1. In a tool box, a housing having a floor, at least one upwardly extending stationary wall, and at least one wall removably mounted on said housing and placeable in either of two reversed positions, said last-mentioned wall having a tool rack on one surface thereof, said tool rack comprising a channel shaped member having its web portion secured to said last-mentioned wall and its upper and lower flange portions provided with a series of aligned apertures for removably supporting tools, the tool rack facing the interior of the housing in one of said positions and facing outwardly in the other position.

3,259,231
PACKAGE FOR ARTICLE OF MANUFACTURE
Henry J. Romanowski, Towson, Ernest C. Ashauer, Baltimore, and Charles B. Pittinger, Reisterstown, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Aug. 17, 1964, Ser. No. 390,097
5 Claims. (Cl. 206—16)



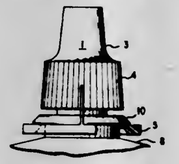
5. A package for an article of manufacture, as for example a saw blade having promotional and instructional printing thereon, said package comprising:
(a) a pair of members releasably joined together with the article enclosed therebetween, whereby the article may be readily removed from the package, and whereby the package is continuously reusable;
(b) one of said members constituting the cover for the other member; said one member being transparent, whereby the article with its printing is readily visible;
(c) means joined to at least one of the members for suspending the package from a suitable support, whereby the package may be attractively merchandised and easily selected by the customer;
(d) means supporting the article between the members, whereby, with the package held in a vertical position, the article will be supported against substantial vertical movement within the package; and
(e) an element formed on at least one of the members; said element being received in a cooperating aperture means formed in the article; said element and cooperating aperture means being spaced from said last-named supporting means, whereby the article is prevented from moving circumferentially about said supporting means as a pivot point, and whereby the article with its printing is at all times oriented with respect to the package.

3,259,232
KIT BOX WITH IMPROVED MEANS FOR RETAINING A PORTABLE POWER-OPERATED SAW OR OTHER TOOL
Donald E. Elson, Baltimore, and Claudius C. Elmore, Jr., Timonium, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Sept. 1, 1964, Ser. No. 393,522
6 Claims. (Cl. 206—16)



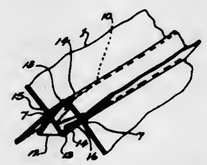
1. In a kit box a portable power-operated saw having a substantially-flat shoe plate, the improvement in means to retain the saw within the box, which comprises:
(a) shelf means secured within the box, whereby the shoe plate of the saw is supported on said shelf means;
(b) a pair of headed bumpers secured at respective ends of said shelf means and engaging respective parallel edges of the shoe plate retaining the shoe plate longitudinally and vertically relative to said shelf means;
(c) at least one of said bumpers being provided with resilient means about its body portion;
(d) means engaging the respective parallel side edges of the shoe plate preventing substantial movement of the shoe plate in the transverse direction; and
(e) whereby to lift the saw out of the box, the shoe plate is moved transversely to disengage said last-named means and longitudinally to compress said resilient means of said one bumper to enable the shoe plate to be slightly tilted and thereafter to clear the other of said bumpers.

3,259,233
CONTAINER CLOSURE
Everett C. Beeman, Wallingford, Conn., assignor to Monsanto Company, a corporation of Delaware
Filed Sept. 9, 1963, Ser. No. 307,630
3 Claims. (Cl. 220—27)



1. In a combination including a closure and a container having a body and an externally threaded outlet neck, the improvement comprising:
an internally threaded closure body;
a resiliently distensible ring spaced axially below said closure body and having an opening generally axially aligned with said closure body;
flexible connecting means integral with and projecting outwardly from side portions of said closure body and laterally downwardly toward said ring so as to support said ring;
abutment means having an external dimension transverse of the axis of said closure which exceeds the size of the opening in said ring, said abutment means being located on said container below said neck;
said abutment means comprising a first planar locking surface facing downwardly and a first camming surface flaring upwardly and inwardly from said first locking surface;
said ring including a second planar locking surface facing upwardly and a second camming surface flaring downwardly and outwardly from said locking surface;
said ring being adapted to snap over said abutment means and lock therebelow during assembly of said closure on said container, with said abutment means removably retaining said ring on said neck subsequent to the breaking of said connecting means to effect the removal of said closure.

3,259,234
FLOWER BLOSSOM SHIPPING AND DISPLAY CONTAINER
Marvin L. Wood, 9494 Kenwood Road, Cincinnati, Ohio
Filed Feb. 18, 1965, Ser. No. 433,566
5 Claims. (Cl. 206—45.14)



2. A first blank adapted to be engaged with a second blank identical with said first blank in order to form a flower shipping and display container, said blank comprising
a flat oblong piece of flexible material of sufficient stiffness that it can remain in an upright position when stood on end, there being a large oval opening centrally located in said blank;
two pairs of slits cut in said blank to provide means to interlock two such blanks to form said container, namely, a first pair of slits parallel to each other and extending inwardly from the periphery of said blank toward said centrally located opening and a second pair of slits parallel to each other and extending outwardly toward the outer periphery of said blank;
each of said slits being parallel to an axis bisecting said blank along its length and each of said slits being offset from said axis by substantially equal amounts;
and lobes located at the four corners of said blank.

3,259,235
TEARABLE SHRINK FILM COVER INCLUDING INTEGRAL PULL TABS
Ronald E. Sowle, Tomah, Wis., assignor of ninety percent to Vanpak Products, Inc., a corporation of Wisconsin
Filed Mar. 4, 1964, Ser. No. 349,371
16 Claims. (Cl. 206—46)

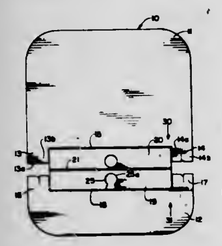
1. A shrink film cover including at least one pull tab, said cover comprising an enclosure member constructed of heat shrinkable film and adapted to receive therein an article to be packaged of a size and shape leaving at least one portion of the area enclosed by said closure member

unoccupied by said article, at least portions of said closure member defining said one portion being coated with



a shrinkage preventing coating adhered to said portions and defining said one pull tab.

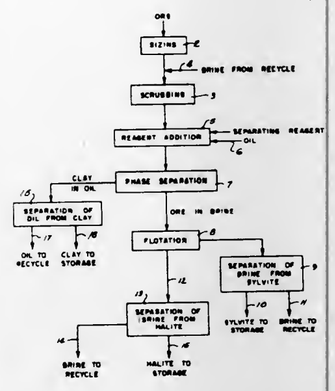
3,259,236
FLOWER PACKAGING
Nathaniel B. Cole, 100 Clive St., Metuchen, N.J.
Filed Aug. 17, 1965, Ser. No. 480,279
3 Claims. (Cl. 206—79)



1. A blank for forming a flower holder package, said blank being substantially rectangular and comprising two outer panels and two inner panels, all of said panels being separated from each other by score lines, said two inner panels being adapted to form a transverse, elongated pyramid between said two outer panels when said two outer panels are brought inwardly toward each other, and said inner panels being formed with holes which communicate with each other when said pyramid is formed so as to support a flower with the stem thereof extending through said holes.

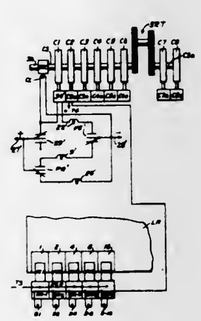
3,259,237
PHASE DESLIMING AND CONCENTRATION OF POTASH ORES
Edmund A. Schoeld and Clarence W. Egbom, Carlsbad, N. Mex., assignors to Potash Company of America, Carlsbad, N. Mex., a corporation of Colorado
Filed Apr. 22, 1963, Ser. No. 274,405
7 Claims. (Cl. 209—9)

1. In a method of preparing sylvinite ore having halite and sylvite components and clay slimes contaminants for ore dressing treatments, the steps of forming a slurry of the sylvinite ore charge in a brine carrier which is a saturated NaCl-KCl solution, subjecting the slurry to a scrubbing action for liberating the slimes, introducing a surface active reagent into said slurry passing from said scrubbing action in a quantity which renders the clay hydrophobic and oleophilic without rendering the sylvite oleophilic, at a next stage introducing an oil carrier into the brine containing the clay so treated and agitating the resulting oil and brine mixture, said oil being introduced in a quantity sufficient to form an upper phase of oil and clay and a lower phase of ore and brine, allowing the oil and clay in the brine to separate into an upper phase of oil and clay and a lower phase of ore and brine, and



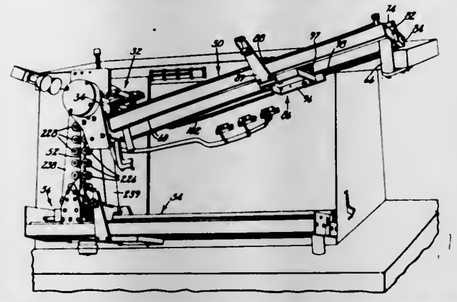
removing the upper phase of oil and clay from the lower phase of ore and brine.

3,259,238
CONTROL SYSTEM FOR SORTING MACHINE
Richard L. Swartz, Columbia, S.C., assignor to Universal Business Machines, Inc., Columbia, S.C., a corporation of South Carolina
Filed Mar. 3, 1964, Ser. No. 349,031
6 Claims. (Cl. 209—72)



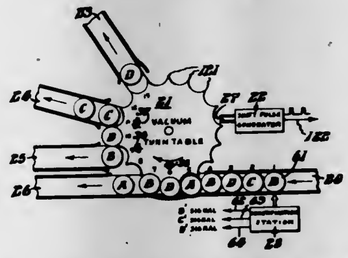
3. In an article-sorting machine for sorting articles carrying a destination code which may vary from article to article, and in which the articles are conveyed in succession along a trackway provided with a number of discharge gates for effecting removal of articles from the trackway at locations spaced along the length of the trackway, the combination of code sensing means located to sense the code on the articles as they are supplied to said trackway, first storage means for storing a first signal received from said sensing means, second storage means for storing a second signal received from said sensing means, switching means connecting said sensing means alternately to said first and second storage means, means actuated by said first storage means to apply said first stored signal to gate-operating means in one section of said trackway, and means actuated by said second storage means to apply said second stored signal to gate-operating means in another section of said trackway.

3,259,239
SHEET FEEDING DEVICES
Richard M. Elliott, Beverly, Ralph E. Hobbs, Jr., Salem, William B. Mercaldi, Beverly, and Robert C. Simmonds, Jr., Topsfield, Mass., assignors to Kimball Systems, Inc., a corporation of New York
Filed Jan. 17, 1961, Ser. No. 83,341
40 Claims. (Cl. 209—73)



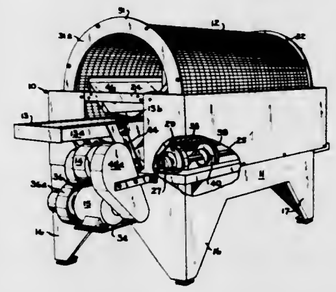
30. In apparatus for feeding statistical records having data coded thereon, means for feeding individual records along a defined path, means adjacent said path for sensing the data coded on each record as it is fed along said path, path selecting means at the end of the defined path including an oscillatable member having its axis of oscillation in said path, said member having two opposed substantially flat surfaces each forming an acute angle with and passing through the axis of oscillation of the member, and means for oscillating said member between two positions for presenting one or the other of said surfaces in the path of movement of the record, said oscillating means being adapted to be controlled in accordance with the significance of the data sensed by said sensing means.

3,259,240
ELECTRICAL COMMAND STORAGE AND DISTRIBUTION SYSTEM
Paul J. Schneider, 18 9th Ave., Haddon Heights, N.J.
Filed Sept. 30, 1963, Ser. No. 312,625
8 Claims. (Cl. 209—74)



1. In a system for sorting different types of unit articles; an identification station; input means for conveying different types of unit articles through the identification station for developing different identification signals according to the different types of articles; means for conveying said articles in unit steps away from said identification station along a main path; a plurality of branch exit paths at different junction points along said main path; means for developing unit electrical pulses having a timed relation to the movement of said articles through said identification station and along said main path; a plurality of electronic multi-cell shift registers each having the same number of unit cells, said number of cells corresponding to the number of steps along said main path between said identification station and one of the junctions of said branch exit paths with said main path; means for applying different identification signals to different shift registers as an input information signal; means for applying said developed unit pulses to said shift registers in parallel as shift pulses to shift the information signals through said registers in timed relation to the movement of said articles through said identification station and along said main path; means for taking output signals from different cells of said shift registers having cell positions in said registers corresponding to the step locations of the junctions of different branch exit paths along said main path; control means at the junction locations of said branch exit paths for controlling selectively the continued movement of said article along said main path or its divergence into the branch exit path; and means for applying output signals from said shift registers to said junction control means for controlling the continued movement of said article along said main path or its divergence into said branch path.

3,259,241
UNSNIPPED BEAN REMOVER
William N. Hughes, Columbus, Wis., assignor to Hughes Company, Inc., Columbus, Wis., a corporation of Wisconsin
Filed Jan. 21, 1965, Ser. No. 426,764
7 Claims. (Cl. 209—78)

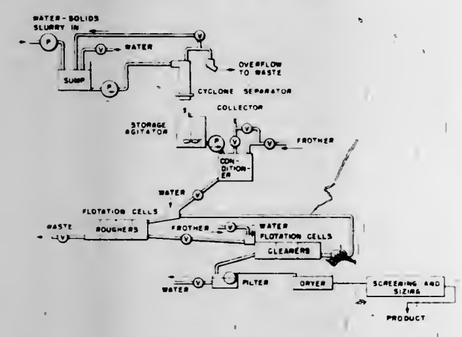


1. Apparatus for removing unsnipped beans from a mixed supply of snipped and unsnipped beans, comprising:
(a) a frame,
(b) a generally cylindrical-walled drum rotatably mounted on said frame and having a forward infeed end for receiving a mixed supply of snipped and unsnipped beans and a rearward discharge end,
(c) said drum having a plurality of rows of outwardly extending louvers providing substantially straight longitudinal edges and rear edges transverse to said substantially straight longitudinal edges in the wall of said drum whereby the unsnipped beans of said mixed supply of beans deposited in said drum hook on said substantially straight longitudinal edges in the wall of said drum, said longitudinal edges being substantially in the plane of the inner surface of the wall of said drum, said louvers being inclined from the wall of said drum in the direction opposite to the rotation of said drum,
(d) means for rotating said drum about its longitudinal axis,
(e) conveyor means extending through said drum for conveying unsnipped beans out of said drum,
(f) the rotation of the said drum causing the unsnipped beans hooked to the substantially straight longitudinal edges formed in the wall of said drum to be carried to a position above said conveyor means and to be deposited thereon for discharge from said drum.

3,259,242
BENEFICIATION OF APATITE-CALCITE ORES
Robert E. Snow, Lakeland, Fla., assignor to International Minerals & Chemical Corporation, a corporation of New York
No Drawing. Filed Nov. 29, 1962, Ser. No. 241,057
12 Claims. (Cl. 209—166)

1. A froth flotation process for beneficiating a macrocrystalline apatite-calcite mixture which comprises subjecting a mixture containing discrete particles of macrocrystalline apatite and calcite to cationic flotation at a pH below 7.0, and separately collecting a macrocrystalline apatite, as a float concentrate containing a substantially lower amount of calcite as compared to said mixture and a tailing containing a substantially higher amount of calcite as compared to said mixture.

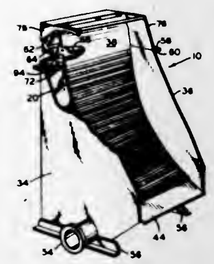
3,259,243
SILICON CARBIDE RECOVERY
William I. Watson, Berkeley, Calif., and Paul W. Glaser, Westwood, Mass., assignors to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed June 28, 1963, Ser. No. 291,483
6 Claims. (Cl. 209—166)



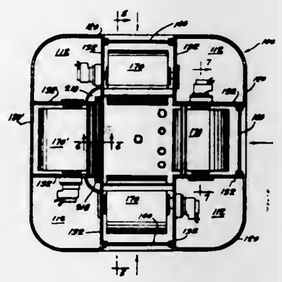
1. Method of recovering silicon carbide from a water-solids slurry, comprising the steps of
(a) adding to a water slurry containing silicon carbide particles, granite dust and iron chips, a frothing agent and an organic collector capable of selectively coating said silicon carbide particles thereby to impart hydrophobic characteristics to their surfaces;
(b) adding to the resulting conditioned slurry sufficient water to adjust the solids content to between 20 and 30%;
(c) extending the resulting diluted water-solids slurry with a gas thereby to form a froth having essentially only silicon carbide particles suspended therein;
(d) separating said froth containing said silicon carbide from the remaining liquid; and
(e) removing said silicon carbide particles from said froth.

3,259,244
SCREEN WITH OPEN CONDUIT FEED
Gvido Kaljo, New Rochelle, N.Y., and Paul L. Stavenger, Westport, and James C. Elsken, Stamford, Conn., assignors to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Jan. 31, 1963, Ser. No. 255,249
6 Claims. (Cl. 209—240)

3. Apparatus for separating particles according to size comprising: a concave bar screen having a feed end and a discharge end, each bar in said screen being spaced a predetermined distance from the next adjacent bars in said screen, an open feed box above said screen feed end, a weir in flow communication with said feed box having a substantially free-fall parabolic shape and being tangent to said screen feed end, means securing said screen feed end substantially flush with said weir to provide a continuous surface for the flow of feed material from said weir onto said screen, said screen curving outwardly from said weir with the discharge end of said screen being at an angle greater than 30° from the horizontal, and means supplying a feed material to said open feed box to overflow said weir.

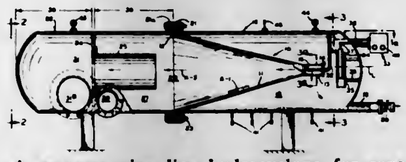


3,259,245
FLUID SEPARATION METHOD
Murdock M. Earle, Catonsville, Md., assignor to Surface Separator Systems, Inc., Baltimore, Md., a corporation of Maryland
Original application Sept. 18, 1962, Ser. No. 224,470. Divided and this application Nov. 17, 1965, Ser. No. 508,247
2 Claims. (Cl. 210—73)



1. A method of recovering a first of two stratified unconfined liquids comprising:
(A) passing a first partially immersed continuous collecting surface downwardly through the interface formed between the two liquids and upwardly from said interface,
(B) wiping one of said liquids from said collecting surfaces,
(C) passing said one liquid to a laterally confined sump at a first location, said sump having a portion of said two liquids therein but being enriched in said one of said liquids,
(D) passing a second partially immersed continuous recovery surface downwardly through said sump and through the interface formed between the two liquids in said sump and upwardly from the second mentioned interface,
(E) wiping said one liquid from said recovery surface, and
(F) passing said one liquid from the second mentioned wiping step to a recovery trough at a second location, thereby effecting substantially complete recovery of said one liquid.

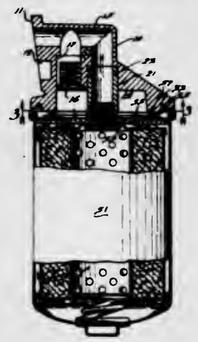
3,259,246
HYDROCYCLONES
Paul L. Stavenger, Westport, Conn., assignor to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed May 29, 1963, Ser. No. 284,072
2 Claims. (Cl. 210—195)



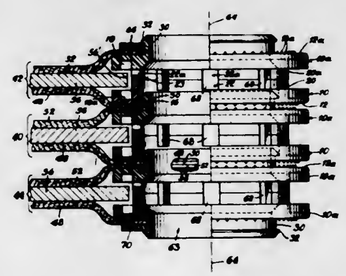
1. A pressure pipe line hydrocyclone for separating heavier materials from liquid capable of operating at line pressures of approximately 100 pounds per square inch or more, comprising in combination, a closed cylindrical pressure vessel having dome-shaped ends and a wall thickness designed to withstand said pressures, a conical hollow vortex member of substantially greater length than maximum diameter having a constricted underflow discharge apex end arranged coaxially of and wholly within said pressure vessel whereby the line pressures on either side of said vortex member are substantially equalized, said vortex member being spaced from the ends of the vessel with the periphery of its wide end engaging the vessel and dividing the same into a feed receiving and vortex forming chamber and into an underflow receiving chamber, a tubular vortex finder extending axially in said feed receiving and vortex chamber toward the wide end of said conical member forming an annnular zone between said finder and the wall of the chamber and operating to discharge the overflow fraction therethrough from said feed receiving and vortex chamber, a tangential inlet means constructed for connection to a pipeline for introducing the feed mixture under line pressure into the annular zone surrounding said vortex finder, with said underflow fraction being delivered through said constricted end into said underflow receiving chamber, and said overflow passing out through said vortex finder, underflow outlet means for discharging underflow material contained under pressure in said underflow receiving chamber, and overflow outlet means constructed for connection to the pipeline in communication with said vortex finder for discharging said overflow against line pressure, said conical vortex forming means having at its open end a lateral outlet and a transverse member beyond said lateral outlet preventing axial flow of said underflow discharged into said underflow receiving chamber, said lateral outlet and member being spaced sufficiently above the lowermost portion of the underflow receiving chamber to provide settling space therein below the lateral outlet, for the underflow, said member having an axially positioned liquid return opening therein, and a liquid return duct having an inlet end in said receiving chamber above and functionally remote from said lateral outlet, said duct having its other end connected to said return opening.

3,259,247
FILTER
La Vern R. Tietz, Racine, Wis., assignor to Walker Manufacturing Company, a corporation of Delaware
Filed Jan. 15, 1963, Ser. No. 251,635
1 Claim. (Cl. 210—444)

A filter base for attachment to motor vehicle engines and adapted to selectively receive either one of first and second type filters, said first type comprising an outer shell containing a filter element and a center tube externally threaded at one end and said second type comprising a throwaway housing permanently enclosing a filter element and having a bottom plate with an internally threaded collar, said filter base comprising a body having a filter receiving side, said side including a chamber, a passage in said body directly communicating with said chamber, and an outlet tube centrally located in and extending out of said chamber, said side including a relatively wide flat annular face forming a radially extending sealing surface surrounding said chamber and protruding from said side and located at substantially a right angle to the axis of the outlet tube, said side including an annular groove disposed radially inwardly from the outer periphery of said side and surrounding said annular face, said outlet tube being internally threaded to receive the threaded end of the center tube of said first type filter and said groove being located in alignment with the end of the outer shell of said first type filter when said center tube is threaded in said outlet tube whereby said shell end may be sealed by a gasket in said groove, said outlet tube being externally threaded to receive the threaded collar of said second type filter and said flat annular face being located in alignment with the bottom plate of said second type filter when said collar is threaded on said outlet tube whereby said bottom plate may be sealed by a gasket against said annular face.



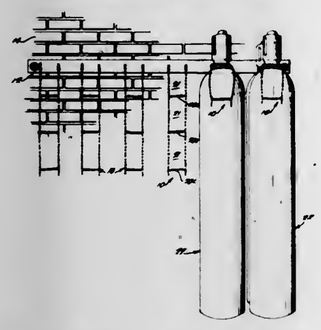
3,259,248
FILTER UNIT, CARTRIDGE AND COUPLING MEANS
Donald E. Wiegand, Minneapolis, Minn., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed Jan. 30, 1963, Ser. No. 254,870
25 Claims. (Cl. 210—487)



1. A coupling union comprising two sections, each having an opening therethrough, a first section having a body portion and a collar surrounding its said opening and extending axially of the opening from said body portion, said second section having its opening of size and shape slidingly to receive said collar, said second section having a body portion to oppose the body portion of said first section when said two sections are in assembled position

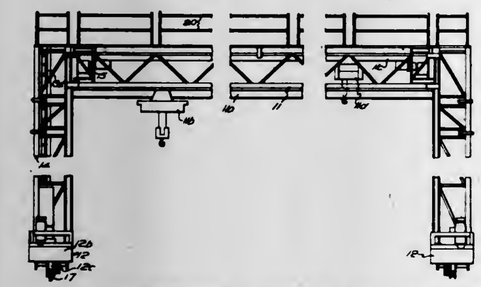
with said collar slidingly positioned within said opening of the second section, the external faces of the resulting assembly having means to interfit complementarily an external face on an additional one of said sections with at least one of said sections in said assembly at its external face, whereby a pile of such coupling unions may be formed.

3,259,249
HOLDING DEVICE FOR GAS TANKS AND THE LIKE
Vincent Robert Arts, Williston, N. Dak., assignor, by direct and mesne assignments, to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 28, 1963, Ser. No. 319,439
4 Claims. (Cl. 211—75)



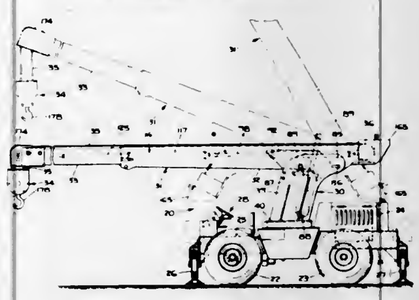
1. A device for holding at least one upstanding container having a reduced neck at its upper end in substantially upright position, comprising: flexible connector means and stretchable spring-like means connected to each other to form at least one circuit, means for attaching said circuit at its ends to a wall or the like at a height above a supporting surface corresponding to the height of the reduced neck of a container, said attaching means being spaced apart to provide two-point support for said circuit, said circuit being capable of passing partially around the neck of the container, said circuit being sufficiently short so that when said circuit is engaged partially around the neck of a container said spring-like means is in the stretched condition to hold the container in a substantially upright position.

3,259,250
CLIMBING GANTRY CRANE
Leslie Raymond Parker, Sale, England, and John Garty, Jr., Westercroft, Helensburgh, Scotland, assignors to Anderston Clyde Engineers Limited, Bolton, England
Filed Nov. 4, 1964, Ser. No. 408,882
Claims priority, application Great Britain, Nov. 5, 1963, 43,552/63; Feb. 12, 1964, 5,868/64
12 Claims. (Cl. 212—13)



1. A crane adapted to be erected in situ comprising a cross beam forming a runway for a lifting tackle, a pair of bogies disposed one at each end of said cross beam, and a plurality of openwork pillar sections adapted to be superimposed one upon another stage-by-stage over each of said bogies to build up end pillars upon which, throughout the full vertical extent thereof as existing from time to time, said beam is slidable and upon which said beam is carried, the beam and each said pillar section including at least one rack portion adapted to be engaged by a cooperating means on the beam, the said cooperating means holding the beam in any selected position throughout the length of the pillars, a driving mechanism associated with the said cooperating means, said driving mechanism being attached to the cross beam and operable to move the beam relative to the pillars.

3,259,251
EXTENSIBLE BOOM WITH TANDEM OPERATING CYLINDERS
Robert E. Stauffer, Galion, Ohio, assignor to Jeffrey Galion Manufacturing Company, a corporation of Ohio
Filed Dec. 26, 1963, Ser. No. 333,322
10 Claims. (Cl. 212—55)



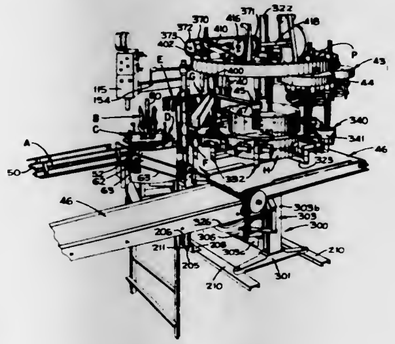
1. A crane structure comprising, a lower boom and an upper boom in which the upper boom is adapted to be extended and retracted relatively to the lower boom, power means for extending and retracting said upper boom, said power means including a first power unit and a second power unit arranged in tandem to apply the force of both power units to extend and retract the upper boom, and a flexible joint connection located between said power units and disposed in line with the tandem arrangement of said power units for connecting said power units to each other whereby said power units are yieldable relatively to each other.

3,259,252
ADJUSTABLE CUSHIONING ARRANGEMENT FOR RAILROAD CARS
William H. Peterson, Homewood, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Original application Jan. 21, 1963, Ser. No. 253,783, now Patent No. 3,224,386, dated Dec. 21, 1965. Divided and this application Mar. 22, 1965, Ser. No. 441,469
5 Claims. (Cl. 213—43)



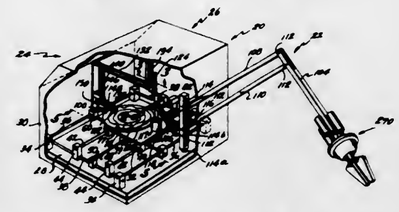
1. A long travel hydraulic cushion device for absorbing railroad car coupler impacts, said device comprising:
a cylinder having a closure means at one end,
a piston having a head disposed in the cylinder to define first and second variable members and having a piston rod in the first chamber,
said piston rod having a fluid passage,
a metering pin means extending from the closure means and projecting into the second chamber and comprising a pair of concentric relatively movable first and second tubular members reciprocably extendible through the piston head into said passage and defining a bore communicating with said passage,
each tubular member having port means for communicating with the other, the port means of one tubular member being spaced from the other in a plurality of positions in defining the force travel characteristics of the cushion device,
means for varying the relative position of one tubular member with respect to the other,
a flexible distensible hydraulic fluid-impervious member connecting with the piston rod and the cylinder for sealing the first chamber,
the first chamber having a low pressure upon contraction of the cushion device and having orifice means for establishing communication between said first chamber and the flexible member, and said second chamber having a higher pressure upon contraction of the cushion means, and the port means of the tubular members providing fluid communication between the bore of the metering pin means and the second chamber,
said piston rod having port means for providing fluid communication between the piston rod passage and the flexible member,
and biasing means for extending the cushion unit to an expanded position.

3,259,253
FRUIT TRANSFER MECHANISM
Hans W. Grotewold, Sebring, Fla., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application Apr. 23, 1958, Ser. No. 730,335, now Patent No. 3,072,160, dated Jan. 8, 1963. Divided and this application Apr. 16, 1962, Ser. No. 187,490
11 Claims. (Cl. 214—1)



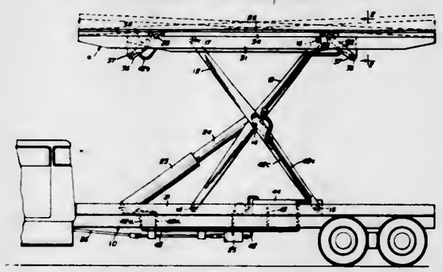
11. In a fruit processing machine, a fruit transfer mechanism comprising means for supporting a fruit in fixed position, fruit impaling members disposed above a fruit on said support means, means for moving said impaling members downwardly into the fruit, a spring member mounted for movement with said impaling members and being movable to a position alongside the side of a fruit on said support means as said impaling members penetrate into the fruit, means for engaging said spring member and moving it to a stressed position resiliently locking the fruit between said impaling members and said spring member, and means for raising said impaling members and said spring member to lift the locked fruit from said fruit supporting member.

3,259,254
MOTION DEVICE
James M. Mitchell, 2900 Ellesmere Ave., Costa Mesa, Calif.
Filed Apr. 16, 1964, Ser. No. 360,193
18 Claims. (Cl. 214—1)



1. A pre-recorded motion producing device comprising in combination, a relatively stationary base, a record mounted for movement in at least one direction relative to said base, feedback actuating means operatively interposed between said record and said base, control means for said actuating means responsive to said record to cause said actuating means to effect corresponding movement of said record, and an elongated movable member having a work performing end portion, an actuatable end portion connected to said record, and an intermediate portion pivotally connected to said base; whereby the work performing end portion of said movable member is caused to follow the movement of said record relative to said base.

3,259,255
TILTING BODY FOR MOTOR VEHICLES
Paul A. Cresci, Boulevard and Grape St., Vineland, N.J.
Filed May 8, 1964, Ser. No. 365,933
3 Claims. (Cl. 214—1)



1. In a vehicle of the class described, an elevatable body frame, a deck frame supported in superposed relation to said body, a cylinder pivotally connected to said body frame at each end thereof, a piston in each of said cylinders, each piston being pivotally connected to said deck frame, the pivotal connections of said pistons with said deck frame being spaced apart a distance less than the distance between the pivotal connections of said cylinders with said body frame, the axes of said cylinders being inclined to the horizontal at an angle less than the angle formed between said axes and the vertical when said deck frame is in its lowermost position, said cylinders converging with respect to each other, and means for supplying fluid under pressure to said cylinders to tilt said deck frame, said angular relation and the spacing of the cylinder pivots permitting relative movement of either piston and cylinder while simultaneously causing the other piston and cylinder to remain stationary.

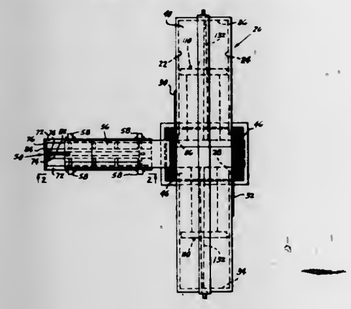
ERRATUM

For Class 214—18 see:
Patent No. 3,259,325

3,259,256
BOX CAR UNLOADER

Paul B. Christensen, 216 First Nat'l Bank, Fremont, Nebr.

Filed Apr. 24, 1964, Ser. No. 362,323
12 Claims. (Cl. 214—44)



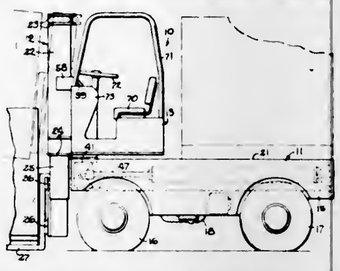
1. A device for removing a particulate material such as grain from a boxcar or the like having oppositely disposed side walls and oppositely disposed aligned door openings, and oppositely disposed end walls, comprising a carrier frame means, an unloader frame means supported on said carrier frame means, and unloading means supported on said unloader frame means, transport means operatively interconnected between said carrier frame means and said unloader frame means for moving said unloader frame means from an inoperative position wherein it is supported by said carrier frame means exterior to the boxcar to an unloading position wherein it extends transversely into the boxcar through the side door opening of the same, said unloading means including conveyor means extending longitudinally of said unloader frame means from within the boxcar through the side door opening of the same when said unloader frame means is in said unloading position, a pair of material board means, withdrawing means operatively connected to each of said material board means for moving the same perpendicularly with respect to said unloader frame means and in opposite directions towards the end walls of the boxcar, and return means operatively connected to each of said material board means for moving the same away from the end walls of the boxcar whereby said material board means carries particulate material to said conveyor means, said unloader frame means extending transversely across the boxcar through both side door openings in said unloading position, and said conveyor means including oppositely directed unloading portions extending from within the boxcar through both side door openings, for carrying said particulate material out of the side door openings.

3,259,257
MULTIPLE-PURPOSE FORK LIFT TRUCK

Edwin C. Brown, Aurora, Granville Woolman, Naperville, and Roy D. Brownell, Aurora, Ill., assignors to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania

Filed June 12, 1964, Ser. No. 374,647
7 Claims. (Cl. 214—75)

2. A load carrying vehicle comprising, in combination, a self-propelled chassis, a flat deck mounted on said chassis, a column mounted on said chassis for movement along said deck from within the periphery of said chassis to an outwardly extending position well beyond the periphery of said chassis, a mast mounted on said column for swinging movement about a vertical axis, a subframe mounted on said mast for up and down sliding move-

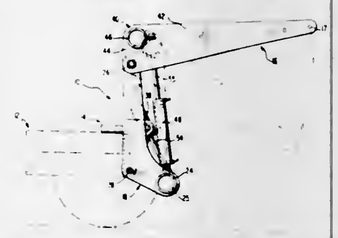


ment, a set of lift fork tines extending from the lower end of said subframe, and an operator's platform secured to said mast just above the level of said deck and extending oppositely from said tines.

3,259,258
LOADER MECHANISM FOR MATERIAL HANDLING VEHICLES

Charles E. Fisher, N. Fork Road, Columbia Falls, Mont.

Filed Jan. 13, 1965, Ser. No. 425,130
7 Claims. (Cl. 214—130)



1. A loader mechanism comprising: a mounting frame structure adapted to be secured to a material handling vehicle; a tilting member including two substantially parallel tilting elements; each of said tilting elements including a first arm and a second arm integrally connected and extending at an angle with respect to one another, a tilting elements connecting member extending between and connecting the outer ends of said first arms of said tilting elements; a lower pivot tube extending between said tilting elements at substantially the juncture of the first and second arms thereof; said lower pivot tube being connected to said mounting frame structure; a loader member including two substantially parallel loader elements pivotally connected to said tilting member; a first power means connected between said mounting frame structure and said tilting elements connecting member for pivoting said tilting member about said lower pivot tube; and a second power means connected between said tilting member and said loader member for pivoting said loader member relative to said tilting member.

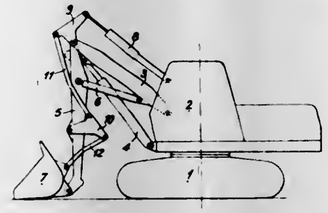
3,259,259
EASY CONTROL LOADER

Roger Metailler, Pont-de-Claix, France, assignor to Auxitra, Societe Anonyme, Paris (Seine), France

Filed Mar. 1, 1965, Ser. No. 436,209
Claims priority, application France, Mar. 2, 1964, 965,747, Patent 1,395,675
3 Claims. (Cl. 214—138)

1. A loader comprising a platform, a boom pivoted to said platform, a first hydraulic cylinder pivotally mounted on said platform and controlling the luffing movements

of said boom, an arm pivotally connected to said boom, a second hydraulic cylinder pivoted to said boom and controlling the arm movements, a bucket pivotally mounted to the outer end of said arm, a third hydraulic cylinder having a bearing end pivoted to said platform and a working end, a first bell-crank lever fulcrumed on the pivotal connection between said boom and said arm, a first link having a bearing end and a working end, said

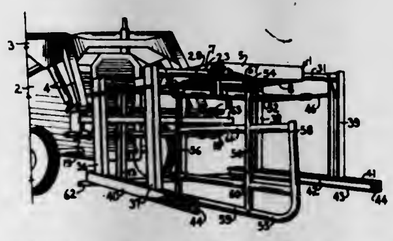


first bell-crank lever connecting the working end of said third cylinder to the bearing end of said first link, a second bell-crank lever pivotally mounted on said arm between said pivotal connection of said arm on the boom and the end of said arm, a second link having a working end connected to said bucket and a bearing end, said second bell-crank lever connecting the working end of said first link to the bearing end of said second link.

3,259,260
BALE HANDLING APPARATUS

Calvin B. Blair, Box 76, Barnard, Kans.

Filed Apr. 28, 1965, Ser. No. 451,519
10 Claims. (Cl. 214—147)



1. Apparatus for handling longitudinally end-to-end arranged bales for use on a self-propelled tractor having a load elevator with arms arranged to be moved from a position near the ground to a more elevated position, said apparatus comprising:

(a) an elevated frame having a forward end and a rear end, support structure secured to said frame, mounting means secured to said support structure and adapted for engagement with said elevator arms for supporting said frame a variable distance above the ground and longitudinally of said tractor,

(b) support means, guide means mounted on said frame and adapted to support said support means for reciprocal movement transversely of said frame, rigid strut means supported by said support means and depending below the elevation of said frame,

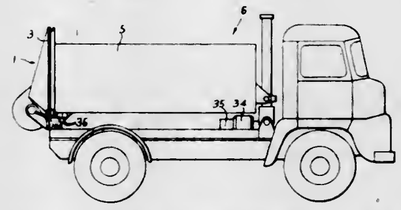
(c) a first elongated grip member mounted on a lower portion of said strut means and extending substantially longitudinally of said tractor, a second elongated grip member supported by said frame in substantially parallel spaced apart laterally opposed relation to said first grip member and at substantially the same elevation, motive means operably engaged between said frame and said first grip member for selectively reciprocating said first grip member toward and away from said second grip member, and

(d) pusher means retained against rearward movement with respect to said frame and extending into the path defined by said grip members at approximately the same elevation and rearwardly thereof, said pusher means and grip members forming a forwardly and downwardly open structure for longitudinally receiving and pushing a plurality of bales lying on the ground as said apparatus is driven forwardly by said tractor and clamping end-to-end arranged bales between said grip members for elevation above the ground.

3,259,261
MEANS FOR DISCHARGING CONCRETE AND THE LIKE FROM TRANSPORT VEHICLES

Gerard Joseph Gallagher, 21 Oakhurst Drive, Kenton Park, Newcastle-upon-Tyne, England

Filed May 21, 1964, Ser. No. 369,206
Claims priority, application Great Britain, May 23, 1963, 20,525/63
1 Claim. (Cl. 214—503)



In a wheeled transport vehicle equipped with a tipper body adapted to contain a load of wet concrete mix, discharge means comprising, in combination: a metal tail-gate having thereon fittings enabling it to be removably fixed upon the initially open rear end of the tipper body; two aligned troughs of toughened rubber which are attached to the lower edge portion of said tail-gate and are arranged to receive wet concrete mix flowing into it from the tipper body, said troughs being spaced apart axially on the tail-gate to provide therebetween a central discharge opening; a releasable hinged door for closing said opening; left-hand and right-hand metal screw conveyors respectively operating in the troughs; a common shaft for the screw conveyors; a hydraulic motor from which said shaft is rotatably driven, the motor being located at one end of the tail-gate; coupling means interposed between said hydraulic motor and said shaft; fluid control valve means for controlling the hydraulic motor; and vibrator tubes arranged coaxially of one another and extending parallel to the common axes of the right-handed and left-handed screw conveyors; whereby upon rotation of the common shaft the opposite handed screw conveyors will effect a controlled and regular discharge of the load of wet concrete mix from the body through the discharge opening.

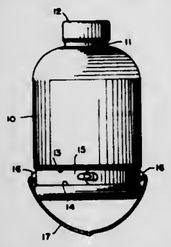
3,259,262
BAIL BAND FOR PARENTERAL SOLUTION BOTTLES

Robert M. Grossman and William S. Garrett, Jr., both of Milledgeville, Ga., assignors to McGaw Laboratories, Inc., Milledgeville, Ga., a corporation of Delaware

Filed July 2, 1965, Ser. No. 469,167
9 Claims. (Cl. 215—100)

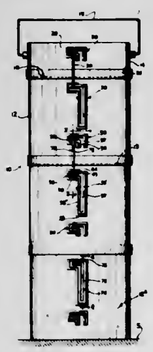
8. In combination with a bottle having a circumferential groove for receiving a bail band, a bail band comprising a strip of bendable metal having a width corresponding to the width of said groove, said strip having an opening adjacent one end thereof and having at its opposite end a tongue received in said opening, said tongue having a substantially flat proximate portion underlying said one end of said strip and having a deformed

nonplanar terminal portion, said tongue being reversely bent along a transverse fold line at the junction of said terminal and proximate portions with said terminal portion overlying said one end of the band and said proximate portion, said terminal portion having a generally



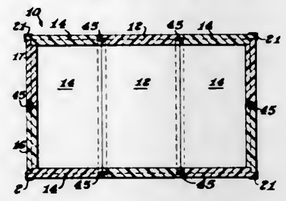
V-shaped cross sectional configuration commencing at a point at said fold line, said point being spaced from said opening at said one end of said strip a distance substantially the same as the circumference of said bottle along said groove.

3,259,263
TWIN LOCK FOR MULTI-FOOD CONTAINERS
Tohchung Wei, 169 E. Broadway, New York, N.Y.
Filed Feb. 10, 1964, Ser. No. 343,686
10 Claims. (Cl. 220—4)



1. A coupling device for detachably engaging cylindrical vessels in alignment, comprising two generally L-shaped keepers, a first one of said keepers having a first base flange structure attachable to a wall of one of the vessels, a first spacer flange structure extending outwardly of the base flange structure, a first keeper flange structure integral with the spacer flange structure and disposed parallel to the base flange structure to define a first recess with the spacer flange structure, said keeper flange structure having a first L-shaped slot closed at opposite ends; a second one of said keepers having a second base flange structure attachable to a wall of another of the vessels, a second spacer flange structure extending outwardly of said second base flange structure, a second keeper flange structure integral with said second spacer flange structure to define a second recess with the second spacer flange structure, said second keeper flange structure having a second L-shaped slot closed at one end and open at the other end; and a link having a U-shaped structure with a straight, long bight handle, two short arms extending perpendicularly to opposite ends of the handle, and two plates secured to ends of said short arms and centered to define annular flanges all around the ends of the arms, said handle being disposed parallel to and spaced from the first keeper flange structure, one of said arms extending through the first slot with one of said plates slidably engaged behind edges of said first slot in the first recess, means retaining said link captive in said first slot, the other of said arms being insertable through the open end of the second slot and movable therealong to its closed end with the other of said plates slidably engaged behind edges of said second slot, whereby the two keepers are coupled together by said link when in a coupling position at one closed end of each slot in each keeper.

3,259,264
SELF-SUSTAINING STRUCTURE
John S. Best and Albert J. Palfey, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 19, 1965, Ser. No. 441,274
3 Claims. (Cl. 220—4)



1. A self-sustaining refrigerated structure which is readily assembled and disassembled comprising in cooperative combination at least 12 generally rectangular panels, said panels comprising a pair of opposed face members having disposed therebetween foamed plastic insulating means, each of said panels having at least three edges provided with a rabbet designed to interfit with a like rabbet, the remaining edge defining a groove within the core of said panel, said groove being disposed therein a spline in a plane generally parallel to a face of said panel, four of said panels being arranged in the form of a hollow rectangular prism having a first end and a second end with the splined sides at the first end of said hollow rectangular prism, a pair of panels positioned within the opening at the second end of said prism having grooved edges abutting and a spline in said grooves, the rabbeted edges of said panels engaging the rabbeted edges of said rectangular prism to form a five sided generally rectangular configuration, a second similar five sided generally rectangular configuration disposed with the grooved edges of its first end in engagement with the grooved edges of the first end of said first five sided configuration and receiving first end of said first five sided configuration, one of said panels defining a passageway from the enclosed space within the panel structure to the space without, an insulated door closing said passageway and elongated external tension members disposed about the periphery of the structure, the elongated tension members providing a compressive force on the structure and providing the sole means to maintain the panels in engagement with each other in the longitudinal direction of the tension members, the tension members being metal angles longitudinally disposed along each of the peripheral edges of the structure and overlying corners formed by adjacent panels, the tension members conforming generally to the external configuration of the refrigerated structure.

3,259,265
RESEAL FOR TAB OPENING CANS
Edward P. Stuart, Atlanta, Ga., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York
Filed Feb. 27, 1964, Ser. No. 347,745
7 Claims. (Cl. 220—24)

1. A seal for a container pour opening generally shaped like a keyhole and having an elongated aperture ending at one end with a pour aperture considerably wider than said elongated aperture and ending at the other end with a width less than that of said pour aperture but not less than that of said elongated aperture, comprising:

a flexible cover member of extent and area larger than said keyhole opening,

an undercut button-like member spacedly secured closely to the underside of said cover member and having a width substantially greater than at least a



portion of said elongated aperture and its said other end whereby the button-like member may be inserted into said pour aperture and slipped under the edges of said elongated aperture and pulled therealong by said cover member into place under the said other end of said elongated aperture, and

means for releasably securing said cover member to at least one if not both of said pour and elongated apertures while said button-like member is in place as aforesaid.

ERRATUM

For Class 220—27 see:
Patent No. 3,259,233

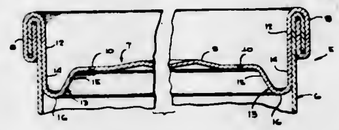
3,259,266
CLOSURES FOR FLUID CONTAINERS
Leon Adler, Clayton, and Elwood E. Ponath, Ferguson, Mo., and Karl K. Kerber, East St. Louis, Ill., assignors to The Dykem Company, St. Louis, Mo., a corporation of Missouri
Filed Jan. 6, 1964, Ser. No. 335,828
2 Claims. (Cl. 220—39)



1. A closure cap for controlling the successive alternate opening and closing of the access opening to the flow of fluid contents from within a container, said cap being of slightly yieldably resilient plastic and tubular with only its top end wall closed and having an annular open skirt depending therefrom, and an inexpandible rigid ring having its opening sufficiently smaller than the external diameter of the chime portion of said skirt to thereby initially distort and constantly compress the material of the skirt radially inwardly thereat, said skirt having a peripherally extending radially projecting flange at its open end to serve as an abutment stop that is engageable by said ring to limit axial advancement of the latter onto the skirt.

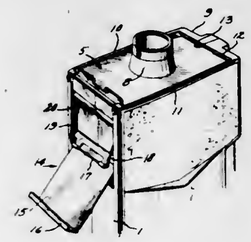
3,259,267
SHOCK ABSORBING FORMATION IN SCORED CAN ENDS
John S. Bozek, Chicago, and Lewis F. Irland, Hinsdale, Ill., assignors to Continental Can Company, New York, N.Y., a corporation of New York
Filed Oct. 1, 1962, Ser. No. 227,216
8 Claims. (Cl. 220—54)

1. A can end comprising an end panel and a peripheral attaching portion adapted to be united with a can body in a rigid and permanent seam, said end panel having a removable panel portion defined by a score line with said panel portion being removable by tearing said end panel along said score line and said end panel being subject to premature rupture along said score line when accidentally deformed, said peripheral attaching portion including an upstanding chuck wall; a shock absorbing bead disposed



intermediate said end panel and said chuck wall and surrounding said end panel, said shock absorbing bead permitting accidental deformation of said chuck wall without rupture of said end panel along said score line, said bead being defined by an extension of said chuck wall, an expansion panel connected to said end panel, and a bead radius connecting said expansion panel to said chuck wall extension.

3,259,268
COVER AND LATCH ARRANGEMENT FOR PORTABLE VACUUM CLEANER
Walter C. Anderson, Southport, Conn., assignor to General Electric Company, a corporation of New York
Filed May 27, 1964, Ser. No. 370,518
5 Claims. (Cl. 220—55)



4. In a portable vacuum cleaner having a housing with a generally rectangular open end for receiving a dust bag, a cover and latch arrangement comprising:

(a) a generally rectangular planar cover having a lug projecting from the plane of the cover along each of opposed edges thereof,

(b) said lugs being symmetrical about an axis parallel to said edges through the center of the cover in order that said cover may be oriented on the housing in either a first position or a 180° reversed second position,

(c) a flange on the housing adjacent the open end thereof,

(d) said flange having opposed portions adjacent the longer sides of the open end of the housing for guiding and positioning said cover,

(e) a lip extending from a portion of said flange along a shorter side of the open end for engaging and retaining one of said lugs when said cover is mounted on said housing, and

(f) a toggle latch comprising:

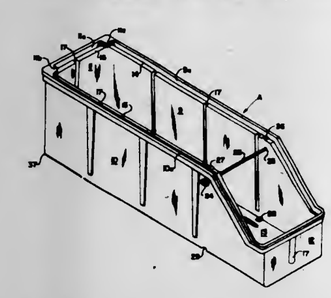
(1) a clamp having a hooked end portion for engaging one of said lugs, and

(2) a U-shaped overcenter spring pivotally connected to said housing and said clamp for providing a toggle joint therebetween to establish an overcenter spring action for said latch,

(g) said toggle latch being pivotally mounted adjacent the other of the shorter sides of the open end of the

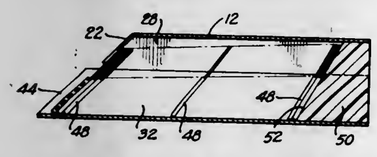
housing opposite said lip for engaging the other of said lugs to urge said cover into sealing engagement with the dust bag.

3,259,269
STACKABLE BIN CONTAINER
Donald John Asenbauer, Whittier, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed May 10, 1965, Ser. No. 454,605
4 Claims. (Cl. 220—97)



1. An integrally formed plastic open-top rectangular stackable container comprising a bottom wall, upwardly and inwardly sloping side walls and upwardly and outwardly sloping end walls connecting with said bottom wall, said side walls having their front portions downwardly inclining to connect with a shorter front end wall, said side walls having oppositely positioned vertical grooves formed by outward indentations in the faces of the walls and adapted for removably receiving a vertical divider panel placed in a preselected arrangement, said side and end walls at their upper extremity being stepped outwardly and then upwardly a short distance to provide shelves, said side wall shelves adapted to stackably support a superimposed identical container, the outward spreading of said side walls being prevented by a spacer rod and keeper means, said rod passing transversely through the side walls and a short distance beyond immediately beneath the shelf adjacent to the uppermost inclined portion of said side walls, said rod having said keeper means affixed to the extreme ends of said rod adjacent the outer surface of said side walls.

3,259,270
COMBINED MOUNTER AND DISPENSER FOR PHOTO MOUNTING CORNERS
William J. Eckles, 1117 S. Cambridge St., Anaheim, Calif.
Filed Sept. 24, 1963, Ser. No. 311,038
3 Claims. (Cl. 221—1)

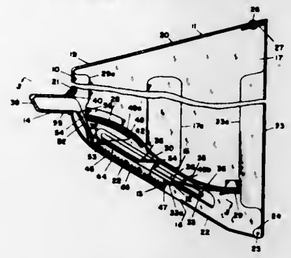


1. A dispensing device, said dispensing device comprising:

a tubular dispenser, said tubular dispenser having a front end from which elements are dispensed and a rear end, said tubular dispenser being defined by a top, first and second sides arranged at substantially right angles with respect to said top and first and second bases respectively angularly oriented with respect to said first and second sides, said first and second bases being positioned at substantially right angles with respect to each other;

said front end of said dispensing device comprising a stop extending from said first side to said second side, said stop being angularly positioned with respect to said top, said angular stop defining a stop plane at which elements within said tubular dispensing device are stopped, said first and second bases extending past said stop plane so that elements to be dispensed are restrained by said angular stop and are engaged against said bases beyond said stop plane as the elements are moved out from under said angular stop in the dispensing operation.

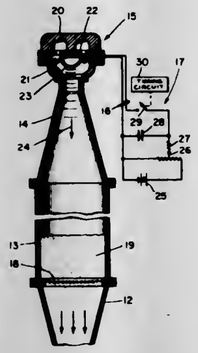
3,259,271
DISPENSER FOR FLAT ARTICLES HAVING AT LEAST ONE FLAP
Edward L. Bump, Madison, Wis., assignor to Industrial Research and Development Corp., Madison, Wis., a corporation of Wisconsin
Filed Oct. 14, 1963, Ser. No. 315,769
8 Claims. (Cl. 221—36)



1. A dispenser for substantially flat articles having at least one flap comprising, an outer shell having a pair of side sections and a front face with an upper surface, a middle surface and a bottom surface, an aperture in said bottom surface adapted to allow said flat articles to pass therethrough, front and rear shelf means extending between said side sections of said shell and adapted to support a plurality of said articles, one on top of another, in a manner such that one flap of the bottom supported article extends from said rear shelf means toward said aperture, said front and rear shelf means being further adapted to allow said bottom supported article to be individually removed therefrom when the flap of said article extending toward said aperture is pulled through said aperture, a rear plate adapted to be supported in substantially vertical relation, means for pivotally mounting said outer shell on said rear plate whereby said outer shell may be pivoted between an open and a closed position, locking means for maintaining said outer shell in closed position, a slide mounted within said outer shell between said front and rear shelf means and said shell aperture in reciprocable relation, said slide including a front base portion and a rear base portion which are spaced apart in substantially parallel fixed relation to define a slide opening therebetween, said slide opening being of sufficient dimensions to individually receive the flap of each article to be dispensed from said dispenser, said slide being reciprocable between a first position wherein said slide rear base portion is adapted to support the flap of a supported article extending from said rear shelf means toward said shell aperture and prevent said flap from being exposed to said aperture and a second position wherein said slide opening and said aperture are in communication to allow said flap to extend therethrough and be removed from said dispenser, said slide front base portion having a contoured rear section adapted to engage said flap of said article during movement of said slide between said first position and said second position and guide said flap

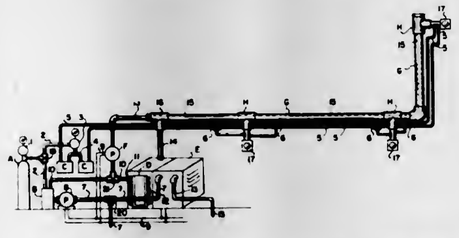
through said slide opening and said aperture, spring means for biasing said slide to said first position, and lever means for moving said slide to said second position.

3,259,272
METHOD AND APPARATUS FOR DISPENSING POWDER
Ray W. Larson, Santa Monica, Calif., assignor to Korad Corporation, a corporation of California
Filed June 19, 1964, Ser. No. 376,493
7 Claims. (Cl. 222—1)



1. A method for dispensing finely divided powder material comprising the steps of: containing said powder in a given region; generating a pulse of electrical energy; transducing said pulse to a sound pulse; and transmitting said sound pulse to said powder through the atmosphere to thereby agitate the same and shake free a portion of said powder from said region.

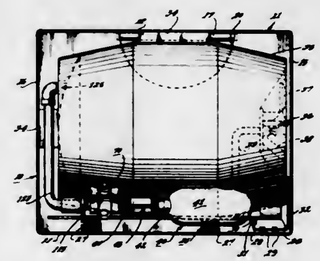
3,259,273
METHOD OF AND APPARATUS FOR CARBONATING, COOLING, STORING, DISTRIBUTING AND DISPENSING BEVERAGES
Wallace R. Kromer, 12700 Fairhill Road, Shaker Heights, Ohio
Filed Dec. 21, 1964, Ser. No. 419,703
16 Claims. (Cl. 222—1)



1. In a beverage system for carbonating, refrigerating, storing and dispensing water, a carbonator, a dispensing faucet remote from the carbonator, conduit means connecting the faucet and the carbonator and providing separate paths to and from the faucet in a closed pressurized circuit, pump means forcing water over the circuit, refrigerating means in heat exchange relation to the circulating water, sources of water and of carbon dioxide under pressure, a pressure regulator for and connected to the carbon dioxide source, and supply means connected to said sources and regulator to receive water and regulated carbon dioxide therefrom automatically supplying water and carbon dioxide to the pressurized circuit in continuous replenishment of that dispensed through the faucet, said supply means being adapted to maintain the water and the carbon dioxide in the circuit within predetermined volume and pressure limits, and a storage tank operatively communicating with the conduit means connecting the faucet and the carbonator for receiving, circulating and storing carbonated water therein from the pressurized circuit.

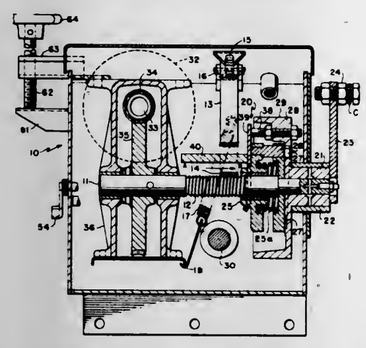
5. The method of cooling, storing and dispensing carbonated water which comprises: maintaining a body of carbonated water in heat exchange relation with a refrigerating medium; withdrawing such refrigerated water from the body continuously; circulating the withdrawn water over a closed path and in a continuous stream of relatively small cross sectional area past a remote dispensing point from which it may be dispensed as desired; returning the remaining circulated water to said body; maintaining a confined atmosphere of pressurized carbon dioxide in the path of the circulating water; spraying the circulating water through the carbon dioxide atmosphere and picking up carbon dioxide from such carbon dioxide atmosphere for augmentation of the carbon dioxide content of such circulating water; automatically adding supply water to said body to replace that released for consumption to maintain said body within predetermined volumetric limits; automatically adding carbon dioxide to said atmosphere in replacement of that picked up by the circulating water to maintain the carbon dioxide atmosphere within predetermined pressure limits; and maintaining a reserve body of said circulating refrigerated carbonated water upstream of said dispensing point.

3,259,274
REGULATOR AND DISPENSING SYSTEM
George A. Klasson, South Whitehall Township, Lehigh County, and Justin W. Mills, Macungie, Pa., assignors to Air Products and Chemicals, Inc., Emmaus, Pa., a corporation of Pennsylvania
Filed Jan. 21, 1964, Ser. No. 339,150
5 Claims. (Cl. 222—48)



4. A beverage dispensing system including a beverage container, outlet means for dispensing beverage from said container, a source of high pressure gas, an outlet valve unit permanently secured to said source, a stem valve contained within said unit, a pressure regulator, means connecting said regulator to said beverage container, an adaptor unit permanently secured to said regulator and removably secured to said valve unit, means connected to said adaptor for automatically opening said stem valve upon interconnection of said two units, means for automatically closing said valve unit upon partial separation of said units prior to complete disconnection of said units, bleed passage means positioned such that pressure trapped between said units is released upon partial separation of said units prior to complete disconnection of said units, and a heat-responsive safety valve in said valve unit upstream of said stem valve.

3,259,275
MECHANICAL RECYCLE INTERVAL TIMER
Victor C. Fuhrwerk, Celina, and Paul A. Luthman, Maria Stein, Ohio, assignors to Avco Corporation, Coldwater, Ohio, a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 393,295
9 Claims. (Cl. 222—70)



1. A cycling device comprising a crank, a rotatable shaft, timing means positively movable along said shaft during rotation thereof, clutch means disposed about said shaft and connected to said crank and actuated by said timing means to rotate said crank a single revolution about the axis of said shaft when said timing means reaches an extreme position along said shaft and means to return said timing means to an initial position on said shaft for commencing another cycle.

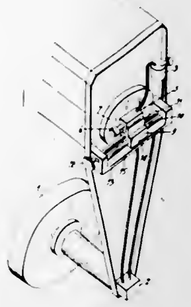
3,259,276
HOLDER-DISPENSING DEVICE FOR FLEXIBLE AND/OR COLLAPSIBLE TUBES
Harry H. Chase, 115 Union Ave., Nutley, N.J.
Filed Oct. 15, 1964, Ser. No. 404,130
5 Claims. (Cl. 222—100)



1. A holding and dispensing device which includes a strip spring formed to maintain a normally coiled position and a collapsible tube, said collapsible tube being provided with a dispensing spout at one end thereof and a flat sealed seam at the opposite end thereof, said strip being provided with means at its outer end to retain the dispensing spout, a slip bar slidably fitted on the strip adjacent the inner end opposite the outer end of said strip along an uncoiled non-dispensed tube receiving portion, said flat sealed seam end of said tube initially fitted into said slip-bar with said strip being slidably retained on said coiled strip to hold said tube against said strip to permit dispensing by moving said slip-bar from said inner end to said opposite end, said spring strip coiled portion exerting a bending and dispensing force on the undispensed portion of the end of said tube opposite to the dispensing end.

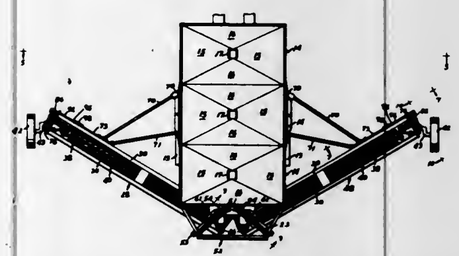
3,259,277
DRIVE MECHANISM FOR GRAIN DRILLS AND THE LIKE
Roger Lucien Camille Edouard Flament, 18 Rue des Ursulines, Tourcoing, France
Filed Dec. 21, 1964, Ser. No. 435,394
7 Claims. (Cl. 222—177)

1. In a mobile implement having mechanism for dispensing material including a frame carrying a hopper for said material, a wheel supporting the frame and a drive shaft rotatably mounted on the frame operatively connected to the hopper for discharging material therefrom, the combination of means for transmitting drive from said wheel to said drive shaft to control the rate of rotation thereof and the amount of material dispensed from said hopper comprising, a source of fluid on said frame, a



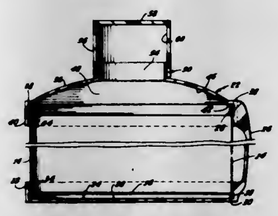
pump associated with said wheel and operatively connected thereto to be driven thereby, a fluid operated motor receiving fluid under pressure from said pump mounted on the frame and operatively connected to said drive shaft for driving the latter, and adjusting means operatively connected to said motor for varying the speed at which the latter drives said shaft.

3,259,278
FERTILIZER DISTRIBUTION APPARATUS
Jesse Barber and James R. Barber, both % Barber Engineering, N. 1404 Regal, Spokane, Wash.
Filed Aug. 24, 1964, Ser. No. 391,463
3 Claims. (Cl. 222—178)



1. A fertilizer distributing apparatus, comprising:
a wheeled truck having a fertilizer storage hopper supported thereon, said storage hopper having downwardly converging inside walls having at least one outlet along the lower portions thereof;
a fertilizer distributing hopper supported at the rear end of said truck and extending outwardly at one side thereof parallel to the ground surface;
an auger feed conveyor in open communication with the outlet of said storage hopper, the exit end of said feed conveyor being in communication with the interior of the distributing hopper at the end thereof adjacent said truck;
a support member pivotally connected between the storage hopper and the distributing hopper including a cylinder assembly to adjustably position said distributing hopper relative to said storage hopper;
said distributing hopper being provided with a longitudinal trough extending along the interior thereof the full length of the hopper, said trough having open apertures at its lower surface located at spaced intervals along the length thereof;
and a powered auger rotatably mounted in said distributing hopper directly above the trough, the outlet of said auger feed conveyor being directed to one end of said auger.

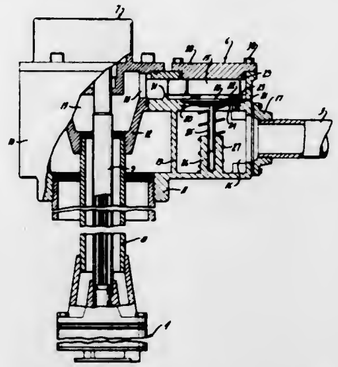
3,259,279
COFFEE CAN LID AND HANDLE
Jack M. Nojiri, 11906 Exposition Blvd., Los Angeles, Calif.
Filed Mar. 6, 1964, Ser. No. 349,804
2 Claims. (Cl. 222—183)



1. A combination handle and cover for use on containers having a substantially cylindrical side wall, a closed bottom on the lower end of the side wall, an open top on the upper end of the side walls and a beading on said side wall adjacent each end, said combination handle and cover including:
top and bottom covers,
a peripheral rim on each of said covers, said peripheral rims being disposed at substantially right angles to the planes of the covers and extending circumferentially therearound, each of the rims having an inside diameter just sufficiently large to fit over the exterior of the cylindrical side wall,
fastening means on the inside of each of the rims positioned to fit over the beadings and retain the covers in position on the opposite ends of the container,
a handle member extending between said covers, said handle member having a length greater than the space between the covers when they are seated on the ends of the side wall to thereby bow outwardly from the cylindrical wall to form a handle,
an outlet opening in the top cover to permit the removal of the contents of the container, and
a removable cap disposed in said opening for sealing the opening.

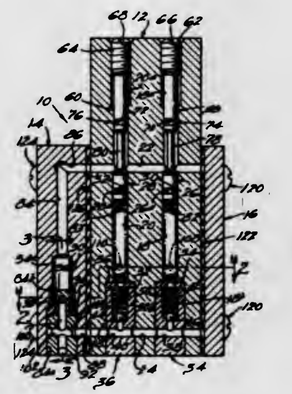
3,259,280
PETROLEUM PUMPING SYSTEM AND HEADER STRUCTURE
Irving A. Johnson and Stephen Stasenko, Erie, Pa., assignors to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Jan. 25, 1965, Ser. No. 427,884
7 Claims. (Cl. 222—333)

1. A liquid product delivery system for moving a product under pressure from a storage tank to a dispensing means, comprising
a flow line,
a control valve at the discharge end of the flow line,
a header assembly connected to the input end of the flow line, said header assembly being a discharge chamber above a check valve chamber with a valve opening therebetween,
a check valve disposed in the check valve chamber and urged upwardly into sealing engagement with the wall of the valve opening, whereby upon closure of the control valve liquid is trapped in the check



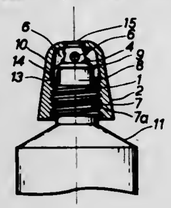
valve chamber and drains from the discharge chamber, and
access means to said discharge chamber aligned with the check valve.

3,259,281
ADJUSTABLE METERING DEVICE
Herbert Pikoske, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed Feb. 6, 1964, Ser. No. 343,031
8 Claims. (Cl. 222—335)



1. In a metering valve,
a valve housing having fluid inlet and outlet passages, said housing being formed with a plurality of fluid pumping chambers arranged in parallel,
a valve bore formed in said housing having valve means therein,
said valve means including a resilient sleeve and being adapted to selectively communicate said valve bore without said pumping chambers,
piston means reciprocable in each of said pumping chambers to pump fluid from said chamber to said fluid outlet passage, and
means in each of said chambers engageable with said piston means to limit the displacement thereof.

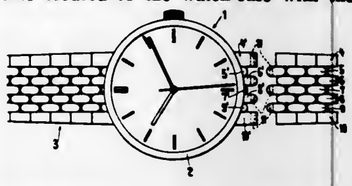
3,259,282
TUBE CLOSURE DEVICE
Poul Jellesen, Kongensgate 10, Sandefjord, Norway
Filed Sept. 8, 1964, Ser. No. 394,733
2 Claims. (Cl. 222—521)



1. A container tube closure device of the type including an externally threaded tubular member, the lower portion of which is adapted to be fastened to the outlet of the tube container and an internally-threaded cap cooperating with said tubular member and which is adapted to be screwed open for discharge of the contents of the tube container without the cap being completely removed, said cap having an internal cavity above its threads terminating in a central aperture at the top, said tubular member having a plug at its upper end adapted to fit in and close said aperture when the cap is screwed down on the tubular member, the upper portion of said tubular member also including apertures opening out below the plug into the internal cavity in the cap, said tubular member being provided with a longitudinally-extending cylindrical outer surface between its external threads and the apertures in its upper portion, an integral ring on said tubular member below said apertures at the upper portion of said cylindrical surface projecting outwardly into the internal cavity in the cap and having a laterally-extending undersurface extending at right angles to said cylindrical surface, an integral inwardly-projecting ring in said cap above its threads having an upper surface parallel to the undersurface of the outwardly-projecting ring on the tubular member, said inwardly-projecting ring in the cap having an inner edge engaging and sealing against the cylindrical surface of the tubular member to prevent the contents of the container tube from entering the threads of the cap or those of the tubular member and being movable along said cylindrical surface when the cap is screwed up or down on the tubular member, the upper and under surfaces of said inwardly and said outwardly-projecting rings being adapted to snap over each other upon screwing the cap on the tubular member and to provide a stop preventing removal of the cap when screwed open for discharge of the contents of the tube container, the maximum diameter of said outwardly-projecting ring being substantially smaller than the diameter of the portion of the internal cavity of the cap into which it projects, the arrangement of the inwardly-projecting ring being such that the volume of said internal cavity thereabove in the cap is not substantially reduced during the closing of the cap when it is screwed down.

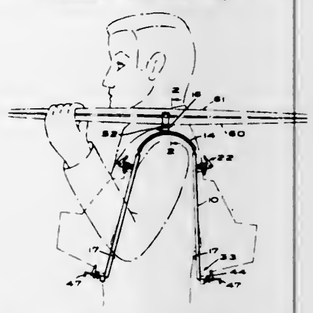
3,259,283
WRISTWATCH
Pierre Moinat, Geneva, Switzerland, assignor to Omega, Louis Brandt & Frère S.A., Bienne, Switzerland
Filed Feb. 26, 1965, Ser. No. 435,494
Claims priority, application Switzerland, Feb. 28, 1964, 2,531/64
6 Claims. (Cl. 224—4)

1. A wristwatch comprising a watch case, a wristlet including at least three rows of elements, the elements of one row being staggered relative to the elements of adjacent rows, the end element of each row being rigidly secured to the side of the watch-case below the top periphery thereof and both end elements of the outer rows acting as attachment lugs for fixing the wristlet to the watch-case, a common fastening member connecting the end elements secured to the watch-case with the other



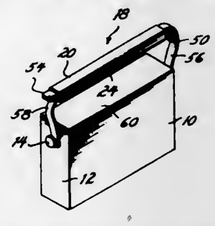
elements of the wristlet in such a way that the wristlet extends up to but below the top periphery of the watch-case and gives the impression that the watch is merely laid down or placed on the wristlet, without said lugs extending beyond the width of the wristlet.

3,259,284
BOOT AND SKI CARRIER
Marvin E. Olson, 6100 Beach Road, Birmingham, Mich.
Filed May 12, 1964, Ser. No. 366,783
7 Claims. (Cl. 224—5)



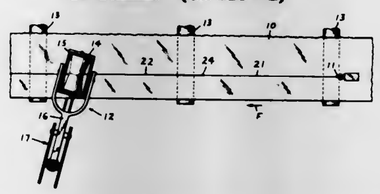
1. A boot and ski carrier comprising a pair of sole plates, means on each sole plate for detachably securing a ski boot thereon, a flexible member connecting the sole plates in back-to-back relation and adapted to be placed over the shoulder of a user, and a handle secured to the flexible member intermediate the ends thereof, the handle including a portion adapted to straddle and cradle a ski.

3,259,285
COMBINED SHOULDER STRAP AND HANDGRIP
George W. Bush, Haddonfield, N.J., assignor to Philadelphia Handle Company, Inc., Camden, N.J., a corporation of New Jersey
Filed June 28, 1965, Ser. No. 467,567
6 Claims. (Cl. 224—46)



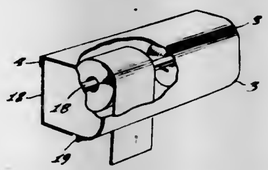
1. A combined shoulder strap and handgrip comprising an elongated strap adapted for connection at its ends to a carrying case, a handgrip including an elongated member having a channel extending therethrough and slidably receiving one portion of said strap, and a plurality of vertically spaced grooves above said channel extending through said member and opening through one side thereof, said grooves being adapted to removably receive lengths of the remaining portion of said strap to thereby shorten the overall length of said strap and position said member substantially midway between the ends of said strap.

3,259,286
PROCESS AND APPARATUS FOR DIVIDING GLASS
Jacques Yves Jean Le Grae, Sartrouville, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Oct. 5, 1964, Ser. No. 401,589
Claims priority, application France, Oct. 25, 1963, 951,839
15 Claims. (Cl. 225—2)



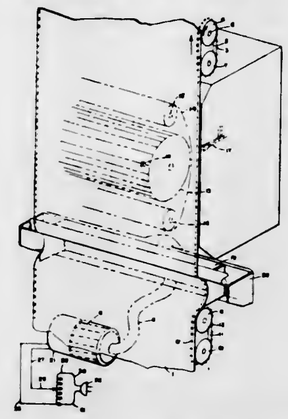
6. Apparatus for the progressive division of sheet glass which has in its surface an enscribed line, which comprises means to apply breaking force to the glass along the enscribed line including rotary glass-bending means comprising a first roller having two coaxial conical sections with their smaller ends contiguous, said roller contacting the scribed surface of the glass with said sections on respectively opposite sides of the scored line therein, to collaborate to break the glass and to arrest the broken parts at the apex angle of said sections, and means to impart relative motion to the glass and bending means whereby the bending means progresses along the enscribed line.

3,259,287
TOILET TISSUE DISPENSER
Virgil F. Spiker, 446½ N. Washington Ave., Los Angeles County, Calif.
Filed Oct. 8, 1964, Ser. No. 402,415
1 Claim. (Cl. 225—34)



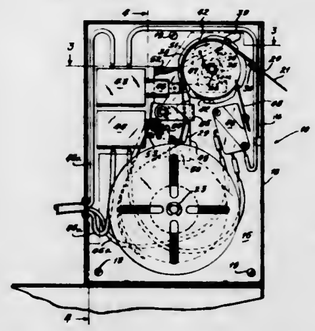
A toilet tissue dispenser comprising a compartment having a curved front face adapted to envelope a conventional roll of toilet tissue, including a bottom portion having a slot therethrough adapted to dispense the said tissue, in combination with end members having a peripheral flanges mounted within the compartment to inclose the ends thereof, and being further provided with brackets secured on the inner face of the said end members adapted to receive a stationary tissue holder upon which the said tissue is mounted, said brackets having a closed side opposite an open side through which the tissue holder is inserted and mounted, in further combination with a wall mounting plate having a peg extending vertically from the front side thereof, adapted to fit into a hole in the bottom portion of the compartment, and wherein the said flanges of the end pieces have spaced opposing faces adapted to engage the said plate when the peg is in the said hole, thereby removably securing the compartment to the plate, and wherein the tissue holder has a divider mounted thereon providing two portions of the holder, each to accommodate a separate toilet tissue.

3,259,288
VACUUM TENSIONING OF PAPER IN A HIGH SPEED PRINTER
Carl I. Wassermann, Queens Village, N.Y., assignor to Datamark, Inc., Westbury, N.Y., a corporation of New York
Filed Mar. 9, 1964, Ser. No. 350,242
8 Claims. (Cl. 226—60)



1. In a high speed printer, the combination of, paper pulling means, at least two paper follower means one for each edge of the paper, means for maintaining predetermined separation between follower means in accordance with the width of paper to be accommodated, vacuum tensioning means extending across the path of said paper between said pulling means and said follower means, and laterally adjustable means for determining the effective width of said vacuum means across said paper path.

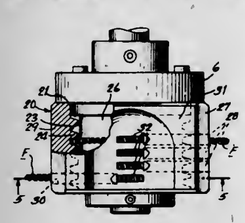
3,259,289
TRADING STAMP DISPENSING MACHINE
Cecil E. Pittman, 1632 Ferguson, Springfield, Mo.
Filed Oct. 7, 1963, Ser. No. 314,250
7 Claims. (Cl. 226—135)



1. A stamp dispenser comprising a housing having a slot in one wall thereof, a roll of stamps mounted in the housing, a dispensing spool over which the stamps pass on their path from the roll to the slot, means for posi-

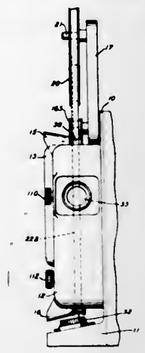
tively retaining the stamps to the spool so that the spool upon rotation positively moves the stamps through the slot, means for rotating said spool through a predetermined arc, comprising a drive cam operatively connected to the spool through a dog and ratchet arrangement whereby the drive cam rotates the spool in a direction to dispense stamps through the slot and is free to return to the original position, a solenoid, and a solenoid plunger connected to the drive cam to rotate the drive cam and spool upon energization of the solenoid, means for locking said spool after its predetermined movement including a lock plate having a series of slots around its peripheral edge connected to the spool and movable therewith, a pivotally mounted lock lever biased toward the lock plate and having means for engaging the lock plate slots and the drive cam, means for retracting the lock plate during rotation of the drive cam, and means for energizing the retracting means, said means being actuated by the drive cam at the end of its stamp dispensing movement, the drive cam having spaced indentations on its preipheral surface, one of said indentations cooperating with the lock lever to lock the drive cam in its rotated position and a second of said indentations having an adjacent cam surface which moves said lock lever out of the indentations on the lock plate to permit rotative movement of the spool, and means for returning said spool rotating means to its original position while maintaining the spool in its locked condition so that the spool rotating means is in position to again rotate said spool through the predetermined arc.

3,259,290
FEEDING AND PAY-OFF DEVICE FOR FILAMENTARY MATERIAL
Frank W. Clarke, Boca Raton, Fla., and Walter J. Koyder, Meadville, Pa., assignors to Talon, Inc., a corporation of Pennsylvania
Filed Oct. 16, 1963, Ser. No. 316,605
10 Claims. (Cl. 226—190)



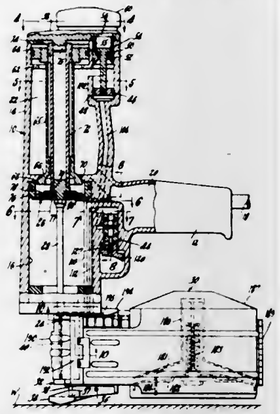
1. A device for paying-off and feeding continuous length filament from a source of supply to a take-up comprising,
a cylindrical feed roll rotatably mounted,
means for rotating said feed roll at a predetermined speed,
a housing member arranged circumferentially around said feed roll so as to encircle the same having an inner periphery spaced from the outer periphery of said roll,
means for guiding the filament in the space around said roll between the periphery of said roll and said housing member,
said filament responsive to the tension to which it is subjected by said take-up for moving between a first position wherein the filament engages the peripheral surface of said feed roll to advance said filament from said supply, and a second position wherein the filament is displaced from engagement with the peripheral surface of said feed roll and moved into engagement with the inner surface of said housing member.

3,259,291
MOTION PICTURE PROJECTOR WITH AUTOMATIC EDGEWISE FILM THREADING
John Andrew Maurer, Somerset, N.J., assignor, by mesne assignments, to McGraw-Hill Book Company, Inc., New York, N.Y.
Filed July 27, 1962, Ser. No. 212,858
6 Claims. (Cl. 226—196)



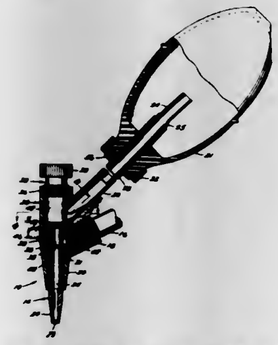
1. In a projector for motion picture film, a roller, a guide flange at each lateral end region of the roller, the guide flanges being spaced apart slightly more than the width of the film and forming with the cylindrical surface of the roller a channel into which film may be fed, and a guide member located in proximity to the roller having a guide surface inclined toward the axis of rotation of the roller in the direction toward the roller, the inclined surface being positioned relative to the nearer one of the guide flanges with its edge nearest the roller slightly farther from the axis of rotation of the roller than the outer edge of the guide flange in such manner that a strand of film drawn around the inclined surface and subjected to a slight tension will slide laterally toward the roller and past the nearer lateral guide flange, terminating such slide by leaving the inclined surface and seating itself in the channel.

3,259,292
FASTENER DRIVING APPARATUS
George A. Maynard, Warwick, R.I., assignor to Bostitch, Incorporated, East Greenwich, R.I., a corporation of Rhode Island
Filed Mar. 17, 1964, Ser. No. 352,494
21 Claims. (Cl. 227—8)



1. Apparatus for driving fasteners into a workpiece comprising fastener driving means including a driver element,
structure defining a drive track for slidably receiving a driver element,
means for positioning a fastener in said drive track,
control means for operating said fastener driving means to move said driver element through said drive track, and
interlock means for sensing the proper positioning of a fastener in said drive track, said interlock means enabling actuation of said operating means in response thereto.

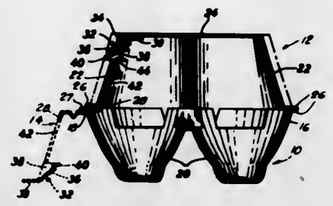
3,259,293
ARRANGEMENT FOR REMOVING AND APPLYING SOLDER
John Dezzani, 8006 Otis St., Huntington Park, Calif.
Filed Sept. 8, 1964, Ser. No. 394,987
9 Claims. (Cl. 228—20)



1. A device for removing and applying solder comprising
a housing,
said housing having a chamber therein,
a tip member extending outward from said housing,
said tip member having a distal end adapted to engage a workpiece
and a bore extending from said distal end to said chamber,
a heater connected to said housing for elevating said chamber and said tip member to a temperature above the melting point of solder,
a tube connected to said chamber
and extending outwardly therefrom,
an aspirator connected to said tube for creating vacuum and pressure within said chamber,
and restrictor means interposed between said chamber and said tube for precluding the flow of solder from said chamber into said tube,
said heater being in heat transfer relationship with said restrictor means for maintaining said restrictor means at an elevated temperature and preventing solidification of solder particles at said restrictor means.

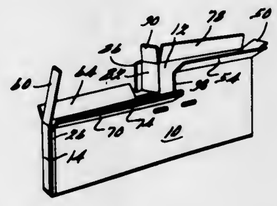
3,259,294
MOULDED PULP PACKING AND METHOD FOR PRODUCING SAME
Erik Louis Hartmann, Tvaervej, Birkerod, Denmark, assignor to Skandinavisk Emballage Aktieselskab, Lyngby, Denmark, a joint-stock company
Filed Jan. 17, 1964, Ser. No. 338,420
Claims priority, application Denmark, Mar. 12, 1963, 1,133
4 Claims. (Cl. 229—2.5)

3. In a moulded pulp packing including a hollow lower part and an upper cup-shaped part having an oblique lateral wall so as to be readily releasable from the mould in which the packing is formed, said parts being hinged together with a lower edge of the upper part hinged to an upper edge of the lower part, and a locking flap hinged by its lower edge to the upper edge of the lower part opposite the position of the hinge between the upper and lower parts, said locking flap extending upwardly within and along the oblique wall of the upper part when it is in closed position and including a locking projection cooperating with an opening in said oblique wall of the



upper part to lock the packing in closed condition when the upper part is brought over the lower part and the locking flap, and in which the locking projection is shaped like a downwardly open nose and is located at the upper portion of the locking flap, said locking flap being provided with a recess therein extending downwardly from the lower edge of the locking projection.

3,259,295
HIGH END BOX
James N. Butz, Farmington, Mich., assignor to Carroll Container Corporation, Detroit, Mich., a corporation of Michigan
Filed Mar. 12, 1965, Ser. No. 439,295
3 Claims. (Cl. 229—23)

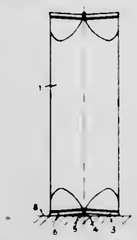


1. A carton made from folded sheet material including substantially identical front and rear walls provided with high and low portions at the opposite ends thereof, a generally vertical edge extending between the upper edges of the high and low portions of said front and rear walls, a pair of end walls interconnecting said front and rear walls at opposite ends of the carton, a bottom wall extending between said front and rear walls at the bottom of the carton, a high end top wall extending between said front and rear walls at the high portions thereof, an end closure panel extending between said generally vertical edges for the entire height thereof, said panel being integrally formed from the same sheet as one of said front and rear walls and being secured to the other of said front and rear walls, a first low end top wall integrally formed with the one of said front and rear walls with which said panel is integrally formed, said first low end top wall being spaced from its adjacent vertical edge by an amount at least equal to the width of said panel and extending to the other of said front and rear walls, and a second low end top wall connected to the other of said front and rear walls and extending between said front and rear walls at the end portions thereof.

3,259,296
TUBULAR CONTAINER MADE OF FLEXIBLE MATERIAL

Antoine Beranger, 8 Rue Guerin, Charenton, Seine, France

Filed June 4, 1962, Ser. No. 199,789
3 Claims. (Cl. 229—5.5)

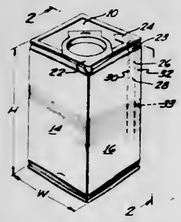


1. A tubular container made of a flexible material at least one end of which is sealed by a plurality of lips formed by pinching the end portion of the container in a plurality of zones thereof and bonding the respectively opposed inner surface portions of the pinched container end zones together, said plurality of lips comprising at least three lips which intersect at a common intersecting point located on the longitudinal axis of the tubular container, said three lips extending along generatrices of a cone which is coaxial with the container and which has its apex at said common intersecting point and which extends outwardly of the container from said apex, the free ends of said lips being located in a common plane normal to the container axis.

3,259,297
LIQUID CARTON AND STRAW COMBINATION

Edward A. Kalajian, 9016 W. Pico Blvd.,
Los Angeles, Calif.

Filed Nov. 4, 1964, Ser. No. 408,848
6 Claims. (Cl. 229—7)



1. A liquid carton having top, bottom and side walls and having a height which is substantially greater than its width; an opening tab extending along a side wall of the carton for a substantial vertical distance, the opening tab having an exposed free end adapted to be manually grasped and pulled to open the side wall of the carton; a straw disposed approximately vertically within the carton adpacent to and in alignment with the opening tab, the straw having an overall length which substantially exceeds the width of the carton; and, means connecting the straw at a position intermediate its ends to the opening tab at a position remote from the exposed free end of the tab.

3,259,298
TUBE CLOSURES

Robert T. Gorton, Newtown, Conn., assignor to S. Curtis and Son Incorporated, a corporation of Connecticut

Filed June 18, 1964, Ser. No. 376,083
12 Claims. (Cl. 229—23)

1. A box-like separable insert plug for a container tube which comprises: an upper surface member arranged to close the open end of said tube and extend beyond said open end to be grasped by the fingers and limit insertion of said plug into said tube; a lower surface member arranged to be positioned within said tube substantially parallel to said upper surface member; first and second

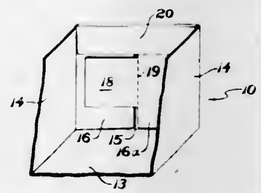


side members interconnecting said upper and lower surface members; and wing member means each hingedly connected along one side edge to said plug, the other side edges being free of said plug and outwardly biased therefrom.

3,259,299
CONTAINER

Frank J. Spang, Winchester, Mass., assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Dec. 18, 1963, Ser. No. 331,622
2 Claims. (Cl. 229—32)

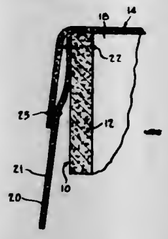


1. A container that includes an open-top rectangular-shaped bottom section, said bottom section of said container comprising a rectangular-shaped bottom panel, two opposed vertical end panels disposed at opposite ends of the rectangular-shaped bottom panel and attached along their bottom edges to the end edges of the rectangular-shaped bottom panel, and two opposed vertical side panels disposed at opposite sides of the rectangular-shaped bottom panel and attached along their bottom edges to the respective side edges of the rectangular-shaped bottom panel, each said side panel having a flap attached along each of its vertical side edges, each said flap being folded inwardly along the line of demarcation between the flap and the side panel to which it is attached and being in juxtaposition with an end panel of said bottom section, the face of each said flap in juxtaposition with an end panel being adhered to the inner face of the end panel with which the respective flap is in juxtaposition, one of said flaps having a tab attached to the distal end thereof, said tab extending inwardly into the interior of said bottom section and being unattached to the components of the said bottom section of the box except along the said line of attachment of the tab to the said flap with which it is joined, said tab being readily detachable from the said flap with which it is associated, said tab in the detached form serving as a means for determining sales of the item packaged in the container and as a reorder tab that indicates when transmitted to the manufacturer of the item packaged in the container a desire that the manufacturer furnish a replacement item for the one which has been sold.

3,259,300
CONTAINER LID FASTENER

Aloysius J. Pietrzak, Jenkintown, Pa., and Julian C. Webster, Delanco, N.J., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

Filed May 4, 1964, Ser. No. 364,708
3 Claims. (Cl. 229—45)

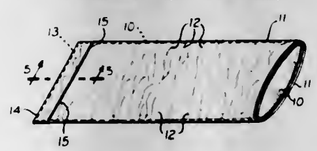


1. A container consisting of a hollow body portion having an open mouth at one end and a cup-shaped portion adapted to fit over the container's mouth end, and spaced some distance from each other at least two tabs each having at least two extremities with a first of said tab extremities being secured to the exterior of the container, partly adjacent that body's mouth end and, after the lid is in closed position on the container, the second of said tab extremities, which otherwise extends laterally from and free of said container, is secured to an extremity of the lid near the lid's open end, the attachment of the tabs to the container and to the lid being made as desired by suitable removable fastening means.

3,259,301
PLASTIC-LINED BAGS AND METHOD OF MAKING

Paul L. Onasch, Newport News, Va., assignor to Arkell Safety Bag Company, New York, N.Y., a corporation of New York

Filed Mar. 9, 1964, Ser. No. 350,196
7 Claims. (Cl. 229—55)



1. A flexible lined bag comprising an outer preformed paper tube, a separate inner preformed thermoplastic tube concentrically nested within said outer tube wherein the ends of each tube are substantially coextensive, and at one end of said nested tubes a heat-sealed portion traversing the mouths of the bags at said end, said portion consisting of a closure of said inner tube and an adhesion between said inner tube and the outer tube and providing a bottom closure for said bag.

3,259,302
CLOSURE DEVICE

Pierre Xavier Marc Rocchisani, 68 Rue de Verneuil, Paris, France

Filed Apr. 12, 1963, Ser. No. 272,591
5 Claims. (Cl. 229—62)

1. In a closure device for a bag comprising two preassembled superposed strips of elastic material for enclosing the mouth of the bag between themselves, one part of a fastening means secured to the one ends of said superposed strips, the other part of said fastening means being secured to the other ends of said strips, said strips being bent around the mouth of said bag into locking position of said fastening means whereby, in locked position, the one elastic strip folded around the bag and being surrounded by the other elastic strip is placed thereby

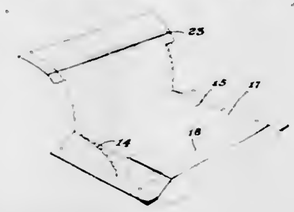


under increased compression, the improvement comprising at least one of said strips being secured by means of an abutment provided by a re-entrant surface.

3,259,303
RESEALABLE FLEXIBLE CONTAINER

John P. Repko, Beaverton, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 2, 1964, Ser. No. 401,072
3 Claims. (Cl. 229—66)



1. In a generally flat container having an object packaged therein, said container having first and second hermetically sealed end portions, first and second side portions and a bottom and a top, said container being prepared from a flexible web in which at least the inner surface of said web is heat sealable resin, the improvement consisting of: easy opening and resealing means on said top comprising (a) a fixed inner web portion integral with said first side portion being hermetically sealed to said first and second end portions; (b) pressure sensitive resealable adhesive means affixed to the outermost surface of said inner web portion remote from and essentially parallel to the lower edge of said inner web portion and extending between said first and second end portions; (c) an outer web portion integral with said second side portion and extending in overlapping relationship with said inner web portion and said adhesive means; and (d) first and second tear lines on said outer web portion extending from the lower edge of the inner web portion at a point immediately adjacent said first and second hermetically sealed end portions respectively and extending downwardly in the direction of said second side portion, said tear lines being of a pattern suitable for forming an opening when the outer web portion is drawn away from said inner web portion.

3,259,304
POSTCARDS

Lawrence F. Tichnor, Brookline, Mass.
(76 Atherton St., Jamaica Plain, Mass.)

Filed May 25, 1965, Ser. No. 458,647
5 Claims. (Cl. 229—92.8)

1. A multiple function postcard device for efficient display and sale of postcards, said device consisting essentially of a single sheet of paper material,

said sheet comprising a plurality of individual postcard panels arranged substantially in a single plane and extending in a row,

each of said postcard panels having a graphic illustration on a front side of said sheet and printed material on a backside of said sheet,

an advertising panel removably attached to one end of said row and carrying indicia on said front side of said sheet,

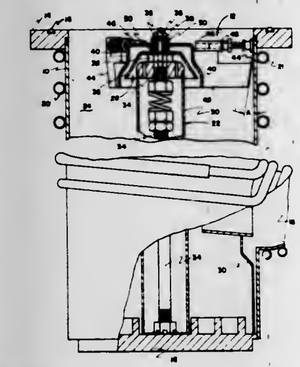
a plurality of tear lines formed in said sheet separating each one of said panels from another whereby said



postcard panels can be easily separated from said sheet by a user,

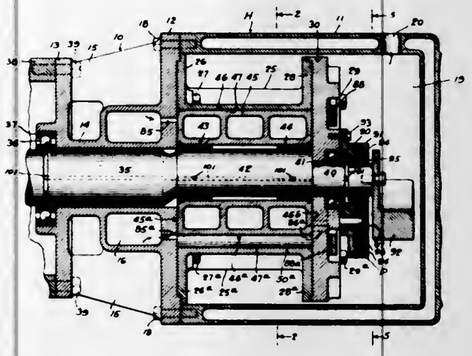
and means on said advertising panel for hanging said sheet with said advertising panel uppermost and said postcard panels extending downwardly therefrom in said row and having substantially all of the graphic illustrations presented to the eye in their correct viewing positions when the row is so arranged.

3,259,305
HIGH VACUUM
John L. Fox, Needham, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed June 12, 1964, Ser. No. 374,644
14 Claims. (Cl. 230—101)



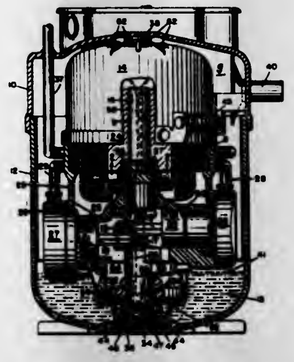
7. A diffusion pump comprising a vertically arranged tubular wall with an upper inlet opening, means for cooling the wall, a central vapor jet assembly within the pump having a vertical array of annular, vapor jet nozzles for discharging vapors outwardly, with the topmost nozzle being at the top of the assembly in the region of the tubular inlet, a cold cap assembly for mounting over the topmost nozzle, comprising an annular cold cap member constructed to closely surround the topmost nozzle and extend into the vapor jet emerging from the topmost nozzle, three ribs extending outwardly from the cap to the cooled wall, leaf springs at the ends of the ribs, face portions of the springs contacting the ribs and pump wall and adjustable means mounted on the assembly to force a face portion of each spring against the wall and support the cap in its position surrounding the topmost nozzle without touching said nozzle.

3,259,306
HIGH PRESSURE AND HIGH TEMPERATURE REFRIGERANT VAPOR COMPRESSOR
John O. Porteous, Pasadena, Calif., assignor of one-half to David F. Thomas, Altadena, Calif.
Filed Nov. 18, 1963, Ser. No. 324,364
7 Claims. (Cl. 230—147)



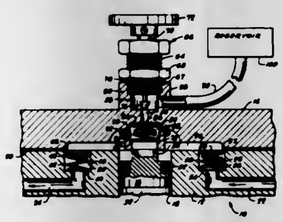
1. In a high pressure and temperature refrigerant vapor compressor, a housing defining a high pressure chamber having an outlet adapted for connection to the high pressure side of a refrigerant circulating system and provided with a head; a second head in said chamber; a plurality of segmental stator elements between said heads having internal arcuate working surfaces; means rigidly securing the stator elements to the heads a predetermined angular distance apart; a rotatably mounted drive shaft in said housing having a cam between said heads eccentrically related to the shaft axis; a piston mounted on said cam having peripheral working surfaces; vanes slidably mounted in said stator elements and spring-urged into engagement with said working surfaces of the piston for co-action therewith and with said working surfaces of the stator elements in defining working chambers; means co-acting with the piston to prevent its rotation and compelling oscillation of the piston through a predetermined angular distance when the piston is driven by the cam; the first said head having intake ports adapted for connection to the low pressure side of the refrigerant circulating system and communicating with said working chambers so as to be controlled by an end wall of the piston; the second said head having exhaust ports communicating with said high pressure chamber and with said working chambers so as to be controlled by the other end wall of the piston; said intake and exhaust ports being located in the working chambers for the piston to co-act therewith in creating a partial vacuum therein, then admitting refrigerant to the working chambers, followed by compression of the refrigerant and its discharge from the working chambers; and means co-acting with the exhaust ports to enable the compressed refrigerant to be pumped into the high pressure chamber.

3,259,307
HERMETIC REFRIGERANT COMPRESSORS
Robert W. Ayling, Staunton, Va., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 28, 1964, Ser. No. 370,962
2 Claims. (Cl. 230—206)



1. In a hermetically sealed, refrigerant compressor having a casing containing a motor compartment in its upper portion and a crankcase compartment in its lower portion, having an oil sump in said crankcase compartment, having a crankshaft with its bottom in said crankcase compartment and its top in said motor compartment, having a bearing around said crankshaft in said motor compartment, said crankshaft having a vertically extending, off-center oil passage, and said compressor having means for pumping oil from said sump through said passage, the improvement comprising the provision in said crankshaft of a radial passage extending from said bearing beyond the axis of said crankshaft and crossing the top of said off-center passage, and the provision in said crankshaft of a central, gas vent passage having its bottom end opening into said radial passage and having an open upper end at said top of said crankshaft.

3,259,308
INDUCTION METHODS AND APPARATUS
De Witt C. Bennett, 4636 S. Meridian Ave., Wichita, Kans.
Filed Sept. 11, 1964, Ser. No. 395,798
12 Claims. (Cl. 230—206)



1. In apparatus for inducing a fluid into a cylinder having a reciprocating piston located therein and containing a fluid under pressure, the improvement comprising:

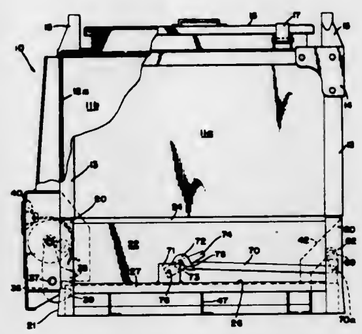
fluid reservoir means;

means forming a flow passageway connecting said reservoir and cylinder;

pressure-responsive valve means operably located in said flow passageway arranged to permit flow from said reservoir to said cylinder and to prevent flow in the opposite direction;

means on the piston for intermittently isolating said passageway adjacent the cylinder and for intermittently lowering the pressure in the isolated portion of said passageway, whereby said valve means will open upon the lowering of the pressure in said passageway, thereby inducing fluid flow from said reservoir to the cylinder.

3,259,309
PALLET CONTAINER
Carl E. Johansson, South Euclid, Ohio, assignor to Youngstown Steel Door Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 10, 1963, Ser. No. 307,858
11 Claims. (Cl. 232—43.1)



11. A container for transporting materials comprising;

walls defining a chamber having a top opening and a discharge opening at the bottom thereof;

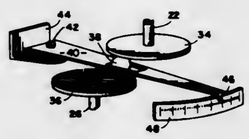
a flat bottom closure member;

means securing said closure member to said container;

manual means on said container operatively associated with said securing means and being operable to release said securing means from engagement with said closure member thereby to detach said closure member from the container;

means associated with said securing means operable to secure automatically said closure member to said container when said container is lowered onto said closure member.

3,259,310
RATIO INDICATOR
Jean D. Rochfort, 385 Royal Ave., Box 192, Simi, Calif.
Filed July 6, 1964, Ser. No. 380,239
2 Claims. (Cl. 235—61)



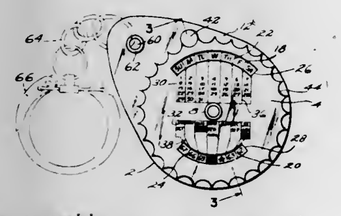
1. A ratio indicator which comprises:

(a) respective ones of a first and a second drive means suitably interconnected with associated ones of a first and second disc means positioned in a substantially parallel and spaced apart relationship, said first and second disc means defining respective first and second rotational axes,

(b) at least a first ball means positioned in rolling contact with each of said discs, said ball means posi-

tioned to freely move between and momentarily center on each of said first and second rotational axes,
(c) ball follower means positioned between said first and second discs and displaced by said ball means,
(d) spring-loaded error detector means cooperating with said ball follower means and continuously urging said ball means to a null position in rolling contact with said discs, and
(e) calibrated indicia means cooperating with said ball follower means so that the resulting ratio of the individual rates of each of said first and second discs is indicated.

3,259,311
CALENDAR AND CALCULATING DEVICE
Dominick A. Sama, Martins Pond Road, Groton, Mass., and Kenzi Etani, 14 Hiroo-cho Azabu, Minato-ku, Tokyo, Japan
Filed Feb. 11, 1964, Ser. No. 343,978
1 Claim. (Cl. 235—78)



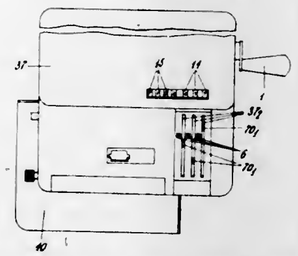
A device comprising:
a substantially egg-shaped slightly-flexible base formed of at least two laminations of plastic sheet stock,
a first plastic disc,
pivot means rotatably securing said first disc to said base, said base and first disc being formed with cooperating imprinted indicia spaced at substantially uniform and regular angular intervals about said pivot means in the region in which the respective indicia are in cooperating relationship, said cooperating imprinted indicia forming a multi-year calendar,
detent means for retaining said first disc in said cooperative angular relationship, said detent means comprising,
a plurality of radially concave arcuate scallops about the circumference of said first disc, the angular width of said scallops being equal to the angular separation of indicia on said base in the region of said cooperation, and
a cylindrical stop sized to mate with one of said scallops and secured to and extending outwardly and upwardly from an end of said base for a distance sufficient to mate with one of said scallops, said stop having an enlarged head positioned in a counterbore formed on the underside of one of said laminations and held captive in said counterbore by the other of said laminations, said detent means being arranged whereby flexing of said end of said base without flexing of said first disc releases said first disc from said stop for rotation relative to said base and wherbey unflexing of said end of said base with reference to said first locks with first disc relative to said base in a manner which permits cooperative reading of said indicia, and
a second plastic disc rotatably secured to said base on the side opposite to said first disc by said pivot means, said second disc and said opposite side having indicia thereon cooperating to form a calculating slide rule,
whereby said second disc is rotatable with respect to said base while said detent means hold said first disc stationary with respect to said base.

3,259,312
COMPENSATIVE BRIDGE SCORE COMPUTER
Clement E. Birkmeyer, Sr., 609 Prospect St., Amarillo, Tex.
Filed Jan. 15, 1965, Ser. No. 425,865
9 Claims. (Cl. 235—78)



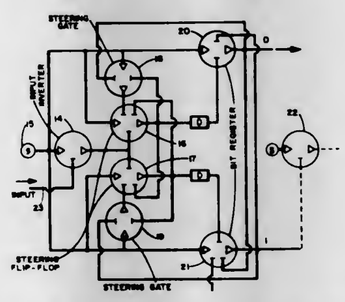
8. A compensative computer comprising, a rear cover plate, a front cover plate having a plurality of apertures therein, the front and rear cover plates adapted to be interfitted to define an enclosed chamber therebetween, a planetary gearing system in the chamber adjacent the rear cover plate, a first indicia bearing disc positioned in overlying relation adjacent the planetary gear system, an internally facing gear mounted integrally on the first indicia bearing disc and interfitted with the planetary gearing system, a second indicia bearing disc positioned adjacent the first indicia bearing disc and fixedly interconnected with a portion of the planetary gearing system, a plurality of discs having multiple apertures positioned adjacent the second indicia bearing disc, means controlling the last mentioned discs to selectively present predetermined indicia from the first and second indicia bearing discs for viewing through certain of the apertures of the front cover plate.

3,259,313
FRANKING MACHINES
Leslie Harold Smith, Romford, England, assignor to Roneo-Neopost Limited, Richmond, England
Filed Feb. 25, 1963, Ser. No. 260,475
Claims priority, application Great Britain, May 9, 1962, 17,891/62
2 Claims. (Cl. 235—101)



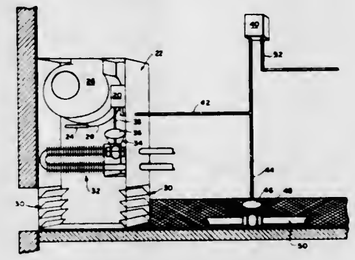
1. A franking machine comprising a casing including an arcuate wall portion having spaced parallel slots therein, a plurality of members corresponding to units, tens, hundreds and the like rotatably mounted in said casing, a each member including a disc with a portion thereof projecting through one of said slots, each disc being of a thickness and diameter to completely fill the associated slot from end to end to prevent the entry of a foreign member through said slot at the sides or ends thereof by said discs into said casing, and each disc having a fingertip receiving recess in the peripheral edge thereof projecting through each slot, the bottom of each recess terminating outwardly of the adjacent arcuate wall portion to prevent entry of a foreign member through said recess into said casing.

3,259,314
TURBULENCE FLUID LOGIC BINARY COUNTER DEVICE
Richard W. Hatch, Jr., Norwell, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed June 24, 1964, Ser. No. 377,705
1 Claim. (Cl. 235—201)



A dynamic fluid logic binary counter stage using turbulence gates throughout, said stage comprising, in combination,
a diffusion unit input gate, a source of continuous fluid flow to the input of said input gate, and a transverse control pulse signal input to said input gate, whereby the absence of an input signal results in an output from said input gate, and the occurrence of an input signal closes said input gate and results in absence of signal in the output of said input gate,
a steering flip-flop comprising a pair of diffusion units, a source of continuous fluid flow to the input of each of said flip-flop units, a transverse control from the output of said input gate to each of said flip-flop units, and cross-over transverse control means from the output of each of said flip-flop units to the other of said flip-flop units,
a steering gate system comprising a pair of diffusion units, a source of continuous fluid flow to the input of each of said steering gate units, an output from each of said steering gate units to one of said flip-flop units whereby a transverse control function is directed to each of said flip-flop units through one of said steering gate units, and transverse control means from the output of each one of said flip-flop units to the one of said steering gate units through which control is directed to said one of said flip-flop units,
a bit register comprising a pair of diffusion units, a source of continuous fluid flow to the input of each of said bit register units, transverse control means from the output of one of said flip-flop units to one of said bit register units, and from the other of said flip-flop units to the other of said bit register units, and delay means in each of said transverse control means, cross-over transverse control means from the output of each of said bit register units to the other of said bit register units, feedback transverse control means from the output of one of said bit register units to the one of said steering gate units through which control is directed to the one of said flip-flop units from the output of which transverse control means is directed to said one of said bit register units, and from the output of the other of said bit register units to the other of said steering gate units,
and, a binary output take-off passage from the output of each of said bit register units.

3,259,315
MODULATING PNEUMATIC THERMOSTAT
Robert A. Gray, Goshen, and Arthur L. Good, Elkhart, Ind., assignors to Robertshaw-Fulton Controls Company, Richmond, Va., a corporation of Delaware
Filed June 6, 1963, Ser. No. 285,964
19 Claims. (Cl. 236—37)



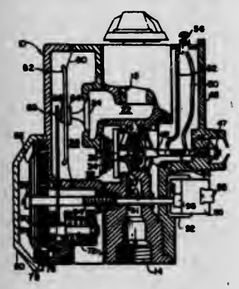
1. In a heating system for a space
including
ventilator means for delivering heated air to said space, said ventilator
including
a blower to provide positive airflow,
heat exchange means in the airflow of said blower
a source of heating fluid and
pneumatic valve means operated by pneumatic pressure interconnecting said source, and
said heat exchange means,
a thermostat for controlling the flow of said heating fluid in said heat exchange means,
comprising
a Diastat responsive to the temperature of said airflow from the ventilator;
a transmitter lever,
said transmitter lever having first, second and third points of suspension,
a base plate for said respective second and third points of suspension,
said first point of suspension being on said Distat,
said second point of suspension being on said base plate and
said third point of suspension being on an adjacently spaced portion of said base plate,
said transmitter lever being formed with a slot for throttling range control,
a range slide in the slot on the transmitter lever,
adjustable stop means on said slide variably engaged leakport lever,
a source of pneumatic pressure;
a selectively variable flow restrictor;
a leakport;
a branch chamber connected through said flow restrictor with said source of pneumatic pressure and vented by said leakport, and
operatively connected with said pneumatic pressure actuated valve means;
a leakport lever pivoted intermediate its ends and biased to close said leakport,
said leakport lever being disposed beneath said transmitter lever and said stop means engagable with said leakport lever,

whereby

displacement of said Diastat in response to variations in the temperature of said airflow from the ventilator is transmitted to said transmitter lever via said first point of suspension and to said leakport lever via said adjustable stop means,

the movement of said leakport lever thus modulating the branch pressure in said branch pressure chamber as a function of the temperature of said airflow.

3,259,316
COMBINED FUEL CONTROL PRESSURE REGULATOR AND SWITCH
John W. Wright, Long Beach, Edward L. Gallagher, La Mirada, and Jay L. Thienes, Artesia, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Mar. 13, 1963, Ser. No. 264,856
12 Claims. (Cl. 236—92)



1. In a control device, the combination comprising a casing having inlet and outlet openings, valve means in said casing for controlling a fuel flow between said inlet and outlet openings, pressure regulating means in said casing for regulating the fuel flow therethrough, means biasing said pressure regulating means and moving the same between high and low settings, switch means carried by said casing and being movable between high and low control positions, a dial on said casing movable between a plurality of positions, and means operatively connected to said dial for simultaneously causing said biasing means to move said pressure regulating means between its high and low settings and moving said switch means to correlated positions.

3,259,317
LOADING AND DRIVE SYSTEMS FOR HEAT PUMPS
David Aronson, Upper Montclair, and Richard E. Japhet, Livingston, N.J., assignors to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Original application Dec. 26, 1961, Ser. No. 161,789. Divided and this application Aug. 13, 1965, Ser. No. 479,512
8 Claims. (Cl. 237—12.1)

1. A heat pump system for heating an enclosed area comprising:

(a) a heat pump loop means having a compressor, a condenser, an expansion device, and an evaporator operatively connected to each other,

(b) a prime mover of the combustion type to drive the compressor,

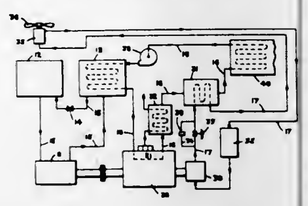
(c) a heating loop means connected to absorb rejected heat from the condenser and the prime mover for delivery to at least one heat exchanger in an enclosed area,

(d) pumping means connected to be driven by the prime mover,

(e) the pumping means having an inlet and a discharge means,

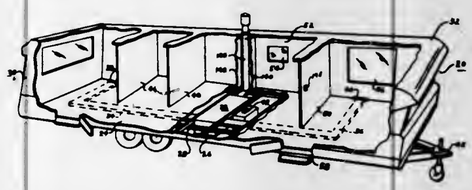
(f) a valve disposed in the discharge means,

(g) a by-pass means connected to the discharge means to by-pass the valve means, and



(h) a restriction formed in the by-pass means whereby on closing of the valve means the pumping means to pump against a greater pressure so as to impose an increased load on the prime mover which generates more internal heat to be absorbed by the heating loop means for delivery to said enclosed area.

3,259,318
COMBINATION MOBILE HOME AND HEATING SYSTEM
Ray Eberhart, 317 E. Jefferson Blvd., Mishawaka, Ind.
Filed Feb. 18, 1963, Ser. No. 259,783
9 Claims. (Cl. 237—31)



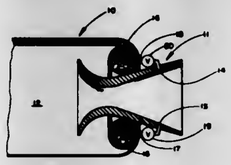
1. The combination of a mobile home having a frame of two longitudinally extending members and a plurality of spaced transverse members secured to the upper side of said longitudinal members, a floor and two side and end walls supported by said transverse members, a roof and ceiling supported by said walls, and panels forming a compartment of limited area extending from said floor to said ceiling adjacent one of said side walls and having a vent near the top thereof, and a heating system including an insulated housing of elongated rectangular shape horizontally disposed directly between said longitudinal frame members and two of said transverse members and positioned in close proximity to the undersurface of said floor, support means connecting said housing to said transverse members, a blower connected to said housing and discharging thereinto, said blower being disposed along one side of said housing and spaced downwardly from the upper edge thereof the height of said transverse members, a heat exchanger in said housing, a flue connected to one end of said heat exchanger and passing upwardly through said floor within the confines of said longitudinal and the respective transverse members and extending through the compartment, ceiling and roof, a stack completely surrounding and enclosing said flue from said housing to and through said ceiling and roof and having a vent near the top thereof communicating with said first mentioned vent, a conduit connecting the lower portion of said stack with said blower on the intake side thereof, a burner of the pressure gun-type disposed at the other end of said housing and discharging into said heat exchanger, and conduits connecting said housing with the living space in the home at remote points therein.

3,259,319
AMBULANT IRRIGATING DEVICE
David A. Wallace, 100 Lewiston Road, Grosse Pointe Farms, Mich.
Filed Nov. 25, 1964, Ser. No. 413,747
13 Claims. (Cl. 239—177)



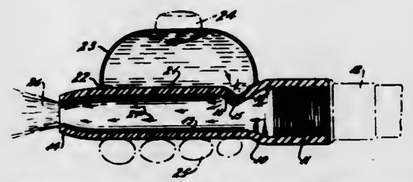
5. A driving system for a wheel-mounted pipeline comprising a tubular supporting axle constituting a portion of the pipeline, a ground engaging drive wheel rotatably mounted on said axle, a plurality of mobile wheel-mounted pipeline support assemblies spaced axially along said pipeline supporting said pipeline in a vertical direction, at least one of said mobile support assemblies including dual wheels mounted in tandem, a water operated reciprocating motor, a platform secured to said pipeline having a mounting surface for securing thereto said motor, a drive gear secured to said wheel, motion transmitting means operatively connecting said reciprocating motor and said drive gear for intermittently driving said gear so as to cause rotation of said ground engaging drive wheel, control valve means actuated by said motion transmitting means for causing reciprocation of said motor, and a plurality of longitudinal laterally extending reinforcing plates spaced on opposite sides of said pipeline and firmly secured thereto for preventing undue bending of said pipeline in a generally horizontal directional.

3,259,320
SECONDARY INJECTION THRUST VECTOR CONTROL SYSTEM
Christian M. Frey, Los Altos, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Substituted for abandoned application Ser. No. 76,764, Dec. 19, 1960. This application Apr. 29, 1963, Ser. No. 276,274
1 Claim. (Cl. 239—265.23)



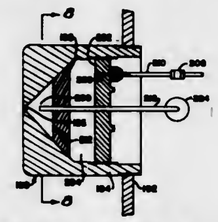
A rocket motor thrust vector control system comprising a combustion chamber for generating combustion gases, a nozzle in communication with the aft end of said combustion chamber, said nozzle having a convergent portion and a divergent portion downstream of said convergent portion, liquid injection ports in said nozzle downstream from said convergent portion for injection of liquid into said combustion gases to divert the flow thereof, a flexible container for said liquid mounted within said combustion chamber and in pressure transmitting relationship with said combustion gases, said flexible container being capable of collapsing under the action of said combustion gases whereby the liquid is pressurized by compression of said flexible container by said combustion gases, liquid transmitting means connecting said flexible container to said injection ports and means for varying the flow of the liquid to said injection ports, whereby said fluid is uniformly available for injection at all times during the operation of said motor and the formation of voids in said fluid is prevented.

3,259,321
WATER HOSE ATTACHMENT
James Barry Sellers, Macon, Ga., assignor of thirty percent to Kenneth Sherman, New York, N.Y.
Filed Jan. 14, 1965, Ser. No. 425,595
4 Claims. (Cl. 239—310)



1. The combination of a nozzle and a container operatively associated therewith, said nozzle comprising a hollow elongated body having a flat exterior surface against which said container is adapted to fit and also having screw threads at one end for attachment to a hose with its opposite end gradually reduced to a constricted extremity for concentrating the discharge of fluid therethrough, said body being a relatively rigid inexpensive structure which can be readily discarded after a single use, said body having an internal projection at one side near its screw threaded end and having an opening from the exterior of the nozzle to the interior thereof through said projection, the axis of said opening being forwardly inclined between the exterior and the interior of the body so that matter introduced therethrough will be moving axially forward during such introduction, a one-way pressure type valve in said opening permitting flow from the exterior to the interior of said body, said container having a wall portion which can be moved by the pressure of the hand to exert internal pressure on the contents of said container to expel a portion of the same through said valve into said nozzle.

3,259,322
ASPIRATING SWIRL TYPE NOZZLE
Albert Biber, Verona, Orvis A. Davis, Sr., Gibsonia, and Bruce R. Walsh, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 11, 1964, Ser. No. 344,006
4 Claims. (Cl. 239—403)



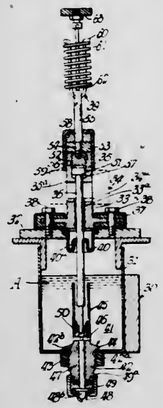
1. An aspirating nozzle comprising an enclosed swirl chamber having a substantially circular cross section, a nozzle axial discharge opening at the forward end of said swirl chamber the narrowest portion of which constitutes a discharge orifice, swirling means at the rear of said swirl chamber, a tubular duct extending axially from the rear of said swirl chamber and terminating with a tubular duct axial opening at an intermediate axial position in said swirl chamber between said swirling means and said discharge orifice, the diameter of said discharge orifice being larger than the internal diameter of said tubular

duct, the outer surface of said tubular duct having a cylindrical configuration over substantially its entire length, said nozzle being free of means for imparting swirling to a fluid flowing within said tubular duct, said swirl chamber wall surface converging as a substantially uniform cone from said swirling means disposed to the rear of the axial terminus of said tubular duct to said discharge orifice disposed in front of the axial terminus of said tubular duct, said swirl chamber having rear enclosure means extending between the exterior of said tubular duct and said swirl chamber wall surface so that said swirl chamber is substantially completely enclosed at the rear thereof, said swirling means comprising swirling passageway means having swirling opening means at the rear of said swirl chamber, said swirling passageway means extending through not more than a minor proportion of the surface of the rear wall of said swirl chamber, said swirling passageway means opening into said swirl chamber only at said conical swirl chamber wall surface laterally remote from said tubular duct and rearwardly with respect to the axial terminus of said tubular duct, said swirling passageway means opening into said swirl chamber in both a forwardly and substantially tangential direction with respect to said conical swirl chamber wall surface adapted for the admission to said swirl chamber of a swirling pressurized gas in both a forwardly and substantially tangential direction with respect to said conical swirl chamber wall surface.

3,259,323
ADHESIVE-APPLYING APPARATUS

Charles J. Sanders, De Pere, Wis., assignor to Paper Converting Machine Co. Inc., Green Bay, Wis., a corporation of Wisconsin

Filed Mar. 23, 1964, Ser. No. 353,745
1 Claim. (Cl. 239—585)



A mechanism for applying adhesive to a moving web, comprising a frame equipped with an adhesive flow passage, conduit means for delivering fluid adhesive thereto, a plunger reciprocably mounted in said passage for ejecting adhesive from one end of said passage, said plunger being equipped with radially enlarged ends, the plunger enlarged end adjacent the passage one end being axially arcuate to develop a line-type seal with the wall of said passage, solenoid coil and armature means operatively coupled to said frame and the other end of said plunger for moving said plunger toward said passage one end, the plunger other enlarged end being rockably mounted in said armature whereby the axis of said shaft is displaceable from the axis of said passage without affecting the said line-type seal, a resilient element interposed between said plunger and said frame for returning the plunger to retracted position away from said passage one end, shock pad means on said frame for cushioning the impact of said plunger with said frame following retraction thereof by said resilient element, and a resilient cup-shaped closure member closing said passage one end, said closure having a cut extending therethrough normally effecting a seal for said passage, but under the pressure developed by said plunger opening to permit ejection of said adhesive, said closure being equipped with an annular upstanding rib adjacent the open top necessarily developed by the cup-shape, said rib cooperating with said frame to develop a seal against lateral flow of adhesive.

3,259,324
METHODS OF BREAKING UP SINTERED COMPACTED METAL BODIES

Dennis Ball, Little Chalfont, and Peter Ayers, High Wycombe, England, assignors to The British Aluminium Company Limited, London, England, a company of Great Britain

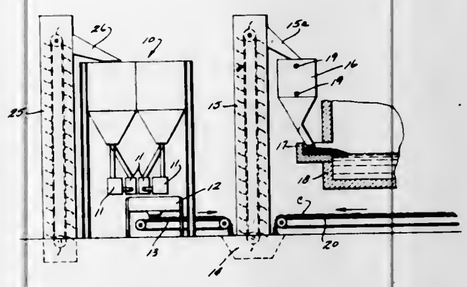
No Drawing. Filed July 1, 1963, Ser. No. 292,102
Claims priority, application Great Britain, July 3, 1962, 25,472/62
1 Claim. (Cl. 241—17)

A method of pulverising for refabrication a sintered compacted body consisting essentially of at least one of the compounds in the group consisting of the silicides, carbides and borides of the transition elements in Groups IV, V and VI of the Periodic System which comprises heating to an elevated temperature of at least 600° C. a previously sintered compacted body consisting essentially of at least one of the materials in the groups specified, thermally shocking the body by immersion in a bed of particles fluidised by a cooling liquid at a temperature of at least 575° C. below said elevated temperature, subjecting the thermally shocked body to impact, repeating at least once on the resultant pieces the cycle of thermal shock and impact, and pulverising the product of the thermal shock and impact cycles to a size suitable for further sintering and compacting operations.

3,259,325
METHOD AND MECHANISM FOR HANDLING GRANULAR MATERIALS

Joseph C. Hamilton, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed Aug. 26, 1964, Ser. No. 392,208
5 Claims. (Cl. 214—18)



1. The method of handling raw materials for delivery to a glass melting furnace which consists in maintaining a supply of each material required, flowing each material to a proportioning unit, transferring each of the several materials by gravity stream flow to a mixer, transferring mixed materials from the mixer to a hopper and thence by gravity flow directly to a furnace feeder opening into the melting end of the furnace.

3. In mechanism for handling raw materials in the preparation of a mixture for delivery to a glass melting furnace, means providing an individual source of supply of each component required, a proportioning unit individual to each component and to which a continuous stream flows from said source of supply, a turbine-type mixer to which all of the components flow from the proportioning units, a hopper, means for transferring the mixed materials to said hopper, and feeding means through which the mixed materials are transferred from the hopper to the melting end of the furnace.

3,259,326
METHOD OF SLIME BENEFICIATION

James B. Duke, Metuchen, and Ernest W. Greene, Westfield, N.J., assignors to Minerals & Chemicals Philipp Corporation, Woodbridge Township, N.J., a corporation of Maryland

No Drawing. Filed Feb. 15, 1965, Ser. No. 432,843
7 Claims. (Cl. 241—20)

6. A process for improving the selective flotation of slimed apatite from slimed clayey gangue in a minus 325 mesh, Tyler standard, aqueous ore pulp containing a substantial quantity of colloidal slimes which comprises incorporating plus 325 mesh, Tyler standard, hard inert grinding medium into said ore pulp and partially filling a horizontal baffle-free cylindrical drum having a smooth inner surface with said pulp and said grinding medium, rotating said drum about its horizontal axis at a speed such that said pulp within the drum is in the form of a pool occupying substantially only the lower portion of the drum and the individual particles of grinding medium travel in continuous generally elliptical paths within the pulp continuing said rotation for at least 10 minutes to produce a particle size reduction of said ore pulp, separating said grinding medium from said pulp and subjecting said pulp to froth flotation in the presence of a collector reagent selective to said apatite.

3,259,327
HAMMER MILL CONTROL

Herman D. Schutte, Snyder, N.Y., assignor to Schutte Pulverizer Company, Buffalo, N.Y.

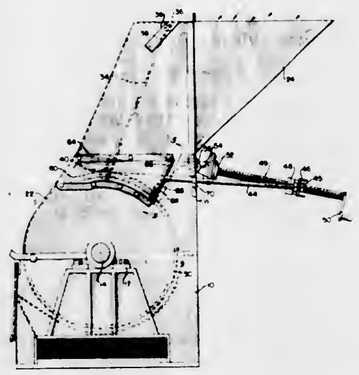
Filed Feb. 3, 1964, Ser. No. 342,204
7 Claims. (Cl. 241—186)

1. In a pulverizing mill including a casing enclosing rotating hammers and having a material feed hopper at the top of the casing, a feed control device comprising,

a baffle plate disposed within said hopper and movable therein to variably restrict the flow of feed material therethrough,

said baffle plate being positioned substantially vertically and slidably supported at its lower end by a rod extending laterally through generally horizontal slots formed in the casing side walls thereby constituting supporting track means at opposite sides of the mill casing, said baffle plate being positionally stabilized at its upper end by laterally extending means engaging generally vertically extending slide guide means at opposite sides of said mill casing,

and means to move the bottom end of said baffle plate along said horizontal tracks, said means including a strut disposed outside of said casing at each side thereof and connected to the opposite ends of said baffle plate rod, and a yoke bar interconnecting the other ends of said struts, and a screw having one end mounted in rotatably bearing relation upon said casing and extending therefrom in threaded relation through said yoke bar, and a crank for rotating said screw, all of said strut and yoke and screw and

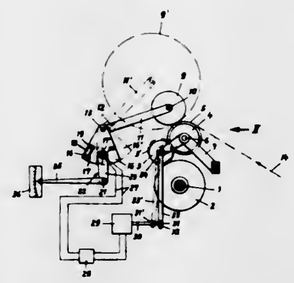


bearing devices being located exteriorly of the mill casing.

3,259,328
SHUT-OFF MECHANISM FOR BOBBIN WINDING MACHINES

Hermann Mettler and Tobias Hauri, both of Arth am See, Switzerland, assignors to Aktiengesellschaft Fr. Mettler's Sohne Maschinenfabrik, Arth am See, Switzerland

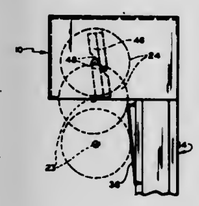
Filed Nov. 27, 1963, Ser. No. 326,492
Claims priority, application Switzerland, Nov. 30, 1962, 14,076/62
4 Claims. (Cl. 242—39)



1. A shut-off mechanism for a bobbin winding machine having at least one winding unit comprising a bobbin support mounted on a pivot shaft, a bobbin rotatably mounted on said support, a drive shaft, a first friction drum mounted on said drive shaft for rotation therewith, a second friction drum in driving engagement with said bobbin, an intermediate friction drum in driving engagement with said first and said second friction drums for transmitting rotary movement to said bobbin, a movable operating lever supporting said intermediate friction drum, a photocell unit arrangement including a diaphragm having a slot mounted on said pivot shaft for pivotal movement with said bobbin relative to said second drum, an adjustable shaft provided with means for setting the angular position of said adjustable shaft, a U-shaped support mounted on said adjustable shaft and presenting a pair of legs, one said leg carrying a photo-cell and the other a lamp disposed in radiation relation to said photo-cell, said diaphragm being disposed intermediate said photo-cell and

said lamp and adapted to render said photo-cell operative when said slot is aligned with said photo-cell and said lamp to permit actuation of said photo-cell and means responsive to actuation of said photo-cell for moving said operating lever and said intermediate friction drum so as to disengage said intermediate friction drum from driving engagement with said first and second friction drums.

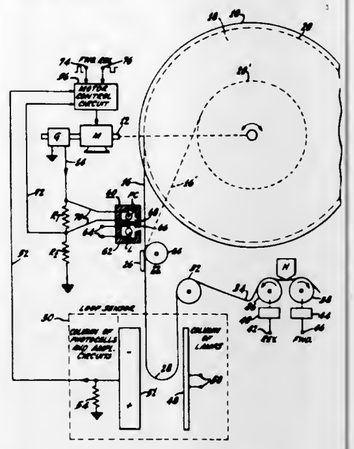
3,259,329
AIR FILTER CONSTRUCTION
George D. Krause, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 309,108
5 Claims. (Cl. 242—55.1)



1. A supply section construction adapted to receive and support a supply roll of filter material wound upon a mandrel having end spindles projecting beyond the edges of said material:
(a) a housing adapted to receive said supply roll, said housing including fixed end walls and an open bottom face;
(b) seat means fixed to said end walls to receive said projecting ends; and
(c) means for guiding said roll in a front-and-rear direction during loading thereof, including a loading door for said housing bottom face hinged along its rear edge so that it can be swung downwardly to present a generally vertical surface against which the periphery of said roll bears as said roll is being elevated, and track means extending downwardly from said seat means to said housing bottom face along each of said end walls, the lower end of said track means being disposed forwardly of said opened door surface a distance slightly less than the radius of said roll so that the forward edge of said track means receives and provides rear bearing surfaces for said end spindles as said roll is moved upwardly off said door.

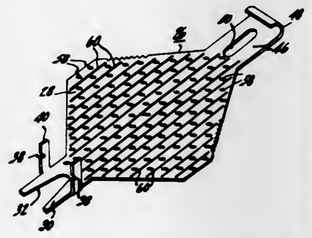
3,259,330
TAPE TRANSPORT
Solomon Baybick, Riverton, and Robert H. Jenkins, Audubon, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,409
4 Claims. (Cl. 242—55.12)

1. In a magnetic tape transport, the combination of
a tape reel, a tachometer generator, and a motor coupled to drive said reel and said tachometer generator,
a tape guide spaced from said tape reel,
a tape wound in a pack on said reel and extending tangentially from the periphery of the pack to and through said tape guide,
a photoelectric assembly mounted near the tape path between said guide and said reel, said assembly including a source of light directed to a surface of said tape and a photocell mounted to receive amounts of the light reflected from said tape which vary in accordance with the angle at which the tape extends between the tape guide and the periphery of the tape pack on the reel, and



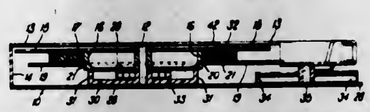
circuit means to utilize the output of said tachometer generator and said photocell to control the amount of electric power supplied to said motor.

3,259,331
BRAKE MEMBER FOR A TAPE CARTRIDGE
Stephen W. Liddle, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 1, 1963, Ser. No. 299,409
2 Claims. (Cl. 242—55.13)



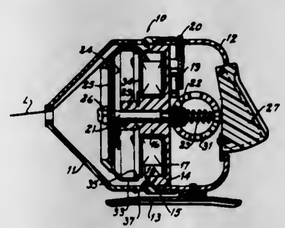
1. In a magnetic tape record cartridge of the type having a casing with a pair of opposing walls and a spool mounted therein for rotation about an axis which is transverse to said opposing walls and including a roll of magnetic tape wound on said spool, the combination comprising:
a liner of thin flexible material disposed between an edge of said roll of magnetic tape and the adjacent wall of said casing to facilitate tape reeling, and
a relatively flat brake member movably mounted in said casing between said liner and said adjacent wall and movable in a plane parallel to said liner between a first position engaging said spool to provide braking action to prevent rotation of said spool and a second position spaced from said spool to permit tape reeling, said liner undesirably tending to adhere to said brake member and to buckle in response to movement of said brake member from said first position to said second position thereby causing said liner to interfere with tape reeling,
said brake member having means on a surface thereof facing said liner providing a plurality of voids between said liner and said brake member to minimize the area of contact between said brake member and said liner to thereby reduce the adherence between said liner and said brake member to prevent buckling of said liner in response to movement of said brake member from said first position to said second position.

3,259,332
ENDLESS STRIP WINDING DEVICE
John Henry Francis, Hounslow, Middlesex, England, assignor to Technicolor Corporation of America, Hollywood, Calif., a corporation of Maine
Filed Oct. 16, 1963, Ser. No. 316,707
Claims priority, application Great Britain, Oct. 19, 1962, 39,625/62
5 Claims. (Cl. 242—55.19)



1. Apparatus for storing and feeding an endless strip formed in a coil with a bight extending between the inner convolution and the outer convolution of the coil comprising a cylindrical core on which the strip coil is supported, a drum engaging the bight, means mounting said core and drum coaxially and rotatively, and a spring coupling yieldingly connecting the core and drum, whereby, when the strip is drawn from the coil, the drum is rotated by engagement with the strip and drives the core through said spring coupling, thereby to prevent the inner turns of the strip coil from clamping on said core.

3,259,333
LINE PICK-UP MEANS FOR CLOSED FACE SPINNING REEL
R. Dell Hull, 1131 E. Easton St., Tulsa, Okla.
Filed Mar. 11, 1964, Ser. No. 351,014
11 Claims. (Cl. 242—84.2)



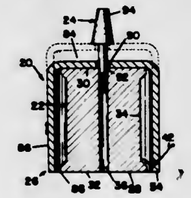
7. A spinning type fishing reel assembly comprising
(a) a normally non-rotatable line spool,
(b) a pick-up head mounted forward of said line spool for rotational movement and having a peripheral flange of predetermined thickness extending rearwardly,
(c) guide means surrounding a portion of said line spool and having a forwardly opening annular guide groove of predetermined width not substantially in excess of said predetermined thickness of and aligned with said peripheral flange, and
(d) means for controllably moving one of said pick-up head and guide means relatively between separated and closed positions,
(e) rearward extremities of said flange being received circumferentially in said groove to a predetermined depth when said pick-up head and guide means are moved relatively axially to and retained in said closed position,
(f) said flange having a rearwardly opening notch therein deeper than said predetermined depth for the passage of line when said pick-up head and guide means are in said closed position,
(g) said notch having a line-engaging surface disposed at a substantial receding angle to the axis of the pick-up head.

3,259,334
METHOD AND APPARATUS FOR REDUCING FUZZING AND BREAKING OF STRANDS
Roy E. Smith, Anderson, S.C., assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Jan. 27, 1964, Ser. No. 340,202
2 Claims. (Cl. 242—118.3)



1. A textile bobbin comprising a generally cylindrical body for receiving a yarn package; the yarn receiving surface of said body having a plurality of yarn traps formed therein; each yarn trap extending circumferentially around said body and having a groove-shaped section with a discharge edge and another edge, the discharge edge of said groove having a gradually inclined slope while the other edge has a gradually declining slope, the inclined slope edge of a first groove-shaped section being separated from a declined slope edge of a successive groove-shaped section by a substantially flat portion.

3,259,335
THREAD DISPENSER WITH REWIND MEANS
Leonard B. Rosen, R.D. 2, Jamestown, Pa.
Filed Sept. 25, 1964, Ser. No. 399,408
15 Claims. (Cl. 242—129.1)



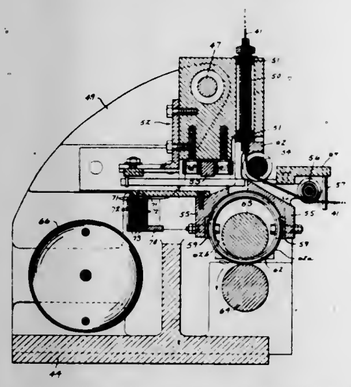
1. A thread dispenser comprising:
a spool having a continuous side wall and substantially planar ends;
a supply of thread coiled about said spool side wall;
a rewind means overlying said spool and having a central panel abutting one end of said spool and a depending skirt in spaced juxtaposition to said spool side wall;
said central panel having an aperture therein;
said skirt having a slit therein through which a free end of said thread can extend; and
a handle affixed to said spool and extending through said central panel aperture;
said handle having an enlarged portion adjacent its end for engagement with said rewind means to limit the movement thereof;
said thread dispensing being effectuated by holding said rewind means and pulling said thread whereby said

spool rotates relatively to said rewind means to uncoil and thus dispense thread;

said thread rewinding being effectuated by holding said handle and rotating said rewind means relative to said spool to rewind the thread around said spool;

said rewind means also being movable axially along said spool with said central panel thereby being movable between said spool end and said handle enlarged portion to thus permit said thread to be rewound at variable locations along said side wall.

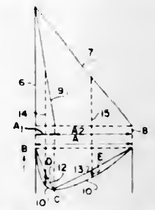
3,259,336
COIL WINDING MACHINE
William D. Hibbard, Milwaukee, Wis., assignor to Automation Machines & Equipment Co., Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 8, 1964, Ser. No. 358,256
8 Claims. (Cl. 242—158)



1. A coil winding machine, comprising: a driven mandrel for supporting and rotating a bobbin to wind a wire therearound; a carriage; means supporting said carriage for movement in a direction parallel to the axis of the bobbin; a guide member swivelly mounted on said carriage, said guide member being adapted to guide wire from a source and to direct it onto the bobbin in a helix, said guide member being adapted to swivel responsive to the angle of the wire as it is wound on the bobbin; a drive shaft extending parallel to the axis of the bobbin; a rotatable idler shaft adjacent and parallel to said drive shaft; and a follower ring having convex inner and outer peripheral surfaces rotatably carried by said swivel guide member, said ring encircling said idler shaft and being drivably engaged by said idler and drive shafts in a manner whereby said ring will travel axially on said shafts in a direction it is swiveled with said guide member responsive to the angle of the wire being wound, and said ring moving said guide member and carriage axially of the bobbin at a speed directly proportional to the swivel angle of said ring as dictated by the angle of the wire being wound.

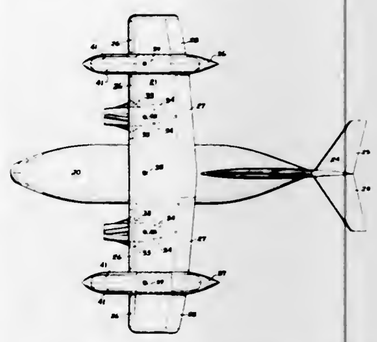
3,259,337
YARN PACKAGE AND WINDING METHOD
Jan Robert de Ruig, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware
Filed Dec. 10, 1963, Ser. No. 329,497
Claims priority, application Netherlands, Dec. 19, 1962, 286,992
8 Claims. (Cl. 242—178)

1. A yarn package wound on a tube and having minimal variations in the elasticity modulus of the yarn radially through said package as well as in the individual layers of yarn forming said package, said package comprising a first plurality of yarn windings wound in progressively decreasing traverse strokes from a maximum to a minimum forming an inner portion of said package, a second plurality of yarn windings covering said first plurality of yarn windings and forming an outer portion of said package, said second plurality of yarn windings beginning with the



layer of yarn wound in minimum traverse stroke and increasing to a maximum traverse stroke equal to the length of said yarn package, said first and second pluralities of yarn windings being joined at a transition point where the elasticity modulus of the yarn is a minimum as determined radially through said yarn package.

3,259,338
AIRCRAFT FOR SHORT AND/OR VERTICAL TAKE-OFF AND LANDING
Theodore W. Schmidt, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Feb. 17, 1964, Ser. No. 345,448
7 Claims. (Cl. 244—12)



1. An aircraft having a center-of-gravity comprising:

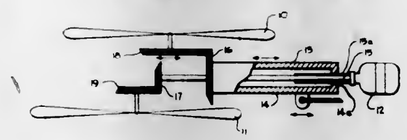
(a) a fuselage,

(b) a wing fixedly attached to said fuselage and projecting laterally from both sides thereof;

(c) a plurality of lift-devices pivotally mounted on said wing for discharging a propulsive gas stream in a substantially downward direction so as to provide an upward thrust on the aircraft, each of said lift-devices having a lateral axis, each of said lift-devices being fixed on its lateral axis relative to movement between the device and said fuselage, at least one of said lift devices being on each side of said fuselage and laterally spaced therefrom, each of said lift-devices having a pivotal axis, each of said pivotal axes being substantially parallel to the aircraft longitudinal axis and vertically displaced above said aircraft center-of-gravity; and

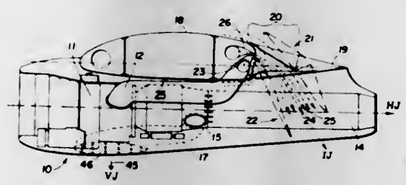
(d) means to simultaneously rotate said lift-devices in the same direction so as to change the distance from said aircraft center-of-gravity to the thrust axes of said lift-devices as measured by a line perpendicular to each thrust axis and passing through the aircraft center-of-gravity.

3,259,339
VEHICLE PROPULSION DIRECTIONAL CONTROL
Clarence Reed, 2888 Grand Concourse, Bronx 58, N.Y.
Filed Aug. 27, 1963, Ser. No. 304,994
6 Claims. (Cl. 244—17.19)



2. For use in a propelled vehicle, a direction control system, comprising at least a pair of rotor-type of propelling members, each unit in a pair rotating in the opposite direction from the other unit, the two members of each pair being axially aligned and having parallel planes of operation, and means for axially offsetting the alignment of the two members of a pair of units, while maintaining the planes of operation, substantially constant, whereby a resultant vector force is produced, which has an angular relationship to the primary directions of force of each unit.

3,259,340
INTERMEDIATE LIFT SYSTEM FOR JET AIRCRAFT AND METHOD
Donald Charles Whittley, Islington, Ontario, and Ian Aubrey King, Toronto, Ontario, Canada, assignors to The De Havilland Aircraft of Canada, Limited, Downsview, Ontario, Canada
Filed Aug. 29, 1963, Ser. No. 305,264
5 Claims. (Cl. 244—42)



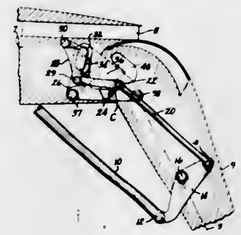
2. An intermediate lift system for aircraft having port and starboard wing elements and adapted at less than cruising speeds to develop a large lift component with said elements and comprising: a rigid portion separated from a trailing edge flap by a spanwise gap and defining an incomplete airfoil section for each of said wing elements; upper and lower door elements closeable over said gap to complete said airfoil section and when opened defining with said flap, upon deflection of the latter, a spanwise shroud and diffuser for the passage of wing surface air into said gap and toward and beyond the lower surface of said section; and means for generating a spanwise jet stream intermediate said gap and entirely within said wing section thus to induct air from said wing surfaces into said shroud for thrust diffusion creating a downward thrust component from said diffuser and by the induction of air over said surfaces increasing the air flow thereover to create a nose-up moment substantially balancing the moment of said downward thrust on said wing elements.

3,259,341
BLOWN MOVABLE AIRFOIL
Robert H. Steidl, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed May 7, 1964, Ser. No. 365,642
2 Claims. (Cl. 244—42)

1. In an aircraft wing having a main airfoil and a pivotal trailing airfoil, means defining a chamber within said main airfoil and forming a discharge slot at the trailing edge of said main airfoil, means for blowing air through said chamber, and means for translating and rotating said pivotal trailing airfoil so that the leading upper surface of said last-mentioned airfoil maintains tangential contact with the lower edge of said discharge slot, wherein said means for translating and rotating said pivotal trailing airfoil includes:

(A) an actuator arm;

(B) first linkage means interconnecting said actuator arm and a second linkage means, said first linkage means including



(1) a first follower disposed to slide concurrently in

(a) a first track within a truss support said truss support pivotally interconnecting said main airfoil and said pivotal trailing airfoil, and

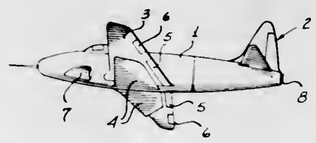
(b) a second track within said pivotal trailing airfoil; and,

(C) said second linkage means having:

(1) a second follower disposed to slide in,

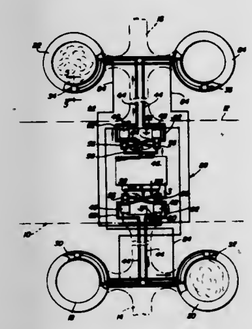
(a) a third track within said truss support.

3,259,342
AIRPLANES
Peter P. Kessery, 69 Prescott Ave., Hawthorne, N.J.
Filed Aug. 19, 1964, Ser. No. 390,522
3 Claims. (Cl. 244—45)



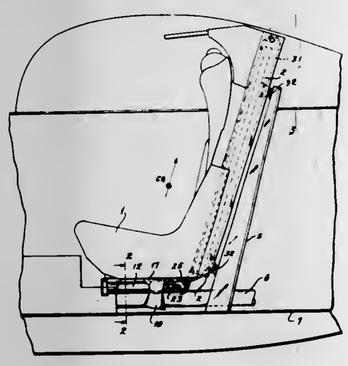
1. An airplane comprising a body having a main wing extending laterally in a straight line from the body substantially midway of the height thereof, and an auxiliary wing extending laterally in a straight line from the body substantially parallel with the main wing and approximately tangent with the lower surface of the body, said auxiliary wing being of appreciably smaller area than the main wing, with the forward edge of the auxiliary wing spaced rearwardly from the forward edge of the main wing and with the trailing edge of the auxiliary wing spaced forwardly of the trailing edge of the main wing, said auxiliary wing being of appreciably shorter length than the length of the main wing, and flaps mounted on the rear edge of the main wing for downward movement substantially into closed relation with the trailing edge of the auxiliary wing and ailerons mounted on the rear edge of the main wing and spaced outwardly from the ends of the adjacent auxiliary wing.

3,259,343
CONTROL APPARATUS FOR VERTICAL TAKE-OFF AIRCRAFT
Clarence L. Roppel, Fairdale, N. Dak.
Filed Sept. 23, 1964, Ser. No. 398,546
12 Claims. (Cl. 244—53)



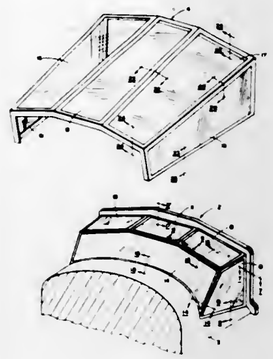
1. In combination, an aircraft frame including a center of gravity and first and second pairs of thrust developing means disposed on opposite sides of said center of gravity, each thrust developing means of each pair thereof corresponding to a thrust developing means of the other pair thereof, and a plurality of automatic thrust equalizing control means equal in number to said thrust developing means and each operatively connected to a thrust developing means for actuation thereby and to its corresponding thrust developing means of the other pair of thrust developing means for control thereof, each of said control means including means operative, responsive to a reduction of power developed by its actuating thrust developing means below a predetermined minimum, to terminate operation of the thrust developing means controlled thereby.

3,259,344
AIRCRAFT SEAT EJECTION
James T. Thorp, Webster Groves, Mo., assignor to Lambert Engineering Company, St. Louis, Mo., a corporation of Missouri
Filed Feb. 24, 1964, Ser. No. 346,650
12 Claims. (Cl. 244—122)



1. In aircraft having an ejectable seat, a catapult connected to the seat for ejecting the same, rocket means located outside said catapult and beneath the seat, an ignitor for said rocket means, said ignitor being located beneath the seat and outside said catapult, and gas generating means mounted on and movable with the seat for energizing said catapult and activating said ignitor.

3,259,345
ENCLOSURE METHOD AND MEANS
Angelo P. Martignoni, Inglewood, Lester G. Hall, Lancaster, Frederick T. McQuilkin, Los Angeles, John R. Boetto, Torrance, Hugh G. Maxwell, Palos Verdes, Robert B. Meadows, Torrance, and Leon Patterson, Los Alamitos, Calif., assignors to North American Aviation, Inc.
Filed Oct. 11, 1963, Ser. No. 315,535
24 Claims. (Cl. 244—129)



1. Edge mounting means for a panel having opposed top and bottom surfaces and a peripheral surface generally normal to said opposed surfaces, said means comprising:

thin gage steel strap means including a first strap having a plurality of spaced-apart elongated projections secured to said top surface of said panel along said peripheral edge,

said first strap further having a bearing portion connected to said elongate spaced-apart projections by a flexible web portion for transmitting tensile loads only between said panel and said bearing portion,

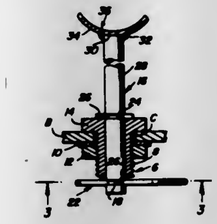
said thin gage steel strap means further including a second strap having a plurality of spaced-apart elongate projections secured to said bottom surface and generally coextensive with said peripheral surface,

said second strap further having a bearing portion connected to said elongate spaced-apart projections by a flexible web portion for transmitting tensile loads only between said panel and said bearing portion,

said bearing portions of said first and second straps being adapted and arranged to extend in close and substantially parallel relationship for attachment to adjacent panel supporting structure.

3,259,346
POLE HOLDER FOR BOAT OR DOCK
John B. Rogers, 2416 E. 24th St., Odessa, Tex.
Filed Sept. 29, 1964, Ser. No. 400,157
1 Claim. (Cl. 248—42)

A holder for a fishing rod comprising a rigid vertically elongated rod constituting a standard, said rod having an upper end which is mitered, holding means for a fishing rod comprising a relatively short rigid one piece open-ended cylindrical sleeve, a median bottom portion of said sleeve being welded atop the mitered upper end of said rod and said sleeve providing an oblique angled socket with open-ended half-portions projecting beyond diametrically opposite sides of the centered depending rod, the lower end of said standard being also mitered and thus designed and adapted to be forcibly shoved into a fishing bank or the like for anchorage, said rod being provided on a median portion thereof with a first groove, said groove being endless and at right angles to the longitudinal axis of the rod, a readily attachable and detachable split collar mounted on said rod by way of said groove,



said collar projecting beyond the surfaces of the rod and providing a stop shoulder, said rod being provided at a downwardly disposed longitudinally spaced point with a second encompassing groove, said last-named groove being adapted to accommodate a readily attachable and detachable cotter key, that portion of the rod between said grooves constituting a spindle and being adapted, if desired, to be removably and clampingly mounted in a relatively stationary bushing.

3,259,347
PLASTIC FASTENING DEVICE
Cyril J. Yates, Henderson, Ky., assignor to Cyanede Plastics, Inc., Henderson, Ky., a corporation of Kentucky
Filed July 16, 1965, Ser. No. 472,432
3 Claims. (Cl. 248—73)



1. a fastener adapted to be inserted into a panel being a one-piece member composed of resilient plastic and including as integral portions:

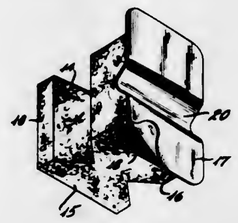
first and second wing members joined by an arcuate member;

the first and second wing members having exterior faces which slant to form a V shaped wedge and having an open space between their interior faces;

a depressed portion on the exteriors of the first and second wings and flange members attached at the end of each of the said wings opposite to the arcuate portion, the said depressed portions and flanges forming channels whose bottom width is adapted to be substantially the same as the thickness of the panel; and

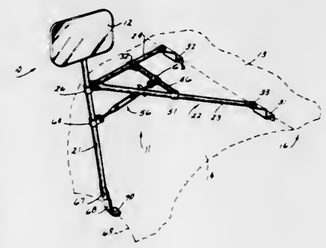
an arm extending from one of the flanges and adapted to hold an object.

3,259,348
EYEGLASSES HOLDER
Virgil L. Dana, 802 Beach Trail, P.O. Box 292, Indian Rocks Beach, Fla.
Filed May 12, 1965, Ser. No. 455,242
3 Claims. (Cl. 248—205)



1. A holder or support of blocklike configuration for retaining a pair of eyeglasses in a fixed storage position comprising an eyeglasses frame receiving body having three pairs of opposing downwardly and inwardly converging walls defining a receiving recess, a transverse groove at the rear portion of said support, means for detachably mounting and retaining said support in a substantially horizontal position when said support is attached to a substantially vertical surface, said support being of a deformable material so that a pair of eyeglasses may be retained in frictional engagement with said support without the lenses coming in contact with any surface.

3,259,349
REAR VIEW MIRROR
Edward R. Lee, Ceresco, Mich., assignor to S. H. Leggitt Company, Marshall, Mich., a corporation of Michigan
Filed May 10, 1965, Ser. No. 454,476
10 Claims. (Cl. 248—226)



1. A mirror construction for mounting on a vehicle comprising in combination:

frame means fixed at one side thereof to said vehicle and extending transversely away therefrom;

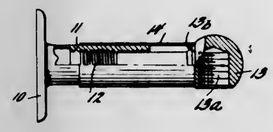
leg means in engagement with said frame means at a location spaced from said one side;

engagement means on said leg means below said frame engageable with said vehicle at a point spaced from said one side;

a mirror mounted on said leg means above said frame means;

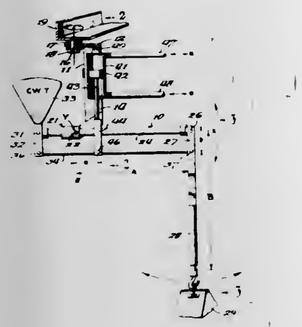
tension means extending obliquely between said frame means and said leg means, said tension means being axially adjustable for causing said leg means and said frame means to grip said vehicle therebetween.

3,259,350
WALL SUPPORT FOR SHOWER FITTINGS
Ernst Löder and Günter Buzzi, Schiltach, Black Forest, Germany, assignors to Hans Grohe Kommanditgesellschaft, Schiltach, Black Forest, Germany, a corporation of Germany
Filed Aug. 26, 1964, Ser. No. 392,206
2 Claims. (Cl. 248—251)



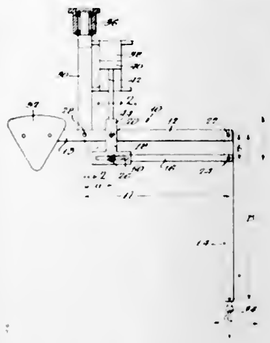
1. A bracket adapted to mount a rod, the bracket comprising a base portion adapted to be mounted on a wall, an internally threaded sleeve at right angles to and connected to the base portion, a rod holder extension with external threads adjustably connected to the sleeve, and a cover sleeve slidably mounted on the first mentioned sleeve and engaging a shoulder on a head of the extension.

3,259,351
LOADING BALANCER ASSEMBLY
Robert A. Olsen, Palatine, Ill., assignor to Conco Engineering Works, Inc., a corporation of Illinois
Filed Mar. 8, 1965, Ser. No. 444,890
15 Claims. (Cl. 248—325)



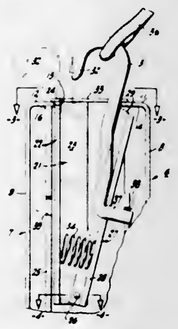
1. A hoisting balancer assembly comprising a hanger having a base member and a pair of spaced generally vertical arms connected thereto; a generally horizontal first arm pivotally mounted between said arms for rotation about a horizontal axis; a generally vertical second arm adapted to receive a load to be hoisted and balanced by said assembly, said second arm being pivotally connected to one end of said first arm; a third arm pivotally connected to said second arm; and a fourth arm pivotally connected at one end to the other end of said first arm and at its other end to said third arm, said arms between said pivotal connections forming a parallelogram; a counterweight operatively connected to one of said arms; and means for applying a generally vertical force to said third arm, said means comprising a fluid-actuated piston, a cylinder in which said piston is reciprocable, said cylinder being attached to said hanger by means which permits said piston to exert a force in a vertical direction regardless of the position of said first arm, the upper end of said cylinder being free to move horizontally as required to maintain the cylinder with its axis in a vertical position.

3,259,352
LOADING BALANCER ASSEMBLY
Robert A. Olsen, Palatine, Ill., assignor to Conco Engineering Works, Inc., a corporation of Illinois
Filed June 22, 1965, Ser. No. 466,046
18 Claims. (Cl. 248—325)



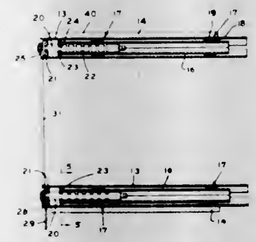
1. A loading balancer assembly comprising, a frame, a first arm pivotally mounted on said frame for pivoting about a first axis, a second arm pivoted to said first arm for pivoting about a second axis, a fluid circuit for applying force to said first arm for balancing including a piston and cylinder operatively connected to said first arm, valve means in said circuit for supplying operating fluid under pressure to said cylinder, a first flow restricting orifice in said circuit for establishing a maximum fluid flow, a second variable orifice in parallel with said first orifice, and means responsive to the load carred by said assembly for setting said second orifice.

3,259,353
ROPE HOOK
Ivan F. Webb, 630 E. Main St., Vacaville, Calif.
Filed Nov. 5, 1964, Ser. No. 409,125
5 Claims. (Cl. 248—361)



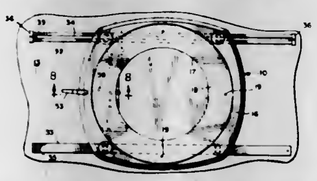
1. A rope hook for use with a pickup body having a stake opening therein comprising an elongated frame adapted to enter said opening, a pad on one end of said frame adapted to abut said body on the side of said opening, a latch lever adapted to enter said opening, means for pivoting said latch lever on said frame for movement between a first position with one end of said latch lever underlying said body adjacent said opening and a second position with said end of said latch lever lying in said opening, a hook adapted to be engaged by a rope and mounted on and extending from said one end of said lever beyond said pad, and a spring interposed between said frame and said latch lever and urging said latch lever into said first position.

3,259,354
SEAT TRACK
Edward D. Dall, Birmingham, Mich.; Beatrice L. Dall, administratrix of said Edward D. Dall, deceased
Filed Sept. 11, 1964, Ser. No. 395,697
6 Claims. (Cl. 248—429)



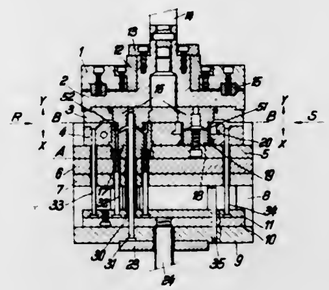
1. In a seat track, the combination comprising
a generally tubular support adapted to be mounted on a floor of a vehicle,
a generally tubular carriage adapted to be mounted on the underside of the seat and having a surface surrounding a portion of the surface of said support,
bearing means interposed between said surface and said tubular support at longitudinally spaced points along said carriage,
a rod member having a plurality of longitudinally spaced notches therein,
means for journalling said rod member within said tubular carriage for at least limited rotation,
and a lock member on said inner tubular support extending transversely of said support and having a non-circular slot therein through which said rod member extends,
the cross sectional shape of said slot being similar to the cross sectional shape of said rod such that when said rod is rotated to move said notches out of engagement with the sides of said slot so that the cross sectional shapes in alignment, said carriage can be moved longitudinally of said support and when said rod member is rotated in the opposite direction, one of said notches engages the sides of the slot in said lock member,
the base of each said notch being so positioned that said rod member, when moved to bring its cross sectional shape into alignment with the cross sectional shape of the slot, cannot rotate further and thereby the rod member is maintained in alignment with the slot during longitudinal movement of the carriage.

3,259,355
MOVABLE SUPPORT FOR DENTAL CHAIRS
Richard A. Slouka, Carpentersville, Ill., assignor to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed May 17, 1965, Ser. No. 456,159
12 Claims. (Cl. 248—430)



1. A support for dental chairs comprising a flat plate adapted to support the base of a dental chair thereon, a plurality of rollers mounted on the underside of said plate and supporting said plate for movement over a floor surface, track means adapted to be secured upon a floor surface for guiding movement of said plate therealong, said track means including a rail having an upstanding longitudinal rib providing parallel lateral surfaces along opposite longitudinal sides thereof, a horizontal clamping member disposed beneath said plate and equipped with a pair of clamping jaws positioned on opposite sides of said rib, said clamping member being pivotally mounted to said plate for horizontal pivotal movement about a vertical pivot axis disposed between said jaws and passing through said rib, the horizontal distance between said jaws being slightly greater than the width of said rib for unrestrained horizontal movement of said plate along said rail when said member is pivoted into an unlocking position, said jaws being engageable with the lateral surfaces along opposite sides of said rib when said member is pivoted into a locking position, and pedal means provided by said plate and operatively associated with said member for pivoting said member horizontally between locking and unlocking positions.

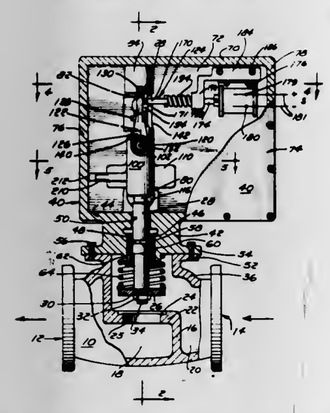
3,259,356
INJECTION MOLDING DEVICE
Karl Hehl, Lossburg, Wurttemberg, Germany, assignor to Arburg Maschinenfabrik Hehl & Sohne, Lossburg, Wurttemberg, Germany
Filed Oct. 5, 1964, Ser. No. 401,611
Claims priority, application Germany, Oct. 12, 1963, A 44,291
8 Claims. (Cl. 249—161)



1. A casting mold, comprising, in combination:
first and second mold halves movable relatively toward and away from each other for opening and closing the mold and having cooperating mold surfaces which together define two spaced mold chambers one for forming a semi-finished molded article and the other for forming a finished molded article, a portion of one of the mold halves having mold surfaces thereon being rotatable;
one of said mold halves including first and second sections slightly displaceable with respect to each other in the opening and closing direction of the mold;
said first section including a plurality of mold-surface defining elements movable at right angles to the opening and closing direction of the mold and arranged to define in part the mold chamber for forming a semi-finished molded article and having inner and outer abutment surfaces, said mold elements being arranged in the form of a closed geometric figure and defining mold surfaces which are concave and are provided with at least a portion of a symbol; and
said second section including a plurality of elements having inner and outer abutment surfaces inclined toward the mold closing direction and engaging the abutment surfaces of said mold surface defining ele-

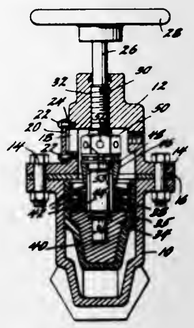
ments for moving the mold surface defining elements inwardly when said first and second sections move toward each other and outwardly when said first and second sections move away from each other.

3,259,357
AUTOMATIC SHUT-OFF VALVE
Karl F. Sharp, Rockford, Ill., assignor to Eclipse Fuel Engineering Co., Rockford, Ill., a corporation of Illinois
Filed Sept. 6, 1963, Ser. No. 307,076
16 Claims. (Cl. 251—69)



1. In an automatic and manually resettable shut-off valve operative to pass fluid concurrently with the flow of current in an electric circuit and to terminate the flow of fluid upon circuit failure, in combination, a valve casing providing a valve seat, a valve member movable axially between open and closed positions with respect to the seat, first spring means yieldingly urging said valve member toward said seat, a yoke member axially slidable on said valve member and movable between proximate and remote positions with respect to the seat, means on said valve and yoke members respectively defining a pair of opposed shoulders, a knock-out arm adapted for positioning between said shoulders and operative when so positioned to maintain the valve member open when the yoke member is in its remote position, a solenoid adapted for positioning in the electric circuit and including an impact plunger movable between a projected position wherein a portion thereof is interposed between said shoulders in blocking relation with respect to the knock-out arm and a retracted out-of-the-way position, second spring means yieldingly urging said plunger toward its projected position, said plunger being movable to its retracted position against the action of said second spring means upon energization of the solenoid, said knock-out arm being movable between an advanced position wherein it is disposed between said shoulders and a withdrawn position, third spring means normally urging said knock-out arm toward its advanced position, said plunger being operative when the yoke member is in its remote position and the knock-out arm is positioned between said shoulders and upon deenergization of the solenoid forcibly to engage the knock-out arm and displace the same from between the shoulders against the action of said third spring means, said yoke member when in its proximate position permitting entry of the knock-out arm between said shoulders for valve-opening purposes during movement of the yoke member toward its remote position, and manually operable reset means for moving said yoke member between its proximate and remote positions and for maintaining the same in the latter position.

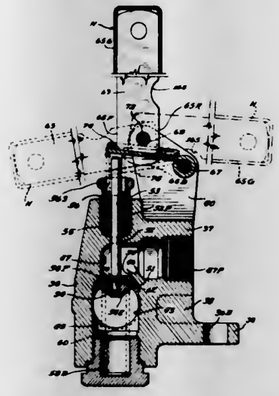
3,259,358
FLOW CONTROL MEMBER HAVING A RADIALLY BIASED SEAL
Joseph V. Tripoli, Kenmore, N.Y.
(329 Troy-Del-Way, Williamsville 21, N.Y.)
Filed Feb. 28, 1962, Ser. No. 176,395
10 Claims. (Cl. 251—214)



1. A fluid control member comprising a housing, means for providing fluid flow relative to said housing, a flow-controlling member movable along an axis in said housing, said flow-controlling member including an end member having a gate member for restricting flow of fluid in said housing, an annular ring portion along the axis for sealing the flow-controlling member against a body cavity within said housing to prevent leakage of said fluid flow from said housing, said body cavity having a cylindrical wall mating with said annular ring portion, a flexible covering for said end member and said annular ring portion and means for apply a radial force to said annular ring portion thereby to improve the fluid seal between said flexible covering and the wall of said body cavity, said means for applying a force to said annular ring portion, including a stem connected to said end member, a plurality of Belleville springs encircling said stem and located within said annular ring portion so as to free the ends of said annular ring portion, and means for compressing said springs against said end member thereby increasing the effective diameter of said springs and thus applying a force on the inner surface of said annular ring portion to improve the fluid seal.

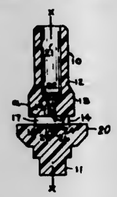
3,259,359
CAM OPERATED CONTROL VALVE
Fred W. Wahlin, St. Charles, Ill., assignor to Spraying Systems Co., a corporation of Illinois
Filed June 17, 1963, Ser. No. 288,199
2 Claims. (Cl. 251—263)

1. A manual valve including a valve body having inlet and outlet chambers separated by a cross wall, said cross wall having a valve port therein, a valve member disposed in one of said chambers, and supported for reciprocal opening and closing movement with respect to said valve port, said valve member including an elongated valve stem disposed axially of said port, said stem being mounted in bearing relation with respect to said valve body, and having the free end thereof extending through said body, a spring biasing said valve member to a normally closed position, means for selectively actuating said valve member to its open position comprising an operating handle pivotally mounted to said body, and a cam lever disposed intermediate said operating handle and the free end of said valve stem, said cam lever being pivotally supported at an end thereof remote from said valve stem and the other end of said cam lever being disposed opposite said valve stem and in position for selective engagement therewith, spring means biasing said cam lever into a position normally spaced from the end of said valve stem and in constant contact with said handle, said handle having three cam surfaces formed thereon, and being pivotable about said axis into distinct positions to selectively engage one of said cam surfaces with said cam lever, two of said cam surfaces being spaced from said axis such that movement of said handle to



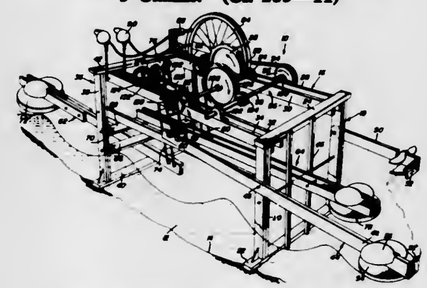
bring said surfaces into engagement with said cam lever permits said valve to remain in its normally closed position, the third said cam surface being disposed at a greater distance from said axis so that movement of said operating handle to bring said third said cam surface into engagement with said cam lever causes said cam lever to bear against said valve stem for opening said valve member.

3,259,360
DISPENSING SPOUT
Richard C. Hug, St. Louis, Mo., assignor to The Clayton Corporation of Delaware, St. Louis, Mo., a corporation of Delaware
Original application Oct. 5, 1962, Ser. No. 228,623, now Patent No. 3,199,150, dated Aug. 10, 1965. Divided and this application Jan. 8, 1965, Ser. No. 432,925
1 Claim. (Cl. 251—303)



As part of a pressure dispenser valve of the type utilizing a rubber seal mounting member,
a valving spout member including
a valve head portion,
a stem portion outwardly of the head portion, said stem portion having
a lateral flow passage connecting a plurality of flow openings and having a bottom wall and a top wall, the stem portion further having a needle-thin metering bore into substantially the center of the flow passage top wall forming a constriction at the center of the stem, and an outlet bore of greater diameter than the metering bore communicating therewith, and leading outwardly through the spout member,
said flow passage and each of its flow openings being of greater cross-sectional area, when measured across the path of flow, than the metering bore, and its bottom and top walls being of substantially greater width than the diameter of said bore,
the bottom wall of the lateral flow passage having a blind clean-out recess in registration with said metering bore,
said clean-out recess having a diameter no greater than that of a metering bore.

3,259,361
OCEAN WAVE ENERGY GENERATOR
Antonio Cesar Cantu, Diego de Montemayor 219 sur, Monterrey, Neuvo Leon, Mexico
Filed Nov. 6, 1964, Ser. No. 409,526
3 Claims. (Cl. 253—11)



1. A wave generator comprising, a frame, a plurality of spaced fulcrums mounted by the frame, a plurality of lever elements pivotally mounted by the respective fulcrums for movement about parallel spaced axes, float members secured to said lever elements at ends remote from the frame, said float members being spaced from each other in the direction of said lever elements and transverse thereto, one-way drive means mounted by said frame, connecting means operatively connecting each of said lever elements to the one-way drive means for transmitting power thereto in both directions of movement, the connecting means connected to at least one of the lever elements being on the same side of the fulcrum associated therewith as the associated float member while at least another of said lever elements having the associated connecting means connected thereto on the side of the fulcrum opposite the float member associated therewith.

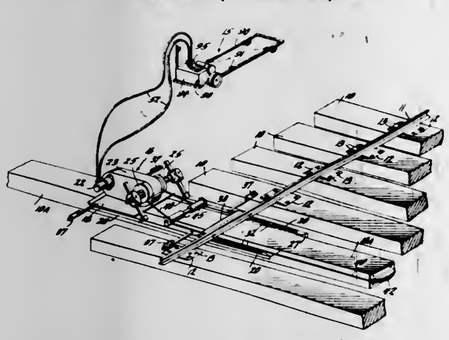
3,259,362
DEVICE FOR ACTUATING MECHANICAL LINKAGES
Carlos Chavez Zubiria, Republica de El Salvador 56, Mexico City, Mexico
Filed Jan. 9, 1964, Ser. No. 336,661
2 Claims. (Cl. 253—18)



1. A device for causing movement of a mechanical linkage comprising; a flexible member operatively connected to the linkage, container means adapted to hold a quantity of fluid material therewithin, said fluid material having an upper surface within said container means, fluid material feeding means having an outlet end within said container means, valve means operatively connected in said fluid material feeding means, float means within said container means buoyantly carried on said surface of said fluid material, operative connecting means be-

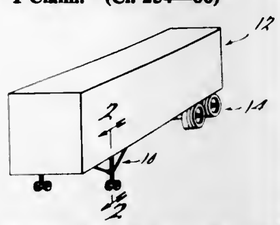
tween said float means and said valve means for varying the quantity of said fluid material fed to said container means in response to changes in the level of said surface of said fluid material, said operative connecting means opening said valve means to increase the feed rate as said surface is lowered and closing said valve means to decrease the feed rate as said surface is raised, actuating means responsive to the feed rate to cause movement of said flexible member and hence the mechanical linkage, and a fluid material take-off means operatively secured to said container means to remove said fluid material at a predetermined rate of flow, said actuating means including a tray member, hinge means within said container means pivotally supporting said tray member at one point on the periphery of the same, concave central portions of said tray member being disposed beneath said outlet end of said fluid material feeding means, biasing means secured to opposite points on the periphery of said tray member, said biasing means normally urging said tray member to a substantially horizontal relationship, said flexible member being secured to said tray member in juxtaposition to said biasing means whereby pivotal movement of said tray member about said hinge means causes a corresponding movement of flexible member and hence the mechanical linkage.

3,259,363
TIE PULLER
Glenn Edward Taylor, Atlanta, Ga., assignor to Bankhead Railway Engineering, Inc., Atlanta, Ga., a corporation of Georgia
Filed Nov. 19, 1964, Ser. No. 412,562
7 Claims. (Cl. 254—43)



1. Railroad tie handling equipment comprising a transporting truck having flanged wheels for running on standard gauge railroad tracks to and from points where ties are to be handled, a power operated tie puller device carried by but removable from said truck, extensions on said device projectable beneath the rails of a track alongside the position of a tie to be moved, a cable, means for attaching said cable to an end of the tie to be moved, means on said device for guiding the tie-attached portions of the cable to move at a level below the adjacent rail of the track, whereby the tie may be handled in its track position without interfering with traffic, and means on said device for winding said cable to pull the tie; power generating means on said truck, motor means on said device, and power transmission means from said generator means to said motor means; and means for controlling said power generating means and means for clutching and de-clutching said winding means with respect to said motor means; and supplemental ground-engaging wheels on said truck and means for raising and lowering said supplemental wheels for alternative transport of said truck on the ground adjacent the track at the point of handling of said ties.

3,259,364
SCREW ACTUATED SEMITRAILER SUPPORT LEG
Adrian F. Hulverson, Grosse Pointe Woods, and Ralph N. Tozer, Detroit, Mich., assignors to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 24, 1963, Ser. No. 333,151
1 Claim. (Cl. 254—86)



A support leg assembly for a heavy duty over-the-road semitrailer comprising

an upper sleeve,

a lower sleeve telescoped within said upper sleeve,

a nut retainer having a transverse generally spherical upwardly facing seating face and a generally rectangular central aperture therein secured to an upper end portion of said lower sleeve,

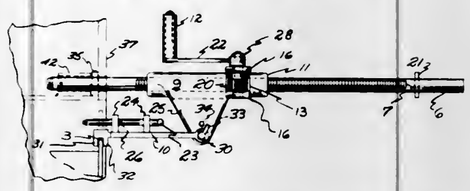
a nut having a generally spherical lower face seated on the seating face of said nut retainer and a generally square skirt portion extending through the aperture in said retainer,

a lead screw having a helix angle of 4 to 7 degrees threadably engaged with said nut and supported for rotation by an upper end portion of said upper sleeve whereby rotation of said screw effects longitudinal movement of said nut and inner sleeve relative to the outer sleeve,

a crankshaft at the upper end of said outer sleeve, and

a gear train having a relatively low speed high torque output drivably connected between said crankshaft and said lead screw.

3,259,365
RACK AND PINION LOAD MANIPULATOR
Christian D. Gibson, Greene, N.Y., assignor to The Raymond Corporation, Greene, N.Y., a corporation of New York
Filed Oct. 22, 1964, Ser. No. 405,899
6 Claims. (Cl. 254—95)



1. A portable implement for moving a battery case in and out of a battery-powered lift truck, comprising, in combination:

a rigid elongated member having a toothed rack means along a portion of its length and means operable by rotation of said elongated member for rigidly but detachably attaching one end of said elongated member to said lift truck;

a movable member slidably mounted on said elongated member;

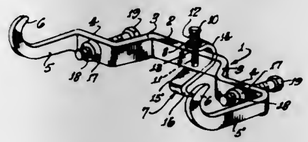
a rotatable pinion journalled in said movable member and engaging said toothed rack;

a crank connected to rotate said pinion;

a rigid link pivotally connected to said movable member and adapted to connect to said battery case;

and means for limiting pivoting of said rigid link.

3,259,366
CASTER AND CAMBER DETERMINING TOOL
John H. Castoe, 6718 Shady Grove St., Tujunga, Calif.
Filed Dec. 14, 1964, Ser. No. 418,233
3 Claims. (Cl. 254—100)



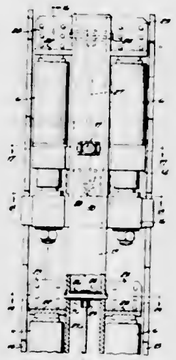
1. A tool for establishing desired camber and caster angles of the mounting means for the independently sprung front wheels of a motor vehicle and in which the mounting means for each front wheel includes a pivotally mounted upper arm and a shaft member on which said upper arm is pivotally mounted at axially spaced points together with means for securing said shaft member on a supporting means in selected positions of adjustment in a horizontal plane to effect said camber and caster adjustment; said tool comprising a base member having a pair of laterally spaced, integrally formed end portions detachably engageable with and disengageable from the shaft member adjacent the points thereon on which the upper arm of the wheel mounting means is pivotally mounted, a pair of jack screws threadedly engaging said base member and disposed one each adjacent to each of said shaft member engaging portions and positioned with the axes thereof contained in a plane laterally offset from a plane parallel to said first plane and containing the line of axial movement of the upper arm on the shaft member, and a hook element carried by said base member and releasably engageable with the supporting means of the wheel mounting means relative to which said shaft member is adjustably secured, said hook member being operative to resist tendency of rotational movement of said base member incident to stress on said base member deriving from the operative engagement of said base member with the shaft member of said wheel mounting means and said jack screws with the supporting means of the wheel mounting means.

3,259,367
SHORING JACK
Robert K. Squire, Los Angeles, Calif., assignor to Superior Scaffold Co., Torrance, Calif., a corporation of California
Filed Jan. 13, 1964, Ser. No. 337,379
14 Claims. (Cl. 254—101)



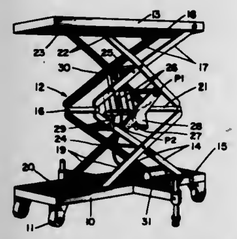
1. A shoring jack comprising: a load-supporting member; a supporting plate for said member; a free-floating element disposed between said member and said plate to transmit the load from said member to said plate; and means for loosely holding said supporting plate and element on said member for limited universal tilting movement of the plate relative to the axis of the member with a rolling action in all directions transversely of the axis of the member.

3,259,368
APPARATUS FOR EFFECTING RELATIVE VERTICAL DISPLACEMENT BETWEEN A MOVABLE PLATFORM AND VERTICALLY ORIENTED SUPPORTS THEREFOR
Helmuth Warnke, Oberhausen-Sterkrade, Germany, assignor to Gutehoffnungshutte Sterkrade Aktiengesellschaft, Oberhausen-Sterkrade, Germany
Filed Feb. 20, 1964, Ser. No. 346,337
Claims priority, application Germany, Feb. 23, 1963, G 37,134
7 Claims. (Cl. 254—110)



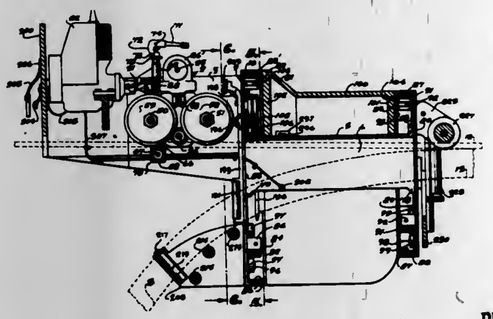
1. Apparatus for effecting relative vertical displacement of a movable working platform and vertically oriented supports therefor, said apparatus comprising, in combination, rack means extending along said supports; jacking means operatively connected with said platform for oscillation relative thereto for selective swinging into and out of operative engagement with said rack means; said jacking means comprising two hydraulic actuator sets offset from each other with respect to said rack means; each hydraulic actuator of a set comprising a cylinder connected at one end to said platform and a double acting piston connected to a piston rod extending from the other end of said cylinder and connected to a cross member engageable with teeth of said rack means; means operable, when one hydraulic actuator set is in operative engagement with said rack means and performing a displacing operation, to oscillate the other hydraulic actuator set into operative engagement with said rack means, in advance of completion of the displacement operation of said one hydraulic actuator set, to effect a displacing operation in overlapping and continuing relation with the displacing operation effected by said one hydraulic actuator set; each hydraulic actuator set comprising four hydraulic actuators arranged in two pairs, the two pairs of each set operating in synchronism with each other and being arranged on laterally opposed sides of said supports; a first cross member associated with each pair of actuators and interconnecting the outer ends of the piston rods thereof; a second cross member associated with each pair of actuators and extending transversely thereof to interconnect the lower ends of the cylinders of the pair of actuators; frame components secured to said platform; the upper end of the respective cylinders of said actuators having oscillating bearing engagement with downwardly facing surfaces of said frame components; and means operable between said frame components and said actuators and resiliently biasing the upper ends of said actuators into bearing engagement with said downwardly facing surfaces of said frame components.

3,259,369
LOAD LIFTING APPARATUS
William W. Gridley, % The Ready-Lift Mfg. Co., 341 E. Loop Drive, Camarillo, Calif.
Filed Nov. 12, 1964, Ser. No. 410,886
5 Claims. (Cl. 254—122)



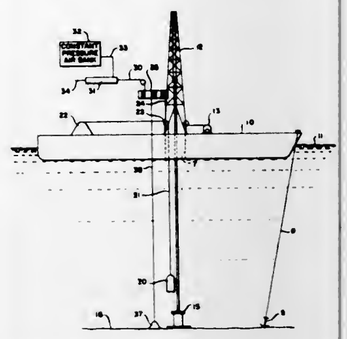
1. A load lifting apparatus comprising: first and second frames; upper and lower crossed lever means pivotally interposed between said frames, the inner ends of said lever means being pivotally interconnected to define a central parallelogram portion when said frames are in a partially extended condition with the extending outer ends of said lever means coupled to said first and second frames, respectively; drive bar means coupled to opposite sides of said parallelogram; and expansible ram means coupled to an intermediate point on said drive bar means displaced laterally from a straight line drawn between the ends of said drive bar means and to a point on one of said crossed lever means defining a remaining side of said parallelogram so that said crossed lever means may collapse in scissoring fashion to a substantially flat configuration with the displaced intermediate point extending laterally from the plane of said flat configuration.

3,259,370
CABLE LASHING MACHINE
Dory J. Neale, Sr., 3710 Shore Acres Blvd., St. Petersburg, Fla.
Filed June 30, 1964, Ser. No. 379,406
20 Claims. (Cl. 254—134.3)



1. A lashing machine for securing aerial cable to a messenger comprising, a trolley including a head and a cylindrical body and having a longitudinal passageway through said trolley, means securing said cylindrical body to said head, a spinning head, means for mounting said spinning head on said trolley for rotation about the axis of said passageway, means at each end of the passageway through said cylindrical body for supporting said cable and retaining said cable in contact with the messenger, motor means for driving said lashing machine along said messenger, said trolley including spaced side walls, at least one wheel engaging said messenger mounted between said side walls, a shaft extending transversely through said side walls of the trolley, a gear reduction mechanism carried by said trolley having connection with said motor, and a sprocket on said shaft and chain and sprocket and clutch means connecting said gear reduction mechanism with said sprocket on said shaft for driving said wheel on said messenger.

3,259,371
WAVE CANCELLATION SYSTEM FOR A FLOATING DRILLING VESSEL
Benjamin L. Goepfert, West Covina, Calif., and Howard L. Shatto, Jr., Glenville, Conn., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Sept. 18, 1964, Ser. No. 397,493
6 Claims. (Cl. 254—173)

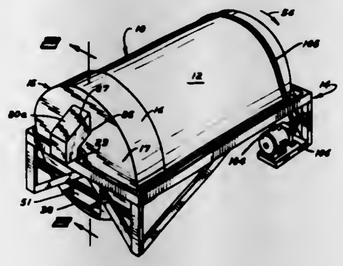


1. An apparatus for supporting a device from a floating marine platform that moves vertically in response to wave action, said apparatus comprising:
an elongated member extending from said platform to said device for supporting said device;
measuring means disposed on said platform to measure the vertical movement of the platform relative to the bottom of the water;
an actuating means disposed on the platform and coupled to the elongated member for moving said elongated member to take in or pay out the member as the platform moves in response to wave action; and
said actuating means having a linearly movable member, said linearly movable member being coupled to said measuring means to position said actuating means in response to the movement of said platform relative to the bottom of the water supporting the platform.

3,259,372
BLENDING AND MIXING APPARATUS
Charles E. Phillips, Box 65, Downsville, Wis.
Filed Jan. 27, 1964, Ser. No. 340,354
17 Claims. (Cl. 259—3)

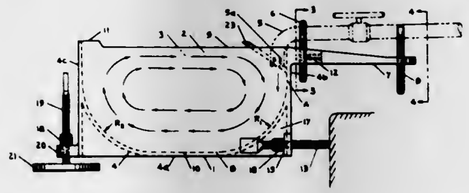
1. A machine for mixing particulate materials comprising a drum mounted to revolve about a substantially horizontal axis and having a tubular wall and a rear end wall at one axial end of the drum, a fixed hood enclosing the opposite end of the drum, said hood having a tubular wall that is of a substantially larger diameter than the drum tubular wall, an end wall with an inlet port and a discharge port at a higher elevation than said inlet port, a chute attached to the end wall for directing material into the inlet port, discharge means attached to the hood end wall for selectively discharging material through the discharge port, said discharge means including means moveable between two positions for selectively permitting discharge of material from the drum and blocking discharge from the drum, transfer means in part joined to said opposite end of the drum to rotate therewith and

extending axially within the confines of the hood tubular wall for transferring material passed through the hood inlet port into the hood into the confines of the drum and retaining the material in the drum as long as the said moveable means is in a blocking position, said transfer means including a plurality of circumferentially spaced scoops each having a moveable closure and means cooperating



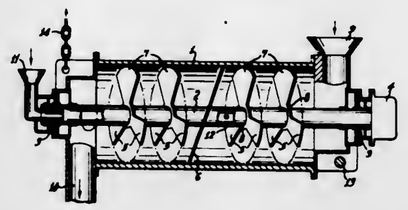
with said closure for dividing the respective scoop into an inner scoop portion and an outer scoop portion and permitting passage of material only from the outer scoop portion to the inner scoop portion, the inner scoop portion being radially more adjacent the axis of rotation than the outer scoop portion, and means for rotating the drum in a given direction.

3,259,373
FRUIT AND VEGETABLE WASHING DEVICE WITH VERTICAL CIRCULATIVE FLOW AND DIRECT FAUCET ENGAGEMENT
Charles W. Ranson, 7906 Agnew Ave., Los Angeles, Calif.
Filed Feb. 4, 1963, Ser. No. 256,061
5 Claims. (Cl. 259—4)



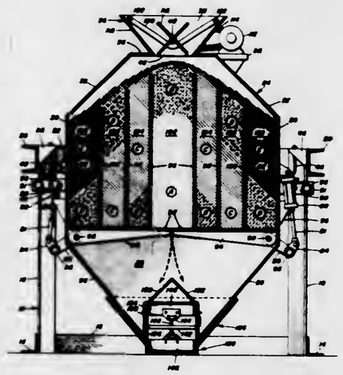
1. A washing device including two side walls extending longitudinally and vertically and spaced apart, a lateral wall extending between said side walls to provide a bottom wall and two opposite end walls and connecting with said side walls in unitary relation to provide a container cavity, and the inner surface of said bottom wall and the inner surface of at least one of said end walls substantially faired to provide a substantially curved inner surface at the region of juncture, and said walls terminating upwardly generally to provide an upper horizontally disposed overflow port, and said side walls and end walls substantially non-apertured to provide liquid overflow at said upper overflow port in normal operation, and a support portion adapted for support engagement with a horizontally disposed overhead faucet, and means for associating said support portion with said washing device, and an outwardly extending support structure, and said outwardly extending structure adapted to engage against sink assembly structure, and said outwardly extending structure and said support portion for faucet engagement cooperating in normal use to stabilize said washing device in a fixed attitude.

3,259,374
PROCESS AND APPARATUS FOR THE CONTINUOUS TREATMENT OF PLASTIC MATERIALS
Hans Doebl, Kurt Bohrmann, and Wilhelm Ruhl, Kassel, Germany, assignors to Henschel-Werke A.G., Kassel, Germany, a corporation of Germany
Filed Feb. 6, 1963, Ser. No. 257,369
Claims priority, application Germany, Feb. 9, 1962, H 44,832
9 Claims. (Cl. 259—10)



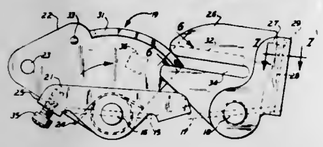
1. An apparatus for the treatment of plastic material comprising a cylindrical shell having feed and discharge means attached thereto, a rotatable shaft coaxially mounted in the shell and having power means connected thereto, and a plurality of mixing elements mounted on the shaft at an inclined angle with respect to the shaft axis, the individual mixing elements having greater forwardly-conveying and lesser rearwardly-conveying means thereon.

3,259,375
COMPOUNDING AND BLENDING APPARATUS
Walter J. Sackett, Sr., 3700 Echodale Ave., Baltimore 6, Md.
Filed June 23, 1964, Ser. No. 377,340
5 Claims. (Cl. 259—180)



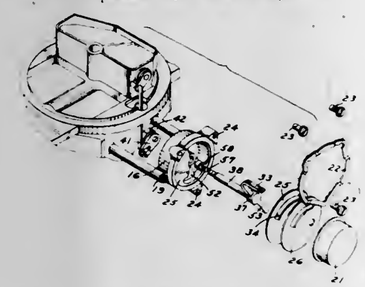
2. In combination, a weighing hopper having a lower inwardly tapering section terminating in an opening and a plurality of compartments therewithin terminating short of said opening for sequentially receiving granular material supplied to said hopper, means for simultaneously discharging said granular material from said compartments into said inwardly tapering section for mixing by gravity flow, and means positioned across said inwardly tapering section for splitting the flow of said discharging granular material before reaching said opening, and conveyor means positioned in said opening for receiving the discharged and split flow of said granular material.

3,259,376
CARBURETOR THROTTLE CONTROL
Howard C. Baer, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of application Ser. No. 119,934, June 27, 1961. This application Apr. 12, 1965, Ser. No. 449,375
2 Claims. (Cl. 261—23)



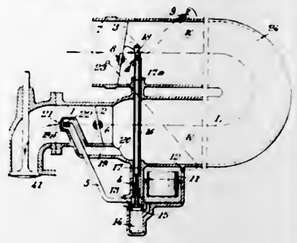
1. A multistage carburetor having primary and secondary mixture conduits, a primary throttle valve located upon a primary throttle valve shaft in said primary mixture conduit, a secondary throttle valve located upon a secondary throttle valve shaft in said secondary mixture conduit, a cam link supported on said primary throttle valve shaft for controlling the position of said primary throttle valve, and follower link supported on said secondary throttle valve shaft for controlling the position of said secondary throttle valve, a first cam portion formed on said cam link, a follower portion formed on said follower link, said first cam portion and said follower portion being formed to coact for precluding the opening of said secondary throttle control valve during a first portion of the movement of said primary throttle valve and said cam link, and a second cam portion formed on said cam link for coacting with the follower portion on said follower link for causing movement of said follower link to permit opening of said secondary throttle valve during a second portion of the movement of said cam link.

3,259,377
AUTOMATIC CHOKE MECHANISM
Paul E. Braun, Birmingham, and Albert A. Pruchno, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed June 20, 1963, Ser. No. 289,201
1 Claim. (Cl. 261—39)



An automatic choke mechanism for the charge forming device of an internal combustion engine comprising a choke valve movably supported in an induction passage of the charge forming device, a thermally responsive element, a suction motor for modulating the position of said choke valve in response to changes in intake manifold vacuum, said suction motor comprising a housing having an annular cavity formed therein and means mounting a radially extending vane for rotation in said cavity, at least one wall of said cavity being recessed adjacent said vane to provide a varying clearance with said vane, a lever arm integrally formed with said vane, means affixing said thermally responsive element to said lever arm for exerting a force on said lever arm in response to temperature variations, means operatively connecting said vane and said lever arm to said choke valve, and conduit means connecting a source of intake manifold vacuum with said cavity at one side of said vane for moving said vane in response to pressure variations.

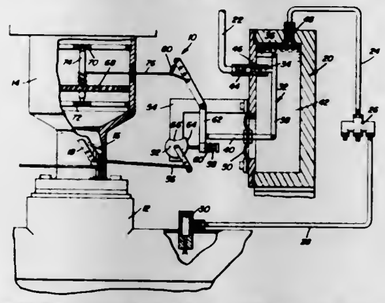
3,259,378
CARBURETORS FOR INTERNAL COMBUSTION ENGINES
André Louis Mennesson, Neuilly-sur-Seine, Seine, France, assignor to Societe Industrielle de Brevets et d'Etudes S.I.B.E., Neuilly-sur-Seine, Seine, France, a society of France
Filed May 27, 1963, Ser. No. 283,253
Claims priority, application France, June 4, 1962, 899,634
3 Claims. (Cl. 261—50)



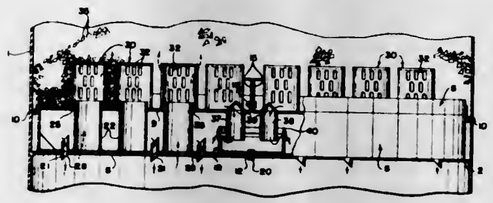
1. For use to feed a fuel and air mixture to an internal combustion engine having an inlet valve, a carburetor which comprises, in combination,
an induction pipe leading to said inlet valve,
a main throttle valve in said induction pipe,
an auxiliary throttle valve in said induction pipe upstream of said main throttle valve, said auxiliary throttle valve being arranged to open automatically more and more as the air flow rate through said induction pipe increases,
the portion of said induction pipe between said two throttle valves forming a loop of a length such that the distance from said auxiliary valve to said inlet valve corresponds to the production of a ram effect in said induction pipe capable of improving the filling of the engine,
a fuel feed conduit the downstream end of which opens into said induction pipe,
two cooperating means, the first one fixed with respect to said induction pipe and the second one slidable in the first one, forming together a metering device controlling the size of the cross section of said fuel feed conduit at a point thereof close to the downstream branch of said induction pipe loop portion,
the branches of said induction pipe loop portion adjoining said auxiliary throttle valve and said metering orifice, respectively, being in close proximity to each other,
a rod, rigid with said metering device slidable means, mounted slidable with a fluidtight fit in both of said branches of said induction pipe loop portion, said rod having one end thereof rigid with said metering device slidable means,
and means for directly connecting the other end of said rod with said auxiliary throttle valve.

3,259,379
FUEL INJECTOR ASSEMBLY
John V. Yost, 2233 Riverside Drive, Trenton, Mich.
Filed Oct. 10, 1963, Ser. No. 315,211
6 Claims. (Cl. 261—50)

2. In combination with a combustion engine of the type including an intake manifold, an air and fuel mixing apparatus for providing said intake manifold with a substantially correctly proportioned mixture of air and fuel, said apparatus comprising conduit means including an inlet end and an outlet end communicated with the inlet of said manifold, air valve means disposed in said conduit means operative to control the flow of air therethrough, a fuel supply, fuel discharge means operable to discharge fuel into the air passing through said conduit means downstream of said air valve means, means communicating said fuel supply with said fuel discharge means and including fuel valve means operable to vary the amount of fuel passing from said fuel supply to said fuel discharge means, first control means connected to said air valve means and said fuel valve means for opening and closing said fuel valve means in response to opening and closing said air valve means, second control means connected to said fuel valve means and operative to open and close said fuel valve means in response to an increase and a decrease of flow of air through said conduit means, respectively, said first control means including a lost motion connection with said fuel valve means operable to gradually open said fuel valve means, independently of said second control means, to a partially open position short of its full open position as said air valve is gradually opened to a predetermined position short of its full open position, said second control means including a lost motion connection with said fuel valve means operative independently of said first means, in response to the flow of air through said conduit means exceeding a predetermined minimum air flow generally corresponding to said partially open position of said air valve means during operation of said engine under normal loads, to further open said fuel valve past said partially open position thereof, said apparatus including means, at least during operation of said engine, operative to yieldingly urge said fuel valve means toward its closed position.

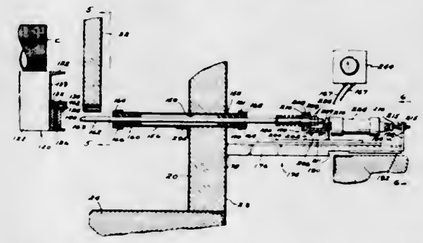


3,259,380
TOTAL REDISTRIBUTOR
Charles S. Brown, Flushing, N.Y., assignor to The United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed Mar. 30, 1964, Ser. No. 355,749
2 Claims. (Cl. 261—97)



1. A total redistributor for a packed chemical treating tower, which redistributor includes a support plate extending over substantially the entire cross section of the tower to support the packing, a feed plate below the support plate which extends over substantially the entire cross section of the tower, one sump on the feed plate, a plurality of draw-off means to collect all of the liquid caught on the plate and convey it to the sump so as to mix liquid collected through the different draw-off means before it reaches the feed plate, means for delivering liquid from the sump on to the feed plate, and openings distributed substantially evenly throughout the feed plate to distribute the liquid collected in the sump over the entire cross section of the tower, openings in the support plate covered by cap means with gas-pervious walls which permit gases to pass therethrough and prevent liquid collected on the support plate from draining through the openings therein, and openings in the feed plate and risers surrounding them which conduct gases rising through the feed plate toward the cap means over the openings in the support plate, the top of the gas means being solid to prevent liquid from passing down through the risers.

3,259,381
THERMOCOUPLE PICKUP FOR A HEATING CHAMBER
Arthur Walker, Livonia, Mich., assignor to Holcroft & Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 29, 1962, Ser. No. 233,545
7 Claims. (Cl. 263—6)



1. A heat processing unit comprising an elongated chamber having an entrance at one end thereof, a carrier in said chamber mounted for lengthwise movement through said entrance into said elongated chamber, a door for said entrance adapted to be closed behind said carrier to thereby substantially seal said chamber to maintain a controlled atmosphere therein, said carrier having material to be treated thereon, thermally responsive sensing means on said carrier, including a thermocouple in contact with the material, a pair of electrical contact points on said carrier, and lead wires connecting said thermocouple to said contact points, and means exteriorly of said chamber adapted to be operated by said sensing means, including an instrument for measuring the output of said thermocouple, a pair of contact probes mounted in a wall of said chamber to be in axial alignment with said pair of contact points on said carrier, lead wires connecting said contact probes to said instrument, and means for axially moving said contact probes into direct contact with the aforesaid contact points on said carrier to complete an electrical circuit between said thermocouple and said instrument.

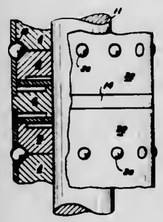
3,259,382
RING TYPE BALL GRIP MEANS
John U. Iannce, Detroit, Mich., assignor to Etronic Corporation, Detroit, Mich.
Filed Apr. 24, 1964, Ser. No. 362,398
3 Claims. (Cl. 267—1)

1. In a ring type ball grip means having an assembly of three axially longitudinally arranged rings hereafter referred to as rings A, B and C; with rings A and B having adjacent tapered wedging surfaces defining an annular V groove containing a ring of gripping balls, with such balls being normally projected radially from said

groove in accompaniment to the relative longitudinal approach of rings A and B and the narrowing and enshallowing of said groove; and with such balls retracted into said groove in accompaniment to the relative longitudinal separation of rings A and B and the widening and deepening of said groove;

the improvement which comprises a longitudinally deflectable, solidly annular, normally undeflected thrust or reaction spring of non-compressible material, abutting and between rings B and C;

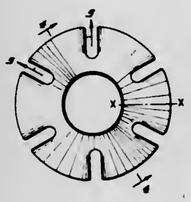
with one of such rings B and C having a longitudinally adjacent clearance space, the other of such rings B



and C having means to cause longitudinal deflection of said spring into such space in response to loading of said spring upon relative longitudinal approach of rings B and C, in accompaniment to relative longitudinal separation of rings A and B, and retraction of said balls;

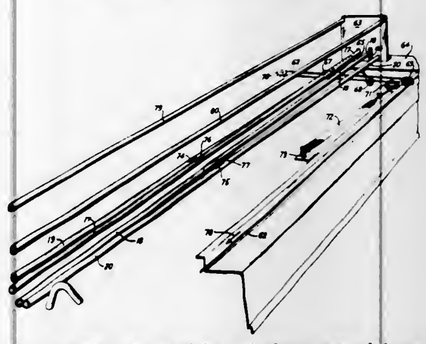
said spring, when so loaded and longitudinally deflected into said clearance space, having an inherent tendency to return to normal unloaded condition in accompaniment to relative longitudinal separation of rings B and C and to relative longitudinal approach of rings A and B and projection of said balls.

3,259,383
SLOTTED BELLEVILLE SPRING
William R. Johnson, Bristol, Conn., and Keith A. Flesher, Mattoon, Ill., assignors to Associated Spring Corporation, Bristol, Conn., a corporation of Delaware
Filed June 4, 1964, Ser. No. 372,621
3 Claims. (Cl. 267—1)



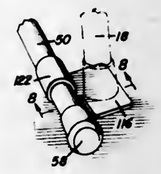
1. A Belleville spring formed of spring strip metal in the shape of a frusto-conical washer having a central opening and having a plurality of circumferentially spaced slots extending radially of the spring from one of its peripheries and defining spring fingers between adjacent slots which are subject to anti-clastic bending on axial deflection of the spring, each of said fingers being transversely curved in the un-stressed condition of the spring in a direction opposite to the curvature produced by anti-clastic bending thereby to compensate for anti-clastic bending of the fingers and cause each of the spring fingers to maintain frusto-conical shape as the spring is deflected.

3,259,384
BLANK MAGAZINES COMPRISING AGITATED BLANK SUPPORTING RODS
William H. Hittenberger, Santa Clara, Calif., assignor, by mesne assignments, to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 23, 1964, Ser. No. 362,117
6 Claims. (Cl. 271—62)



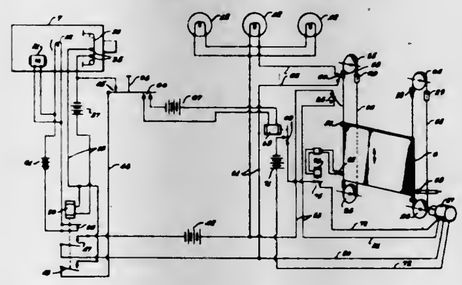
1. A magazine for articles of sheet material resting on edge, the magazine comprising, in combination, an upright magazine gate through which articles are withdrawn; a first pair of article supporting rods extending rearwardly from said gate and lying in a first plane upwardly inclined to the horizontal from said gate; means for imparting to said first pair of rods agitative motion about their axes; a second pair of article supporting rods mounted rearwardly of said gate and lying in a second plane inclined to the horizontal by a steeper angle than said first plane and intersecting said first plane along a transfer line substantially parallel to the gate and within the limits of the lengths of said first and second rods; and means for adjusting the inclination of the rods of one plane with respect to the rods of the other plane, thereby moving the line of transfer closer to, or farther away, from said gate.

3,259,385
PORTABLE EXERCISING DEVICE
Ben E. Boren, 1723 S. Fillmore, Little Rock, Ark.
Filed Feb. 27, 1964, Ser. No. 347,858
4 Claims. (Cl. 272—73)



1. A portable exercising device comprising a support frame including first and second upstanding upwardly convergent legs interconnected at their upper ends for relative rotation about an axis extending transversely of the upper ends of said legs, a generally horizontally disposed shaft journaled from the upper end of one of said legs, crank means on said shaft for manually applying torque to said shaft, adjustable brake means mounted on said frame and operable to apply a variable amount of drag on said shaft, elongated transversely extending and generally horizontally disposed floor engaging anchor foot means on the lower end of at least one of said legs extending transversely thereof, the opposite end portions of said anchor foot means including anchor tabs extending outwardly from the adjacent lower surface portions of said foot means and adapted to be disposed between the lower ends of either the front or rear legs of a chair and a supporting surface on which the chair is disposed, said anchor tabs each being of generally flat and planar configuration and of sufficient dimensions to support said legs when the latter are disposed thereon, said tabs each being rotatably supported on said foot means for rotation about the longitudinal axis of said foot means whereby said tabs may be maintained in positions resting flat on said supporting surface even though the inclination of said one leg relative to said supporting surface is varied.

3,259,386
METHOD OF AND SYSTEM FOR STAGING PRODUCTIONS
John S. Rush, 2034 N. Argyle Ave., Hollywood, Calif.
Filed Feb. 5, 1964, Ser. No. 342,693
6 Claims. (Cl. 272—10)



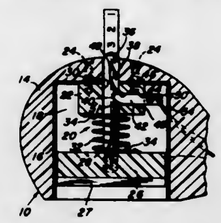
1. A method of shifting from a scene projected onto a screen to a live scene on a stage behind said screen corresponding to the projected scene on said screen comprising:

(a) projecting a picture on said screen,
(b) setting a stage behind said screen to correspond to the picture projected on the screen at a given instant,
(c) discontinuing the projection of said picture onto said screen at said given instant,
(d) providing said screen with a high energy driving motor to remove said screen from in front of said stage at a high rate of speed,
(e) energizing said motor and removing said screen at a high rate of speed,
(f) illuminating said stage scene when said screen has been removed, and
(g) controlling said discontinuation, energization and illumination in coordination with said projected scene on said screen.

4. A system for shifting from a scene projected onto a screen to a live scene on a stage behind said screen comprising:

(a) an opaque picture screen movable from a first picture receiving position to a second position out of view of the observer,
(b) a picture projector including a film, a film advancing means and a light source for projecting a picture onto said screen,
(c) means for extinguishing said light source and thus discontinuing the projection of said picture onto said screen,
(d) a high energy motor means for rapidly moving said screen between said two positions while said projection is discontinued,
(e) means for illuminating said stage after said screen reaches its second position, and
(f) means controlled by the position of said film in said projector for stopping said film advancing means, extinguishing said light source, energizing said screen moving means and energizing said stage illuminating means.

3,259,387
SIMULATED GOLF CLUB BALL PROJECTOR
Jack M. Belgay, 596 Sterling Drive, Freeport, Pa.
Filed Feb. 3, 1964, Ser. No. 341,879
5 Claims. (Cl. 273—67)



1. In a club for playing a simulated golfing game which has a ball striking plate movable between a ball striking position and at least one cocked position; and biasing means normally urging said striking plate to the ball striking position; the improvement which comprises, said striking plate having an extension with a stop surface corresponding to each cocked position, a detent pin and means to mount said pin for guiding movement into and out of engagement with said stop surfaces, said means mounting the pin including means to permit twisting movement of the pin against the force of said biasing means as said pin moves out of engagement with said stop surface and means to prevent twisting movement of the pin in the direction urged by the reaction force of the biasing means.

3,259,388
SIMULATED POOL GAME
Lyndon A. Durant, Chicago, Ill., assignor to United Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 12, 1964, Ser. No. 389,024
6 Claims. (Cl. 273—126)



4. In a pool game of the character described a means forming a table having a planar playing surface,

a plurality of simulated racked balls secured to an elevating means movably positioned in said table for predetermined oscillation between a break position in predetermined spaced proximity to said surface and a predetermined elevated idle position,

a first electric motor means operatively coupled to said elevating means for oscillating same when energized,

a plurality of object ball arms including an object ball secured thereto being pivoted on said table for independent oscillation about a common axis spaced in parallel planes above and normal to said surface,

each of said arms of predetermined length being adapted for independent oscillation between an elevated idle position and a play position,

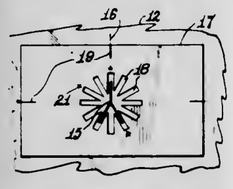
independent spring means biased between said table and each of said arms for urging each of same into said idle position,

a latch means on said table adapted and constructed to independently self-engage and hold each of said arms in said play position when moved thereto,

a placement bar retained on said table for oscillating movement co-linear with said arms and intersecting the paths of movement thereof for simultaneously abutting and moving said arms from said idle to play position in holding engagement with corresponding said latch means when oscillated,

a second electric motor means coupled to said placement bar for oscillating same when energized whereby said racked balls will be moved from said break to said idle position and said object balls will be moved from said idle to said play position when said first and second motor means are sequentially energized for predetermined time periods.

3,259,389
CHANCE CONTEST CARDS AND METHOD OF USING SAME
Thomas F. Bloudell, 2408 W.T., 300 N. State St., Chicago, Ill.
Filed May 25, 1964, Ser. No. 369,877
3 Claims. (Cl. 273—138)



1. The method of playing a game which comprises displaying a predetermined spoke-like pattern on a television screen and then applying over said pattern a sheet having a transparent pattern radiating in straight lines from a central transparent hub in such manner as to match as closely as possible the patterns on said screen and sheet.

3. A plurality of cards for playing a game, each card comprising a sheet of generally opaque material having therein a pattern of openings radiating in straight lines from a central hub, the patterns of all the cards being identical, each card having indicia arranged adjacent certain of said radiating openings, the arrangement of indicia relative to said openings on at least one of said cards being different from the arrangement on the others of said cards.

3,259,390
HYDRAULIC BALANCED SELF-ALIGNING SHAFT SEAL
Charles G. Sanford, deceased, late of Odessa, Tex., by Dorothy Lucille Sanford, executrix, Odessa, Tex., assignor to Dorothy L. Sanford
Filed June 17, 1963, Ser. No. 288,561
2 Claims. (Cl. 277—3)

1. In a system for sealing a rotating shaft to a pressurized fluid containing stationary housing including,

(a) a collar encircling the shaft,

(b) said collar sealed to the shaft and

(c) rotated within the shaft,

(d) said collar having a radially disposed sealing surface on one side of the collar, and

(e) an annular sealing washer contacting the sealing surface of the collar,

(f) an annular cylinder formed in said housing,

(g) said annular sealing washer acting as an annular piston in said annular cylinder;

the improved means for pressing the sealing washer against the sealing surface of the collar comprising:

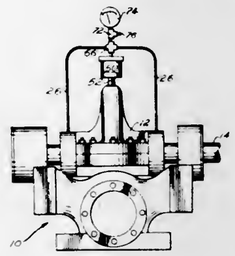
(h) a fluid conduit connected to the annular cylinder in said housing,

(i) means for applying fluid pressure to said conduit responsive to the fluid pressure within said stationary housing, said means including:

(j) an isolation cylinder,

(k) a piston in the isolation cylinder,

(l) a tube connecting one end of the isolation cylinder to the housing,

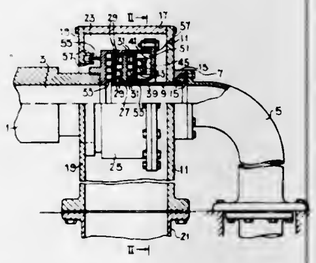


(m) a spring biasing the piston away from the end of the isolation cylinder connected to the housing, and

(n) the other end of the isolation cylinder connected to said fluid conduit; and

(o) a valve means for reducing the pressure in the fluid conduit so that there is insufficient pressure to hold the sealing washer against the sealing surface of the collar thus permitting the pressurized fluid within the housing to flush the sealing surface of the collar.

3,259,391
INLET GLANDS FOR LIQUID SUPPLY TO ROTORS
Istvan Csillag, Sale, England, assignor to Associated Electrical Industries Limited, London, S.W. 1, England, a British company
Filed May 31, 1963, Ser. No. 284,475
Claims priority, application Great Britain, June 13, 1962, 22,709/62
6 Claims. (Cl. 277—13)



1. An inlet gland for liquid supply to a rotor comprising:

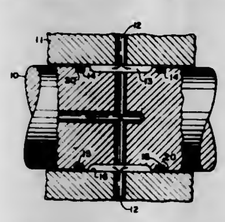
(a) a fixed supply pipe arranged to supply liquid axially into one end of a hollow rotor shaft or an axial extension of that shaft;

(b) a labyrinth seal comprising a first set of concentric cylindrical members fixed coaxially to and rotatable with the rotor shaft and a second set of concentric cylindrical members fixed to and remaining stationary with the supply pipe;

(c) a liquid flow path extending from the junction of the supply pipe and the rotor shaft and including a first part extending in a radially outwards direction through the labyrinth seal, and a second part extending in a radially inwards direction towards the axis of the rotor shaft; and

(d) a series of blades or vanes or partitions constituting pump impeller blades mounted on the rotor shaft so as to rotate therewith and disposed in the radially inwardly extending part of the liquid flow path, these blades being adapted, when the rotor shaft is rotating, to produce in this part of the flow path an outwardly increasing hydraulic pressure gradient which is greater than that produced by centrifugal force in the labyrinth seal and which therefore inhibits leakage of liquid through the labyrinth seal.

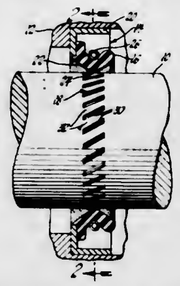
3,259,392
SEAL BETWEEN TWO RELATIVELY ROTATING PARTS FOR SEALING FLUID UNDER PRESSURE
Vasalie L. Peickii, Hillsborough, Dan A. Christensen, Woodside, and John H. Bradfute, Santa Clara, Calif., assignors to Federal-Mogul Corporation, a corporation of Michigan
Continuation of application Ser. No. 188,217, Apr. 17, 1962. This application Mar. 22, 1965, Ser. No. 444,921
8 Claims. (Cl. 277—59)



4. In a fluid transmission and the like having a cylindrical shaft member and a member providing a cylindrical bore, said members rotating relatively to each other during operation at high speeds in the order of 600 to 2600 feet per minute and cooled by oil under pressure in the order of 250 p.s.i., the shaft having at least one annular groove that has a radial wall at one end, the combination of:

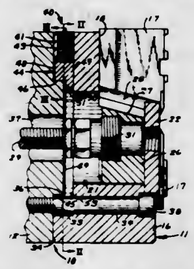
a seal comprising a continuous annulus of oil-resistant synthetic rubber having a flat radial end face and a cylindrical radially outer face and having sufficient stretch and elasticity to be moved axially along said shaft and snapped into said groove where it engages only said radial wall, engaging it with said radial end face, and engages said bore with said cylindrical outer face, one of said faces being engaged nonrotatably with the said member it engages, the other said face being rotatably engaged with the said member it engages, said oil holding the said radial face in contact with said radial wall to prevent leaking of said oil and constituting the sole means doing so, said synthetic rubber being flexible enough to form a good static seal and a good dynamic seal under said pressure and having a thermal coefficient of expansion low enough to prevent plastic flow at operating temperatures developed in said annulus and a coefficient of friction low enough to prevent overheating in operation.

3,259,393
LIP SEAL FOR ROTARY SHAFT WITH PATTERNED GROOVES
Robert L. Dega, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 260,144, Feb. 21, 1963. This application Sept. 2, 1964, Ser. No. 395,643
8 Claims. (Cl. 277—134)



1. A fluid seal for sealing between two relatively rotating concentric members comprising, an elastomeric sealing annulus mounted on one of the members and having a flexible lip portion engageable with a surface of the other member and a plurality of spaced helical grooves in said surface of the other member, said grooves being spiraled in the direction of shaft rotation as viewed from the sealing side of the seal and having width and depth in the order of 0.03 to 0.06 inch and 0.0001 to 0.0004 inch respectively with spacing between adjacent grooves at least 5 times the groove width, said flexible lip portion being locally deformed into each groove when the members are rotating relative to each other and bridging said grooves when said members are rotating relative to each other.

3,259,394
RADIALLY ADJUSTABLE CHUCK
Russell E. Buck, Scotts, Mich., assignor to Buck Tool Company, Kalamazoo, Mich., a corporation of Michigan
Filed Apr. 13, 1964, Ser. No. 359,189
9 Claims. (Cl. 279—6)



1. In a chuck construction, the combination comprising:

a chuck having a recess in a radial face thereof;

face plate means having a pilot on a radial face thereof, said radial faces of said chuck and face plate means being capable of contact whereby said pilot extends into said recess, the periphery of said pilot being substantially radially spaced from the peripheral wall of said recess;

means for preventing avial movement of said chuck away from said face plate means but allowing radial adjustment of said chuck on said face plate means;

adjustment means on said chuck adjustable substantially radially of said recess with respect to said chuck;

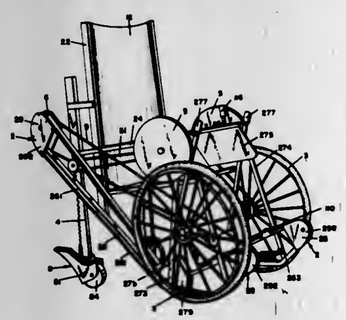
a plurality of transfer members loosely radially disposed in the space between the periphery of said pilot and the peripheral wall of said recess capable of bearing radially on said pilot and contactable by said adjustment means whereby radial adjustment of said adjustment means urges said transfer members against the periphery of said pilot to adjust said chuck radially of said face plate means.

3,259,395
FIGURE SIMULATING ATTACHMENT FOR BICYCLES
Clair L. Blair, 3093 Myrtle St., Sioux City, Iowa
Filed July 24, 1964, Ser. No. 384,845
6 Claims. (Cl. 280—1.203)



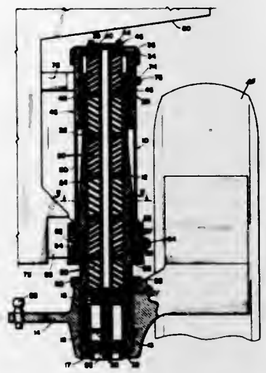
1. A fanciful shaped figure for attachment to a bicycle comprising two separate, shaped elements, the first of said elements comprising a head portion, the second of said elements comprising a body portion, said first element to be attached to said bicycle at the handlebar and front axle portions thereof, means for attaching said first element to said handlebars and front axle of said bicycle, comprising a removable bracket, mounted interiorly of said first shaped element on said handlebars, and a pair of slotted plate members, adapted for location one on either side of said front axle, and adjustable therearound for proper interior attachment to the lower portions of said first element, said second element to be attached to said bicycle at the apex of the front fork, the seat post and the rear axle of said bicycle, and means for attaching said second element to said front fork, seat post and rear axle.

3,259,396
WHEEL CHAIR
Rodvinon I. Zamotin, 600 Curtiss Parkway, Miami, Fla.
Filed Nov. 13, 1963, Ser. No. 323,328
8 Claims. (Cl. 280—5.22)



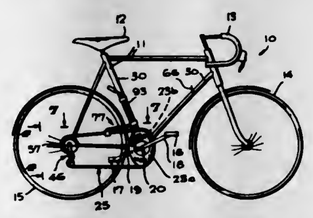
1. A wheel chair capable of travelling on inclined irregular surfaces comprising a frame having side frame members defining a seat therebetween, each of said side frame members having a portion inclined to the horizontal, endless belt means on each side frame member and disposed along said inclined portion, a driveable wheel rotatably secured to each side frame member, retractable wheels located on said frame, said retractable wheels being secureable in an extended position to maintain said vehicle in an upright position such that said driveable wheels and said retractable wheels simultaneously contact a flat horizontal surface thereby permitting horizontal motion of the vehicle over said flat surface, and said retractable wheels being secureable in a retracted position located above the lowermost edge of said inclined portions of said side frame members, means located on the wheel chair and controllable by an occupant of the wheel chair to linearly extend and retract said retractable wheels, and means to transmit motion from said driveable wheels to said endless belt means to enable said vehicle to travel over inclined surfaces.

3,259,397
WHEEL SUSPENSION MOUNTING
Henry C. Doennecke, Tulsa, Okla., assignor to Unit Rig & Equipment Company, Tulsa, Okla., a corporation of Delaware
Filed Jan. 17, 1964, Ser. No. 338,459
4 Claims. (Cl. 280—96.2)



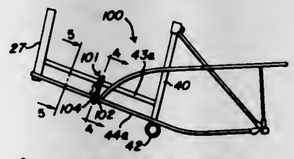
1. A suspension mounting device for a wheeled vehicle comprising an outer housing carried by the vehicle, a inner housing carried by a wheel, said inner housing being slidably and rotatably disposed within the outer housing, a support member secured to the inner housing and spaced upwardly from the lower end thereof, a plurality of superimposed resilient pad members disposed within the inner and outer housings and supported above the support member, said resilient pad members being alternately compressible and expandable upon relative longitudinal movement between the inner and outer housings for absorbing substantially all of the relative longitudinal movement therebetween, means interposed between the resilient pad members for precluding torsional wind up thereof during relative rotational movement between the inner and outer housings, centering means carried by the outer housing and extending through the inner housings and resilient pads for guiding and centering thereof during operation of the suspension mounting device, said centering means comprising a longitudinally extending member having one end secured to the outer housing and opposite end extending slidably through and beyond the support member, stop means carried by the said opposite end of the longitudinally extending member and spaced from the support member for providing relative longitudinal movement between the inner and outer housings in one direction while precluding a complete separation thereof in said one direction.

3,259,398
BICYCLE DRIVE
Mark Hattan, South Pasadena, Calif., assignor of one-fourth to William P. Green, San Marino, Calif.
Filed Dec. 9, 1964, Ser. No. 416,978
16 Claims. (Cl. 280—236)



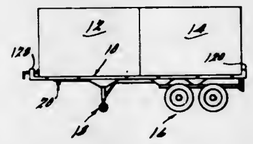
1. A bicycle including front and rear ground engaging wheels, a frame supported by said wheels, an oblong pedal actuated drive wheel having major and minor dimensions, an endless member driven by said oblong wheel and having upper and lower runs extending rearwardly therefrom, a plurality of additional wheels of different sizes selectively engageable with and driven by said endless member rearwardly of said oblong wheel and connected to said rear wheel in axial alignment therewith to drive it, said additional wheels being substantially smaller in diameter than an optimum dimension midway between said major and minor dimensions of the oblong wheel, a movable wheel assembly located essentially beneath said additional wheels and operable to shift said endless member into engagement with different ones of said additional wheels, said movable wheel assembly being positioned to displace a rear portion of said lower run downwardly lower than said additional wheels and to thereby spread said upper and lower runs of the endless member relatively apart rearwardly of said oblong wheel to a spacing closer to said optimum dimension and yielding means urging said movable wheel assembly in a direction to take up slack in the endless member resulting from said shifting thereof and to also take up slack resulting from rotation of the oblong drive wheel.

3,259,399
KNOCK-DOWN BICYCLE
Joseph A. Silberels and Donald A. Wolf, Dayton, Ohio, assignors to The Huffman Manufacturing Company, Miamisburg, Ohio, a corporation of Ohio
Filed Oct. 13, 1965, Ser. No. 495,572
12 Claims. (Cl. 280—287)



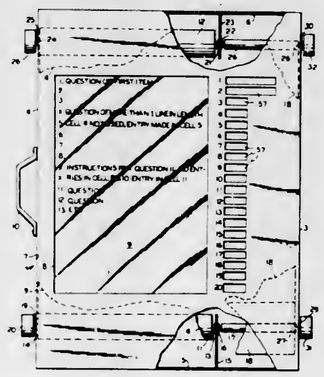
1. A frame for a small wheeled bicycle comprising, a front fork mast, a seat mast extending upwardly generally parallel to said front fork mast, a pair of lower reach tubes having tangential connections to the opposite sides of the lower ends of said masts for interconnecting said masts, a single tube disposed parallel to said reach tubes and rigidly connected to said masts slightly above said tangential connections, said single tube lying in the same plane as said masts, a pair of rear reach tubes connected to said lower reach tubes near the midpoint between said masts, said rear reach tubes extending upwardly and rearwardly to rigid connections with said single tube and said seat mast, said rear reach tubes extending horizontally rearward from said seat mast to form a luggage carrier above the rear wheel of the bicycle.

3,259,400
SEMI-TRAILER APPARATUS FOR VEHICULARIZING CONTAINERS
Keith W. Tantlinger, Grosse Pointe Shores, Robert G. Flagan, Grosse Pointe Park, and George Chleger, Birmingham, Mich., assignors to Fruehauf Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 1, 1964, Ser. No. 356,529
2 Claims. (Cl. 280—423)



1. Apparatus for vehicularizing a pair of shipping containers comprising
a frame
means on said frame for seating containers,
stop means at one end of said frame engageable with one of the shipping containers,
means at the other end of said frame for biasing the other of the containers against said one container and stop means in compressively loaded relationship so as to resist bowing of said frame, and
a wheel suspension at the one end of said frame including a pair of ground-engaging wheels and a downwardly depending kingpin at the other end of said frame for transmitting tractive effort thereto.

3,259,401
DATA TABULATING DEVICE
Earl A. Finch, 1311 Hillside Ave., Richmond, Va.
Filed Jan. 23, 1964, Ser. No. 339,835
1 Claim. (Cl. 281—8)



A data tabulating device comprising:
(a) a box-like container having rectilinear front and side walls and a rectilinear bottom;
(b) a first pair of spools rotatably mounted inside the container at opposite ends thereof with their axes parallel and partially extending across the container;
(c) a questionnaire-containing tape wound over said first pair of spools;
(d) a second pair of spools rotatably mounted inside the container at opposite ends thereof on axes which are the extensions of the axes of said first pair of spools, whereby there is provided a pair of spools in end-to-end relationship at one end of the container extending across substantially the width of the container and a parallel pair of spools in end-to-end

relationship at the opposite end of the container extending across substantially the width of the container;

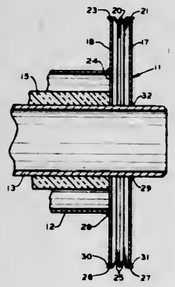
(e) a data-receiving tape wound over said second pair of spools and extending parallel to the questionnaire-containing tape;

(f) a rectilinear cover on the container having one large rectangular opening exposing a plurality of questions on the questionnaire-containing tape and a plurality of successive small rectangular openings linearly disposed in the direction of the data-receiving tape to expose successive portions thereof, the number of said small rectangular openings being selected to be coextensive with the portion of the questionnaire-containing tape exposed by the large rectangular opening, each of said small rectangular openings being disposed adjacent to a single question on the questionnaire-containing tape;

(g) spool-engaging means rotatably mounted on the sides of the container and extending therethrough for rotating the spools therein; and

(h) means for applying pressure over an extensive area of the underside of the tapes mounted in the container, thereby providing a bearing surface for said tapes.

3,259,402
EXPANSIBLE END SEAL
David L. Wyatt, Barberton, Ohio, assignor to Ric-Wil, Incorporated, Barberton, Ohio, a corporation of Ohio
Filed June 14, 1963, Ser. No. 287,997
5 Claims. (Cl. 285—133)



1. In a conduit system having an outer casing in spaced, insulated relation around an inner fluid conveying pipe mounted for expansive axial movement relative to the casing, an improved conduit seal for sealing a terminal end of the casing to the pipe, the pipe extending beyond such terminal end, said conduit seal comprising:

(a) first and second apertured plates, one of said apertured plates being secured to the terminal end of the casing in a fluid tight connection, the other of said apertured plates receiving the pipe within its aperture and being secured to the pipe in a fluid tight connection;

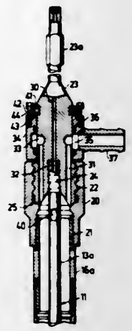
(b) said plates being axially spaced at their connections to the casing and pipe respectively and at their outer perimeters;

(c) a band extending between the spaced plates in radially spaced relation to the casing, said band being attached to the plates adjacent their perimeters and providing a perimetrical fluid tight connection between their spaced perimeters;

(d) said plates being sized so as to extend radially substantially beyond the outer surface of the casing and being flexible to accommodate movement of the pipe relative to the casing; and,

(e) said band being sized and formed to provide flexibility longitudinally of the pipe and casing and permit relative movement of the connected perimeters of the plates.

3,259,403
ADAPTER DEVICE FOR PERCUSSION DRILL
John Anders Hjalsten and Bengt Allan Nordin, Sandviken, Sweden, assignors to Sandvikens Jernverks Aktiebolag, Sandviken, Sweden, a corporation of Sweden
Filed Mar. 4, 1965, Ser. No. 437,179
Claims priority, application Sweden, Mar. 10, 1964, 2,959/64
2 Claims. (Cl. 285—134)

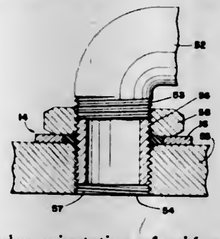


1. An adapter device for connecting a percussion drilling machine with a drill comprising a central drill rod and a surrounding drill tube, said adapter device consisting essentially of a shank adapter, an adapter sleeve and a flushing box, said shank adapter having a rear end portion shaped for connection to a percussion drilling machine, a front end portion having an internally threaded axial recess for connection to a drill rod and an externally threaded portion for connection to said adapter sleeve and between said rear and front portions an intermediate portion of circular cross section, said shank adapter having also a central flushing channel extending from the rear end surface of said rear end portion to said axial recess and at least one flushing channel parallel to said central flushing channel and extending from an orifice in the surface of said portion of circular cross section to the front end surface of said front end portion between said axial recess and said externally threaded portion, said adapter sleeve having an internally threaded rear end portion connected to said externally threaded portion of said shank adapter and a threaded front end portion for connection to the drill tube of a drill, and said flushing box being journalled on said portion of circular cross section of said shank adapter and having a channel communication with said orifice and a connection for supplying flushing medium to said channel.

3,259,404
SEALED JOINT AND GASKET THEREFOR
Richard P. Papenguth, Venice, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 23, 1963, Ser. No. 318,320
5 Claims. (Cl. 285—212)

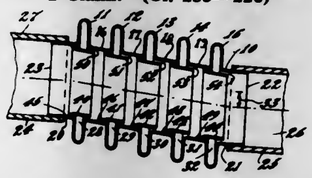
1. In a joint, a pair of threadedly engaged members exposed to a fluid, an annular gasket sealingly engaging one of said members and having a circular surface of a width greater than the pitch of the thread on the other member but less than twice such pitch for engaging the crests of the thread on said other member throughout a circumferential arc in excess of 360° but less than 720°

whereby there is a section of circumferential overlap of said engaged crests and whereby axial leakage of fluid past said engaged crests is prevented, said gasket having a plurality of resiliently deformable projection means circumferentially spaced about said surface and extending radially therefrom, such circumferential spacing being no greater than the circumferential length of said overlap section whereby there will be at least a portion of one of said projection means within the overlap section regard-



less of the angular orientation of said gasket relative to the threads on said other member, said portion of said one projection means extending into the groove of the thread on said other member between said crests to fill the same and sealingly engage the flanks and root thereof to prevent spiral leakage of fluid therealong, said projection means being relatively thin and having an angular length sufficiently less than 360° to permit ready flexing of said projection means for ease of assembly of said gasket and said one member by pushing without turning.

3,259,405
LATERAL OFFSET PIPE EXPANSION JOINT
Chester M. Heller, 2411 N. 54th St., Philadelphia, Pa.
Filed Aug. 5, 1963, Ser. No. 299,806
1 Claim. (Cl. 285—226)



In a lateral offset pipe expansion joint for use in a piping system, the combination of

a plurality of spaced, circular, transverse, resilient metal corrugations,

each of said corrugations having an initial axially aligned position and

said corrugations moving to a laterally offset position upon the imposition of a lateral offset load in the system,

a plurality of equal cylindrical sections respectively connecting adjacent corrugations at the adjacent bases thereof,

said sections being axially aligned when the said corrugations are in axially aligned position and said sections being angularly turned when the corrugations are in offset position;

yieldable means to equally angularly turn the said sections from the said aligned position upon the imposition of a lateral deflection in the system,

said yieldable means comprising identical circumferential yieldable joints between the said sections and the said corrugations,

the said joints being operable to flex in any offset direction in response to lateral offset deflection forces in the system,

each of said sections defining an offset angle equivalent to an equal fractional portion of the total system offset angle,

each of said corrugations absorbing an equal fractional portion of the total system deflection when stressed to the said laterally offset position, and each of the said corrugations traversing in respectively parallel planes, the annular spaces between adjacent corrugations being maintained substantially circumferentially equal when the joint is flexed to an offset position;

and a plurality of internal sleeves respectively shielding the bases of the said corrugations,

said sleeves being generally cylindrical in configuration and each having a leading edge and a trailing edge,

the said leading edge being secured to the interior of each respective cylindrical section near its connection with the adjoining corrugation base,

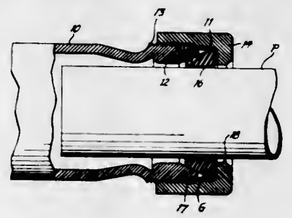
the said trailing edge of each sleeve being axially spaced from the next adjacent leading edge, and

the said trailing edge being radially spaced from the next adjacent cylindrical section to define an annular clearance space therebetween,

the said clearance space being slightly greater than the equal fractional portion of the total system deflection when the joint is stressed to its maximum laterally offset position,

whereby binding between the sleeves and the cylindrical sections is prevented and substantially unrestricted flow is permitted in all operating positions of the said joint.

3,259,406
PIPE COUPLING HAVING GASKET WITH SECTIONAL END
George D. Kish, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Jan. 15, 1964, Ser. No. 337,858
4 Claims. (Cl. 285—341)



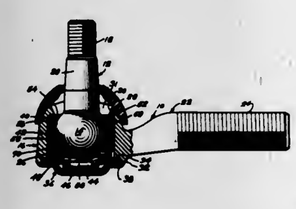
1. A compression pipe coupling comprising a middle ring defining a substantially conical gasket recess, an annular gasket extending within said recess, said gasket being formed of a body of rubber-like elastomeric material and having a substantially conical shape presenting a smaller tapered end portion extending into said recess, a circular follower including means for wedging said gasket inwardly against the middle ring and the outer surface of a pipe extending therethrough, said gasket having a plurality of exposed metallic ring segments secured thereto at the periphery of its smaller end portion, the continuity of said gasket end portion being interrupted at a plurality of points by notches extending into the body of said material defining spaces between separate segments of the ring structure, thereby to permit constriction of said ring segments into engagement with a pipe when the rubber-like elastomeric body of gasket material is confined under the compressing effect of said wedging within the middle ring.

3,259,407
LOCK FOR TELESCOPING TUBES
David I. Welt, Miami, Fla., assignor to Safe-Lock, Inc., Hialeah, Fla., a corporation of Florida
Filed Aug. 28, 1963, Ser. No. 305,104
6 Claims. (Cl. 287—58)



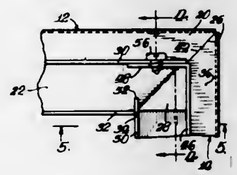
1. In a telescoping tube system; an outer tube and an inner tube, said inner tube including a support element rigidly supported on the inner end and having an eccentric bore of an axis parallel to the central axis of the tube; a rotary cam including a resilient body and a relatively thin resilient metallic sleeve rotatably carried on its periphery, the body of said cam having an eccentric bore of common eccentricity to that of the element; and means in the bores to connect the cam exteriorly of the inner tube for movement of translation with said inner tube and for movement of rotation about the axis of alignment of said bores, the said cam being sized so as to be slideable in the outer tube and rotatable about the axis of alignment to a position wherein the body is rotatable in the sleeve and the sleeve is trapped between the body and the wall of the outer tube to a position of tight wedging relation of the body against the sleeve so that the cam restrains relative movement of the members.

3,259,408
BALL JOINT
Edward J. Herbenar, Detroit, Mich., assignor to TRW Inc., a corporation of Ohio
Filed May 3, 1961, Ser. No. 107,409
5 Claims. (Cl. 287—87)



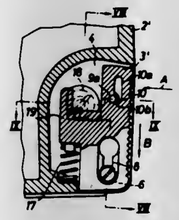
1. A ball joint comprising
a socket having a wall forming a cylindrical chamber therein with an opening at one end thereof,
a stud having a segmental spherical ball head in said chamber and a shank extending rotatably and tiltably outwardly through said opening,
a bearing in said chamber having upper and lower axially spaced annularly shaped axially split bearing members slidable in said chamber and seated on the ball head on opposite sides of the major diameter of the ball head taken perpendicularly to the axis of said socket chamber, the opposed spaced ends of the bearing members which face each other being spaced axially at all portions thereof,
each of said bearing members having a segmental spherical inner surface engaging the ball head in bearing relation thereto and a cylindrical outer surface engaging said wall of said socket, along the entire length of the bearing member,
each of said bearing members having a portion thereof extending above and below said major diameter of said ball head sufficiently to provide a mechanical interlock between the surface of the ball head and the inner spherical surface of its respective bearing member, and
resilient means constantly biasing one of said bearing members toward the ball head and the other of said bearing members.

3,259,409
CORNER CONSTRUCTION
Edward R. Chappell and Richard C. Leamer, Des Plaines, Ill., assignors to Thomas Industries Inc., Des Plaines, Ill., a corporation of Delaware
Filed Apr. 6, 1964, Ser. No. 357,571
4 Claims. (Cl. 287—189.36)



1. In a corner construction: a first channel member having spaced apart arm portions joined together by a web portion, one of said arm portions having an end edge terminating at an acute angle with respect to the plane of said web portion, the other of said arm portions having an end portion offset from the plane of said other arm portion in the direction of said one arm portion, a flange element on said one arm portion, and a ridge element on said other arm portion; a second channel member having spaced apart arm portions joined together by a web portion, one of said second member arm portions having an end edge terminating at an acute angle with respect to the plane of said second member web portion, a flange element on said one second member arm portion, said flange element having a wing portion, a ridge element on the other second member arm portion, said ridge element having a projecting finger portion, and a tab element on said web portion; and means securing said wing portion of said second channel member to said flange element of said first channel member with said end edges of said one arm portions of both channel members disposed in abutting relation, with said offset end portion of said first channel member disposed in overlapping relation to the adjacent end portion of said other arm portion of said second channel member, with said tab element of said second channel member disposed in overlapping relation to said web portion of said first channel member, and with said finger portion of said second channel member disposed in overlapping relation to said other arm portion of said first channel member adjacent one end of the ridge element thereof.

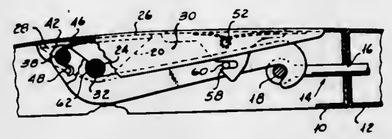
3,259,410
STRUCTURE FOR OPENING AND CLOSING DEVICES SUCH AS CAMERAS AND THE LIKE
Karl Neudecker and Friedrich Winkler, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed Dec. 11, 1963, Ser. No. 329,752
Claims priority, application Germany, Dec. 18, 1962, A 41,912
10 Claims. (Cl. 292—67)



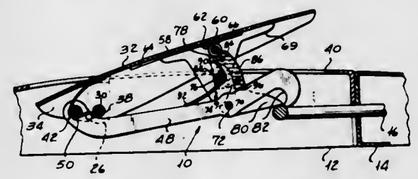
1. In a structure for closing and opening devices such as cameras, in combination, housing means forming part of a device which is to be opened and closed; cover means having a closed position engaging and closing said housing means, said cover means having a corner and being formed at said corner with a cutout; movable lock means located in said cutout; guide means carried in part by said cover means and in part by said movable lock means for guiding the latter for movement relative to said cover means in one pair of opposite directions along a first path between locking and unlocking positions for respectively locking and unlocking said cover means and in a second pair of opposite directions along a second path extending from an end of said first path for securing said movable lock means against movement along said first path and for releasing said lock means for movement along said first path, said movable lock means being movable along said second path only when said movable lock means is in a locking position locking said cover means to said housing means; and stationary lock means carried by said housing means and engaged by said movable lock means when the latter is in said locking position thereof for releasably locking said cover means to said housing means in the closed position of said cover means, the exposed surfaces of said movable lock means forming in said locking position thereof substantial continuations of adjoining surfaces of said housing and cover means without projecting from said adjoining surfaces while continuing the outline of the configuration of said housing and cover means so that said cutout is concealed and the presence of said movable lock means and its purpose are not obvious and so that accidental catching of said movable lock means on a foreign object is avoided, while in said unlocking position thereof at least a portion of said movable lock means projects beyond the outline of said housing and cover means to thus expose at least a portion of said cutout.

3,259,411
DRAWHOOK TOGGLE LATCH
Edward G. Griffiths, Franklin Lakes, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed Dec. 17, 1963, Ser. No. 331,192
6 Claims. (Cl. 292—113)

6. A latch for securing two bodies having load-carrying elements thereon including in combination an element-engaging latch member, means mounting said member on one of said bodies for movement between a first position at which it is out of engagement with the load-carrying element on the other of said bodies and a second position at which a portion of said member engages said other body load-carrying element to place said member under tension in the direction of the length thereof and a surface on said member for applying force in a direction generally parallel to the direction of said tension to said one body load-carrying element as said member moves to said second position.



3,259,412
SAFETY DEVICE FOR TOGGLE LATCH
Frank Wheeler, Little Falls, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed Dec. 17, 1963, Ser. No. 331,254
2 Claims. (Cl. 292—113)

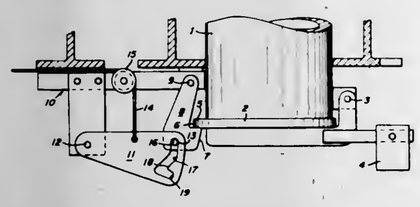


1. A latch assembly for securing a first body to a second body having an engageable element thereon including in combination a handle and a catch means pivoted thereon, means mounting said handle on said first body for movement between a release position and a home position, a drawhook having an element engaging portion, means mounting said drawhook on said handle for movement in response to movement of said handle between a first position out of engagement with said element and a second position in engagement with said element, said catch means adapted to engage said drawhook and adapted to retain said handle in said home position a bell crank having a pair of arms, interengageable means on one of said arms and on said handle adapted to prevent movement of said handle into its home position, means mounting said bell crank on said drawhook at the point of engagement of said catch means with said drawhook, limit means for constraining said bell crank for movement between a first position at which said interengageable means are adapted to engage and said other arm blocks said drawhook portion; and a second position at which said interengageable means are out of engagement and said arm is clear of said portion, and means biasing said bell crank to said first position, said limit means including a boss on said bell crank for limiting the movement of said bell crank under the action of said resilient means.

3,259,413
DOOR LATCH WITH PIVOTED-CAM LOCKING PLATE
Charles Steckle, Allison Park, Pa., assignor to United States Steel Corporation, a corporation of Delaware
Filed Jan. 22, 1964, Ser. No. 339,400
1 Claim. (Cl. 292—132)

A self-locking latch for soaking pit clean-out door and the like, comprising:
(a) structure for the support of latch elements;

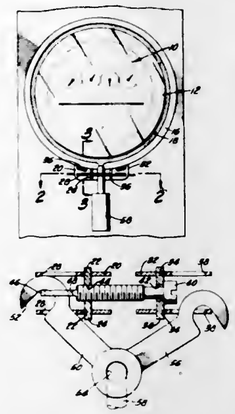
(b) a generally vertical hook member pivotally attached at its upper end to said structure, said member being at such configuration and mass, and said pivot being so located, that the hook member is urged toward said door by gravity;
(c) a projection on said hook member having an upper bearing surface adapted to support the lip of said door in closed position;
(d) a lower outwardly beveled portion of said projection adapted to engage the door during closing, said beveled portion, upon engagement with said door, being capable of imparting a pivotal retreating movement to said hook member upon striking same;
(e) a cam follower near the lower extremity of the hook member;
(f) a generally horizontal lock plate of substantial mass pivotally mounted at its outer end upon the latch support structure, said lock plate having a generally vertical cam slot at the near end of said lock plate, generally opposite, horizontally, with respect to said lock plate pivot, said cam slot engaging said cam follower;



(g) an upper section of said cam slot with apex adapted to retain said hook member in door-securing position, said upper section being of sufficient height to provide sufficient headroom to permit rapid upward acceleration of the lock plate whereby substantial momentum may be imparted thereto;
(h) beneath said upper cam slot section a cam slot section with near edge outwardly sloping sufficiently to insure a combined hammer blow and wedging action to said hook, upon upward acceleration of said lock plate, adapted to free the hook from the door;
(i) at the lower terminus of said outwardly sloping cam section an inwardly extending substantially horizontal slot adapted to prevent the further fall of said lock plate and to hold the hook member with its said lower beveled portion in door-striking position; and
(j) means for remotely raising said lock plate.

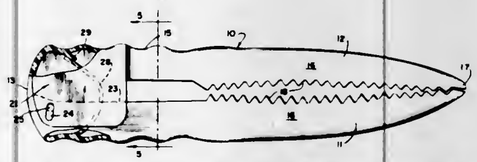
3,259,414
METER RING LOCKING DEVICE
Charles E. Rothert, 1112 Pine St., Huntington Beach, Calif.
Filed July 29, 1964, Ser. No. 385,980
4 Claims. (Cl. 292—256.67)

1. A device for locking meters of the type having a base and a flanged housing positioned over said base, comprising: a split ring for engaging both the meter base and the flange of the housing and preventing relative motion between them, a pair of supports mounted on the outer periphery of said ring adjacent the ends thereof, each of said supports including a plate having an aperture therein, said apertures being aligned and at least one of said apertures being threaded, each of said supports having a slot formed therein generally perpendicular to said plate, a threaded bolt passing through said apertures, said bolt having a slot formed in one end thereof, said bolt slot being aligned with the slot in one of said supports, a first keeper having one end passing through said aligned slots,



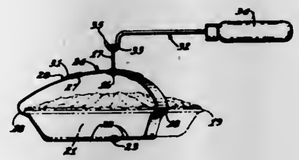
a second keeper passing through the slot in the other support, the other ends of said keepers being adapted to receive a locking member.

3,259,415
FISH TONGS
William J. Howard, P.O. Box 573, Wilson, N.C.
Filed Apr. 1, 1964, Ser. No. 356,441
7 Claims. (Cl. 294—16)



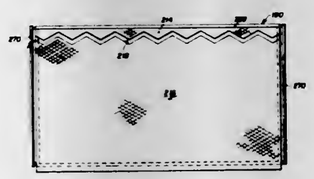
1. A one-piece, homogeneous, floatable, plastic fish tong comprising a pair of channelled arms of generally U-shape in cross-section, said arms being integrally connected at one end by a flexible, resilient hinge portion of the same material as the arms, said hinge portion tending to bias said arms to spaced, open position, the outer surface of each arm adjacent said hinge portion being formed with a hand grip portion and the edges of said arm outwardly from said hand grip portion being formed with a series of teeth, one of said arms adjacent said portion having formed therealong and as a continuation of each side edge thereof an integral fin portion extending part way the length of said grip portion, said fin portions being parallel and spaced to receive the side walls of the grip end of the other arm nicely therebetween to prevent sidewise canting of said arms during manipulation of the arms, each fin portion being formed with a like inclined slot, and the opposite arm having a short projecting abutment device formed on the outer surface of each side wall, said devices being aligned and extending into said slots for limiting outward movement of said arms, each abutment device being formed at its end with a cam surface for flexing said fins and/or side walls sufficiently for said devices to snap into said slots upon the initial closing of said arms, the bottom of the channel of one of said arms at a point within said grip portion being formed with a resilient strip projecting outwardly beyond said arm, and the other of said arms having a catch device formed in the bottom of the channel thereof at a point corresponding to the juncture of said resilient strip to its arm, said resilient strip in the open, normal state of said structure being bowed, with its free end disposed between said catch device and said hinge portion, for biasing said arms to open position.

3,259,416
COLLAPSIBLE PLATE HOLDER
Joseph Mannisi, 1341 W. Woodland Ave., Phoenix, Ariz.
Filed May 18, 1964, Ser. No. 368,196
3 Claims. (Cl. 294—29)



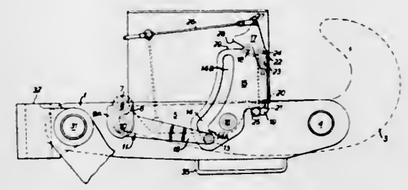
1. A device for depositing a plate and contents in an oven for baking and for removal while heated, comprising three movable arms, each of said arms having a base portion for contact with the under side of said plate and a reverse bend to overlap the edge portion of said plate, pivot means connecting the ends of the base portions of said arms, a pivot pin connecting the other ends of said arms, said pivot pin having an eyelet integral therewith, a locking member having three spaced apart fingers for contact with said movable arms, each of said arms having a slide member to engage a finger to lock said arms in fixed spaced relation about said plate, a hand piece having a hook portion for engaging said eyelet for the manual deposit or removal of said device into or from said oven.

3,259,417
SUCTION HEAD FOR TRANSPORTING VENEER SHEETS
Ralph Chapman, Corvallis, Oreg., assignor to Wood Processes, Oregon, Ltd., Corvallis, Oreg., a limited partnership of Oregon
Filed Aug. 7, 1961, Ser. No. 129,601
7 Claims. (Cl. 294—64)



1. A plywood layup machine comprising a suction box having a foraminous wall adapted to support a plurality of sheets of veneer in side by side relation to each other, abutment means along one edge of said suction box,
said wall comprising a narrow, fixed portion adjacent said abutment means and a wide, movable portion normally spaced from said fixed portion,
means to create a partial vacuum in said suction box whereby said sheets are caused to cling to said wall,
and means to shift said movable portion toward said fixed portion whereby the sheets clinging to said wall are moved into edgewise abutment with each other throughout and the sheet adjacent said abutment means is moved into edgewise abutment with said abutment means throughout.

3,259,418
QUICK RELEASE TOW HOOK
William George Munday and Leslie John Huebner, Pontypridd, Glamorgan, Wales, assignors to Brown, Lenox & Company Limited, Pontypridd, Glamorgan, Wales, a corporation of the United Kingdom
Filed Mar. 27, 1964, Ser. No. 355,336
Claims priority, application Great Britain, Apr. 26, 1963, 16,620/63
7 Claims. (Cl. 294—83)



1. A quick release tow hook assembly comprising two side plates, a hook member, means for pivotally mounting said hook member between said side plates, said hook member having two arms, one of which forms a hook and the other arm being a retaining arm, and trip means including at least one bell crank lever having a first arm and a second arm, said first arm being a radius arm, means for mounting said radius arm between said two side plates, a hook retaining member carried by said radius arm and arranged normally to overlie said retaining arm of said hook member, a release lever to operate said trip means, said release lever having a slot therein, follower means for operatively connecting said slot to said second arm of said bell crank lever, and means for mounting said release lever for movement between a first position in which said slot maintains said bell crank lever in its operative position and a second position in which said slot allows disengagement of said hook retaining member from said retaining arm in response to forces exerted on said hook retaining member by said retaining arm.

3,259,419
RELEASABLE HOIST HOOK
Henry E. Schwarzbach, Pittsburgh, Pa., assignor to American Chain & Cable Company, Inc.
Filed May 4, 1964, Ser. No. 364,603
1 Claim. (Cl. 294—83)

A device for supporting a load by means of a sling comprising
(a) a hook comprising
(i) a shank portion,
(ii) an end portion disposed lower than the top of the shank portion, and
(iii) a load-bearing portion interconnecting the shank and end portions and disposed lower than the end portion with the sling supported across the load-bearing portion;
(b) load-disengaging means nominally located adjacent said hook beneath the load-bearing portion and displaceable alongside said hook to a position above said end portion, said load-disengaging means comprising
(i) a substantially U-shaped lifting element extending along opposite sides of the load-bearing portion and around the end portion,
(ii) a guiding element extending around the shank portion remote from the end portion, and
(iii) a pair of supporting elements extending upwardly along opposite sides of the shank portion;
(c) suspension means comprising
(i) an upper mounting plate,
(ii) a lower plate from which the hook shank portion depends,

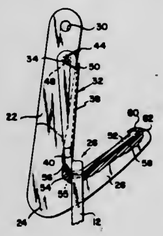
(iii) a pair of intermediate plates, and
(iv) interconnecting means holding said plates in fixed relation; and

(d) displacement means selectively operable by remote control to move the lifting element of said load-disengaging means to said position above the hook end portion to release the sling from the device, said displacement means being adapted to exert a limited moving force on said load-disengaging means and comprising



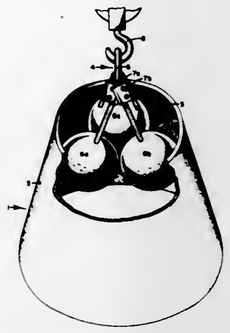
(i) an electrical solenoid coil supported between said intermediate plates of the suspension means, and
(ii) a solenoid plunger vertically movable within said coil and linked to said supporting elements to effect displacement of said load-disengaging means.

3,259,420
SELF UNLOADING HOOK
Richard W. Klemm, Silver Spring, Md.
(7 Olde Coach Road, Colonial Acres, Glenmont, N.Y.)
Filed June 10, 1964, Ser. No. 374,090
12 Claims. (Cl. 294—83)



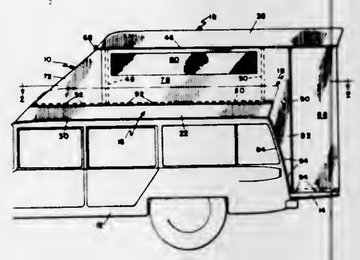
1. A self unloading hook comprising:
(a) a hook member having a shank, a bight connected to said shank and an angularly extending portion connected to said bight, said shank, bight and angularly extending portion forming a throat on the inner surface thereof,
(b) an ejector means pivotally mounted on said shank,
(c) means for outwardly biasing said ejector into said throat,
(d) a retainer having one portion mounted on said angularly extending portion, said retainer having a portion adjacent and cooperating with said ejector to selectively retain and release said ejector.

3,259,421
HOISTING GRAPPLE
Charles W. Davis, Huntsville, and William B. Brooks, Guntersville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Dec. 13, 1963, Ser. No. 330,375
1 Claim. (Cl. 294—93)



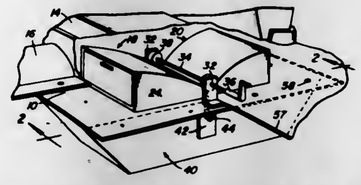
A hoisting grapple comprising a fulcrum hoisting ring, three equal-length flexible cables, having one end of each cable looped through said hoisting ring so that each of said one ends will lie in a plane in diametrically-opposed parallel relation to their respective cable, three equal-size spheroids formed of an elastomeric material, one of said spheroids connected to the opposite end of each of said cables and a clamp engaging the said one end of each cable and that portion of the cable that is in diametrically opposed relation to the said one end of the cable to detachably tether said cable to said hoisting ring.

3,259,422
SLEEPER UNIT FOR STATION WAGONS AND THE LIKE
Rush L. Canon, 3445 Dickens St., San Diego, Calif.
Filed Oct. 8, 1964, Ser. No. 402,498
9 Claims. (Cl. 296—23)



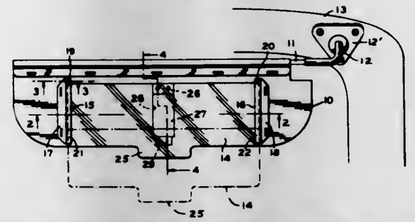
1. A sleeper unit for a vehicle, comprising:
a base for attachment to the top of a vehicle having a tailgate;
a roof portion seating closely on said base in a closed position;
a plurality of support struts pivotally connecting said base and said roof portion to allow the roof portion to swing upwardly and rearwardly, relative to the vehicle, from the closed position to an open position vertically above said tailgate and a rear portion of said vehicle and curtain panels securable to and between said roof portion and said tailgate to define a compartment at the rear of the vehicle.

3,259,423
UNDERSEAT LITTER RECEPTACLE FOR VEHICLES
Arthur H. Minteer, 2800 Wildwood Road, Maryville, Tenn.
Filed Mar. 4, 1965, Ser. No. 437,162
6 Claims. (Cl. 296—37)



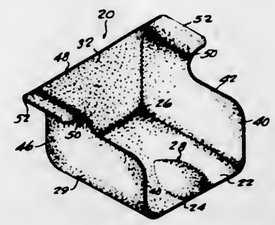
5. In combination with an automobile having a floor and a seat mounted above the floor in spaced relationship thereto, a base rigidly secured to the floor, said base having an opening centrally disposed therein, a pair of chutes mounted on the base and within the space between the seat and floor with one chute facing the front of the automobile and the other chute facing the rear of the automobile, said chutes having doors in the faces thereof for receiving litter thereinto, said chutes converging downwardly to provide a recessed space over the base, brackets mounted on the base flanking the chutes and a shaft passing through the brackets and being disposed over the recessed space, a litter receptacle disposed under the base, said receptacle having a bottom and upstanding sides and ends, said sides having plates thereon, and a retractible means connected to the plates and to the shaft for lowering and raising the receptable with respect to the base.

3,259,424
VERTICALLY SLIDABLE EXTENSION FOR SUN VISOR
Philip S. Swick, 19944 Fenelon, Detroit, Mich.
Filed Aug. 5, 1964, Ser. No. 387,688
11 Claims. (Cl. 296—97)



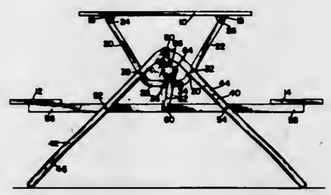
1. In combination, an elongated windshield sun visor, an elongated translucent panel extending longitudinally of said sun visor in substantially parallel relation thereto and adapted to be slid vertically downwardly below the lower longitudinal edge of said sun visor, vertically extending guides for said panel rigid with the sun visor and provided at their upper ends with means for limiting upward sliding movement of said panel, said panel having at its lower longitudinal edge substantially midway between opposite ends thereof means serving as a hand grip by which the panel may be moved vertically, means for holding said panel in vertically adjusted position relative to said sun visor including a metal member secured to one of said elements and adapted to be attracted to a permanent magnet member secured to the other of said elements, and means on the sun visor adjacent the lower longitudinal edge thereof disposed in the downward path of and adapted to serve as a stop for one of the members aforesaid to limit downward sliding movement of said panel.

3,259,425
CHILD'S HIGHCHAIR INSERT
Ralph Chitwood, Rte. 1, Meridian, Idaho
Filed Apr. 23, 1965, Ser. No. 450,283
3 Claims. (Cl. 297—148)



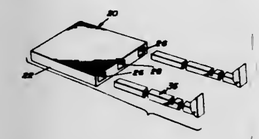
1. In combination, a child's highchair having a seat, a back, and side arms rising from the seat, and a tray supported above and in front of the seat, an insert comprising a seat portion narrower than and resting upon said seat, a back wall and sidewalls secured to and rising from said seat portion, the insert sidewalls being spaced from said side arms, the rear portions of the insert sidewalls reaching upwardly substantially to the level of the chair side arms, said rear portions having rearwardly outwardly-extending flanges reaching outwardly over the chair side arms.

3,259,426
FOLDING TABLE AND BENCH CONSTRUCTION
Harold F. Shaw, Leominster, Raymond J. Sarasin, Fitchburg, and Benjamin K. Burnham, Gardner, Mass., assignors to Thayer, Inc., Gardner, Mass., a corporation of Massachusetts
Filed Apr. 13, 1965, Ser. No. 447,744
10 Claims. (Cl. 297—159)



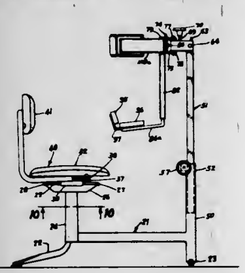
1. A folding table construction comprising a onepiece rigid table top, a pair of links pivoted to corresponding ends thereof at the under side of the table, a pair of legs, said legs being interpivoted at the corresponding inner ends thereof and to the links, said legs extending normally outwardly therefrom to a supporting position for said table, a pair of interpivoted members which are separately pivoted intermediate their ends one to each leg intermediate the ends of the legs;
and a latch, said latch comprising a member pivoted at one end to the two legs at the interpivot point thereof, said latch including a latch link which is pivoted thereto and to said pair of interpivoted members at the point of interpivotal action thereof.
said latch having a locking position wherein the pivot between the latch member and the latch link is to one side of a line between the pivot point of the legs and the pivot point of said interpivoted members, so that when the latch is on one side of this line it forms a past dead center lock which only serves to lock more securely under conditions of weight being placed on the table, but is manually movable to the other side of said line wherein it releases the structure for folding.

3,259,427
LEVERAGE SEAT LIFTS
Ray S. Wiest, 1927 Upper Front St., R.D. 4, Binghamton, N.Y.
Filed Oct. 18, 1965, Ser. No. 497,259
9 Claims. (Cl. 297—183)



1. A seat lift comprising:
a base having
a lower portion for resting upon a seat of a chair,
an upper portion for supporting a body of a user,
connection means communicating with an exterior of said base, and
a transverse axis fixed with respect to the chair;
at least one lever connected to said means for tilting said base about said transverse axis thereof.

3,259,428
TUBA CHAIR
Jerry A. Wenger, Owatonna, Harvey M. Urch, West Concord, and Lenard W. Nordman, Owatonna, Minn., assignors to Harry J. Wenger, Owatonna, Minn.
Filed June 17, 1965, Ser. No. 464,696
10 Claims. (Cl. 297—186)



1. A combination chair and musical instrument support stand comprising; an elongated frame adapted to stand on a platform; a vertical member located at the rear of and secured to said frame; chair support means longitudinally slidably secured to said vertical member; a chair member pivotally secured to said chair support means about a vertical axis; a hollow standard secured at the front of and to said frame; a vertical post member slidably secured to said hollow standard; locking means to prevent relative movement between said vertical post member and said hollow standard; a horizontal arm secured to said vertical post member and disposed longitudinally rearward along said frame's axis; a bracket member pivotally secured to said horizontal arm about a transverse horizontal axis; means for pivoting and holding said bracket member; a universal joint pivotally secured to said bracket about an axis perpendicular to the axis about which said bracket is pivoted; friction means for holding the adjustment of each pivot of said universal joint; a horizontal female member pivoted to said universal joint; a vertical female member rigidly secured to and depending from said horizontal female member intermediate the ends thereof; a vertical male member slidable within said vertical female member; means for selectively preventing said vertical male member from sliding relative to said vertical female member; an instrument support member secured to said male member and disposed longitudinally rearward; an instrument gripping member removably secured to said instrument support member; horizontal male members slidably received in said horizontal female arm member at the ends thereof; means for selectively preventing relative motion between said horizontal male and female arm members; an instrument support member rearwardly disposed and secured to the extremity of each of said horizontal male members and an instrument gripping member removably secured to each of said rearwardly disposed instrument support members.

3,259,429
FOLDING CHAIR AND RACK
Henry C. Banke, Chicago, Ill., assignor to Clarin Mfg. Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 27, 1964, Ser. No. 414,201
4 Claims. (Cl. 297—192)

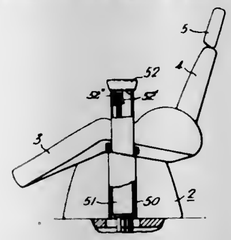


1. The combination of a foldable chair and a storage rack mounted on the chair for movement between an operative position when the chair is unfolded and a collapsed position when the chair is folded, comprising a chair frame including means defining a chair back, a pair of front legs, a pair of rear legs, and a seat, said back, legs and seat being interconnected so as to render said frame collapsible, means supporting the forward portion of a storage rack at a given level when the rack is in the operative position, means secured to a front leg of said frame defining an elongated inclined surface positioned with one of its ends located in spaced relation to one leg of said frame beneath the forward portion of the storage rack when the chair is unfolded and the storage rack is in the operative position, said surface extending upwardly and outwardly from said one end toward said one leg of said frame, a hanger, means detachably securing said hanger to said chair frame at the rear thereof, a storage rack shelf pivotally attached to said hanger and adapted to extend forwardly therefrom into overlying relation to said storage rack supporting means, said shelf being essentially planar within its side and end edges and including a lateral edge adapted to slidably engage said inclined surface during folding of said frame so as to cause said shelf to be pivoted about said hanger upwardly and rearwardly into the collapsed position as said frame is folded.

3,259,430
DENTAL APPARATUS
Daryl Raymond Beach, Fushimi-ku, Kyoto, Japan, assignor to Kabushiki Kaisha Morita Seisakusho, Fushimi-ku, Kyoto, Japan, a corporation of Japan
Filed Oct. 21, 1964, Ser. No. 405,541
Claims priority, application Japan, Dec. 10, 1963, 38/66,790
2 Claims. (Cl. 297—194)

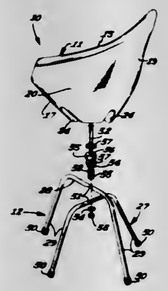
1. Dental apparatus comprising: a chair comprising a base, a seat mounted on the base and vertically movable relative to the base, a back connected to the seat and inclinable relative to the seat and a headrest mounted on the back; dental instruments; means for holding the instruments, while not in use, on the chair; air and water supply means disposed in the interior of said chair and coupled with said instruments; a switchboard and control means

for said air and water supply means enclosed by said seat for controlling the supply of water and air to said dental instruments; a tubular frame adjacent to said base; a column attached to one side of said chair seat and dis-



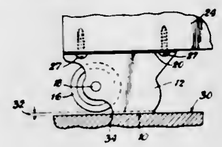
posed in telescoping relationship with respect to said tubular frame; a basin supported on the top of said column; and piping means disposed in said frame and said column coupled with said basin for supplying and draining water.

3,259,431
SEATING DEVICE
John A. Gale, Wayzata, Minn., assignor to John Gale Company, Minneapolis, Minn., a corporation of Minnesota
Filed May 13, 1964, Ser. No. 367,089
3 Claims. (Cl. 297—303)



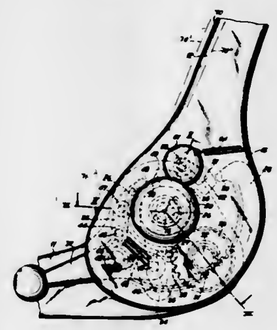
1. A chair comprising:
(a) a unitary, integral, hollow, rotational-molded, resilient plastic upper chair structure including an integral, generally upwardly concave, continuous upper panel shaped to define a continuous contoured seat portion and back rest portion;
(b) an integral, generally downwardly convex, continuous lower support panel spaced from said upper panel and being integrally formed at its peripheral edges with the peripheral edges of the upper panel;
(c) said lower panel having a recess therein located substantially centrally in that portion thereof that underlies the seat portion of said upper panel and defining a downwardly facing socket;
(d) a plurality of transverse recesses in that portion of said lower panel underlying the seat portion of said upper panel, said transverse recesses communicating with said central recess and extending outwardly therefrom and defining a plurality of channel shaped, generally vertically oriented ribs;
(e) a chair base comprising a plurality of generally inverted, U-shaped leg members each including a transverse portion and a pair of depending leg portions;
(f) an upwardly projecting socket engaging element insertable into said socket of said lower panel member which engaging element is formed of compressible resilient material receivable into said socket when in normal uncompressed condition; and
(g) means for connecting selected sections of the transverse portions of said leg members to said socket engaging element which means is provided to rigidly connect said leg members together while maintaining said socket engaging element in uncompressed condition and further having adjustment apparatus thereon for compressing and expanding said element after insertion into said socket to engage the inner surface thereof.

3,259,432
TILTABLE FURNITURE FOR ROLLING AND CASTER MEANS THEREFOR
Fred H. Jackson, Atlanta, Ga., assignor to Wood Conversion Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 22, 1963, Ser. No. 318,035
10 Claims. (Cl. 297—354)



3. A caster comprising a roller and a mounting for said roller, said mounting providing a base for resting normally on the floor, said roller being normally above said base, and said base providing a tilting edge on which to tilt the caster and thereby to move the roller to the floor.

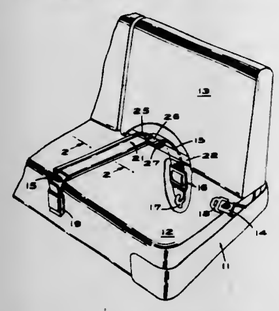
3,259,433
HINGE FITTING FOR ADJUSTABLE BACK RESTS, ESPECIALLY FOR MOTOR VEHICLES
Heinz Werner, Remscheid-Hasten, Germany, assignor to Fritz Keiper, Remscheid-Hasten, Germany, a firm
Filed Sept. 13, 1961, Ser. No. 137,874
Claims priority, application Germany, Dec. 27, 1960, K 42,515
18 Claims. (Cl. 297—367)



13. In a hinge fitting for adjustably connecting a seat and a back rest, in combination, a first hinge member adapted to be connected to said seat; a second hinge member adapted to support a back rest and articulately mounted on said first hinge member for movement jointly with said back rest between a forwardly withdrawn and a single rear operative position; setting means for adjusting said single operative position of said second hinge member and back rest; releasable locking means cooperating with said hinge members and movable between a released position in which said hinge

members are freely movable relative to each other and a locking position in which said hinge members are prevented from moving relative to each other; holding means for automatically holding said locking means in said released position during the entire movement of said second hinge member and back rest when said back rest is in said single preadjusted rear operative position thereof between said forwardly withdrawn position and said single preadjusted rear operative position and while said head rest is in said forwardly withdrawn position thereof, so that said locking means is permitted to move into and be in said locking position thereof only when said back rest is in said single preadjusted rear operative position thereof; and actuating means for automatically moving said locking means from said released position into said locking position thereof when said second hinge member and back rest reach said operative position thereof.

3,259,434
SEAT BELT LOCATER
Stuart M. Frey, Birmingham, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Sept. 4, 1964, Ser. No. 394,492
4 Claims. (Cl. 297—385)



1. A seat belt positioning device for a seat belt having an elongated section extensible across a seat,

said positioning device comprising a flexible sleeve member longitudinally encompassing a substantial portion of a seat belt section, said sleeve member and seat belt section flexing in unison when the latter is placed in seat occupant restraining position,

a resilient member extending longitudinally of said sleeve member,

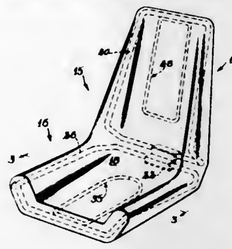
pocket means in said sleeve member extending longitudinally thereof retaining said resilient member against lateral displacement from said sleeve member,

and means anchoring one of said members to a seat frame member at the rear edge of said seat,

said resilient member restoring said sleeve and thereby said belt section to its original extensible position across said seat upon release from seat occupant restraining position.

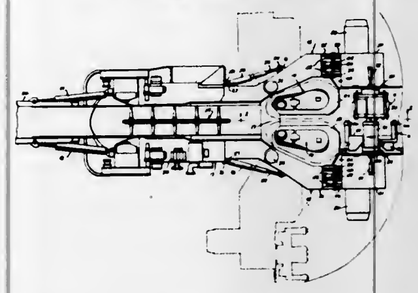
3,259,435
SPRING MODULE
Paulinus Jordan, Jr., Roseville, Mich., assignor, by mesne assignments, to United States Steel Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Feb. 10, 1964, Ser. No. 343,798
4 Claims. (Cl. 297—455)

1. A spring module carried on support means for orienting a seat, or the like, with relationship to a surface, comprising a first torsion component fastened to said support means, a first cantilever component extending from said first torsion component at an angle thereto, a second torsion component extending from said first cantilever component, and a second cantilever component extending from said second torsion component having at



least a portion extending toward said first torsion component and at an angle to said second cantilever component.

3,259,436
CONTINUOUS MINING MACHINE
Joseph Gonski, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 28, 1961, Ser. No. 98,912
9 Claims. (Cl. 299—57)

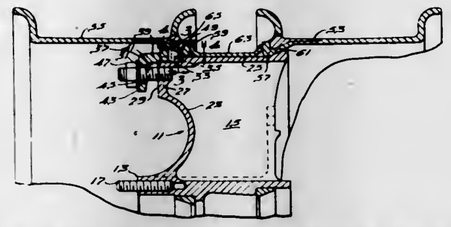


1. In a continuous mining machine, a mobile main frame, a conveyor extending along said main frame from one end thereof to the other, a pair of boom arms pivotally mounted on said main frame adjacent the forward end thereof for movement about vertical axes on opposite sides of said conveyor, a boring head rotatably carried by each boom arm, means for rotatably driving said boring heads, means feeding said boom arms and boring heads about the axes of connection of said boom arms to said main frame, and gathering means mounted on said boom arms for movement therewith comprising aprons mounted on and extending along the inner sides of said boom arms and inclined downwardly from said boom arms into scraping engagement with the ground, and orbitally traveling gathering devices mounted on said aprons for advancing the mined material onto said conveyor and trimming the cusps upstanding from the mine floor during the operation of advancing the mined material toward said conveyor.

3,259,437
WHEEL RIM CLAMP DEVICE
Sylvester A. Malthaner, Rockford, Ill., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed July 15, 1964, Ser. No. 382,781
8 Claims. (Cl. 301—12)

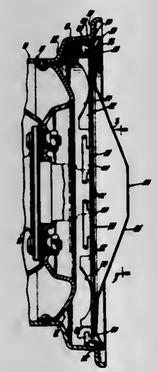
1. An automotive wheel assembly including a wheel body provided with a plurality of radially extending spokes each having an arcuate outer surface, at least one annular rim disposed around said spoke outer surfaces,

a clamping means carried by at least one of said spokes and adjustable axially thereof, means positively interconnecting said clamp means and said rim for conjoint rotation, said clamping means being movable laterally of said spoke and engaging said rim and having a flat surface positioned to engage an axially extending flat surface formed on said spoke substantially normal to a radius of said wheel passing through the center of said spoke and



spaced radially inwardly from the spoke outer surface, said flat surfaces on said spoke and clamping means being substantially coextensive in a lateral direction and extending substantially the full lateral width of said spoke, whereby relative angular movement between said rim and wheel will cause said clamp to move laterally relative to said wheel to thereby increase the clamping force on said rim.

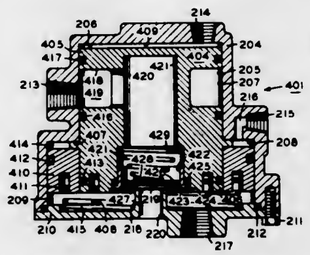
3,259,438
WHEEL COVER
Edward T. Priebe, Roseville, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 5, 1964, Ser. No. 372,838
8 Claims. (Cl. 301—37)



1. A wheel cover including an annular cover body and a generally axially inwardly extending retaining flange portion extending therefrom, and a pair of radially spaced axially coextensive retaining fingers mounted on said flange portion, each finger including means adapted to grippingly engage a portion of a vehicle wheel.

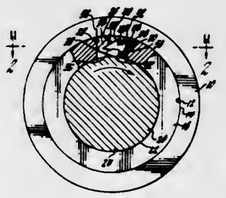
3,259,439
CONTROL VALVE AND SYSTEM
Richard C. Bueler, Glendale, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed Feb. 4, 1963, Ser. No. 255,937
11 Claims. (Cl. 303—40)

1. In a fluid pressure system comprising a fluid pressure source and a pair of fluid pressure responsive motors, metering means for metering fluid pressure from said source to one of said motors, and control means responsive to the fluid pressure metered to said one motor for controlling the application of fluid pressure between said source and the other of said motors including a pair of concertedly and independently movable application means, one of said application means defining with said control means an expansible fluid pressure control chamber for connection in pressure fluid communication with said metering means, means within said control means including said pair of application means defining a pressure fluid flow passage separate from said control chamber and for connection between said source and said other motor,



said pair of application means being concertedly movable in response to the metered fluid pressure in said control chamber to effect the application of fluid pressure through said flow passage from said source to said other motor in a predetermined ratio with that metered to said one motor, and other means for selectively disabling said other application means, said one application means being thereafter independently movable in response to the metered fluid pressure in said control chamber to effect the application of fluid pressure through said flow passage from said source to said other motor in a ratio with that metered to said one motor different than the predetermined ratio.

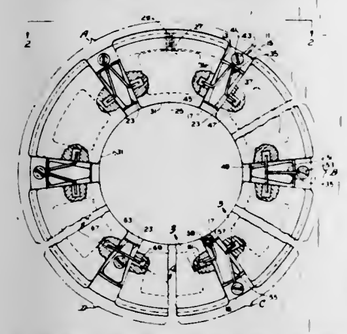
3,259,440
RAILROAD JOURNAL BEARING
John C. McEwen, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 1, 1962, Ser. No. 234,681
7 Claims. (Cl. 308—37)



1. An assembly comprising a housing, an annular sleeve rotatably supported within said housing, a rotatable member carried by said sleeve and having outer cylindrical surfaces in contact therewith, said rotatable member having a first direction of rotation and a second direction of rotation relative to said housing, an annular wall of said sleeve having an opening extending therethrough in a generally radial direction, a compressible metal camming element located in said opening in contact with said housing, sleeve and rotatable member, and spring means positioned in said opening adapted to exert a pressure on said camming element, said camming element being adapted to frictionally engage said rotatable member

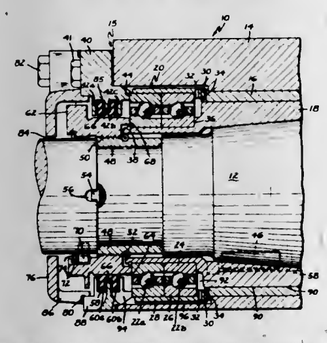
when said member is rotating and to impart unidirectional momentary rotational movement to said sleeve relative to said housing in response to a reversal in the direction of rotation of said rotatable member from said first direction to said second direction when said camming element is being urged against said sleeve.

3,259,441
THRUST BEARING AND SHOE RETAINING MEANS THEREFOR
Sidney W. Newell, Alameda, Calif., assignor to The Union Diesel Engine Company, Oakland, Calif., a corporation of California
Filed Aug. 30, 1963, Ser. No. 305,599
20 Claims. (Cl. 308—160)



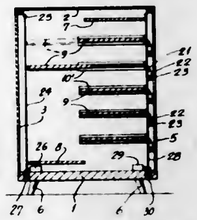
1. In a thrust bearing of the type including a retainer ring and a plurality of thrust shoes movably mounted about said retainer ring; means for retaining said thrust shoes in assembly with said retainer ring prior to installation of the bearing, said means comprising a deformable link connecting said thrust shoes to said retainer ring and solely preventing axial displacement of the thrust shoes, said means having a strength sufficient to withhold the weight of said thrust shoes but insufficient in all directions of contact with said thrust shoes, to restrain movement of said thrust shoes by the normal operating pressure on the bearing after installation.

3,259,442
ROLL NECK BEARING SEAL
Harry Boghosian, Worcester, Mass., assignor to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts
Filed Mar. 25, 1965, Ser. No. 452,952
5 Claims. (Cl. 308—187.1)



1. For use in a rolling mill in a roll neck bearing assembly wherein the roll neck is journaled for rotation within an outer stationary chock, said bearing assembly further provided with bearing means interposed between said roll neck and chock, sealing means for avoiding contamination of said bearing means by cooling water and foreign matter comprising the combination of: an outer annular sealing element fixed relative to said chock with rigid radial flanges extending inwardly therefrom, said rigid flanges spaced to provide grooves therebetween; an inner resilient annular sealing element fixed relative to said roll neck for rotation therewith within said chock, said inner sealing element having flexible radial flanges extending outwardly therefrom into the grooves formed between said rigid flanges, said flexible flanges cooperating in spaced relationship with said rigid flanges and said outer sealing element to provide a sealing labyrinth between said inner and outer sealing elements, and reinforcing means on said inner sealing element for maintaining the aforesaid spaced relationship during high speed rotation of said roll neck within said chock.

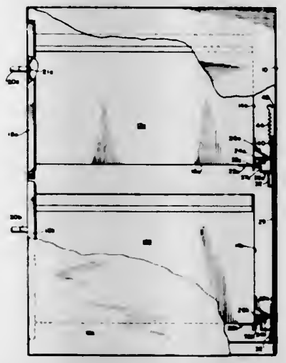
3,259,443
DISPLAY CABINET
Marcel Lavigne, 1565 Beaugrand St., Montreal 5, Quebec, Canada, and Andre Lorenzetti, Pointe aux Trembles, Quebec, Canada (9400 Centrale St., La Salle, Quebec, Canada)
Filed Apr. 9, 1964, Ser. No. 358,427
7 Claims. (Cl. 312—126)



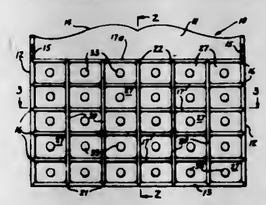
1. A display cabinet comprising side, back and front walls and a transparent top wall, a plurality of superposed shelves, of a width less than the distance between said front and back walls and mounted within said cabinet for horizontal oscillating movement parallel to said side walls between a retracted position adjacent said back wall, and an advanced display position adjacent said front wall, power means to move said shelves between said two positions and control means responsive to the movement of said shelves and operatively connected to said power means to control the same, such that said shelves will assume said advanced display position successively and one at a time, while the other shelves will remain in said retracted position, to thereby display in succession articles carried by said shelves.

3,259,444
LOCKING DEVICE FOR CABINET WITH TWO OR MORE DRAWERS
Irvin Friend, 1427 Waterloo Place, Queens, N.Y.
Filed Jan. 21, 1965, Ser. No. 427,013
2 Claims. (Cl. 312—221)

1. Apparatus for locking the drawers of a multidrawer cabinet in a closed position when one of the drawers is extended and wherein said drawers are vertically stacked, comprising locking means and cam means extending rearwardly from each of said drawers, said locking means and cam means being horizontally displaced relative to each other, a slide bar associated with each drawer and mounted for vertical reciprocating movement, said slide bars being aligned behind said drawers, each of said slide bars including cam follower means engaging the cam means of its associated drawer when said associated drawer is closed and lock engaging means for engaging the locking means of all of the other drawers when said associated drawer is extended, and coil spring means biasing said slide bars upwardly so that all of the lock engaging means of a given bar are forced into an interlocking relationship with their respective lock means when the drawer associated with a given bar is extended from the cabinet, the cam means of any one drawer contacting its associated cam follower means when said one drawer is closed to position the slide bar associated with said one drawer downwardly so that its lock engaging means are out of locking engagement with the locking means of the other drawers.



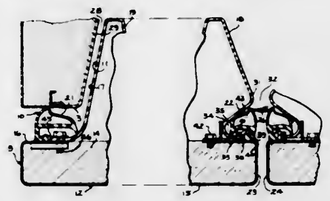
3,259,445
SPICE CHEST
Robert E. Saxon, Carmichael, Calif. (3340 Midas Ave., Sunset Whitney Ranch, Calif.)
Filed Feb. 8, 1965, Ser. No. 431,079
5 Claims. (Cl. 312—234.5)



1. A spice chest comprising a rack including a rear wall, side walls and a bottom wall, a plurality of intersecting vertical and horizontal partitions defining a plurality of rectangular compartments having open fronts, a plurality of spice jars, each dimensioned to fit in a compartment and each having a circular threaded neck and a circular internally threaded closure cap engageable on said neck, a plurality of compartment closing members, each compartment closing member comprising a substantially rectangular plate dimensioned to fit in the open front of a compartment, a central knob on the outer face of each plate and means fixedly securing each closure cap to the inner face of its associated plate and fixedly securing said knob to the outer face of said associated plate, each of said plates being provided with a peripheral flange on the side thereof opposite said knob, adapted to extend into its associated compartment.

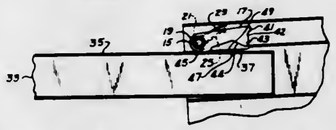
3,259,446
REFRIGERATOR CABINET INCLUDING IMPROVED CLOSURE MEANS
Harold P. Harle and Samuel J. Woolley, Louisville, Ky., assignors to General Electric Company, a corporation of New York
Filed Aug. 3, 1964, Ser. No. 386,832
2 Claims. (Cl. 312—296)

1. In combination, a cabinet having a face portion defining an access opening to the interior of said cabinet,
a pair of doors in side-by-side relationship for closing said access opening,
said doors being pivotally supported on said cabinet for pivotal movement about axis adjacent the outer vertical edges thereof, and having spaced inner vertical mating edges extending across said access opening, and
each of said doors comprising an outer panel having an inwardly turned flange extending around the periphery thereof, a sheet plastic inner panel having peripheral edges overlying said flange,
each of said inner panels having a projection extending from the inner edge thereof adjacent the mating edge of a door rearwardly into the cabinet interior when the door is closed,
said projection having a recessed section therein adjacent said edge of said panel,



each of said doors including a tubular sealing gasket mounted on said flange and extending about the periphery of each door with the sections thereof adjacent said mating edges being substantially disposed in said recess,
cooperating sealing means on said gasket sections for sealing the space between said mating door edges,
said projections including opposed portions rearwardly from said gasket sections providing a relatively narrow air gap to minimize circulation of cold air from said cabinet interior into contact with said sealing means,
means for securing a gasket section and an inner panel edge to said flange of each door comprising a retainer secured to said door flange and including a section anchoring said gasket base portion to said flange, a channel adapted to slidably receive said inner panel edge, and means inwardly from said retainer for engaging a portion of said recessed section to hold said inner panel edge in said channel.

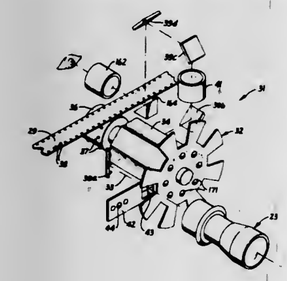
3,259,447
DRAWER STOP
Fritz A. Deutsch, Euclid, Ohio, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,416
5 Claims. (Cl. 312—348)



1. A drawer mechanism comprising a cabinet including a drawer guide means; a drawer slidable therein between open and closed positions; a stop member having a drawer arresting surface, said stop member being movably mounted on the cabinet to be shiftable between a drawer arresting position in which the drawer arresting surface stops the drawer in said open position, and a drawer releasing position; said stop member including an actuating portion arranged for coaction with a portion of the drawer when the latter is in arresting contact with

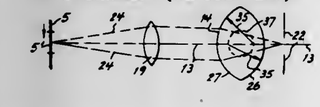
the stop member in said open position, and so positioned that, by tilting the drawer in a predetermined direction while the drawer is in said open position, the actuating portion is acted upon by the drawer to shift the stop member to drawer releasing position in response solely to said tilting, whereby the drawer may then be withdrawn past the stop member.

3,259,448
HIGH SPEED MOTION PICTURE CAMERA
Ernest M. Whitley, Palo Alto, Calif., Alfred K. Boyd, Houston, Tex., and Elmer J. Larsen, La Honda, Calif., assignors to Red Lake Laboratories, Inc., Sunnyvale, Calif., a corporation of California
Filed Dec. 5, 1963, Ser. No. 328,376
21 Claims. (Cl. 352—84)



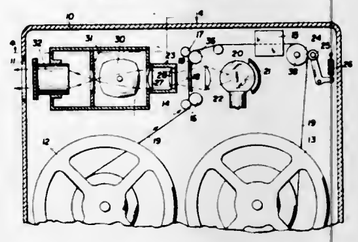
1. An optical system for a high speed motion picture camera having a moving film strip and an objective lens system, comprising a film sprocket having teeth adapted for engagement with sprocket holes in a strip of film moving therepast for rotating said sprocket about an axis, a rotary segmented type disk shutter connected to said sprocket for joint rotation therewith about the same axis and formed for interrupting the beam of light entering the camera through the objective lens system, and optical means mounted with respect to said axis in position to intercept and direct onto the film strip the interrupted beam of light passing through said shutter.

3,259,449
APPARATUS FOR CONTINUOUS FEED OF MOTION PICTURE FILM
Edward C. Barocela, Levittown, N.Y., assignor to Instruments Corporation of America, a corporation of New York
Filed June 26, 1964, Ser. No. 378,288
8 Claims. (Cl. 352—119)



6. In an apparatus for continuous feed of motion picture film, a rotary optical motion compensator consisting of a refracting solid bounded by a plurality of cylindrical convex surfaces of equal radii and made of a transparent material having an index of refraction greater than 1.3 but less than 1.9, said surfaces having their axes of curvature parallel to and equidistant from the axis of rotation of said compensator, said axis of rotation being closer to the axis of each surface than to its corresponding vertex, the radius of curvature being greater than the distance between the vertex and the center of the refractor but less than twice this distance, said surfaces subtending equal angles around said axis of rotation.

3,259,450
OPTICAL COMPENSATOR
Edward C. Barocela, Levittown, N.Y., assignor to Instruments Corporation of America, a corporation of New York
Filed Jan. 28, 1965, Ser. No. 429,956
11 Claims. (Cl. 352—119)
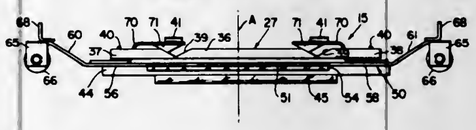


1. In a motion picture apparatus of the non-intermittent type using film having discrete frames, an optical motion rectifier for converting the continuous motion of the film into an intermittent production of the images of said frames in a predetermined image plane, said rectifier comprising a rotatable refractor having an axis of rotation at its center and including a plurality of convex surfaces of equal radii of curvature and subtending equal angles, said convex surfaces having their centers of curvature symmetrically positioned around the axis of rotation, each center of curvature positioned beyond said axis away from its surface, the distance between the axis and each center of curvature being not greater than

$$\frac{R}{3 \sin \phi}$$

where R is the radius of curvature of the convex surfaces and ϕ is an angle equal to 180° divided by the number of surfaces in the refractor.

3,259,451
FILM GATE
Henry N. Fairbanks and Daniel H. Robbins, Rochester, N.Y., assignors, by mesne assignments, to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Sept. 6, 1963, Ser. No. 307,070
14 Claims. (Cl. 352—225)



1. A film gate for holding a lengthwise-extending portion of a film in a projection plane when the film is at rest, and for providing a path through which the film can be freely transported, comprising

a support member against which the film can be engaged,

a bearing member for engaging the film to urge it against the support member, to hold the film in the projection plane,

said members being mounted for movement relative to each other,

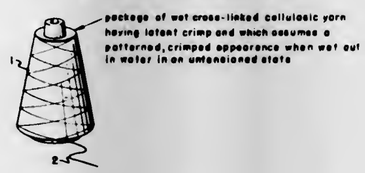
a cam that is fixed relative to one of said members and that is rigidly interconnected therewith,

a cam surface that is fixed relative to the other of said members and that is rigidly interconnected therewith,

and means for causing relative movement between said cam and cam surface, for causing relative movement between said members, to provide a path for the transport of film therebetween.

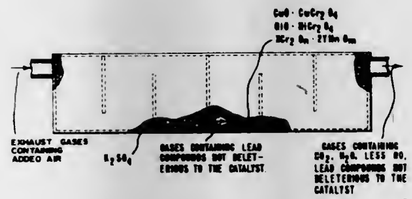
CHEMICAL

3,259,452
FABRIC FORMED FROM YARNS WHICH HAVE A CHEMICALLY INDUCED CONFIGURATIONAL MEMORY
Edgar Henry Pittman, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Oct. 15, 1962, Ser. No. 230,439
8 Claims. (Cl. 8—116)



1. A textile fabric wherein the cellulosic component of the material from which it is made is a cellulosic yarn whose cellulose molecules are cross-linked so that the yarn has substantial wet but relatively little dry configurational memory, so that the yarn assumes in a wet untensioned state a crimped substantially non-looped configuration having a regular uniform pattern with between about 2.5 and 20 crimps per linear inch of yarn.

3,259,453
METHOD AND APPARATUS FOR TREATING EXHAUST GASES OF INTERNAL COMBUSTION ENGINES
Alvin B. Stiles, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 19, 1962, Ser. No. 210,891
3 Claims. (Cl. 23—2)

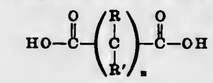


2. In a process for treatment of automobile exhaust gases produced by burning leaded gasoline the step comprising passing said gases into contact with a scavenger selected from the group consisting of the sulfates of ammonia, sodium, potassium, lithium, and magnesium, and passing the gases into contact with a catalyst selected from the group consisting of mangano-chromia-manganite oxides, chromites, manganites of copper, iron, cobalt, nickel, cadmium, zinc, bismuth and cerium and precious metal catalysts selected from the group consisting of platinum, rhodium, palladium and ruthenium.

3,259,454
METHOD OF OXIDIZING GASEOUS COMBUSTIBLE WASTE PRODUCTS
Edward Michalko, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Original application Apr. 20, 1962, Ser. No. 189,101. Divided and this application Aug. 26, 1963, Ser. No. 304,381
4 Claims. (Cl. 23—2)



1. A method for conversion by oxidation of noxious, gaseous combustible waste products to be discharged into the atmosphere which comprises adding an oxygen-containing gas thereto and contacting the resulting gas mixture, at conversion conditions, with a platinum group metal-alumina catalyst prepared by commingling alumina with a platinum-group metal component and from about 0.1% to about 1.5% by weight, based upon the weight of said alumina, of an organic acid selected from the group consisting of dibasic acids and derivatives thereof, having the following structural formula:



where:

R is selected from hydrogen, hydroxyl and alkyl groups;

R' is selected from hydrogen, alkyl and carboxyl groups; and

n is within the range of 0 to 6;

and thereafter heating the resulting catalytic mixture in an atmosphere of hydrogen to an elevated temperature.

3,259,455
PROCESS FOR RECOVERY OF V-VALUES FROM FERROPHOSPHORUS
Ernest L. Koerner, Bridgeton, Thomas L. Hurst, Kirkwood, and Elerington Saunders, Clayton, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed May 9, 1962, Ser. No. 193,629
9 Claims. (Cl. 23—15)

1. A method of recovering vanadium from ferrophosphorus containing the same in a form essentially free of chemically combined oxygen which comprises subdividing said ferrophosphorus to produce a material having a particle size of from 14 to 400 mesh, mixing the thus divided ferrophosphorus with from 50% to 125% by weight sodium chloride, heating the mixture in the presence of an amount of oxygen at least 10% in excess of that theoretically required to result in the vanadium therein being transformed into sodium metavanadate and in the presence of sufficient water vapor to result in the chlorine released as a result of the reaction of said sodium chloride being transformed into HCl, said heating being conducted at a temperature of at least about 400° C. but below the melting point of said ferrophosphorus and in the presence of a solid inert diluent having a melting point above the maximum temperature at which said heating is conducted, said inert diluent being present in an amount from about 10% to 500% of the weight of

said ferrophosphorus, cooling the resulting oxidized mixture and thereafter extracting said mixture with an amount of water such that a solution containing from about 4% to 7% by weight, calculated as V_2O_5, of sodium metavanadate is produced.

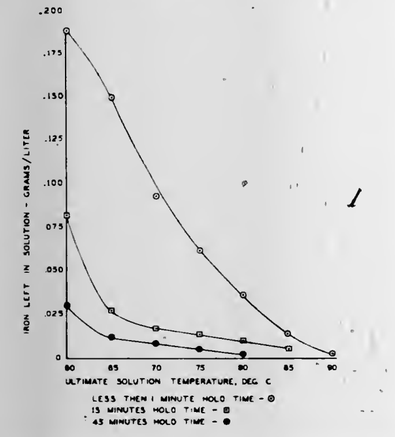
7. A method according to claim 1 wherein there is dissolved in the aqueous extract containing said sodium metavanadate an amount of ammonium chloride which is less than the solubility limit thereof but which is at least about 3% by weight of said extract, the resulting solution is heated to precipitate ammonium metavanadate, the precipitated ammonium metavanadate is separated and heated to produce vanadium pentoxide and ammonia, and the thus produced ammonia is reacted with said HCl liberated during the oxidation of said ferrophosphorus to thereby produce ammonium chloride.

3,259,456

PROCESS FOR PRODUCING BASIC BERYLLIUM MATERIAL OF HIGH PURITY

Robert L. Maddox and Raymond A. Foos, Fremont, Ohio, assignors to The Brush Beryllium Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 16, 1964, Ser. No. 404,376
19 Claims. (Cl. 23—88)



1. A process for obtaining a basic beryllium material of high purity from an aqueous solution having beryllium content and comprising: (a) contacting the beryllium-containing solution with an organic extractant solution consisting essentially of at least one water-immiscible organic solvent and a material selected for the group consisting of alkyl acid phosphates, salts of alkyl acid phosphates, and mixtures of said phosphates and salts to extract the beryllium content and metal impurities, (b) subjecting the extractant solution, with the beryllium content and metal impurities therein, to a stripping solution of ammonium carbonate of sufficient concentration to strip the beryllium content and metal impurities from the organic extractant solution and form an aqueous slurry of the beryllium content and metal impurities, (c) heating the aqueous slurry to a temperature sufficient to precipitate the metal impurities and retain the beryllium content in the solution, and (d) heating the resultant beryllium-containing solution to a higher temperature which is sufficient to produce a slurry of the basic beryllium material of high purity with a concurrent evolution of ammonia and carbon dioxide gases therefrom.

3. The process according to claim 1 wherein the basic beryllium material of high purity is reacted with a material selected from the group consisting of hydrofluoric acid, salts thereof, and mixtures of the acid and salts, to form beryllium fluoride with a concurrent evolution of additional ammonia and carbon dioxide gases.

3,259,457

ZINC HYDROSULFITE SOLUTIONS WITH INCREASED STABILITY AND PROCESSES FOR THE PRODUCTION THEREOF

Thomas W. Sauls and Ernest A. Winter, College Park, Ga., assignors, by mesne assignments, to Tennessee Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 12, 1962, Ser. No. 201,778
2 Claims. (Cl. 23—116)

2. In a process for stabilizing ZnS_2O_4 solutions against decomposition, the step of adding to a freshly prepared solution of approximately 38% ZnS_2O_4 about 1–2% ZnO, about .06–0.3% zinc dust, and about 1.0% hydroquinone.

3,259,458

PROCESS FOR PREPARING WET PROCESS PHOSPHORIC ACID STABILIZED AGAINST IRON AND ALUMINUM PRECIPITATION

Alfred W. Petersen, Salt Lake City, and Walter Lyman Staker, Granger, Utah, assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 6, 1965, Ser. No. 493,528
11 Claims. (Cl. 23—165)

1. A process for preparing a "wet process" phosphoric acid containing iron and aluminum impurities, but stabilized against precipitation of said iron and aluminum impurities comprising:

(a) clarifying a concentrated crude "wet process" phosphoric acid having a P_2O_5 level of between about 44 and 59 weight percent P_2O_5 which contains iron and aluminum impurities which would precipitate on standing,

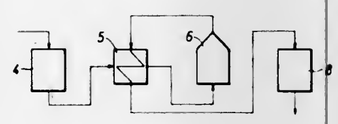
(b) and adding to the crude "wet process" phosphoric acid either before or after clarification, in a quantity of between about 0.20 and 1.00 gram equivalent per mole of P_2O_5 in the said acid, a compound selected from the class consisting of ammonia, ammonium hydroxide, potassium hydroxide, potassium carbonate, sodium hydroxide, sodium carbonate, magnesium oxide, magnesium hydroxide, and magnesium carbonate, said addition being in an amount sufficient to stabilize the "wet process" phosphoric acid against precipitation of iron and aluminum impurities therefrom.

3,259,459

PROCESS FOR THE PRODUCTION OF SULFUR TRIOXIDE

Wilhelm Möller, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Aug. 26, 1963, Ser. No. 304,507
Claims priority, application Germany, Feb. 20, 1960, F 30,595
11 Claims. (Cl. 23—176)



1. In the process for the production of sulfur trioxide by the catalytic oxidation of sulfur dioxide-containing gases the improvement which comprises introducing the sulfur dioxide-containing gases into a first catalytic oxidation stage containing an oxidation catalyst at the initiation temperature for said catalyst to thereby partially catalytically convert the sulfur dioxide to sulfur trioxide, separating the sulfur trioxide from the tail gas from said first catalytic oxidation stage and thereafter passing the tail gas into at least one further catalytic oxidation stage, containing an oxidation catalyst, at a temperature lower than the initiation temperature of the first stage and at least about 20° C. below the initiation temperature which would be required by said catalyst in said further catalytic oxidation stage without prior sulfur trioxide separation.

3,259,460

PREPARATION OF NITRYL FLUORIDE

Ralph A. Davis and Douglas A. Rausch, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 29, 1963, Ser. No. 276,651
3 Claims. (Cl. 23—203)

1. A process for preparing nitryl fluoride which comprises:

(1) contacting cobalt trifluoride with nitrogen tetroxide over a temperature range of from about 300 to about 350° C., the gram mole ratio of said cobalt trifluoride to said nitrogen tetroxide ranging from about stoichiometric to about 40 and the particle size of said cobalt trifluoride at a maximum being about ¼ inch diameter, and

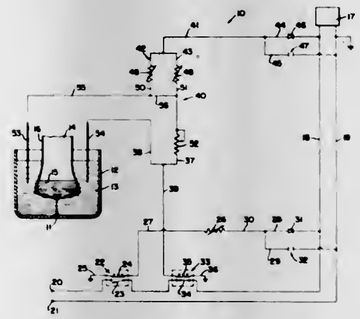
(2) recovering nitryl fluoride therefrom.

3,259,461

METHODS FOR MEASURING THE CORROSION RATE OF TEST SPECIMENS OR THE LIKE

Roger C. Griffin, Jr., and Nathaniel A. Lewis III, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Aug. 23, 1961, Ser. No. 133,477
9 Claims. (Cl. 23—230)



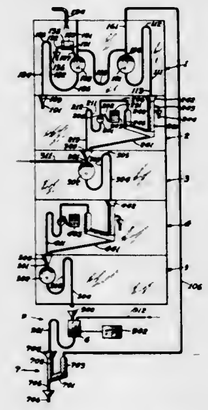
1. A method for measuring the rate of corrosion of a test specimen and comprising the steps of separating a desired corrosion means from a liquid by said test specimen, said liquid having a known electrical resistance when free of ions of said corrosion means, and measuring the elapsed time from the moment said corrosion means is placed in contact with said test specimen to the moment when the electrical resistance of said liquid changes due to the presence of ions of said corrosion means entering said liquid when said corrosive means eats through said test specimen whereby the corrosion rate of said test specimen can be determined.

3,259,462

AUTOMATIC ANALYZING DEVICE AND METHOD

Arnost Anscherlik, Prague, Czechoslovakia, assignor to Vyzkumný ústar energeticky, Prague, Czechoslovakia

Filed Aug. 28, 1962, Ser. No. 219,832
Claims priority, application Czechoslovakia, Sept. 4, 1961, 5,344/61
12 Claims. (Cl. 23—230)



8. A method of automatically analyzing the chemical composition of a liquid which comprises:

(a) releasing a metered sample amount of the liquid to be analyzed responsive to a first signal;

(b) releasing a metered amount of a reagent liquid responsive to the release of said sample amount;

(c) jointly receiving said metered amounts in a vessel for reaction therebetween, whereby a mixed reacted liquid is formed;

(d) responsive to a second signal releasing said reacted liquid from said vessel to a measuring means;

(e) measuring a physical property of the released reacted liquid in said measuring means;

(f) discharging the measured liquid from said measuring means; and

(g) generating said first signal responsive to the discharging of said measured liquid from said measuring means.

3,259,463

METHOD FOR ESTIMATING QUICKLY THE NEUTRALIZATION NUMBER OF AUTOMATIC TRANSMISSION FLUID

Charles F. Feasley, Woodbury, N.J., and Fernando A. Pellicciotti, Inglewood, Calif., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,168
2 Claims. (Cl. 23—230)

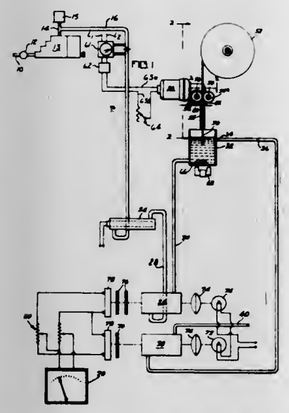
2. A method of protecting automatic transmissions by detecting the presence of detrimental amounts of acids in used automatic transmission fluid which comprises forming a color test solution from a hydroxide, an alcohol, an aromatic hydrocarbon, water, and an organic acid-base indicator which in said solution will change its color from blue to reddish-orange as the acidity of the solution increases and will provide a sharp color change from green to yellow when a used automatic transmission fluid has a neutralization number of from about 2 to about 7, said solution containing sufficient quantity of said hydroxide to be equivalent to the number of milligrams of potassium hydroxide per milliliter of solution necessary to obtain the neutralization number, and introducing the said fluid into said solution in such proportions that a sharp color change will indicate that the fluid is detrimental to the life of the transmission and should be changed.

3,259,464
PROCESS FOR IMPARTING ANTI-DUSTING PROPERTIES TO ABSORBENTS AND PRODUCT PRODUCED THEREBY
James A. Avtges, Watertown, Mass., and Robert G. Shaver, Burke, Va., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Apr. 5, 1963, Ser. No. 271,015
The portion of the term of the patent subsequent to July 31, 1979, has been disclaimed
11 Claims. (Cl. 23—252)



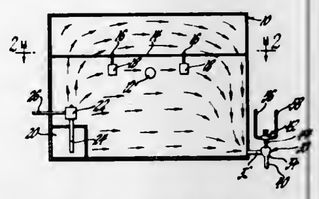
9. A disposable gas absorbent canister for re-breathing apparatus comprising an enclosed container provided with opposed perforated sides for passage of gas therethrough, and confined therein a charge of a mass of dustless metallic hydroxide absorbent mixture of the soda lime type having a moisture content between about 5 and 19 percent in admixture with about 0.5 to 3.0 percent by weight based on the weight of the absorbent particles of a dry, powdery, salt selected from the group consisting of an alkali metal salt of carboxymethylcellulose and mixtures thereof.

3,259,465
CHEMICAL ANALYSIS AND PROCESS CONTROL BY SOLID FILAMENT REAGENT
Robert T. Sheen, St. Petersburg, Fla., assignor to Milton Roy Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 6, 1963, Ser. No. 256,742
6 Claims. (Cl. 23—253)



1. A system for continuous analysis of fluids for chemical constituents comprising a reaction vessel, means for introducing and passing a sample fluid through the reaction vessel, means for controlling the flow rate of the sample fluid through the reaction vessel, a fluid soluble continuous solid reagent filament in contact with the sample fluid in said reaction vessel, means for feeding the filament into said reaction vessel at selected rates, means for correlating flow of the sample fluid through the reaction vessel with the feed rate of said reagent filament, and means for determining the amount of chemical constituents in the fluid.

3,259,466
CORROSIVE VAPOR TEST CHAMBER
John A. Jacks, Jr., Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 28, 1962, Ser. No. 248,008
2 Claims. (Cl. 23—253)



1. A corrosive vapor test chamber adapted to support test elements therein including means for supplying a corrosive vapor to the chamber and means spaced from the supply means for exhausting the vapor from the chamber comprising a vapor exhaust pipe, an open drain connected thereto and nozzle means connected to a supply of water and a supply of pressurized air and operable to emit an air atomized spray of water into the open drain past the exhaust pipe to aspirate atmospheric air and to aspirate vapor from the chamber through the exhaust pipe to dilute the vapor with water and air.

3,259,467
APPARATUS FOR PULLING ROD-SHAPED CRYSTALS OF SEMICONDUCTOR MATERIAL FROM A MELT IN A CRUCIBLE
Theodor Rummel, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany
Filed Dec. 3, 1963, Ser. No. 327,659
Claims priority, application Germany, Dec. 7, 1962, S 82,753
3 Claims. (Cl. 23—273)



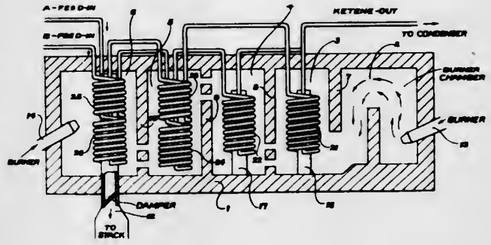
1. Apparatus for pulling rod-shaped crystals of semiconductor material from a melt in a crucible, comprising a processing vessel;
a crucible containing the melt positioned in said processing vessel;
heater means in operative proximity with said crucible for heating the melt at a substantially constant temperature;
crystal pulling means mounted in said vessel above said crucible for substantially vertical movement, said crystal pulling means comprising a substantially vertically displaceable member, driving means in operative proximity with said member for moving said member in a substantially vertical direction and crystal holder means on said member for seeding and pulling a crystal rod upwardly out of the melt when said member is moved upwardly;
strain gage means affixed to the member of said crystal pulling means for providing an electrical signal having a magnitude indicative of the weight of said crystal rod;
circuit means including variable resistance means having a resistance-varying arm mechanically coupled to the driving means of said crystal pulling means for providing an electrical signal having a magnitude indicative of the length of said crystal rod;
electrical comparator means including said strain gage means and said circuit means for comparing the electrical signals corresponding to the weight and the length of the crystal rod to produce an electric control signal proportional to the differential quotient of the rate of change of weight to the rate of change of length of said crystal rod; and
control means connected to said electrical comparator means and coupled to the driving means of said crystal pulling means for controlling the pulling speed by the electric control signal to maintain the differential quotient constant thereby to maintain the diameter of the rod-shaped crystal constant.

3,259,468
SLIM CRYSTALLINE ROD PULLERS WITH CENTERING MEANS
Harry M. Stevens, Crystal Lake, and William F. Tucker, Creve Coeur, Mo., assignors to Monsanto Company, a corporation of Delaware
Filed May 2, 1963, Ser. No. 277,613
12 Claims. (Cl. 23—273)



1. Apparatus for pulling slim rods of semiconductor material comprising in combination a chamber for providing an inert atmosphere about at least a portion of a rod of semiconductor material, heating means for operatively producing a molten zone in said rod, said chamber having at one end a seal for lengthwise movement therethrough in substantially hermetically sealed relationship with said chamber of a slim rod pulled from said molten zone, pulling means disposed externally of said chamber for pulling said slim rod from said molten zone through said seal, the distance between said pulling means and said seal being from about three to five times the distance between said seal and said heating means, and bearing means located adjacent said heating means, said bearing means including means for retaining a slim rod of varying diameter axially centered with respect to said seal.

3,259,469
APPARATUS FOR MANUFACTURING KETENES
Edwin S. Painter, Robert C. Petrey, and John H. Jensen, Jr., all of Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 26, 1961, Ser. No. 126,937
2 Claims. (Cl. 23—277)

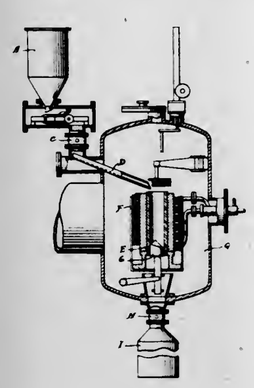


1. An apparatus useful for the production of ketene by the pyrolysis of a ketenizable organic compound, said apparatus comprising a furnace housing which encloses at least four communicating chambers, gas heating means for heating said furnace, an exit channel for exhausting gas from said gas heating means from the interior of the housing to an exhaust stack, baffle walls within the housing for dividing the interior of the housing into said at least four chambers, said chambers comprising a preheating chamber, followed by a superheating chamber, followed by two cracking chambers, the apparatus being further characterized in that said preheating chamber contains two coils, one in the bottom portion and the other in the top portion of said preheating chamber, said coils being extensions of two feed conduits without the housing, said superheating chamber containing two coils, one in the bottom portion and the other in the top portion of said superheating chamber, said coils being connected to the first-mentioned two coils of said preheating chamber by two separate conduits, one of which leads from the lower end of the coil in the top portion of the preheating chamber to the upper end of the coil in the bottom portion of the superheating chamber and the other of which leads from the lower end of the coil in the bottom portion of the preheating chamber to the upper end of the coil in the top portion of the superheating chamber, thereby providing substantially uniform heat distribution throughout both preheating and superheating chambers, a cracking coil in each of said two cracking chambers, one of said cracking coils being connected to one of said coils in the superheating chamber, and the other cracking coil being connected to the other coil in the superheating chamber, conduit means from each of the two cracking coils leading to a single exit conduit outside the housing through which exit conduit the ketene product from the apparatus may be conducted to further processing means.

3,259,470
APPARATUS FOR MANUFACTURING SHAPES OF URANIUM CARBIDE
Friedrich Hofmann, Gerstaried, Upper Bavaria, and Lothar Schafer, Klein Auheim, Germany, assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Aug. 9, 1963, Ser. No. 301,215
Claims priority, application Germany, Aug. 10, 1962, E 23,368
1 Claim. (Cl. 23—277)

An apparatus for manufacturing shapes of uranium carbide by heating bodies of a mixture of uranium oxide plus graphite, said apparatus comprising a storage vessel

for said bodies, a conveyor belt for receiving the bodies from the storage vessel, a gate for receiving the bodies from the conveyor belt, a tubular chute for receiving the bodies from the gate, a vertical cylindrical reaction chamber of graphite, an induction coil for heating said reaction chamber, means for evacuating said chamber, means



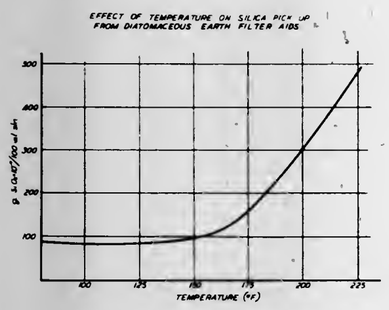
for discharging said shapes formed from said bodies at the bottom of said reaction chamber comprising a downwardly retractable, die-shaped seal, a gate for receiving the bodies from the die-shaped seal and a chamber for receiving the bodies from the gate and for cooling said shapes while maintaining them in a vacuum.

3,259,471

PRODUCING SODIUM SESQUICARBONATE USING DIATOMACEOUS EARTH AS A FILTER AID

Peter G. Cortessis, Westend, and Frederick E. Boyer, Trona, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

Filed Mar. 25, 1963, Ser. No. 267,434
2 Claims. (Cl. 23—302)



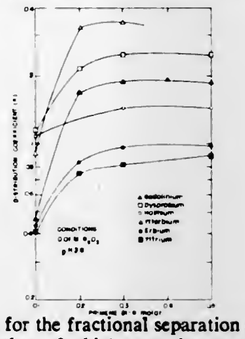
1. In a process for producing sodium sesquicarbonate from trona ore which comprises (1) grinding said ore, (2) dissolving the soluble portion of said ground ore in an aqueous media, (3) filtering the resultant solution to remove insolubles therefrom, (4) crystallizing sodium sesquicarbonate from said filtered solution, (5) separating said crystals of sodium sesquicarbonate from the remaining solution and (6) drying said crystals, the improvement comprising filtering said resultant solution of step (3) using diatomaceous earth as a filtration aid and maintaining the temperature of the sodium carbonate solution at less than approximately 150° F. while in contact with the diatomaceous earth.

3,259,472

FRACTION SEPARATION OF AQUEOUS RARE EARTHS USING AMINES

Andrew C. Rice, Reno, Nev., assignor to the United States of America as represented by the Secretary of the Interior

Filed Oct. 30, 1961, Ser. No. 148,775
10 Claims. (Cl. 23—312)



1. A method for the fractional separation of rare earths from a mixture thereof which comprises contacting an initial aqueous sulfate solution of the rare earth mixture having a pH of from about 1.0 to about 7.5 with a member of the class consisting of (1) at least one amine having the formula RNH_2 wherein R is an alkyl group of from about 12 to 21 carbon atoms, and (2) N-benzylheptadecylamine, said amine being dissolved in an organic, water immiscible inert solvent compatible with the other components present, to form an organic extract phase and an aqueous raffinate phase, each of the rare earths having a different percentage distribution between the organic phase and the aqueoous phase expressed as the ratio of the concentration of the rare earth in the organic phases to the concentration in the aqueous phase, said ratio being the distribution coefficient K, said coefficient, for members of the yttrium group of rare earths; increasing in the order Gd>Gy>Yb>Er>Y and for members of the cerium group of rare earths, increasing in the order

Ce>Pr>Nd>Sm

whereby the individual rare earths are distributed between the extract phase and raffinate phase in varying concentrations based on their respective distribution coefficients, said extract and raffinate phases thereby becoming relatively enriched with respect to individual rare earths as compared to their concentrations in the initial aqueous sulfate solution, separating the extract phase from said raffinate phase and recovering the rare earths from said phases.

3,259,473

DISSOLUTION OF PLUTONIUM

Horace H. Hopkins, Jr., and Richard S. Kingsley, Richland, and Eben La Mont Conner, Jr., Yakima, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Oct. 2, 1963, Ser. No. 321,991
1 Claim. (Cl. 23—316)

A process of dissolving plutonium, comprising immersing the plutonium in aqueous nitric acid having a concentration of between 1 and 5 M, containing hydrazine in a concentration of between 0.1 and 2M and hydrofluoric acid in a concentration of between 0.0001 and 0.01 M, and heating the metal-acid system to a temperature within the range of between 50 and 100° C.

3,259,474

PROCESS FOR THE PRODUCTION OF ALKALI METAL BOROHYDRIDES

German Broja, Leverkusen, and Werner Schabacher, Cologne-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Oct. 4, 1960, Ser. No. 60,331
Claims priority, application Germany, Oct. 6, 1959, F 29,546
2 Claims. (Cl. 23—361)

1. In a process for the continuous production of an alkali metal borohydride by reacting an alkali metal borate and silicon dioxide with hydrogen and an alkali metal at elevated temperatures, the improvement which comprises in a first stage heating an alkali metal borate in admixture with silicon dioxide to a temperature of about 200–350° C., in a second stage introducing into said heated mixture of alkali metal borate and silicon dioxide an alkali metal in liquid form under a hydrogen pressure of 2–5 atmospheres, maintaining the temperature for the reaction in said second stage at about 350–400° C., thereafter in a third stage heating the resulting reaction mixture in the presence of additional hydrogen to a temperature of about 420–450° C., and thereafter recovering the alkali metal borohydride thereby formed.

3,259,475

ETCHED METAL VALVE SURFACES OF TANTALUM OR NIOBIUM OR TITANIUM

John Burnham, 10960 Verano Road, West Los Angeles, Calif.

Original application Jan. 9, 1961, Ser. No. 81,396, now Patent No. 3,190,822, dated June 22, 1965. Divided and this application May 3, 1965, Ser. No. 452,621
5 Claims. (Cl. 29—183)



1. An etched surface of an inert valve metal selected from the group consisting of tantalum, niobium and titanium, said surface being substantially free from surface impurities and having a surface appearance resembling a series of substantially parallel and regularly located ridges and valleys, said ridges and valleys having an uneven etched surface configuration.

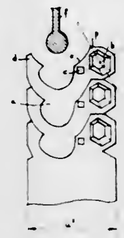
3,259,476

SLIDE FASTENER

Dugald Laird Hair, 55 Warwick Square, London, England

Filed Apr. 8, 1965, Ser. No. 449,367
2 Claims. (Cl. 29—193.5)

1. A flat-sided indeterminant length wire strip from which slide fastener elements are adapted to be formed, said strip having raised portions formed on one face thereof and recessed portions formed on the other face thereof, said raised and recessed portions being hexagonal in shape and defining the interlocking members of the finished fastener engaging elements, said portions being formed along one edge of said wire strip aligned and adjacent to each other, two of the sides of each raised and recessed portion being longitudinally parallel to the edges of the wire strip, the other four connecting sides forming an irregular hexagonal frustrum, each of said other four connecting sides having their bases extending along lines inclined to a plane normal to the longitudinal axis of said wire strip, a series of equally spaced V notches located on the edge of said strip between adjacent raised and recessed portions, one of said notch sides being parallel to two other sides of said raised and recessed portion, the remaining notch side being parallel to the remaining two sides of said raised and recessed portion, a series of equally spaced dissimilar two-sided notches formed on the



other edge of said wire strip, the leading end of said strip being cut-away inwardly to define a pair of jaw portions adapted to receive a fastener tape therebetween, one of said jaw portions including a raised and recessed portion, the strip being adapted to be severed from the V-notch on one edge to the notch on the other edge in a manner to define similar jaw portions so as to form a plurality of slide fastener elements, each element adapted to be secured to a tape, said fastener elements in use adapted to have the raised portion of one of said elements interlocked with said recessed portion of another of said elements, the tape material within the jaw portions of said elements being folded over so that the folds meet edge to edge to form an abutting seam when said fastener is closed.

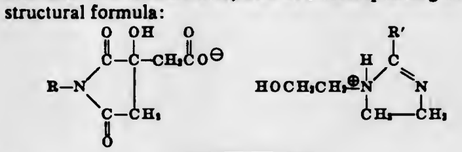
3,259,477

CHEMICAL COMPOSITION AND HYDROCARBON FUEL CONTAINING SAME

John H. Udelhofen, Calumet City, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Original application Apr. 28, 1961, Ser. No. 106,198, now Patent No. 3,150,147, dated Sept. 22, 1964. Divided and this application May 22, 1963, Ser. No. 287,457
4 Claims. (Cl. 44—63)

1. A fuel composition comprising a major amount of a liquid hydrocarbon fuel and an amount sufficient to inhibit rust and corrosion of a salt of 1,2-disubstituted imidazoline and citrimic acid, said salt corresponding to the structural formula:



3,259,478

BACTERIA-INHIBITED FUEL COMPOSITION

Helen I. Thayer, Oakmont, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Mar. 27, 1963, Ser. No. 268,461
14 Claims. (Cl. 44—75)

1. A fuel composition, comprising a major amount of a liquid hydrocarbon fuel to which has been added about 0.02 to 0.2 percent by weight of a member selected from

the group consisting of 2-nitroresorcinol, 4-nitroresorcinol, 4-nitrosoresorcinol and nitrocatechol.

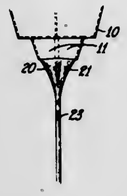
3,259,479

METHOD OF MAKING CURLY COMPOSITE FIBERS

Ralph L. Tiede, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Original application Dec. 30, 1957, Ser. No. 705,863, now Patent No. 3,073,005, dated Jan. 15, 1963. Divided and this application June 22, 1962, Ser. No. 204,582

6 Claims. (Cl. 65—3)



1. The method of making a curly composite textile fiber comprising the steps of selecting two compatible heat softenable materials having coefficients of expansion sufficiently different so that combination of said materials into a fiber in an adhered side-by-side relation while in a molten state will on cooling cause the fiber to curl back on itself to form a series of loops along the length of the fiber to impart a generally helical configuration thereto; flowing molten forms of each of said materials from separate orifices into a common fiber forming cone in contact with each other in a side-by-side relation; attenuating said common fiber forming cone into a textile fiber thereby maintaining, in combination with the surface tension of the common stream thus formed, the alignment of said materials in said side-by-side relation during solidification that was established at contact in said fiber forming cone; and cooling said attenuated textile fiber to cause said different coefficients of expansion to curl the fiber back on itself to form a series of loops.

3,259,480

METHOD OF REMOVING SURFACE DEFECTS FROM GLASS SHEETS

Edmund R. Michalik, West Mifflin, and George W. Misson, Pittsburgh, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 17, 1962, Ser. No. 245,154

9 Claims. (Cl. 65—28)

1. A method of removing surface defects from glass sheet which comprises, exposing one surface of the glass to an elevated temperature at which the glass flows and for a sufficient time that the surface flows an simultaneously exposing the other surface of the glass to a temperature below that at which the glass flows and maintaining the temperature of said other surface below that at which it flows and above the strain point temperature of the glass.

3,259,481

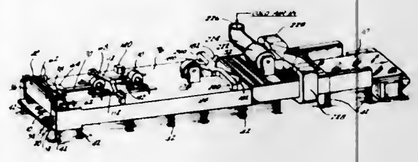
GLASSWARE ANNEALING LEHR

Robert A. Fuller and Francis E. Dorsey, West Hartford, and Constantine W. Kulig, Wethersfield, Conn., assignors to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Feb. 28, 1963, Ser. No. 261,643

17 Claims. (Cl. 65—350)

1. In a glassware annealing lehr of the type which is of a horizontally elongated and generally tubular configuration wherein temperature zones are created for heating and annealing and then cooling glassware, the combination of a perforate substantially flat and horizontally extending conveyor for transporting the ware successively through the zones in an upright attitude, high intensity radiation heating means disposed above the path of ware movement in the heating zone, means for regulating said heating means whereby to heat ware passing therebeneath approximately to its annealing point, means disposed generally horizontally beneath the conveyor in the annealing zone and defining passageway means closed at the top and having an inlet and outlet opening for the flow of cooling air therethrough in the direction of belt movement, air moving means connected with one of said



openings to move air from outside the lehr through said passageway means, said passageway means and openings being so arranged beneath said conveyor that the latter is cooled by said air so as to cool ware thereon initially at a high rate of temperature reduction and thereafter at a decreasing rate of temperature reduction in passage through said annealing zone, means in a first section of the cooling zone defining a top chamber and inner and outer top walls and a bottom chamber and inner and outer bottom walls, and air moving means connected with each of said chambers and effecting a flow of cooling air therethrough for the cooling by radiation of ware passing through said zone section.

3,259,482

SLOW RELEASE FERTILIZER WITH A PLURALITY OF EPOXY/POLYESTER RESIN COATINGS

Louis I. Hansen, Minneapolis, Minn., assignor to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Filed Oct. 14, 1965, Ser. No. 496,135

14 Claims. (Cl. 71—64)

1. A coated fertilizer comprising:

(a) a core of granular fertilizer containing at least one water soluble plant nutrient selected from the group consisting of water soluble compounds of nitrogen, phosphorus, and potassium;

(b) a plurality of cured coatings of an epoxy/polyester resin system surrounding said core, each of said coatings being in the amount of from about 0.1 to 10 percent by weight of said core, and,

(c) the total coating weight being such as to delay and effect a slow and gradual release of said water soluble plant nutrient;

(d) said cured coatings of epoxy/polyester resin system being the reaction product of:

(1) epoxy component consisting of at least 80% by weight of epoxidized fatty compound, said epoxidized fatty compound having 8–26 carbon atoms in its fatty radicals and an internal oxirane value of 3% to 10%, and

(2) polyester curing agent for said epoxidized fatty compound, said curing agent being the esterification reaction product of polyhydric alcohol and polycarboxylic acid wherein the polyester is prepared from an esterification reaction mixture which initially has a carboxyl to hydroxyl ratio of 1–3:1; said esterification reaction product comprising polyester of the formula:

$$R[-O-\overset{O}{\overset{\|}{C}}-R'-COOH]_n$$

wherein n is at least two, wherein R is polyhydric alcohol residue and wherein R′ is polycarboxylic acid residue; said polyester curing agent having an acid value of at least 50.

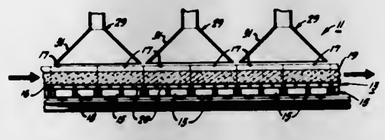
3,259,483

METHOD OF SINTERING

Chester R. Austin, Martinez, Calif., assignor to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada

Filed Nov. 6, 1961, Ser. No. 150,512

2 Claims. (Cl. 75—5)



1. A method of sintering finely divided ferrous materials, including the steps of providing a porous mixture of finely divided ferrous particles and a fuel material, igniting at least a portion of said fuel material in said mixture, passing said mixture through an enclosure containing an atmosphere comprising of from about 30% to about 75% oxygen and passing said atmosphere through said ignited mixture so that said finely divided materials are highly heated and bonded together by thermal reaction.

3,259,484

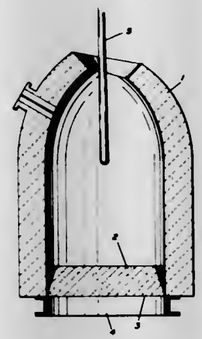
METHOD AND APPARATUS FOR PRODUCING STEEL FROM PIG IRON

Pierre Leroy, Saint-Germain-en-Laye, and Roger Simon, Boutheon, France, assignors to Compagnie des Ateliers et Forges de la Loire, Paris, France

Filed Apr. 11, 1963, Ser. No. 272,409

Claims priority, application France, Apr. 16, 1962, 894,579, Patent 1,344,238; Nov. 28, 1962, 916,861, Patent 82,642; Feb. 13, 1963, 924,642, Patent 83,116

5 Claims. (Cl. 75—52)



1. The method of producing steel from liquid pig iron, with a very low production of reddish fumes, and with an independent control over the turbulence occurring in the molten charge, comprising the steps of confining a mass of molten raw iron in a container having porous wall means at least partly defining the bottom of said container, blowing gas containing a major portion of the oxygen required to refine said iron upwardly into the molten mass through the pores in said bottom and blowing the remaining proportion of said oxygen together with a high concentration of lime flux suspended therein downwardly into said molten mass from above the surface thereof.

3,259,485

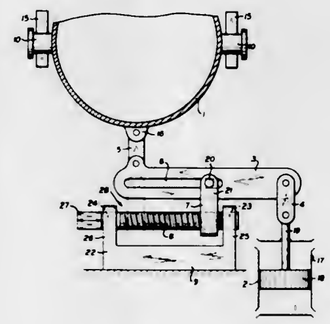
PROCESS FOR IMPARTING AN INTERMIXING MOTION TO A LIQUID MASS OF IRON AND SLAG

Theodor Kootz, Hosel, Erwin Kloth, Dinslaken, and Walter Wagner, Duisburg-Hamborn, Germany, assignors to Stora Kopparbergs Bergslags Aktiebolag, Falun, Sweden, a body corporation

Filed Dec. 11, 1962, Ser. No. 243,847

Claims priority, application Germany, Dec. 13, 1961, T 21,266; Apr. 13, 1962, T 21,958, T 21,959

7 Claims. (Cl. 75—60)



1. Process for imparting an intramixing motion to a liquid mass of iron and slag which comprises:

(a) providing the mass in a vessel having an open top supported for a rocking motion about a horizontally extending axis;

(b) rocking the vessel about said axis by application of a force causing rocking thereof at a frequency and amplitude providing good intramixing of the mass without excessive displacement thereof;

(c) imparting said rocking motion at said frequency and amplitude by application of said force at rocking frequency when the vessel is substantially still and continuing said application while increasing the amplitude until the desired intramixing action is obtained.

3,259,486

METHOD OF REFINING PIG IRON

Theodor Kootz and Heinz Maas, Duisburg-Hamborn, Germany, and Erik Axel Bengtsson, Domnarvet, Sweden, assignors to Stora Kopparbergs Bergslags Aktiebolag, Falun, Sweden, a company of Sweden

No Drawing. Filed June 3, 1963, Ser. No. 284,851

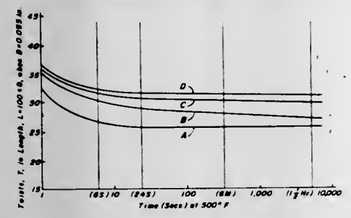
Claims priority, application Germany, June 6, 1962, T 22,266

11 Claims. (Cl. 75—60)

1. Method for refining pig iron to steel which comprises substantially continuously blowing a gaseous oxygen carrier on to a bath of molten pig iron and slag maintained in natural virbation in a melting container of round cross section by exterior means, said vibration being sufficient to cause intermixing of the surface layers of the bath, maintaining the slag in substantially solid state

during the major portion of the blowing period and until a short time before attaining that carbon content at which the blowing is to be ended, liquifying said slag and shortly thereafter ending said blowing.

3,259,487
HIGH-STRENGTH WIRE ROPE
Howard E. Mueller, Shaker Heights, Richard A. Nickola, Bedford Heights, and Gordon T. Spare, Chardon, Ohio, assignors to United States Steel Corporation, a corporation of Delaware
Filed Jan. 31, 1963, Ser. No. 255,411
8 Claims. (Cl. 75—123)

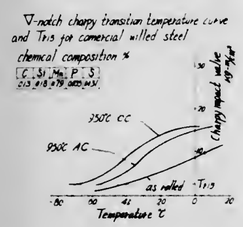


2. In high-strength steel rope and cable comprising a plurality of cold drawn stranded steel wires, the improvement comprising heavily cold drawing said wires from steel consisting essentially of

	Percent
Carbon	.55/.85
Manganese	.35/1.20
Phosphorus	.04 max.
Sulphur	.05 max.
Nitrogen	.004/.012
Silicon	.015 max.
Aluminum	.07 max.

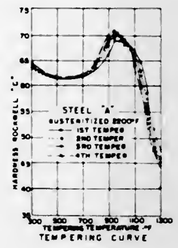
balance iron and other elements in residual amounts, said cold drawn wires having a tensile strength in excess of 220,000 p.s.i.

3,259,488
NITRIDE-BEARING LOW CARBON DUCTILE STEELS
Hajime Nakamura, Meguro-ku, Tokyo, Japan, assignor to Ishikawajima-Harima Jukogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
Filed Feb. 10, 1961, Ser. No. 88,411
Claims priority, application Japan, Mar. 31, 1960, 35/11,188, 35/11,189, 35/11,190
5 Claims. (Cl. 75—124)



1. A nitride-bearing ductile steel consisting of less than 0.35% carbon, less than 0.035% of each of sulphur and phosphorus, less than 1% of manganese, less than 0.5% of silicon, from 0.015 to 0.090% of at least one of the substances selected from the group consisting of beryllium nitride, columbium nitride, a combination of aluminum nitride and beryllium nitride, a combination of aluminum nitride and columbium nitride, a combination of beryllium nitride and columbium nitride, and a combination of aluminum nitride, beryllium nitride and columbium nitride; from 0.01 to 0.10% of at least one of the nitrides selected from the group consisting of titanium nitride and zirconium nitride, the remainder being substantially all iron with incidental impurities, a portion of the nitrides being combined in the matrix of the steel, the remainder of the nitrides existing as free nitride in the form of fine particles dispersedly precipitated in the grains and on the grain boundaries of the steel to thereby provide improved mechanical properties for the steel.

3,259,489
ULTRA HARD HIGH SPEED STEEL
John C. Hamaker, Jr., Latrobe, James R. Handyside, Monroeville, and Daniel H. Yates, Latrobe, Pa., assignors to Vasco Metals Corporation, a corporation of Pennsylvania
Filed June 3, 1963, Ser. No. 285,115
10 Claims. (Cl. 75—126)

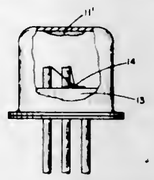


1. In an alloy steel which is capable of being hardened by tempering to a Rockwell "C" harness of 69–70 with satisfactory hot hardness, wear resistance, grindability, toughness and machinability suitable for use in making cutting tools for machining heat treated high strength steels and titanium alloys, the combination of the following weight percentages of:

Carbon	1.00–1.20
Silicon	0–1.00
Manganese	0–1.00
Sulfur	0–0.25
Phosphorus	0–0.25
Tungsten	1.00–2.00
Chromium	3.00–5.00
Vanadium	0.75–1.50
Molybdenum	8.50–10.50
Cobalt	7.00–9.00

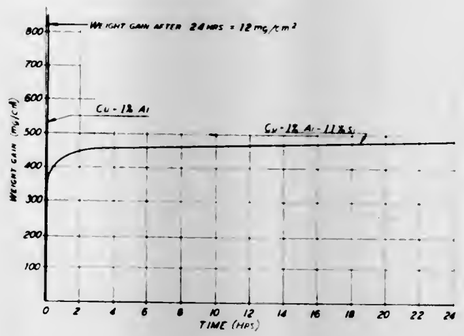
with the remainder being substantially all iron.

3,259,490
GETTERING IN SEMICONDUCTOR DEVICES
Steward S. Flaschen, Phoenix, and Marie A. Hall, Scottsdale, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed May 7, 1963, Ser. No. 278,565
3 Claims. (Cl. 75—134)



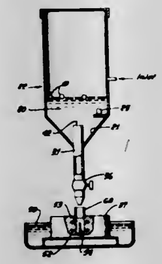
1. A moisture getter of fusible solder-like material for use in a sealed enclosure, said moisture getter including in combination an alloy of the metals barium, bismuth and lead, said alloy containing at least 45% bismuth.

3,259,491
COPPER BASE ALLOYS AND PROCESS FOR PREPARING SAME
Michael J. Pryor, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed May 21, 1963, Ser. No. 281,992
18 Claims. (Cl. 75—162)



1. A copper base alloy capable of substantial resistance to oxidation consisting essentially of a copper base alloy having on its surface a complex oxide of at least two metal alloying additions, each of said alloying additions having a maximum solid solubility in copper of greater than 0.5 percent by weight, said complex oxide having:
(A) A melting point above 1300° C.;
(B) Less than 0.5 percent solid solubility by weight for copper oxides; and
(C) Less than 2 percent solid solubility by weight for the individual oxide components of the complex oxide.

3,259,492
THALLIUM-ZINC-LEAD-MERCURY ALLOYS
Howard C. Stallman, Manhattan Beach, Calif., assignor to Mertronics Corporation, Santa Monica, Calif., a corporation of California
Filed Mar. 24, 1965, Ser. No. 442,404
6 Claims. (Cl. 75—169)



1. An improved mercury alloy mold pattern composition consisting of 26 to 32 percent by weight thallium, zinc present in an amount effective to substantially eliminate oxidization of the thallium, lead present in an amount to extend the freezing range of the alloy composition and the balance essentially all mercury.

3,259,493
TREATMENT OF NICKEL AND ITS ALLOYS WITH CALCIUM AND THE PRODUCTS THEREFROM
David Pelton Moore, Marlow, N.H. (9210 Flower Ave., Silver Spring, Md.)
No Drawing. Filed Feb. 8, 1965, Ser. No. 431,223
2 Claims. (Cl. 75—170)

2. A non-magnetic nickel-base alloy consisting essentially of up to 10% chromium, up to 10% molybdenum, about 0.01% calcium, and the balance essentially nickel.

3,259,494
EXPOSURE, HEAT DEVELOPMENT AND FIXING OF PHOTOSENSITIVE MERCUROUS OXALATE AND SILVER OXALATE COMPOSITIONS
Herbert N. Schlein, Framingham, and Paul T. Sullivan, Dorchester, Mass., assignors to Itek Corporation, Lexington, Mass., a corporation of Delaware
No Drawing. Filed Apr. 5, 1962, Ser. No. 185,191
8 Claims. (Cl. 96—27)

1. In a process for recording data in a photothermographic medium which comprises a thermally responsive image forming system comprising a substance chosen from the group consisting of mercurous oxalate, silver oxalate and mixtures thereof, said process including the steps of;
(a) forming a latent image in said medium by exposure of said medium to a source of light modified by the data to be recorded therein, and
(b) developing said image by heat,
the improvement which comprises, maintaining said medium at an elevated temperature which is below that at which development occurs simultaneous with said exposure of said medium to said light source.

4. The process of claim 1 including the further step of fixing the developed image to stabilize said image.

3,259,495
PHOTOTHERMOGRAPHIC DATA PROCESSING COMPOSITION, METHOD AND ARTICLE
Herbert N. Schlein, Framingham, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
No Drawing. Filed Apr. 5, 1962, Ser. No. 185,242
20 Claims. (Cl. 96—29)

2. A photothermographic composition for improved data recording by reason of amplified responsivity to heat development, said composition comprising an admixture of at least one member of the group consisting of mercurous and silver oxalates and at least one member of the group consisting of the oxalate salts of barium, calcium, uranium, strontium, chromium, magnesium, thallium, and copper.

16. A method for recording data having excellent image stability comprising exposing a photographic medium consisting of a substrate coated on at least one side with a composition of at least one member of the group consisting of mercurous and silver oxalates to a source of light modified by the data to be recorded, later developing the latent image produced thereby on said substrate by exposure to heat of a temperature between about 180° to about 350° F. and contacting said medium with a transfer sheet impregnated with at least one member of the class consisting of selenium sulfide and palladium chloride whereby said developed image is transferred to said transfer sheet.

3,259,496
DIAZO PRESENSITIZED LITHOGRAPHIC PRINTING PLATE COMPRISING INTERMEDIATE LAYER OF HYDROPHILIC METAL FERROCYANIDE AND PROCESS FOR MAKING

Frederick W. von Meister, Peapack, N.J., assignor to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 27, 1962, Ser. No. 240,425
13 Claims. (Cl. 96—33)

1. A presensitized printing plate comprising a base material having a first layer thereon comprising a hydrophilic metal ferrocyanide and a second layer comprising a water-soluble, light-sensitive diazo compound.

7. A process for making a printing plate which comprises exposing a light-sensitive second layer to light under a master and developing the resulting image, the light-sensitive layer comprising a water-soluble, light-sensitive diazo compound and being supported on a first layer comprising a hydrophilic metal ferrocyanide, the first layer being supported on a base material.

3,259,497
PHOTOGRAPHIC COLOR REVERSAL PROCESS

René von Wartburg, Basel, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Aug. 29, 1962, Ser. No. 220,155
Claims priority, application Switzerland, Sept. 6, 1961, 10,340/61
7 Claims. (Cl. 96—53)

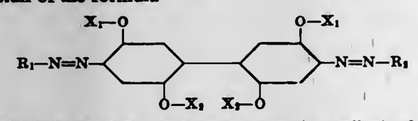
1. In a process for the production of a color image that is opposite to the master by the silver dye bleaching method in an at least single-layer material, which contains at least one silver halide emulsion and at least one dye which is sensitive to oxidation, fast to diffusion, and can be bleached by the silver dye bleaching process, by exposure, primary development, removal of the primarily developed silver in an oxidation bath containing sulfuric acid and an oxidant selected from the group of heptavalent manganese compounds, hexavalent chromium compounds, hydrogen peroxide derivatives and tervalent cerium compounds, secondary development, dye bleaching and removal of the residual silver, the step which comprises carrying out the removal of the primarily developed silver in the presence of a water soluble organic compound containing at least one basic nitrogen atom selected from the group consisting of ethylenediamine, benztriazole derivatives, guanidine derivatives, biguanide derivatives, pyridine derivatives, quinoline derivatives, benzthiazole derivatives, piperidine derivatives, benzyl trimethyl ammonium chloride and tetra-n-butyl-ammonium bromide.

3,259,498
PHOTOGRAPHIC LAYERS SUITABLE FOR THE SILVER DYESTUFF BLEACHING PROCESS

Walter Anderau, Aesch, Basel-Land, and Helmut Boehl, Bottmingen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed May 21, 1962, Ser. No. 196,432
Claims priority, application Switzerland, May 30, 1961, 6,292/61
9 Claims. (Cl. 96—99)

1. A photographic layer suitable for the silver dyestuff bleaching process which contains silver halide and a disazo-dyestuff of the formula



in which R_1 and R_2 each represents the radical of a 1-amino-8-hydroxynaphthalene disulfonic acid which is bound to the azo linkage in 7-position, and X_1 and X_2 each represents a member selected from the group consisting of an alkyl group and an alkoxyalkyl group.

3,259,499
POLYMERIZABLE ELEMENTS

Glen Anthony Thommes, Red Bank, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 18, 1965, Ser. No. 426,168
The portion of the term of the patent subsequent to Oct. 5, 1982, has been disclaimed
5 Claims. (Cl. 96—115)



1. A photopolymerizable element consisting of:
(1) a solid photopolymerizable layer from 8 to 242 mils in thickness essentially comprising:
(a) an organic polymer binding agent,
(b) an ethylenically unsaturated compound containing at least 1 terminal ethylenic group and being capable of forming a polymer by photo-initiated polymerization, and
(c) an addition polymerization initiator activatable by actinic light and inactive thermally below 85° C.,
said components being present in the respective amounts by weight, of 40 to 90, 10 to 60, and 0.001 to 10, and
(2) an integral polymerized layer from 2 to 8 mils in thickness but not more than ⅕ the total thickness of the element.

3,259,500
METHOD FOR INHIBITING ANEMIA IN YOUNG PIGS BY FEEDING THE SOW AN IRON AGENT

Charles E. Barnhart and Charles H. Chaney, Lexington, Ky., assignors, by mesne assignments, to The Kentucky Research Foundation, Lexington, Ky., a corporation of Kentucky

No Drawing. Filed Oct. 11, 1961, Ser. No. 144,289
4 Claims. (Cl. 99—2)

1. A method for inhibiting anemia in young pigs comprising, increasing the iron content in the milk of a lactating sow by feeding to the sow during its lactation period a ration including an iron agent selected from the group consisting of ferrous fumarate, ferrous lactate, ferrous gluconate, ferrous tartrate, ferric ammonium tartrate (green), ferric malate, ferric citrate, ferric phosphate (soluble), ferric tartrate, ferric succinate and ferric potassium tartrate, said agent being present in an amount providing an iron content of not less than about 60 mg. and not more than about 1000 mg. per pound of total ration, and thereafter feeding said milk to said pigs.

3,259,501
RICE HULL PRODUCTS AND METHOD

David George Ulrey, Martin County, N.C., assignor to Delta Industries, Inc., Houston, Tex., a corporation of Texas

Filed June 11, 1964, Ser. No. 375,422
29 Claims. (Cl. 99—2)

1. Ammoniated rice hull.

3,259,502
ALCOHOL GENERATING DEVICE AND METHOD

Robert Ehrlich, Morristown, and Archie R. Young II, Montclair, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed July 17, 1962, Ser. No. 210,548
15 Claims. (Cl. 99—30)

1. An ethyl alcohol generating device comprising a water-permeable, water-insoluble container containing an ethoxide of a metal having an insoluble hydroxide, said container being substantially impermeable to said insoluble hydroxide.

11. The method of making aqueous ethanol which comprises immersing in a quantity of water a water-permeable, water-insoluble bag containing an ethoxide of a metal having an insoluble hydroxide, said bag being substantially impermeable to said insoluble hydroxide, and manipulating said bag while it is immersed to cause said ethoxide to hydrolyze to form ethanol which dissolves in said water.

3,259,503
PUFFED FOOD PRODUCT AND A METHOD OF MAKING THE SAME

Chee Teck Tan, Toronto, Ontario, Canada, and Robert R. Baldwin, Briarcliff Manor, N.Y., assignors to Continental Baking Company, Rye, N.Y., a corporation of New York

Filed July 16, 1963, Ser. No. 295,348
19 Claims. (Cl. 99—83)



1. A process for producing a new and improved food snack product which comprises preparing a dough mixture comprising, by weight, about 35 to 75 percent starch and about 7 to 30 percent flour, incorporating therein about 5 to 40 percent, based upon the total dry weight of the dough ingredients, of distinctly discernible, edible pieces of a foreign food adjunct, adding between about 0.5 and 4 parts of water per part of dry dough mix, the amount of water being sufficient to cause swelling, but not extensive rupture of the starch granules, mixing the aforesaid ingredients after addition of said water to form a dough, firming the dough to render it capable of being mechanically sliced, mechanically slicing the dough into a plurality of pieces, drying the slices to a moisture content of about 8–12 weight percent, and immersing the resulting slices into a hot, edible oil bath at about 350–425° F. until they have expanded to about 3–6 times their original size to thereby form puffed snack pieces comprising a cooked dough substrate having incorporated therein discrete, edible pieces of a foreign food adjunct.

3,259,504
PROCESS OF LOWERING THE VISCOSITY OF GARLIC PUREE AND PRODUCT OBTAINED THEREBY

Peter P. Noznick and Robert H. Bundus, Chicago, Ill.

No Drawing. Filed June 5, 1964, Ser. No. 373,106
15 Claims. (Cl. 99—106)

1. Process of lowering the viscosity of garlic puree passing through a 40 mesh sieve comprising treating the garlic puree with a cellulase enzyme for a time sufficient to effect a lowering of the viscosity while simultaneously mixing the puree by high shear agitation.

3,259,505
SEASONING FOODS WITH MONOSODIUM L-HOMOCYSTEINATE AND PRODUCT

Takeo Kaneko, Higashisumiyoshi-ku, Osaka-shi, Osaka-fu, Bunichi Toi, Yokohama-shi, Kanagawa-ken, and Shingo Ikeda, Bunkyo-ku, Tokyo-to, Japan, assignors to Ajinomoto Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 26, 1961, Ser. No. 126,857
Claims priority, application Japan, Aug. 3, 1960, 35/33,445
5 Claims. (Cl. 99—140)

1. A method comprising adding monosodium L-homocysteinate to a foodstuff in a seasoning quantity.

3,259,506
SWEETENING COMPOSITION

Benjamin Eisenstadt, Brooklyn, N.Y., assignor to Cumberland Packing Company, Brooklyn, N.Y.

No Drawing. Filed Feb. 9, 1965, Ser. No. 431,455
1 Claim. (Cl. 99—141)

A sweetening composition consisting essentially of powdered lactose, a cyclamate artificial sweetener and a saccharine artificial sweetener in a ratio of about 75 to 125 pounds of said lactose per each 3–10 pounds of said cyclamate artificial sweetener and each 2–8 pounds of said saccharine artificial sweetener.

3,259,507
HEATSEALABLE SEAL AND FOOD PACKAGE UTILIZING SAME

James E. Smith, Hayward, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Feb. 4, 1963, Ser. No. 255,783
11 Claims. (Cl. 99—172)



2. A reclosable food package comprising a flexible wrapper about a food product and closed over a portion of said product by folds, a sealing sheet overlying said folds and heat sealed thereto by a delaminable adhesive bond between said seating sheet and said folds thereby enabling the sealing sheet to be peeled off said folds without tearing said folds or said sealing sheet, whereby, when the sealing sheet is peeled off and a portion of the product is removed, the package can be reclosed by said folds, said delaminable adhesive bond comprising a heat sealed thermoplastic adhesive layer adjacent said folds and at least one delaminating layer intermediate said adhesive layer and said sealing sheet and having an interface located intermediate said adhesive layer and said sealing sheet and characterized by a mechanical disruptable bond having a peel strength less than the internal delaminating strength of said wrapper and said sealing sheet and by being nonfusible at the activation temperature of said adhesive.

4. A flexible sheet for heat sealing to a substrate comprising, a flexible base sheet, a delaminating layer adhered to and covering at least a portion of one side of said base sheet and a heat-activatable adhesive coating adhered to and coating at least a major portion of said delaminating layer, said laminating layer having an interface located intermediate said base sheet and said heat-activatable adhesive coating and characterized by a mechanically disruptable bond weaker than the internal delaminating strength of said base sheet and by being nonfusible at the activation temperature of said adhesive coating, whereby when said sheet is heat sealed to a substrate said base sheet may be peeled from said adhesive coating at said delaminating interface without tearing said base sheet or said substrate.

3,259,508
METHOD OF DRYING BANANAS
Joaquin Aguirre, Carrera 18, 8570, Bogota 2, Colombia, Peter P. Noznick, 526 S. State St., Evanston, Ill., and Robert H. Bundus, 387 Thayer St., Riverside, Ill.
Filed Nov. 6, 1962, Ser. No. 235,787
15 Claims. (Cl. 99—204)

1. The method of producing an edible flake from bananas having a sugar content greater than 7% on a liquid basis comprising macerating the same to disrupt the cellular structure, homogenizing the resultant puree, at 1000 to 3000 p.s.i., heating at a temperature of 125 to 300° F. and agitating the puree, feeding the same to a drying drum while rotating the latter and forming a film on the drum surface, removing the film in the presence of a blast of air relatively cooler and drier than the surface of the drying drum and the air thereabout, suspending the film in said blast while reducing its temperature and propelling it over a rotating, cooling means whereby the film emerges from the latter as a brittle mass and readily particulates in the presence of agitation.

3,259,509
REFRACTORY MATERIALS AND METHOD OF MAKING SAME
Vlado I. Matkovich, Youngstown, N.Y., and Ervin Colton, Wauwatosa, and James L. Peret, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
No Drawing. Filed Jan. 26, 1962, Ser. No. 169,099
6 Claims. (Cl. 106—65)

6. An aluminum nitride-silicon carbide solid solution having the formula xAlN:SiC where x is from 1 to 20.

3,259,510
PROCESS FOR DISSOLVING HIGHLY CYANOETHYLATED CELLULOSE
Joseph R. Anghinetti, Somerville, N.J., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Mar. 5, 1962, Ser. No. 177,189
3 Claims. (Cl. 106—191)

1. A process for producing a solution of highly cyanoethylated cellulose containing more than 2.3 cyanoethyl groups per anhydroglucose unit which comprises agitating at about its reflux temperature a reaction mixture consisting essentially of, by weight,

(a) 1.0 part of cellulose;
(b) at least 2.75 parts of acrylonitrile;
(c) from about one-sixth part to about one part per part of said acrylonitrile of a diluent selected from the group consisting of saturated aliphatic hydrocarbons having about six to about twelve carbon atoms and the low boiling solvent naphtha petroleum distillate fractions, for a total of at least about 5.0 parts of combined acrylonitrile and diluent;
(d) from about 0.25 to about 1.0 part of water; and
(e) about one part of caustic material for each fifteen to forty parts of water

until the resulting cellulose reaction product is substantially dissolved.

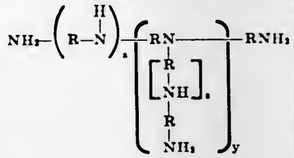
3,259,511
ANTI-LIVERING AGENTS
Charles T. Rairdon, Somerville, and William E. Hanson, Somerset, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Sept. 5, 1962, Ser. No. 221,446
9 Claims. (Cl. 106—263)

1. A method of inhibiting the formation of skin on the surface of a composition containing a drying oil comprising adding to said drying oil, in an amount sufficient to inhibit skinning of said composition, an anti-skinning agent consisting essentially of an organic aliphatic amine of the general formula RNR'R'' wherein R is a hydroxylated alkyl radical and R' and R'' are selected from the group consisting of hydrogen and hydroxylated alkyl radicals.

3,259,512
ASPHALT ADDITIVES
Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation
No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,148
24 Claims. (Cl. 106—273)

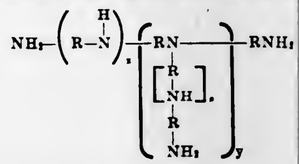
1. A strip-resisting bituminous composition containing a major amount of a material containing a major proportion of a bituminous component and a minor amount, sufficient to inhibit stripping of said material from surfaces to which it may be applied, of a compound selected from the group consisting of

(1) a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

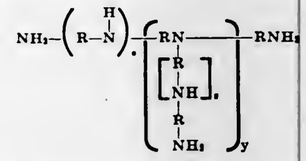
(2) an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,
formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

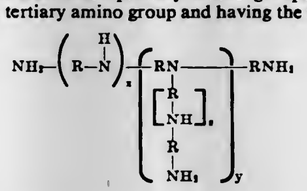
(i) a carboxylic acid having 7–39 carbon atoms and
(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(3) an oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



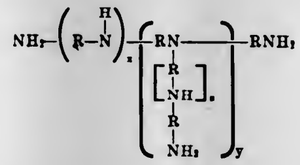
wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,
formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms,

(4) an alkylated branched polyalkyl enepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



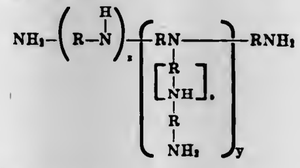
wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,
formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

(5) an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,
formed by reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylenepolyamine with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers, and vinyl sulfones,

(6) a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,
formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(7) an acylated, then oxyalkylated branched polyalkylenepolyamine containing at least three primary amine groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(8) an oxyalkylated, then acylated branched polyalkylenepolyamine, containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(10) an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(11) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(12) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited

formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(13) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200 C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(15) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,259,513
ANTI-STRIPPING AGENTS

Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation

No Drawing. Continuation of application Ser. No. 115,880, June 9, 1961. This application Sept. 11, 1963, Ser. No. 308,063

3 Claims. (Cl. 106—273)

1. A strip-resistant bituminous composition containing a major amount of a material containing a major proportion of a bituminous component and a minor amount, sufficient to inhibit stripping of said material from surfaces to which it may be applied, of a compound selected from the group consisting of (1) a linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, (2) an acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said linear polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, (3) an oxyalkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polymer with an alkylene oxide having at least 2 carbon atoms, (4) an alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms, (5) an olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 70° C. to about 100° C., said polymer with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers, and vinyl sulfones, (6) a Schiff base reaction product of a linear polymer of 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2 to 20 carbon atoms, formed by reacting said polymer with a compound selected from the group consisting of aldehydes and ketones, (7) an acylated, then oxyalkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 125° C. to about 300° C., said linear polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms, (8) an oxyalkylated, then acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, said alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polymer with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polymer, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, (9) an alkylated, then acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polymer, at a temperature of from about 120° C. to about 300° C., said polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, (10) an acylated, then alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, (11) an oxyalkylated, then alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polymer with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polymer, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, (12) a Schiff base reaction product of an acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer with a compound selected from the group consisting of aldehydes and ketones, (13) a Schiff base reaction product of an alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polymer with a compound selected from the group consisting of aldehydes and ketones, (14) an oxyalkylated Schiff base reaction product of a linear polymer of a 1,2-alkyleneimine, said linear polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms formed by reacting said linear polymer with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms, (15) an acylated, then olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said linear polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and (16) an alkylated, then olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polymer, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,259,514
SOLID SOLUTIONS

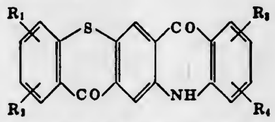
Donald Graham Wilkinson, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 15, 1963, Ser. No. 272,845

Claims priority, application Great Britain, Apr. 30, 1962, 16,357/62; July 31, 1962, 29,346/62

9 Claims. (Cl. 106—288)

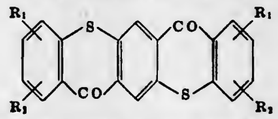
1. Solid solutions having a thiachromonoacridone component of the formula



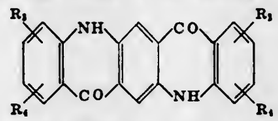
and up to 2 components selected from the class consisting of:

(a) other thiachromonoacridones of the said formula

(b) benzobisthiachromones of the formula



and (c) lin-quinacridones of the formula



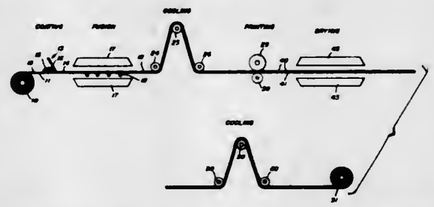
wherein R_1, R_2, R_3 and R_4 represent substituents selected from the class consisting of hydrogen, chlorine and bromine atoms and methyl, methoxyl and ethoxyl radicals, said first mentioned thiachromonoacridone being present in the amount of 50 to 85% by weight of said solutions.

3,259,515
METHOD FOR REDUCING GLOSS OF PRINTED SURFACE COVERINGS, AND PRODUCT THEREOF

Calman Pecker, Long Island City, N.Y., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

Filed Oct. 12, 1962, Ser. No. 231,319

8 Claims. (Cl. 117—15)



4. A method for controlling the gloss of a surface covering having a smooth, glossy, resinous composition wear layer which comprises coating one surface of a felt sheet impregnated with a strengthening and waterproofing resinous material with a pigmented resinous composition, heating to solidify said coating, printing a design on said solidified coating, completely covering said printed coating with a thin layer of vinyl resinous composition, heating to harden said vinyl coating, pressing said hardened vinyl

coating in contact with an etched printing cylinder containing a translucent vinyl ink whereby small dots of said translucent vinyl ink are placed on the surface of said vinyl coating in uniform spaced relationship having a density of at least 2500 deposits per square inch and thereafter heating said sheet to dry said vinyl ink, the area of said printed dots determining the degree of gloss of the surface of said vinyl coating.

7. A smooth, decorative surface covering for floors, walls and the like having a controlled gloss which comprises a felt base impregnated with a strengthening and waterproofing resinous material, a smooth, resinous coating on one surface of said felt, a design printed on the exposed surface of said coating, a smooth, resinous composition wear surface covering the entire surface of said printed coating and a series of minute deposits of resinuous composition in uniform, spaced relationship having a density of at least 2500 deposits per square inch on the exposed surface of said wear layer, the area of said raised deposits determining the degree of gloss of the surface of said surface covering.

3,259,516

METHOD OF THERMALLY INSULATING ARTICLES WITH A FILLED POLYURETHANE COMPOSITION

Jay R. Dempsey and Joaquin V. Borsellino, Levittown, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa.

No Drawing. Filed May 25, 1960, Ser. No. 31,557
10 Claims. (Cl. 117—46)

1. The method of thermally insulating an article against the direct application of heat and flame at temperatures of at least 3000° F. which comprises (1) applying to said article a curable insulating composition consisting essentially of 30–150 parts by weight of a refractory filler, about 5–100 parts by weight of a cross-linking agent selected from the group consisting of polyhydric alcohols and polyhydric amino-alcohols, and 100 parts by weight of a polyurethane polymer having reactive terminals, said polyurethane polymer being the reaction product of an excess of an organic polyisocyanate and a member selected from the group consisting of polyhydric alcohols and polyester polymers of a polycarboxylic acid and a polyhydric alcohol, (2) curing the composition in situ, and (3) directly exposing said insulated article to heat and flame at temperatures of at least 3000° F.

3,259,517

PROCESS FOR DULLING GLASS FIBERS WITH OXALIC ACID

Everett C. Atwell, Greensboro, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

No Drawing. Filed Mar. 18, 1963, Ser. No. 266,013
12 Claims. (Cl. 117—54)

1. A process for producing a dulling effect in a glass textile wherein the glass includes calcium which comprises treating said textile with an aqueous solution of oxalic acid and then drying the same.

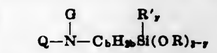
3,259,518

INORGANIC OXIDE MATERIALS COATED WITH MONOEPOXIDE - AMINOALKYLSILICON COMPOUND ADDUCTS

Samuel Sterman and James G. Marsden, Tonawanda, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 15, 1962, Ser. No. 180,009
8 Claims. (Cl. 117—76)

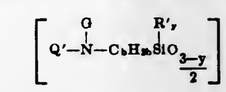
1. A cured composite article comprising (1) a cured resin selected from the class consisting of thermosetting aldehyde condensation resins and epoxy resins, (2) a composition comprising the reaction product in an organic solvent of a monoepoxide, said monoepoxide being composed of only carbon, hydrogen and oxygen atoms, and an organosilicon compound selected from the groups consisting of (a) silanes represented by the formula:

(A) 

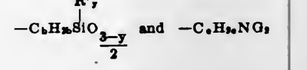
wherein *b* is an integer having a value from 3 to about 10, R is an alkyl group containing from one to about twelve carbon atoms, R′ is a monovalent hydrocarbon group containing from one to about twelve carbon atoms, *y* is an integer having a value from zero to one, G is selected from the class consisting of the hydrogen atom and R′ groups, Q is selected from the class consisting of the hydrogen atom and monovalent groups represented by the formulas:



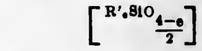
wherein *b*, R, R′, *y* and G have the meanings defined hereinabove and *c* is an integer having a value from two to about 10, each silicon atom being separated from nitrogen by at least three carbon atoms of a C_bH_{2b} group, nitrogen atoms being separated from each other by at least two carbon atoms of the C_cH_{2c} group and at least one G group is a hydrogen atom, (b) polysiloxanes consisting essentially of units represented by the formula:

(B) 

wherein Q′ is selected from the class consisting of the hydrogen atom and groups represented by the formulas:



and *b*, R, R′, *y*, G and *c* have the meanings defined hereinabove and (*c*) polysiloxanes consisting essentially of from 1 to 99 mole percent of units represented by Formula B hereinabove and from 99 to 1 mole percent of units represented by the formula:

(C) 

wherein R′ has the meaning defined hereinabove and *e* is an integer having a value from 1 to 3, said organosilicon compound containing at least one hydrogen atom represented by a member selected from the group consisting of Q and G, said reaction product having been produced by reacting an amount of said monoepoxide sufficient to react with all nitrogen-bonded hydrogen atoms of said organosilicon compound and (3) fibrous glass, said fibrous glass being bonded to said cured resin by said reaction product.

3,259,519

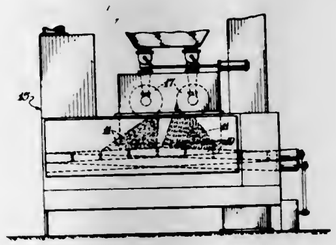
PROCESS FOR APPLYING LUBRICANT COATINGS

Willis J. Physioc III, Boonsboro, Md., assignor, by mesne assignments, to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware

Filed June 28, 1962, Ser. No. 205,967
2 Claims. (Cl. 117—100)

1. A process for simultaneously cleaning and applying lubricant coating to articles which comprises loading abrasive shot into a vibratory container, loading solid lubricant in particulate form into said vibratory container,

vibrating said container until the lubricant coats the abrasive shot, inserting the articles into an abrasive blasting machine, and blasting the lubricant coated abrasive



shot against the articles in the blasting machine to transfer the lubricant coating to the articles while the articles are simultaneously being cleaned.

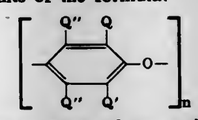
3,259,520

ANTISTATIC COMPOSITIONS DERIVED FROM POLYPHENYLENE OXIDES

Willem F. H. Borman, Dalton, Mass., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Oct. 9, 1963, Ser. No. 314,856
14 Claims. (Cl. 117—138.8)

1. An antistatic combination comprising a substrate of high electrical resistivity in contact with an ionic derivative of a polyphenylene ether having a surface resistivity lower than that of the substrate and consisting of repeating structural units of the formula:



wherein the oxygen atom of one unit is connected to the benzene nucleus of the adjoining unit, *n* is a positive integer and is at least 100, Q is a monovalent substituent selected from the group consisting of hydrogen, aliphatic hydrocarbon radicals free of a tertiary α-carbon atom, and aliphatic halohydrocarbon radicals free of a tertiary α-carbon atom; and Q′ and Q″ are both monovalent substituents which are the same as Q and in addition halogen, arylhydrocarbon radicals, haloarylhydrocarbon radicals, hydrocarbonoxy radicals having at least two carbon atoms and being free of an aliphatic, tertiary α-carbon atom, and halohydrocarbonoxy radicals having at least two carbon atoms and being free of an aliphatic, tertiary α-carbon atom; the ionic substituent being selected from the group consisting of nitro, amino, diazonium, nitrile, carboxyl, quaternary ammonium, PX_2, $—AsX_2$, in which X is a halogen, side chain substituted $—SO_3H$, $—PO_3H_2$, $—AsO_2H_2$, and AsO_3H_2.

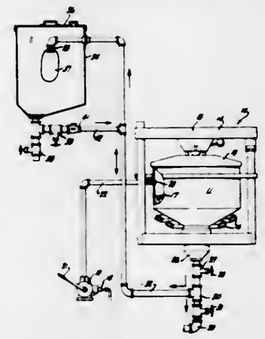
3,259,521

FILTER SYSTEM AND METHOD FOR PRESSURE COOKER

Donald H. Crall, 756 Woodside Road, Redwood City, Calif.

Filed June 14, 1963, Ser. No. 287,985
4 Claims. (Cl. 134—22)

4. A method of filtering cooking oil in a pressure vessel comprising heating said vessel and oil above the boiling point of water, sealing said vessel from atmosphere, forcing water into said vessel to form steam under pressure in said vessel, conducting oil forced from said vessel by steam pressure to a holding tank located above said vessel; filtering said oil as it is conducted to said tank, holding said oil in said tank, unsealing said vessel, cleaning said vessel with liquid, draining said liquid from sad



vessel, and flowing said oil in filtered condition by gravity from said tank back into said vessel.

3,259,522

MANUFACTURE OF ACTIVE MASS FOR LEAD-ACID STORAGE BATTERY PLATES, ACTIVE MASSES SO PRODUCED, AND PLATES WITH SUCH MASSES

Ernst Voss and Alexander Koenig, both of Frankfurt am Main, Germany, assignors to Varta Aktiengesellschaft, a corporation of Germany

No Drawing. Filed Dec. 11, 1961, Ser. No. 158,598
Claims priority, application Germany, Dec. 24, 1960, A 36,371
6 Claims. (Cl. 136—27)

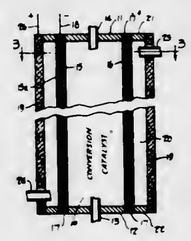
1. A process of preparing a rigid crystal lattice for lead-acid storage battery plates, comprising the step of converting by subjecting to water vapor at a temperature of at least about 50° C. for about 20 minutes to about three hours lead oxide hydrate of the formula $5PbO.2H_2O$ into a rigid lattice of intertwined orthorhombic crystals of plumbous oxide.

3,259,523

FUEL CELL INCLUDING MEANS FOR CONVERTING HYDROCARBONS AND SEPARATING HYDROGEN

Robert B. Faris, Jr., Solon, and Robert A. Rightmire, Twinsburg, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

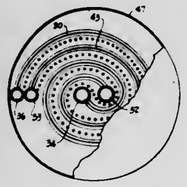
Filed Dec. 30, 1960, Ser. No. 79,904
3 Claims. (Cl. 136—86)



1. An apparatus for producing electrical energy comprising in combination at least a pair of spaced polygonal walls defining a plurality of chambers, means for feeding a hydrocarbon into one of said chambers,

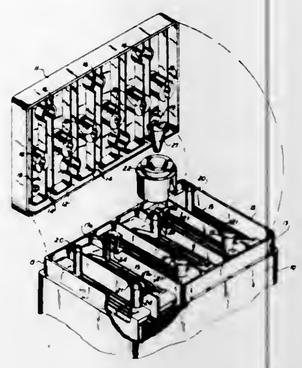
said chamber including means for thermally converting said hydrocarbon to non-hydrogen and hydrogen by-products, the wall of said hydrocarbon-conversion chamber including electrode-barrier means permeable to hydrogen only for introduction into said other chamber, said electrode-barrier means including a pair of coaxially disposed porous ceramic members in spaced laminar relation and having a thin continuous sheet of palladium disposed in the space therebetween, said electrode-barrier means being adapted to be connected to an external circuit, and to coact with said hydrogen to accept electrons therefrom, second electrode means in insulated and spaced relationship to said electrode-barrier means and connected to the other wall and also adapted to be connected to an external circuit, and means for supplying an antifuel to said second electrode.

3,259,524
ELECTROCHEMICAL REACTION APPARATUS
Philip S. Fay, Cleveland, and Robert A. Rightmire, Twinsburg, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 2, 1961, Ser. No. 92,935
4 Claims. (Cl. 136—86)



1. An electrochemical reaction apparatus comprising in combination:
(a) a housing forming an enclosed hollow chamber adapted to contain an ion-containing and conducting medium;
(b) a hollow elongated flexible metallic antifuel electrode having opposed walls and adapted to be disposed in said housing, said antifuel electrode being permeable to an antifuel electrochemical reactant material;
(c) a hollow elongated flexible metallic fuel electrode disposed in said housing, having opposed walls and adapted to be disposed in said housing said fuel electrode being permeable to a fuel electrochemical reactant material;
(d) tubular means connected to each end of each of said hollow electrodes and communicating with the interior thereof for separately introducing a gas including a corresponding fuel or antifuel electrochemical reactant material in one tubular means, and exhausting electrochemical reactant-depleted fuel or antifuel, respectively, from the interior of each of said electrodes through the other tubular means;
(e) means for maintaining the opposing walls of each of said hollow flexible electrodes in spaced relation;
(f) separate electrode spacing means for maintaining said hollow electrodes in spaced relation to each other;
(g) said hollow electrodes and said electrode spacing means being disposed in laminar sandwiched spiral-form relation in said enclosed hollow chamber with said tubular means at each of the extremities of said hollow electrodes protruding therefrom; and
(h) means for exhausting the reaction products from said electrochemical reaction apparatus.

3,259,525
METHOD FOR ASSEMBLY OF BATTERIES
Harland D. Wilson, Lathrup Village, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Oct. 3, 1962, Ser. No. 228,098
4 Claims. (Cl. 136—176)

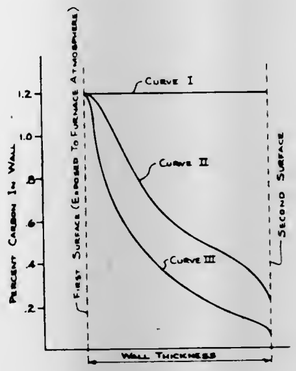


1. The process of manufacturing a multi-cell lead-acid storage battery comprising providing a battery case including transverse cell walls which terminate at their upper end as transverse tongues, notching the upper surface of the transverse tongues, positioning a portion of opposing cell terminal posts from two adjacent cells in proximity to each other and to the notches so provided, applying to the notches so provided a sealing resin capable of temporarily supporting molten lead and of forming an acid tight seal with the lead and applying heat to the adjacent cell terminal posts to fuse them together and complete the connection between the adjacent cells.

3,259,526
METHOD OF HEAT TREATMENT
Joseph L. Walker and Edward F. Wohlers, both of St. Petersburg, Fla., assignors to Honeywell Inc., a corporation of Delaware
No Drawing. Filed Apr. 24, 1962, Ser. No. 189,707
3 Claims. (Cl. 148—6.35)

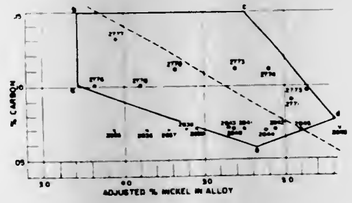
1. In the heat treating of stacks of laminations composed of aluminum-iron alloys and iron oxide in the form of mill scale to produce desirable magnetic properties, including heating said stacks under an axial load in a substantially dry hydrogen atmosphere at temperatures in excess of 1812° F., the improvement which comprises a method of producing an insulating film of aluminum oxide on the surfaces of said laminations to prevent interlamination welding, said method including:
(1) simultaneously reducing the iron oxides and oxidizing the aluminum in said laminations by heating in an essentially dry hydrogen atmosphere having a dew point of not greater than approximately —35° F. until a temperature of approximately 1400° F. is reached;
(2) raising the moisture content of said hydrogen atmosphere to the equivalent of a dew point of greater than approximately +55° F. and continuing said heating at 1400° F. for approximately one hour to produce a film of aluminum oxide contiguous with the surfaces of said laminations; and
(3) reducing the moisture content of said hydrogen atmosphere and allowing said laminations to cool to below approximately 300° F.

3,259,527
ELECTRIC HEATING ELEMENTS FOR CARBURIZING ATMOSPHERES
Donald Beggs, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Oct. 21, 1963, Ser. No. 317,613
9 Claims. (Cl. 148—16.5)



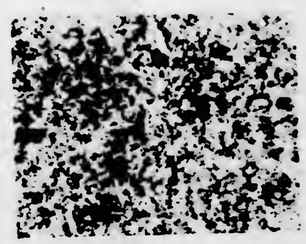
5. In a method for carburizing metal work in a carburizing furnace which includes heating the furnace and the work by passing electrical power through a metallic electrical heating element having first and second opposed major surfaces the improvement comprising maintaining a carburizing atmosphere within the furnace in contact with the first major surface of the heating element, controlling the carbon potential of the atmosphere to accomplish a prescribed carburizing treatment and maintaining in contact with the second major surface of the heating element a medium having a carbon potential at least 0.5 less than that of the atmosphere.

3,259,528
HIGH STRENGTH STAINLESS STEELS
Kurt M. Carlsen, Bergen, Norway, assignor to Jones & Laughlin Steel Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 2, 1962, Ser. No. 191,889
2 Claims. (Cl. 148—37)



1. A cold reduced austenitic-martensitic steel having a yield strength not less than about 250,000 p.s.i., said martensite being produced by cold reducing the steel about 55%, consisting of about 3.5 to about 6.5% nickel, about .05 to about .15% carbon, not more than 2% manganese, not more than 1% silicon, sufficient chromium to render the steel austenitic in the annealed condition but not more than about 18%, and the balance iron and incidental impurities in normal amounts, the carbon content and the adjusted nickel content, adjusted to a chromium content of 17.4% on the basis of 1% nickel being equivalent to 1.4% chromium, defining a point falling within the area *a–b–c–d–e* of FIGURE 1.

3,259,529
ABRASIVE MATERIAL
Nelson A. Libman, University Heights, Ohio, assignor to Metal Blast, Inc.
Original application Nov. 15, 1963, Ser. No. 334,683. Divided and this application Aug. 18, 1965, Ser. No. 480,656
5 Claims. (Cl. 148—39)



3. An abrasive ferrous alloy shot particle characterized by a maximum size of approximately .078 inch and by a substantial carbon gradient increasing from a tough, hypoeutectoid outer surface to a relatively hard, hypereutectoid core, and consisting essentially of the following materials in the following proportions:

Material:	Percentage by weight
Carbon	From about .03 to about 1.7.
Phosphorous	From about 0.02 to about 0.90.
Sulphur	From about 0.10 to about 0.25.
Alloying metals	From about .23 to about 10.0.
Iron and impurities	Balance.

3,259,530
METHOD OF DOUBLE AGEING A MAGNETIC HYSTERESIS ALLOY
Stanley H. Leblang, Plainview, N.Y., assignor to Permag Corporation, Jamaica, N.Y., a corporation of New York
Filed Sept. 18, 1963, Ser. No. 309,838
6 Claims. (Cl. 148—102)

1. A method for the manufacture of a magnetically anisotropic hysteresis alloy exhibiting a hysteresis loss of from 0.03 to 1.5 joules/in.^{3}/cycle when subjected to a magnetizing force of 50 to 350 oersted, a peak efficiency of from 0.310 to 0.345, an energy factor in excess of 0.75 and a small coercive force of from 50 to 300 oersted, for use in a hysteresis torque device, which comprises:
(a) heating a composition consisting essentially of from 20 to 26 weight percent cobalt, from 11 to 17 weight percent nickel, from 7 to 9 weight percent aluminum, from 0.3 to 3 weight percent silicon, up to 3 weight percent zirconium, up to 3 weight percent copper, up to 0.3 weight percent titanium, and the balance substantially iron, at a tempertaure sufficient to melt each of such constituents;
(b) casting the molten alloy into a predetermined shape and cooling the casting to ambient temperature;
(c) heating the casting to a temperature above the Curie point of the alloy;
(d) cooling the casting to ambient temperature while simultaneously subjecting it to a magnetic field to effect magnetic hardening thereof; and

(e) subjecting the hardened, magnetically-anisotropic casting to a double ageing treatment comprising sequentially heating the casting at a temperature in excess of 650° C. for a period of from ½ to 1½ hours, and subsequently heating said casting at a temperature of from 550° C. to 600° C. for a period of from 1 to 10 hours.

3,259,531

PROPELLANT WITH AMMONIUM PERCHLORATE-PERMANGANATE LATTICE OXIDIZER

Robert T. Lofberg, Kensington, Md., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Apr. 30, 1963, Ser. No. 277,036
5 Claims. (Cl. 149—2)

1. An oxidizer for use in a solid propellant grain comprised of ammonium perchlorate and ionic permanganate substituted for a predetermined quantity of the perchlorate in the ammonium perchlorate crystal lattice.

5. A solid propellant formulation comprised of an oxidizer phase consisting of ammonium perchlorate and ionic permanganate substituted for a predetermined quantity of the perchlorate in the ammonium perchlorate crystal lattice in combination with conventional solid propellant constituents.

3,259,532

COMBUSTION SYSTEM COMPRISING SPONGE METAL, LIQUID OXYGEN, AND FINELY DIVIDED CARBON

William Gray Reynolds, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Filed July 24, 1963, Ser. No. 297,207
2 Claims. (Cl. 149—1)

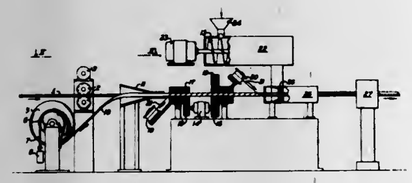
1. A combustion system comprising a rigid metal sponge of a combustible metal selected from the group consisting of aluminum and magnesium containing distributed throughout its interior a multiplicity of discrete interconnecting cells, said sponge having incorporated in the interstices thereof liquefied oxygen and a finely divided carbonaceous material dispersed in said liquefied oxygen, the amount of said carbonaceous material being from about 20% to about 30% by weight of the total weight of sponge metal, oxygen, and carbonaceous material.

3,259,533

METHOD AND APPARATUS FOR WRAPPING INSULATING MATERIAL AROUND AN ADVANCING PIPE

Philip Goran Philipson, Vasteras, Sweden, assignor to Aktiebolaget Svenska Metallverken, Vasteras, Sweden, a joint-stock company limited

Filed July 6, 1964, Ser. No. 380,600
Claims priority, application Sweden, June 22, 1961, 6,561/61
11 Claims. (Cl. 156—201)



1. A method comprising advancing a pipe in axial direction, supplying a flat strip of fibrous insulating material for application to the pipe, applying the strip to the pipe, folding the strip around the pipe to form a longitudinal seam, and drawing the strip along the pipe and compressing said strip around said pipe by passing the pipe through a restricted opening with the insulating material thereon, such that movement of the pipe through said opening acts to draw the strip along and against the pipe.

5. Apparatus comprising a source of fibrous insulating material in the form of a strip, a tubular member having a restricted opening therein, and means to drive a pipe axially through the tubular member with the strip applied to the pipe whereby the strip is compressed around the pipe, said source being adapted to supply said strip at a rate controlled by the passage of the pipe through the tubular member.

3,259,534

METHOD OF ADHESIVE BONDING

Thomas H. Wicker, Jr., and Newton H. Shearer, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 11, 1965, Ser. No. 463,389
14 Claims. (Cl. 156—315)

1. The method of bonding two surfaces together in a quick and lasting bond which comprises coating one of the surfaces to be bonded with an adhesive composition of a monomeric ester of alpha-cyanoacrylic acid of the formula:

$$CH_2{=}C(CN){-}COOR$$

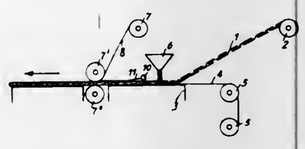
wherein R is selected from the group consisting of alkyl groups of 1–16 carbon atoms, cyclohexyl groups and phenyl groups, said adhesive composition containing polymerization inhibitor, coating the other surface to be bonded with monomeric epoxide, placing together the two surfaces to be bonded, and bonding them together within a few seconds by polymerization of said monomeric ester of alpha-cyanoacrylic acid, said polymerization being promoted by said monomeric epoxide.

3,259,535

METHOD AND APPARATUS FOR TREATING MATS OF A LOOSE FIBROUS OR FILAMENTARY STRUCTURE

Roderich Wilhelm Gräff, Burgberg, Villingen, Black Forest, Germany, assignor to Deutsche Tafelglas Aktiengesellschaft Detag, Furth, Bavaria, Germany

Filed Mar. 21, 1962, Ser. No. 181,251
Claims priority, application Germany, Mar. 24, 1961, D 35,735
6 Claims. (Cl. 156—324)



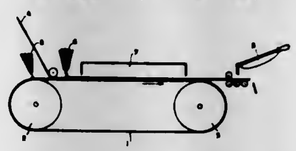
1. A method of treating mats of loose fibrous materials using means for feeding the mat, means for guiding at least one cover sheet into association with a side of the mat, means for applying a fluid hardenable resin to at least one side of the mat on the same side as the cover sheet and before the cover sheet is applied to the respective side, smooth cooperating pressing rollers for pressing the cover sheet and the mat after the plastic material is applied, and a stationary member having a plurality of fixed length long and flexible substantially parallel threads extending along the path of feed of the mat, comprising feeding the mat along a feed path, applying the plastic material to at least one side of the mat as the mat is fed, permitting the threads of the stationary member to fall onto the plastic material applied to the mat and to extend therealong as the mat is fed, applying the cover sheet over the threads, pressing the mat with the cover sheet thereon and the threads therebeneath, and then withdrawing the mat with the cover sheet away from the threads so that the threads are withdrawn from under the cover sheet.

3,259,536

PRODUCTION OF FIREPROOFING SHEETS

Rudolf Gaeth, Ludwigshafen (Rhine), Bernhard Schmitt, Heidelberg, and Rudolf Brez, Schifferstadt, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Aug. 23, 1961, Ser. No. 133,509
Claims priority, application Germany, Aug. 27, 1960, B 59,148; Oct. 1, 1960, B 59,608; Feb. 3, 1961, B 61,118; May 27, 1961, B 62,665; June 3, 1961, B 62,771
10 Claims. (Cl. 161—206)



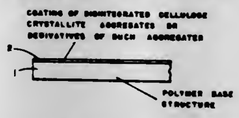
1. Fireproofing sheets having increased thermal insulating efficiency when exposed to high temperatures which consist essentially of alkali metal silicate, synthetic inorganic fibers embedded in said alkali metal silicate, and water, the amount of said inorganic fibers being from 0.5 to 60% by weight and the amount of water being from 31.1 to 80.0% by weight, said percentages being with reference to anhydrous alkali metal silicate.

3,259,537

POLYMER SURFACES HAVING A COATING OF CELLULOSE CRYSTALLITE AGGREGATES

Orlando A. Battista, Drexel Hill, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Aug. 3, 1962, Ser. No. 214,646
18 Claims. (Cl. 161—267)



9. As an article of manufacture, a laminated body comprising a mating pair of surfaces of an organic polymer bonded together by an intermediate, self-adherent layer comprising a disintegrated substance selected from the group consisting of disintegrated cellulose crystallite aggregates, disintegrated water-insoluble derivatives of cellulose crystallite aggregates and disintegrated organic solvent-insoluble derivatives of cellulose crystallite aggregates, the cellulose crystallite aggregates having an average level-off D.P. in the range of from about 10 to 375 anhydroglucose units, the disintegrated substance having a particle size of from less than 1 micron to about 300 microns, at least 1% of the disintegrated substance having a particle size not greater than about 1 micron, the organic polymer being characterized by having free polar groups along the polymer chain and by absorbing at least 0.5% moisture when maintained for 24 hours at 75° F. in an atmosphere having a relative humidity of 100%.

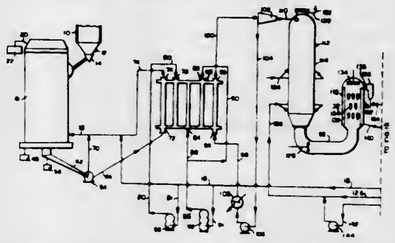
11. An article of manufacture as defined in claim 9 wherein the laminated body comprises a pair of sheets of a cellulosic material.

3,259,538

COMPREHENSIVE PULPING SYSTEM FOR PRODUCING PAPER PULP

Auxilius P. Schnyder, Bogota, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware

Filed Apr. 22, 1963, Ser. No. 274,419
12 Claims. (Cl. 162—19)



1. A process for digesting cellulosic material comprising vacuum deaerating said material, submerging said material in liquor forming a slurry of pumpable consistency, impregnating said material by subjecting the material to progressively increasing hydraulic pressures, introducing the impregnated material into a digester, digesting said impregnated material to pulp in non-submergence in the presence of steam, diluting the pulp within the digester with additional liquor, transferring the diluted pulp to a washer, washing the diluted pulp in said washer, removing liquor from the diluted pulp substantially at the cooking temperature, introducing the washed pulp as a thin stream into a blow tank, condensing the steam within the blow tank by direct contact with cooling water, passing the steam condensate and cooling water to an accumulator tank, vacuum washing the pulp removed from said blow tank in a vacuum washer having a wash liquid sprayer, returning liquor from the vacuum washing step to said blow tank, and injecting steam from said blow tank into a header surrounding the wash liquid sprayer of the vacuum washer.

5. Apparatus for treating wood chips or the like, comprising a substantially upright tank, an annular housing rigidly secured to the bottom of said tank and closed off by a bottom wall, a hollow chip deflecting member having an essentially conical upper surface projecting above said bottom wall substantially in the center thereof, said deflecting member being provided with openings into the interior thereof, gear means mounted within the interior of said deflecting member, a casing rotatably positioned within said housing, drive gear means for rotating said casing, and a plurality of screw conveyors mounted at the outer ends thereof upon said casing and at the other ends thereof being adapted to convey chips through said openings into the interior of said deflecting member.

3,259,539

PREPARATION OF A CONFORMABLE NONWOVEN WEB

Manfred Katz and Munzer Makansi, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 28, 1963, Ser. No. 319,582
14 Claims. (Cl. 162—146)

1. A process for preparing a nonwoven fabric which comprises (a) forming a nonwoven web of synthetic organic fibers and a synthetic organic polymer binder, the fibers being capable of elongating spontaneously at least 3% upon being heated at a temperature 30° C. above

the fiber polymer second order transition temperature for five minutes, the binder having an initial modulus of between 0.002 and about 25 grams per denier, and (b) heating the web at a temperature sufficient to fuse the binder and also elongate the fibers at least 3% while restraining the fabric from increasing more than 3% in linear growth along the surface of the fabric.

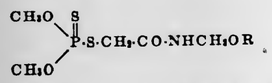
3,259,540

STABILIZED INSECTICIDAL COMPOSITION CONTAINING AN O,O-DIMETHYL S-(N-ALKOXYMETHYL) CARBAMOYLMETHYL PHOSPHOROTHIOLOTHIONATE

Max Pianka and Donald John Polton, St. Albans, England, assignors to The Murphy Chemical Company Limited, St. Albans, England, a British company

No Drawing. Filed Feb. 13, 1961, Ser. No. 88,646
2 Claims. (Cl. 167—22)

1. A mixture of an insecticidal compound of the formula



wherein R is alkyl of 1–4 carbons and an acid binding agent selected from the group consisting of an organic nitrogen base and an epoxy compound, said acid binding agent being present in an amount sufficient to improve the stability of said insecticidal compound.

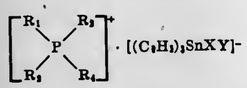
3,259,541

NOVEL COMPLEX SALTS OF PENTACOORDINATED TIN

Ludwig Schröder, Klaus Thomas, and Dietrich Jerchel, all of Ingelheim (Rhine), Germany, assignors to C. H. Boehringer Sohn, Ingelheim (Rhine), Germany, a limited partnership of Germany

No Drawing. Filed Dec. 16, 1964, Ser. No. 418,905
Claims priority, application Germany, Dec. 18, 1963, B 74,722
41 Claims. (Cl. 167—22)

1. A complex salt of pentacoordinated tin of the formula

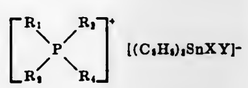


wherein

R_1, R_2, R_3 and R_4 are each selected from the group consisting of hydrogen, acyclic hydrocarbons of 1 to 12 carbon atoms, hydroxyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, halo-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, alkoxycarbonyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, aminocarbonyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, acyclic hydrocarbons of 1 to 12 carbon atoms whose carbon chain is interrupted by a heteroatom selected from the group consisting of oxygen and sulfur, alicyclic hydrocarbons, halo-substituted alicyclic hydrocarbons, alkyl-substituted alicyclic hydrocarbons, alkoxy-substituted alicyclic hydrocarbons, nitro-substituted alicyclic hydrocarbons araliphatic hydrocarbons, araliphatic hydrocarbons having a substituent selected from the group consisting of halogen, alkyl, alkoxy and nitro attached to the aromatic moiety thereof, aromatic hydrocarbons, halo-substituted aromatic hydrocarbons, alkyl-substituted aromatic hydrocarbons, alkoxy-substituted aromatic hydrocarbons and nitro-substituted aromatic hydrocarbons, provided, however, that at least one of said substituents R_1 through R_4 is other than hydrogen, and

X and Y are each selected from the group consisting of anions of organic and inorganic acids.

40. An anti-microbial and molluscacidal composition consisting essentially of an inert carrier and a complex salt of pentacoordinated tin of the formula



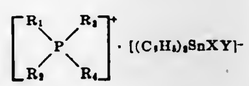
wherein

R_1, R_2, R_3 and R_4 are each selected from the group consisting of hydrogen, acyclic hydrocarbons of 1 to 12 carbon atoms, hydroxyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, halo-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, alkoxycarbonyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, amino-carbonyl substituted acyclic hydrocarbons of 1 to 12 carbon atoms, acyclic hydrocarbons of 1 to 12 carbon atoms whose carbon chain is interrupted by a heteroatom selected from the group consisting of oxygen and sulfur, alicyclic hydrocarbons, halo-substituted alicyclic hydrocarbons, alkyl-substituted alicyclic hydrocarbons, alkoxy-substituted alicyclic hydrocarbons, nitro-substituted alicyclic hydrocarbons, araliphatic hydrocarbons, araliphatic hydrocarbons having a substituent selected from the group consisting of halogen, alkyl, alkoxy and nitro attached to the aromatic moiety thereof, aromatic hydrocarbons, halo-substituted aromatic hydrocarbons, alkyl-substituted aromatic hydrocarbons, alkoxy-substituted aromatic hydrocarbons and nitro-substituted aromatic hydrocarbons, provided, however, that at least one of said substituents R_1 through R_4 is other than hydrogen, and

X and Y are each selected from the group consisting of anions of organic and inorganic acids,

the concentration of said complex tin salt in said composition being at least one part per million.

41. The method of inhibiting the growth of microbes and molluscs, which comprises contacting said microbes and molluscs with a complex salt of pentacoordinated tin of the formula



wherein

R_1, R_2, R_3 and R_4 are each selected from the group consisting of hydrogen, acyclic hydrocarbons of 1 to 12 carbon atoms, hydroxyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, halo-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, alkoxycarbonyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, aminocarbonyl-substituted acyclic hydrocarbons of 1 to 12 carbon atoms, acyclic hydrocarbons of 1 to 12 carbon atoms whose carbon chain is interrupted by a heteroatom selected from the group consisting of oxygen and sulfur, alicyclic hydrocarbons, halo-substituted alicyclic hydrocarbons, alkyl-substituted alicyclic hydrocarbons, alkoxy-substituted alicyclic hydrocarbons, nitro-substituted alicyclic hydrocarbons, araliphatic hydrocarbons, araliphatic hydrocarbons having a substituent selected from the group consisting of halogen, alkyl, alkoxy and nitro attached to the aromatic moiety thereof, aromatic hydrocarbons, halo-substituted aromatic hydrocarbons, alkyl-substituted aromatic hydrocarbons, alkoxy-substituted aromatic hydrocarbons and nitro-substituted aromatic hydrocarbons, provided, however, that at least one of said substituents R_1 through R_4 is other than hydrogen, and

X and Y are each selected from the group consisting of anions of organic and inorganic acids.

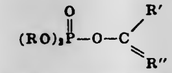
3,259,542

HALO-SUBSTITUTED VINYL PHOSPHATE PESTICIDES

Everett E. Gilbert, Morris Township, Morris County, Julian A. Otto, Lake Tamarack, and John J. Donleavy, North Caldwell, N.J., assignors to Allied Chemical Corporation, a corporation of New York

No Drawing. Original application Nov. 22, 1957, Ser. No. 698,046, now Patent No. 3,207,776, dated Sept. 21, 1965. Divided and this application Mar. 26, 1965, Ser. No. 452,961
8 Claims. (Cl. 167—22)

1. The process of combating insect and mite pests which comprises exposing said pests to a toxic amount of chlorofluoro-substituted vinyl phosphate having the following formula:



in which R is alkyl containing from 1 to 4 carbon atoms, R' is chlorofluoromethyl and R'' is chlorofluoromethylene.

3,259,543

PESTICIDAL KETONE ADDUCTS

Everett E. Gilbert, Morris Township, Morris County, and Pasquale Lombardo, East Hanover Township, Morris County, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 31, 1965, Ser. No. 444,371
16 Claims. (Cl. 167—30)

10. A process for combatting pests of the group consisting of insects and fungi which comprises contacting the pests with a composition comprising an adduct of decachlorooctahydro - 1,3,4 - metheno - 2H - cyclobuta-(cd)pentalen-2-one and a member of the group consisting of (1) alkyl, cycloalkyl-substituted alkyl and monocyclic aryl-substituted alkyl primary and secondary monohydric alcohols containing from 1 to 18 carbon atoms, (2) cycloalkyl and alkyl-substituted cycloalkyl secondary monohydric alcohols containing from 1 to 18 carbon atoms, (3) alkyl, cycloalkyl, cycloalkyl-substituted alkyl and monocyclic aryl-substituted alkyl primary and secondary monoamines containing from 1 to 20 carbon atoms, (4) monocyclic aryl and alkyl-substituted monocyclic aryl primary monoamines containing from 1 to 20 carbon atoms, (5) condensates obtained by reaction of a member of the group consisting of alkyl-substituted phenols in which the alkyl group contains 5 to 15 carbon atoms, lower alkyl primary monohydric alcohols, lower alkyl primary and secondary monoamines and ammonia with a lower alkylene oxide, (6) furfurylamine, (7) piperidine, and (8) ammonia as active ingredient.

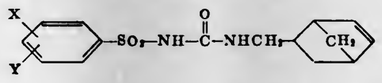
3,259,544

ANTIDIABETIC COMPOSITION AND METHOD

John B. Wright, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Original application Apr. 7, 1960, Ser. No. 20,522, now Patent No. 3,072,720, dated Jan. 8, 1963. Divided and this application Nov. 14, 1962, Ser. No. 237,738
8 Claims. (Cl. 167—65)

1. An oral composition effective for the lowering of blood sugar containing as active ingredient 35 to 1,000 mg. of an N-arylsulfonyl-N'-(2,5-endomethylene-1,2,5,6-tetrahydrobenzyl)urea of the formula:



wherein X and Y are selected from the group consisting of hydrogen, alkyl of 1 to 4 carbon atoms, inclusive, alkoxy of 1 to 4 carbon atoms, inclusive, alkanoyl of 2 to 4 carbon atoms, inclusive, halogen, and amino and a diluent amount of a pharmaceutically acceptable carrier.

3,259,545

STABLE ALUMINUM HYDROXIDE GEL OR ALUMINUM HYDROXIDE-SODIUM ZIRCONIUM LACTATE ANTIPERSPIRANT STICK

W Kedzie Teller, Kingston, N.J., assignor, by mesne assignments, to Wallace & Tiernan, Inc., Belleville, N.J., a corporation of Delaware

No Drawing. Filed July 10, 1961, Ser. No. 122,629
8 Claims. (Cl. 167—90)

1. A stable anti-perspirant stick comprising a soap gel base having dispersed therein within said base as an active anti-perspirant the reaction product of sodium zirconium lactate and aluminum hydroxide, said base comprising a member of the group consisting of sodium stearate-lower alkylene glycol soap gels, sodium stearate-aqueous lower alkyl monohydric alcohol soap gels, and mixtures thereof.

3,259,546

TREATMENT OF VIRUSES

John R. Polley, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a company of Canada

No Drawing. Filed June 1, 1962, Ser. No. 199,250
4 Claims. (Cl. 167—78)

1. A process for destroying infectivity by irradiating aqueous suspensions of infective virus selected from the group consisting of influenza and mumps, comprising adding to the suspension a protective agent for the virus antigenic component selected from the group consisting of cystine, cysteine, methionine, histidine, tryptophan, tyrosine, phenylalanine, allantoin, p-aminohippuric acid, sulphanilamide, ascorbic acid and non-toxic salts of the acids, in an effective amount from about 0.05 to about 0.08% wt./vol., irradiating with gamma radiation until the infectivity is destroyed, the radiation dose being within the range 1×10^6 to 6×10^6 rads, and recovering virus suspensions having a hemagglutinin (units/ml.) of at least about 300, and suitable for vaccine preparation.

3,259,547

PROCESS FOR PREPARING INTERFERING VIRUS

George Christopher Cole, Old Bridge, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 25, 1962, Ser. No. 226,145
4 Claims. (Cl. 167—78)

1. A continuous process for preparing a virus that has been modified so that if put in contact with susceptible cells, will enter the cell, will not multiply, but will prevent the multiplication of a virulent virus in the cell which comprises passing an aqueous suspension of infective virus through a helical quartz tubing axially containing a source of ultraviolet light, at such rate that each square centimeter of suspension is subjected to about 9,000 to about 11,000 ergs of ultraviolet irradiation.

3,259,548

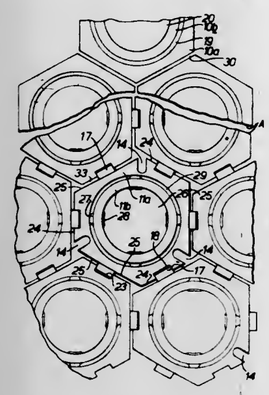
MODERATOR STRUCTURES FOR NUCLEAR REACTORS

James Douglas Thorn, Appleton, Warrington, William Rodwell, Culcheth, Warrington, and Donald Albert Jobson, Helsby, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed May 27, 1963, Ser. No. 283,467
Claims priority, application Great Britain, June 1, 1962, 21,331/62
8 Claims. (Cl. 176—84)

1. A construction unit for a nuclear reactor moderator structure comprising an elongate brick of moderating material consisting of two tubular parts co-axially spaced

and having lengthwise grain, a tile of moderating material connected to one end of the brick and consisting of two tubular parts co-axially spaced and having length-



wise grain in the same direction as the brick, the outer of the tile parts having its outer surfaces adapted for loose interlocking engagement with laterally adjacent and axially parallel tiles of the structure in a horizontal plane.

3,259,549

PROCESS FOR IMPROVING CLOUD POINT OF PETROLEUM GAS OIL BY CAUSTIC WASHING THEREOF FROM HYDROCARBON MIXTURES

Charles Vernet and Bernard Maurice Laine, Lavera, France, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,526
Claims priority, application Great Britain, Dec. 31, 1962, 49,056/62
14 Claims. (Cl. 195—3)

1. A process for the removal, at least in part, of waxes from a wax-containing petroleum gas oil which comprises, in a micro-organism growth stage, cultivating a straight chain hydrocarbon consuming-micro-organism in the presence of said wax-containing petroleum gas oil; in the presence of an aqueous nutrient medium, and in the presence of gas containing free oxygen, thereafter separating the micro-organism from the gas oil of reduced content of wax, and subjecting the gas oil to a caustic wash to reduce its cloud point.

3,259,550

PRODUCTION OF NEURAMINIDASE

Maurice Stacey, Sydney Alan Barker, Grace Irene Pardoe, and Jack Welsby Hopton, Birmingham, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 17, 1963, Ser. No. 331,134
Claims priority, application Great Britain, Dec. 21, 1962, 48,340/62; July 26, 1963, 29,641/63
13 Claims. (Cl. 195—66)

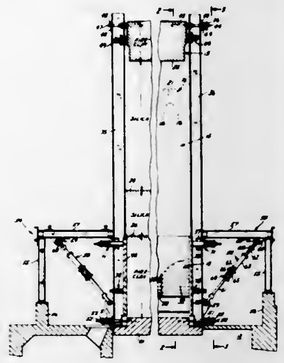
1. A process for the preparation of a neuraminidase which comprises cultivating a non-pathogenic aerobic organism selected from the group consisting of *Klebsiella aerogenes* (Strain ATCC No. 15328), *Bacillus palustris* (Strain ATCC No. 25329), and *Rhodopseudomonas palustris* (Strain ATCC No. 11168), in a growth medium therefor and in the presence of a neuraminidase-inducing substance containing a bound neuraminic acid derivative in the form of a non-reducing end group.

3,259,551

REGENERATIVE COKE OVEN BATTERIES

Ernest Thompson, Jr., Darien, Conn., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Oct. 3, 1961, Ser. No. 142,557
3 Claims. (Cl. 202—267)



1. In a regenerative coke oven battery having, in combination, coking chambers having regenerators therebeneath arranged side by side, each coking chamber and regenerator therebeneath being separated from an adjacent coking chamber and regenerator therebeneath by a brick wall, the portion of each said wall between adjacent coking chambers being composed of silica and at least the lower portion thereof between adjacent regenerators being composed of fireclay brick, said silicia superimposed on fireclay construction being subject to substantial differential expansion when the oven is heated to operating temperature, a vertical buckstay at each end of each such wall extending for substantially the full height thereof, the improvement comprising a substantially horizontally extending bench beam, having an inner and an outer end, positioned opposite the locality of the interface between the silica and fireclay brick portion of each wall, with the inner end of said bench beam bearing against the buckstay disposed at the end of said wall, the outer end of the beam extending perpendicularly from the buckstay, a single diagonally positioned tie rod having its upper end secured to the outer end of said bench beam remote from the buckstay against which the bench beam bears and having its lower end secured to the lower portion of said buckstay, and a compression spring on said tie rod for exerting tension thereon in a direction to apply force through said bench beam opposing outward bending of said buckstay due to differential expansion of the silica and fireclay brick portions of said wall, said tie rod being the only diagonal tie rod connected to said bench beam.

3,259,552

FLASH EVAPORATOR WITH DISTILLATE DEAERATOR

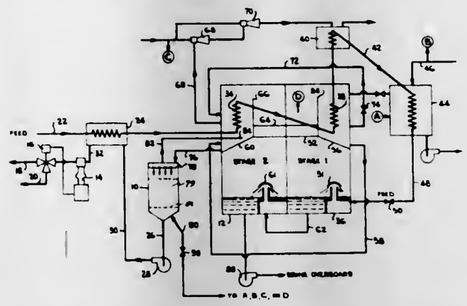
Richard W. Goeldner, Brookfield, Wis., assignor to Aqua-Chem, Inc., Waukesha, Wis.

Filed Nov. 28, 1961, Ser. No. 155,313
12 Claims. (Cl. 203—3)

1. A process for degassing the distilled water product from a plural stage flash evaporator system for extracting said product from a feed of saline water or impure water, said process comprising the steps of

withdrawing at least a part of said product from the last stage of said evaporator, said last stage including a condensing means;

introducing said withdrawn product into a deaerator;
feeding steam into said deaerator; and
stripping gases from said product with said steam by



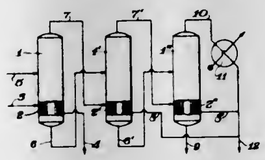
flowing said steam through said deaerator countercurrently to said product to thereby produce a degassed product stream and an off-gas product stream; and
recovering said degassed product stream.

3,259,553

PARALLEL DISTILLATION OF LIQUID-ORGANIC-WATER MIXTURES

Gustav Halbritter, Krefeld-Bockum, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

Filed Mar. 7, 1963, Ser. No. 263,451
Claims priority, application Germany, Mar. 16, 1962, F 36,290
1 Claim. (Cl. 203—14)



A process of distilling liquid organic-water mixtures to separate the components by volatilization and condensation with utilization of the heat of condensation, said process comprising feeding the mixture in a parallel flow into the top of a plurality of heated distillation zones at successively reduced pressures from the initial zone to the last zone, withdrawing vapor in series flow from the top of each distillation zone and introducing it into condensing and heat exchange contact with the bottom of the succeeding distillation zone, discharging liquid residue in parallel flow from the bottom of the plurality of distillation zones, and withdrawing and condensing the vapors from said last distillation zone.

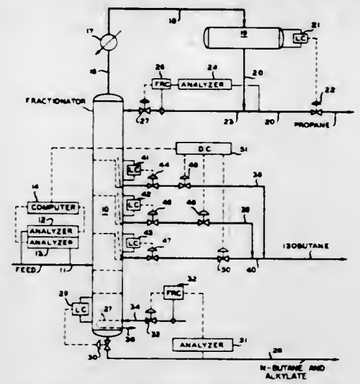
3,259,554

FRACTIONATION CONTROL METHOD

George J. Constantikes, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 9, 1963, Ser. No. 314,938
5 Claims. (Cl. 203—40)

1. A process which comprises passing a feed mixture to a fractionation zone, withdrawing a first fraction from the upper region of said fractionation zone, withdrawing a second fraction from the lower region of said fractionation zone, withdrawing a third fraction from an intermediate region of said fractionation zone, measuring a property of said feed mixture representative of



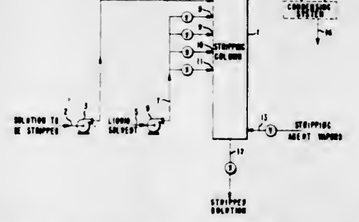
the composition thereof, and manipulating the vertical position of the third fraction withdrawal zone within said intermediate zone responsive to said measurement.

3,259,555

STRIPPING MONOMERS FROM SOLUTIONS OF POLYMERS

Ralph W. Lankton, North Tonawanda, and John R. Wesel, Lewiston, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 13, 1962, Ser. No. 187,420
7 Claims. (Cl. 203—63)



1. In the process for stripping unpolymerized monomer from a solution comprising monomer and polymer, said process comprising passing said solution down a distillation column counter to upwardly passing stripping agent vapor, removing a vapor mixture containing said monomer from the upper part of said column and removing a liquid mixture essentially free of said monomer from the lower part of said column, the improvement comprising the step of dilution of the said solution while said solution is passing downward by addition of a liquid solvent for said polymer at at least one point in the upper part of said column below the feed point of the said solution and above the feed point of the said stripping agent vapor.

3,259,556

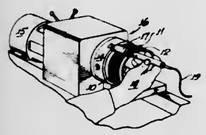
RIBBON ELECTROPLATING METHOD

Harry J. De Nault, Montclair, Calif., assignor to General Dynamics Corporation, Pomona, Calif., a corporation of Delaware

Filed Sept. 28, 1964, Ser. No. 399,538
5 Claims. (Cl. 204—27)

1. The method of electroplating a metal onto one side only of a flat nickel ribbon comprising the steps of winding the nickel ribbon on a rotating mandrel, securing the

ends of the nickel ribbon to the mandrel, abrasively cleaning the ribbon surface to be plated, electro-cleaning and activating the surface to provide maximum adhesion, rinsing the surface, electro-cleansing the surface to re-



move any oxide from the surface, rinsing the surface, electroplating the surface with the desired solution utilizing the brush plating technique, rinsing the plated surface, and removing the plated ribbon from the mandrel.

3,259,557
METHOD OF ELECTRODEPOSITING ALUMINUM
Edwin J. Smith, Steubenville, Ohio, and Michael G. Vucich and Lowell W. Austin, Weirton, W. Va., assignors to National Steel Corporation, a corporation of Delaware
Filed Mar. 2, 1962, Ser. No. 177,119
20 Claims. (Cl. 204—28)

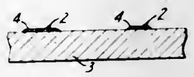
1. A method of electrodepositing aluminum on an iron-containing metallic substrate comprising intimately contacting the substrate with a body of nonaqueous fused electrolyte for electrodepositing aluminum, the electrolyte containing dissolved iron-containing material formed at least in part in situ from the said substrate, electrodepositing aluminum on the substrate while it is intimately contacted with the body of electrolyte, and continuously maintaining the said iron-containing material dissolved in the electrolyte in a concentration resulting in not less than about 0.001% and not more than about 0.02% by weight of iron in solution in the electrolyte while the aluminum is being electrodeposited.

3,259,558
METHOD OF PRODUCING A METAL OXIDE COATING
Hiroshi Hagiwara, Higashiyodogawa-ku, Osaka, Akio Yamashita, Ikeda-shi, Osaka, and Asao Matsuda, Nishinomiya-shi, Japan, assignors to Matsushita Electric Industrial Co., Ltd., Osaka, Japan, a corporation of Japan
Filed Feb. 12, 1962, Ser. No. 172,673
Claims priority, application Japan, Feb. 15, 1961, 36/5,185; June 9, 1961, 36/20,616; June 12, 1961, 36/21,025
2 Claims. (Cl. 204—38)



1. A method for making electric elements such as capacitors and the like, comprising selecting a metal of 99.7% purity from the group consisting of titanium, tantalum, and zirconium, shaping said metal into a wire, cleaning the surface of said wire with a detergent, subsequently introducing said wire into a glycoborate solution at ordinary room temperature and forming an oxide film on the wire surface by subjecting said wire to anodic oxidation, introducing said wire with said oxide film into air and heating said wire to a maximum temperature of 1,3000° C. by passing electric current therethrough, whereby said oxide film grows in thickness and wherein a uniform oxide distribution results in said oxide film, and coating the oxide with a silver electrode to form a condenser.

3,259,559
METHOD FOR ELECTROLESS COPPER PLATING
Frederick W. Schneble, Jr., Oyster Bay, John F. McCormack, Roslyn Heights, Rudolph J. Zeblisky, Hauppauge, John Duff Williamson, Miller Place, and Joseph Polichette, South Farmingdale, N.Y., assignors, by mesne assignments, to Day Company, N.V., a Curacao corporation
Filed Aug. 22, 1962, Ser. No. 218,656
The portion of the term of the patent subsequent to June 25, 1980, has been disclaimed
45 Claims. (Cl. 204—38)



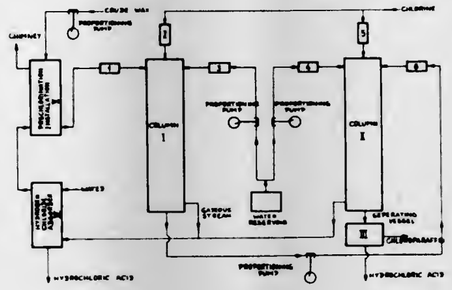
17. A process for making printed circuits which comprises providing apertures in a metal plate at points defining cross-overs between the top and bottom surfaces of the plate; anodizing the plate to render it non-conducting; coating the surfaces of the anodized metal plate and the walls surrounding the apertures with a composition comprising an adhesive resin having dispersed throughout finely divided solid particles of an agent catalytic to the reception of electroless copper by heating the plate and immersing it in a fluidized bed of finely divided solid particles of the adhesive resin composition; masking selected portions of the surfaces of the resulting resin coated panel to leave exposed a conductor pattern; and immersing the resulting panel in an aqueous alkaline electroless depositing bath comprising water, a water soluble cupric salt, an alkali metal hydroxide, a complexing agent for cupric ion, formaldehyde, and a complexing agent for cuprous ion, to thereby build up an adherent layer of electrolessly deposited copper at the sites where the catalytic agent is exposed to the bath.

3,259,560
PROCESS FOR THE ELECTROLYTIC PRODUCTION OF CHROMIUM OF A HIGH DEGREE OF PURITY
Eric A. Brandes, Chalfont St. Peter, and James A. Whittaker, Slough, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain
Filed July 20, 1962, Ser. No. 211,246
Claims priority, application Great Britain, July 26, 1961, 27,061/61
2 Claims. (Cl. 204—105)

1. In an electrolytic process for the production of high purity chromium from a fluoride bath of dissolved chromium low in nitrogen the improvements comprising:
(a) carrying out the electrolysis at a temperature of at least 85° C.,
(b) carrying out the electrolysis with an anode of material selected from the group consisting of platinum, platinum alloys, palladium and palladium alloys,

(c) carrying out the electrolysis with lead chromate present in the bath, and
(d) maintaining a coating of lead dioxide on said anode material.

3,259,561
PROCESS FOR THE CONTINUOUS MANUFACTURE OF CHLORINATED HYDROCARBONS
Theodor Sievers, Gersthofen, near Augsburg, Germany, assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
Filed Oct. 4, 1963, Ser. No. 313,957
Claims priority, application Germany, Oct. 6, 1962, F 37,987
6 Claims. (Cl. 204—163)



1. A process for the continuous chlorination of liquid paraffin hydrocarbons containing 6–25 carbon atoms during which process high reaction heat develops, comprising the steps of separately metering in at the head of a packed column, at a temperature within the range of from 50°–150° C. and under a pressure of 0.1–5 atmospheres, said paraffin hydrocarbons, gaseous chlorine and, as cooling agent, such an amount of water that the cross section of the column is fully wet, and maintaining during the total time of reaction a temperature of 90–150° C., the reaction heat being dissipated immediately from the field of reaction through evaporation of the aqueous hydrochloric acid formed.

3,259,562
METHOD OF ADHERING AN ELECTROPHORETICALLY DEPOSITED METAL COATING TO A METAL SUBSTRATE
Frederick William Salt, Swansea, Glamorgan, and Kenneth Gill Lewis, Port Talbot, Glamorgan, Wales, assignors to The British Iron and Steel Research Association
Filed Oct. 12, 1964, Ser. No. 403,408
Claims priority, application Great Britain, May 22, 1959, 17,501/59
10 Claims. (Cl. 204—181)

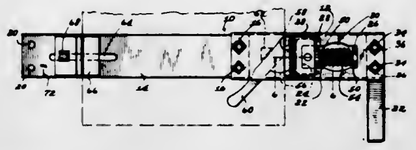
1. The method of electrophoretically depositing a metal coating on a metal substrate in elongated form, which method comprises the step of continuously passing the substrate through an electrophoresis cell containing a suspension of finely divided coating metal in its metallic form in a polar organic solvent said suspension also containing from 2% to 30% water by volume and a minor proportion of a soluble multivalent metal salt, said substrate being connected as cathode and said suspension being continuously agitated, whereby said coating metal is electrophoretically deposited on said substrate.

4. The method claimed in claim 1 according to which said substrate is steel, the coating metal is selected from the group consisting of copper, brass, stainless steel, zinc and nickle, and said water comprises from 2 to 20% by volume of the bath, said method comprising the further steps of continuously passing said coated substrate to a station at which it is heated to a temperature between 100 and 350° C., rolling said coated and heated substrate with a rolling load at least equal to that given by the formula

$$R = 0.15B_c - 2.2\times10^{-6}B_s^2(B_c-55) + 0.04\,\frac{B_s}{B_s^2}\,(B_s+45)$$

where R is the minimum rolling load in tons per inch width, B_c is the Brinell hardness of the bulk coating metal in the annealed state, and B_s is the Brinell hardness of the substrate, and then sintering the coated substrate.

3,259,563
ELECTROPLATING RACK UNIT
Peter P. Del Monica, 10 Landon Drive, Bordentown, N.J.
Filed Mar. 7, 1962, Ser. No. 178,086
10 Claims. (Cl. 204—297)



1. A plating rack unit for suspending objects in an electroplating bath, said unit comprising, in combination, an elongated metal plate having therein near one end a central longitudinal slot having closed ends, a metal clamping member removably mounted for longitudinal movement in said slot, a helical compression spring interposed between one end of said slot and the facing surface of said clamping member for normally urging said member toward the other end of said slot which limits its movement in that direction, a complementary clamping member having means for rigidly attaching it to said elongated plate in longitudinally spaced relation with said movable clamping member; and an eccentric cam member pivotally mounted on said plate for engagement with the surface of said movable clamping member adjacent to said movement limiting end of said slot for retracting said member against said spring to permit the clamping engagement of an object to be electroplated with said clamping members, said cam having an operating arm projecting laterally beyond the edge of said elongated plate, and said plate having means for attaching it to a support.

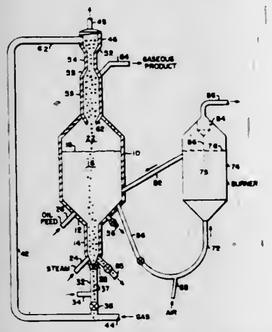
3,259,564
HYDROCRACKING CONVERSION CATALYST COMPRISING A HYDROGENATION COMPONENT DEPOSITED ON A CRYSTALLINE SYNTHETIC MORDENITE ZEOLITE AND ITS USE IN HYDROCRACKING
Charles Newton Kimberlin, Jr., Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 14, 1962, Ser. No. 216,726
21 Claims. (Cl. 208—111)

1. An improved hydrocracking catalyst which comprises a hydrogenation component deposited on a crystalline synthetic mordenite zeolite having a silica to alumina ratio in the range of about 9 to 11 and having the ability to adsorb at least 1.5 wt. percent of benzene at 205° F. and 0.5 atmosphere in its unexchanged form, said mordenite zeolite having been exchanged with a cation to reduce its Na_2O content to less than 5 wt. percent.

3,259,565
FLUIDIZED BED COKING PROCESS

Charles Newton Kimberlin, Jr., Baton Rouge, La., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Mar. 26, 1963, Ser. No. 267,990
10 Claims. (Cl. 208—127)

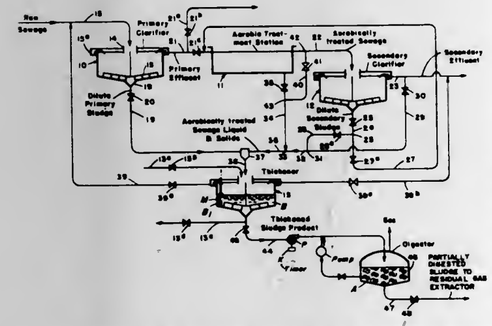


1. A process for converting hydrocarbons to produce lower boiling hydrocarbons and solid coke particles of a size larger than fluidizable size which comprises passing coke agglomerates down through a hot fluidized bed of coke particles, introducing hydrocarbon oil feed into said fluidized bed to crack the hydrocarbon oil, passing cracked vaporous products overhead, removing coke agglomerates from said fluid bed and passing them down through a heat exchanger zone in countercurrent contact with said withdrawn cracked vaporous products to cool said cracked vaporous products and to heat said coke agglomerates while condensing and depositing higher boiling hydrocarbons from said cracked vaporous products on said coke agglomerates, withdrawing resulting cracked vaporous products as product, recirculating the so treated coke agglomerates a number of times through said heat exchange zone to deposit hydrocarbons and through said hot fluidized coke bed to coke the deposited high boiling hydrocarbons and to increase the size of the coke agglomerates, withdrawing coke agglomerates of increased size as product from the system.

3,259,566
METHOD OF ANAEROBIC DIGESTION OF SEWAGE SLUDGE

Wilbur N. Torpey, 49—23 Hanford St., Douglaston 62, New York, N.Y.

Filed Aug. 7, 1962, Ser. No. 215,461
9 Claims. (Cl. 210—10)

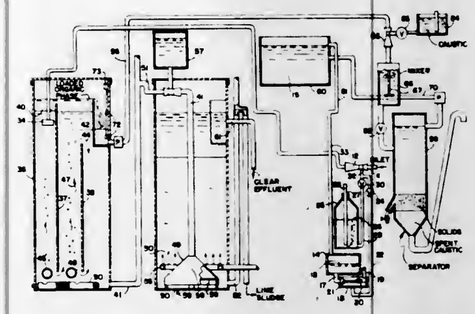


1. A method of anaerobic digestion of sewage sludge, which comprises the steps of preparing the sludge to have a concentration in a range of from about 4% to about 15%, sufficient to produce a digested sludge having substantially no supernatant liquor releaseable; maintaining a body of sludge undergoing digestion and producing gas; supplying said prepared sludge substantially continuously to said body of sludge for sustaining said digestion at a high rate of conversion of solids to gas while discharging from said body incompletely digested sludge at a rate whereby the volume of said sludge body remains substantially constant; forcibly mixing the sludge in said body so as to maintain a uniformly mixed mass of sludge undergoing digestion with the discharging sludge containing residual gasifiable matter in uniform distribution substantially representative of the distribution thereof in said body of sludge undergoing digestion; maintaining the supply of said prepared sludge to said body of digestion sludge at a loading rate in a range from about 0.1 to about 0.7 lb. of volatile solids per cubic foot of said body per day but in any event short of a peak speed of conversion of solids to gas, while delivering from said body of sludge incompletely digested sludge containing undigested matter in an amount from about 5% to about 20% of the gasifiable matter contained in said prepared sludge; substantially continuously supplying said incompletely digested sludge to a residual gas extraction zone; forcibly mixing the sludge contained in said gas extraction zone during a sludge detention time sufficient to allow at least a major portion of the residual gasifiable matter to be digested by conversion into gas; and discharging from said gas extraction zone a substantially fully digested sludge at a rate whereby the volume of sludge in said zone remains substantially constant.

3,259,567
METHOD AND APPARATUS FOR TREATMENT OF DETERGENT-LADEN WASTES

Herbert N. Dunning, St. Paul, and James S. Gulemchyn, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

Filed Jan. 31, 1964, Ser. No. 341,630
14 Claims. (Cl. 210—21)

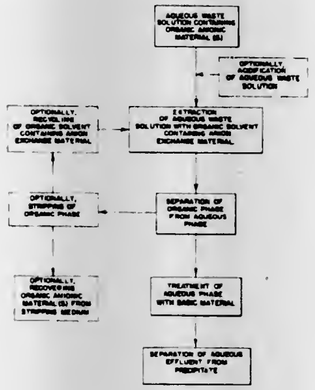


1. The method of treating detergent and phosphate laden waste solutions which comprises adding a treating fluid containing a water immiscible detergent compatible amine compound to said waste solution, passing the mixture through a first treating chamber wherein a gaseous fluid is passed therethrough to remove a portion of the detergent organic and phosphate impurities therefrom, and to provide agitation, transferring said partially treated waste solution from said first treating chamber to a second treating chamber, adding a water soluble chemical having a cationic element which forms an insoluble phosphate to said partially treated solution to form a mixture including a phosphate precipitate in said waste solution, retaining said mixture in said second treating chamber to complete the precipitation reaction and form a sludge including said phosphate precipitate and a portion of said detergent and organic impurities, and then separating the sludge from said solution to form a clarified treated effluent.

3,259,568
TREATMENT OF AQUEOUS WASTE SOLUTIONS

Wesley A. Jordan, Minneapolis, Herbert N. Dunning, St. Paul, and Le Roy T. Ditsch, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware

Filed Mar. 21, 1963, Ser. No. 267,038
17 Claims. (Cl. 210—28)



1. The process which comprises contacting an aqueous waste solution containing organic anionic surface active agents with a liquid organic phase comprising a water-immiscible organic solvent and an anion exchange material to extract at least a portion of the organic anionic surface active agents into the organic phase, separating the loaded organic phase from the aqueous phase and treating said aqueous phase with a basic material selected from the group consisting of alkali, alkaline earth and rare earth metal oxides, hydroxides, basic salts and mixtures thereof to form a precipitate.

3,259,569
FLOCCULATION OF SEWAGE HAVING CONTROLLED SOLIDS CONCENTRATIONS

Charles P. Priesing, 5717 Leeway Drive, and Stanley Mogelnicki, 4612 Hampshire Court, both of Midland, Mich.

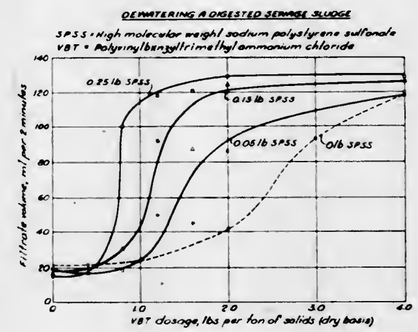
No Drawing. Filed Oct. 8, 1963, Ser. No. 314,603
7 Claims. (Cl. 210—46)

1. In a process for flocculating a dilute aqueous suspension of sewage solids which comprises the steps of treating the suspension with a sufficient amount of a synthetic organic polymeric flocculant for the suspension solids to condition the solids for flocculation and flocculating the treated suspension, the improvement which consists in blending into the suspension, prior to the flocculating step, a sufficient amount of settled sewage solids to increase the solids content of the suspension by at least 200 percent by weight of the initial suspended solids content of the suspension and to a level within the range from about 200 to about 10,000 parts of solids per million parts by weight of the blended system.

3,259,570
DEWATERING AQUEOUS SUSPENSIONS OF ORGANIC SOLIDS

Charles P. Priesing and Stanley Mogelnicki, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Mar. 4, 1963, Ser. No. 262,405
9 Claims. (Cl. 210—53)



1. In a process for dewatering a liquid, aqueous suspension of predominately organic, hydrophilic solids not susceptible of conditioning for dewatering with an anionic organic polymer as the sole treating agent, which solids are in an agglomerated condition and at a concentration whereby the solids are essentially non-free settling, which process comprises adding to the suspension with mixing a water-soluble, cationic, nitrogenous organic polymer, said polymer being employed in an amount sufficient to promote dewatering of the suspension; the improvement which consists in adding to the suspension prior to the addition of the nitrogenous organic polymer, and with intervening mixing, a water-soluble, high molecular weight, anionic organic polymer characterized by a molecular weight of at least 0.5 million and as having a polyalkane backbone with a plurality of ionic substituent groups selected from the group consisting of carboxylic and sulfonic acid groups and alkali metal salts of the acid groups; the total water of dilution added with the polymers being maintained within the range from about 0.01(S) to about 1.0(S) volumes of water per volume of liquid aqueous suspension, wherein S equals the parts of solids, on a dry basis, per 100 parts of aqueous suspension and said anionic organic polymer being added to the aqueous suspension in a small amount, relative to the amount of nitrogenous organic polymer used, such amount of anionic polymer being effective to enhance the dewatering rate of the treated aqueous suspension.

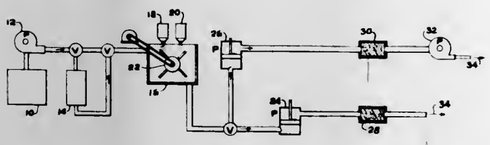
3,259,571
METHOD FOR REMOVING IRON FROM WATER

William C. Marshall, Flushing, N.Y., George R. Bell, Martinsville, N.J., and George J. Coogan, Everett, Mass., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Jan. 7, 1963, Ser. No. 249,782
6 Claims. (Cl. 210—59)

1. A method of clarifying water, particularly to remove soluble iron, comprising continually and uniformly adding to said water solid particulate body feed comprising powdered active magnesium oxide in an amount between 2.5 and 60 parts per million of liquid to be filtered and pulverulent filter aid in an amount between 5 and 100 parts per million of liquid to be filtered, mix-

ing and retaining said water containing said active magnesium oxide and filter aid in a retention area to insure uniform distribution of said solid particles and to affix



said iron on said solid particles, and passing said mixture-containing water through a filter septum to effect filtration.

3,259,572
DRILLING FLUID

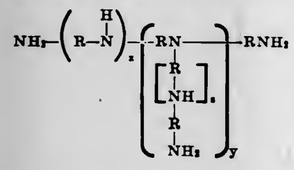
Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation

No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,150

8 Claims. (Cl. 252—8.5)

1. A drilling fluid for wells containing an emulsion of water and oil, a fine dispersed solid weighting material dispersed in said emulsion, and a minor amount, sufficient to render the emulsion substantially stable in the presence of contaminating formation salts or brines, of a compound selected from the group consisting of

(1) a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

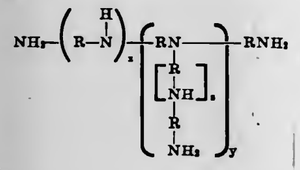
R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

(2) an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,

y is an integer of 1 to 6, and

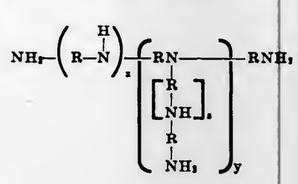
z is an integer of 0–6,

formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

(i) a carboxylic acid having 7–39 carbon atoms and

(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(3) an oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

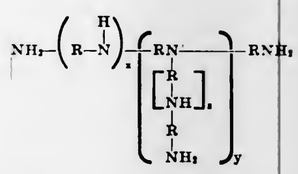
x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms,

(4) an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

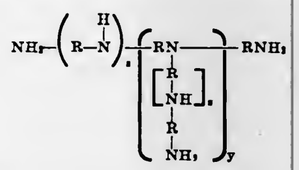
x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

(5) an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

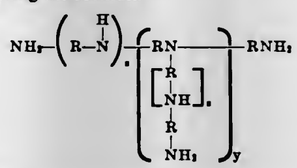
x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

formed by the reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylenepolyamine with an olefinating agent selected from the group consisting of acryonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones,

(6) a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary mino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(7) an acylated, then oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(8) an oxyalkylated, then acylated branched polyalkylenepolyamine, containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(10) an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(11) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C., and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(12) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(13) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(15) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed

by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,259,573

LUBRICATING GREASES CONTAINING FINELY DIVIDED ALKALINE EARTH METAL SULFATES

Norman R. Odell, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 13, 1963, Ser. No. 280,156
11 Claims. (Cl. 252—18)

1. A lubricating grease comprising a lubricating oil thickened to a grease consistency by a metal soap and containing about 1–12 percent by weight, sufficient to impart substantially improved extreme pressure properties to the said grease, of calcium sulfate in finely divided form.

3,259,574

PREPARATION OF SUSPENSIONS OF WATER-SOLUBLE SOLIDS IN OLEAGINOUS MEDIA

Walter Morrison and Henry Stevenson, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Apr. 17, 1963, Ser. No. 273,572
Claims priority, application Great Britain, Apr. 24, 1962, 15,532/62
5 Claims. (Cl. 252—28)

1. A method of preparing a suspension of particles of a water soluble solid in an oleaginous medium, in which an aqueous solution of the solid is emulsified with an oleaginous liquid to form a water-in-oil emulsion and the emulsion is thereafter dehydrated by heating at a temperature of 115–170° C., the emulsification and dehydration both being carried out in the presence of a colloidal clay whose particles have been coated with a quaternary ammonium salt, the clay being in an amount of 0.2–5% by weight of the oleaginous liquid.

3,259,575

LUBRICATING COMPOSITIONS CONTAINING ISATOIC ANHYDRIDE

Clark O. Miller, Willoughby, and William M. Le Suer, Cleveland, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 26, 1963, Ser. No. 326,225
16 Claims. (Cl. 252—32.5)

1. A lubricating composition comprising a major proportion of lubricating oil, from about 0.1% to about 20% of an oil-soluble alkaline earth metal salt of an acidic composition selected from the class consisting of sulfonic acids and phosphorus acids derived from the reaction of an aliphatic hydrocarbon with an inorganic phosphorus reagent, and a small amount, sufficient to increase the resistance to deterioration of said lubricating composition, of isatoic anhydride.

3,259,576

METHOD FOR PREPARING COMPLEX METAL SALTS OF SULFONIC ACIDS

Ferdinand P. Otto, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Dec. 11, 1959, Ser. No. 858,859
10 Claims. (Cl. 252—33)

1. A method for preparing a complex metal salt of a sulfonic acid selected from the group consisting of oil-soluble petroleum sulfonic acids and oil-soluble alkaryl sulfonic acids, said complex metal salt containing from 105% to about 192% excess metal over that corresponding to a normal metal salt of said acid, said method comprising the steps of (1) intimately contacting a hydrocarbon solution of the sulfonic acid in the presence of water with the hydroxide of a metal selected from Groups I and II of Mendeleeff's Periodic Table of the Elements in an amount to supply at least about one equivalent of metal per equivalent of acid-hydrogen content in said sulfonic acid solution, at a temperature of from about 25° C. to about 100° C., (2) intimately contacting the reaction mixture formed in step 1 in the presence of water with formaldehyde and the hydroxide of a metal selected from Groups I and II of Mendeleeff's Periodic Table of the Elements at a temperature of from 25° C. to about 100° C., the amount of formaldehyde being from about 2 to about 4 equivalents per equivalent of sulfonic acid in said sulfonic acid solution, and the amount of metal hydroxide present in said reaction mixture along with said formaldehyde being that sufficient to supply at least about two equivalents of metal per equivalent of acid-hydrogen content in said sulfonic acid solution, (3) substantially completely dehydrating the reaction mixture from step 2 and (4) filtering off insoluble materials from said reaction mixture.

3,259,577

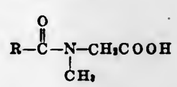
LUBRICANT AND ADDITIVES THEREFOR

Pierre M. Coant, Woodbury, and Francis G. A. de Monterey, Woodbury Heights, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Feb. 19, 1963, Ser. No. 259,736
15 Claims. (Cl. 252—33.3)

1. A lubricating oil composition consisting essentially of:

(a) a major proportion of a mineral lubricating oil,
(b) from about 1 to about 20 percent by weight of the composition of calcium acetate,
(c) from about 0.01 to about 3 percent by weight of the composition of an N-acyl-substituted sarcosine compound of the formula



wherein R represents an aliphatic hydrocarbon radical of from 8 to 24 carbon atoms,
(d) from about 0.1 to about 10 percent by weight of the composition of an oil-soluble metal sulfonate, and
(e) from about 0.1 to about 5 percent by weight of the composition of an oil-soluble, phosphorus- and sulfur-containing reaction product obtained by reaction at a temperature between about 100° C. and about 160° C. of substantially one mole of a phosphorus sulfide and four moles of a material selected from the group consisting of a dicyclic terpene and an essential oil predominantly comprised of a dicyclic terpene.

3,259,578

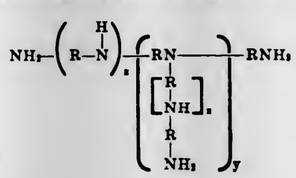
LUBRICATING COMPOSITIONS

Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation

No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,145
24 Claims. (Cl. 252—34)

1. An improved mineral lubricating oil composition comprising a major proportion of the oil and about 0.1 to 5% by weight based on the composition of a compound selected from the group consisting of

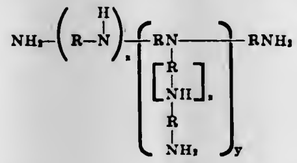
(1) a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

(2) an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



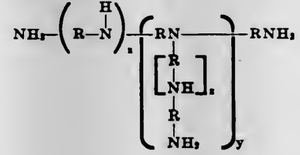
wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

(i) a carboxylic acid having 7–39 carbon atoms and
(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(3) an oil-soluble oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula

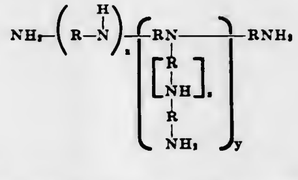


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i. said polyalkylenepolyamine with an alkylene oxide having 2–8 carbon atoms,

(4) an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula

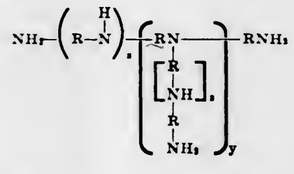


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

(5) an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula

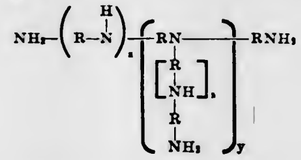


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylenepolyamine with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers, and vinyl sulfones,

(6) a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(7) an acylated then oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with

an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having 2–8 carbon atoms,

(8) an oxyalkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having 2–8 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(10) an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms.

(11) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having 2–8 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(12) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(13) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having 2–8 carbon atoms,

(15) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,259,579

ESTERS OF DITHIOPHOSPHORIC ACIDS AND LUBRICATING OIL COMPOSITIONS CONTAINING SAME

Dilworth T. Rogers, Summit, and William W. Rice, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 29, 1954, Ser. No. 471,885
20 Claims. (Cl. 252—42.7)

7. The product obtained by reacting separately and in a sequence one mole of a Compound I with at least the first member of a series consisting of (1) about 0.25 mole of a Compound II, (2) about 0.5 to 1.5 moles of a Compound III; (3) about 0.125 mole of Compound II and (4) about 0.25 to 0.75 mole of Compound III at a temperature in the range of about 100° to 300° F.; wherein Compound I is the reaction product of a dithiophosphoric acid of the formula

$$(RO)_2PSH$$

with 1 to 3 moles of Compound III, where R is a hydrocarbon radical containing 3 to 20 carbon atoms; Compound II is P_2S_5; and Compound III is selected from the group consisting of alkylene oxides and glycols and contains 2 to 18 carbon atoms.

8. A lubricating composition consisting essentially of a mineral lubricating oil and from 1 to 10% by weight of a phosphorous- and sulfur-containing material prepared by the process which comprises the reaction of a metal salt, wherein the metal is selected from the class consisting of alkali and alkaline earth metals and zinc, of a phosphorodithioic acid having the structure

$$(RO)_2PSSH$$

wherein R is a hydrocarbon radical containing from 3 to 20 carbon atoms, with at least a substantially equivalent amount of an alkylene oxide containing from 2 to 18 carbon atoms at a temperature within the range of 100–300° F.

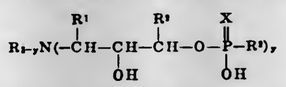
3,259,580

LUBRICATING OIL COMPOSITIONS OF MONO-(BIS)HYDROCARBONTHIOPHOSPHONOXYHYDROXYALKYL HYDROCARBYLAMINES D# 59,443-4D1

James M. Petersen, Fishkill, N.Y., Herman D. Kluge, deceased, late of Fishkill, N.Y., by Hazel E. Kluge, administratrix, Fishkill, N.Y., and David D. Reed, Glenham, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application Oct. 18, 1962, Ser. No. 233,180, now Patent No. 3,201,441, dated Aug. 17, 1965. Divided and this application Feb. 16, 1965, Ser. No. 439,122
6 Claims. (Cl. 252—46.7)

1. A lubricating oil composition comprising as the major component a lubricating oil and between 0.2 and 10 wt. percent of an additive selected from the group consisting of thiophosphonoxy hydrocarbylamine and a mixture of said thiophosphonoxy hydrocarbylamine and the corresponding phosphonoxy hydrocarbylamine, said thiophosphonoxy hydrocarbylamine of the formula:



where R is selected from the group consisting of alkyl, phenyl, alkylphenyl and phenylalkyl of from 1 to 20 carbons, R^1 and R^2 are selected from the group consisting of hydrogen and alkyl of from 1 to 6 carbons, R^3 is a monovalent hydrocarbon derived from an aliphatic polyolefin having an average molecular weight between 250 and 50,000, X is sulfur and y is an integer of from 1 to 2, inclusively, said mixture consisting of a major portion of said thiophosphonoxy hydrocarbylamine and a minor portion of said corresponding phosphonoxy hydrocarbylamine where X is oxygen.

3,259,581

LIQUID DEVELOPER FOR ELECTROSTATIC IMAGES

Josef Matkan, Malvern, South Australia, Australia, assignor to Research Laboratories of Australia Limited, North Adelaide, South Australia, Australia

No Drawing. Filed Nov. 13, 1962, Ser. No. 237,294
Claims priority, application Australia, Nov. 23, 1961, 11,667
3 Claims. (Cl. 252—62.1)

1. A liquid developer for electrostatic images consisting essentially of an electrically insulating carrier liquid of volume resistivity in excess of 10^{10} ohm centimeter and a dielectric constant less than 3, particles of carbon black suspended in said carrier liquid as a toner, said carbon black particles having been previously wetted by grinding in an oil-containing dispersing medium, and a metallic soap in contact with said suspended particles of carbon black as a polarity stabilizer imparting positive polarity to such particles at least in the presence of a negative electrostatic field, said metallic soap being present in such quantity that the metal content of the soap is at least one percent by weight of the carbon black particles in suspension, and said metallic soap being selected from the group consisting of the linoleates of the metals cobalt, manganese, lead and zinc, naphthenates and resinates of the metals calcium, cobalt, manganese, lead and zinc, octoates and oleates of the metals calcium and cobalt, palmitate of the metal zinc and stearates of the metals aluminum, calcium, lead and zinc.

3,259,582

MIX-CRYSTAL SEMICONDUCTOR DEVICES

Otto Gert Folberth, Boblingen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany

Original application Nov. 30, 1959, Ser. No. 856,087. Divided and this application Feb. 24, 1964, Ser. No. 346,740
6 Claims. (Cl. 252—62.3)

1. A semiconductor device comprising a mixed-crystal semiconductor body formed of $(Ag_{x/2}Sn_{(1-x)}Sb_{x/2})Te$, wherein $0.001<x<1$.

3,259,583

HYDRAULIC FLUID

Stanley R. Sprague, East Alton, Ill., and Richard G. Cunningham, University Park, Pa., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 18, 1962, Ser. No. 245,375
3 Claims. (Cl. 252—75)

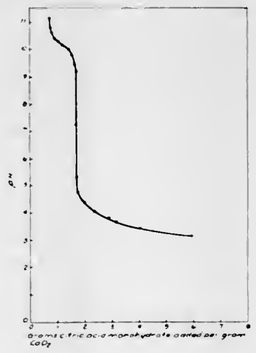
1. A power transmission fluid consisting essentially of a major amount of mineral oil having a viscosity range of from about 45 to about 150 SUS at 100° F. and a viscosity index of 80–100 and from about 5% to about 15% of an oil-soluble basic alkaline earth metal petroleum sulfonate containing 20% to 1000% excess base normally required to neutralize the petroleum sulfonic acid and from about 0.1% to about 1% each of zinc oleate and N,N'-bis(dialkyl aminophenyl)ether.

3,259,584

BLEACHING COMPOSITION

John R. Moyer, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Sept. 23, 1963, Ser. No. 310,670
5 Claims. (Cl. 252—186)



1. A dry solid stable bleaching composition consisting essentially of citric acid monohydrate and calcium peroxide wherein the ratio of the weight of said citric acid

monohydrate to calcium peroxide is from about 1.7 to about 7 such that when mixed together in water, an aqueous bleaching mixture is produced having a pH of within the range of from about 5 to about 3.

3,259,585
PROCESS FOR PREPARING STABILIZED ZIRCONIA SOLS

Frederick T. Fitch and Jean G. Smith, Baltimore, Md., assignors to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Filed Aug. 14, 1963, Ser. No. 301,976
6 Claims. (Cl. 252—313)

1. A process for preparing a zirconia sol consisting of particles stabilized against the monoclinic-tetragonal phase transformation when particles are heated to a temperature above 350° C. which comprises adding a compound of a metal selected from the group consisting of scandium, yttrium and elements 62 to 71 of the periodic table in an amount sufficient to provide 1 to 50 mole percent of said metal oxide in said sol, in an aqueous medium, to a zirconium salt solution followed by heating to 60 to 120° C. for ½ to 4 hours to complete the stabilized sol preparation.

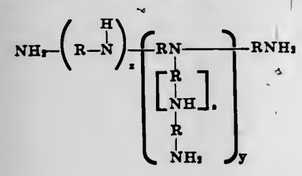
3,259,586
FOAM INHIBITOR

Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation

No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,153
8 Claims. (Cl. 252—321)

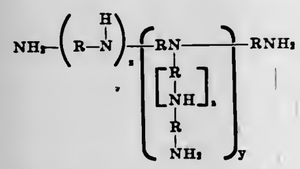
1. A process for inhibiting foam in a system susceptible to foaming which is characterized by subjecting said system to the action of a compound selected from the group consisting of

(1) a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

(2) an acylated branched polyalkylene polyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



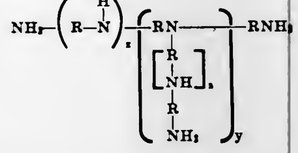
wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

(i) a carboxylic acid having 7–39 carbon atoms and

(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

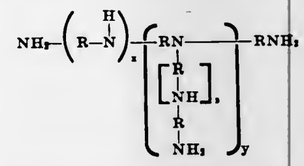
(3) an oxylalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms,

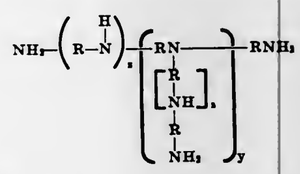
(4) an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

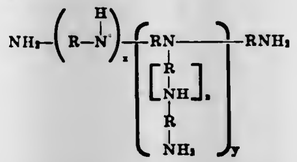
(5) an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylenepolyamine with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones,

(6) a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(7) an acylated, then oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(8) an oxyalkylated, then acylated branched polyalkylenepolyamine, containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(10) an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C, with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(11) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(12) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(13) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabout recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(15) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the groups consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

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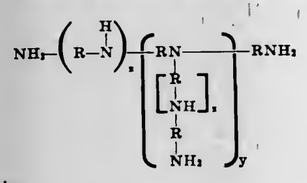
Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation

No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,154

8 Claims. (Cl. 252—344)

1. A process for breaking, preventing, and suppressing emulsions which is characterized by subjecting the emulsion to the action of an agent selected from the group consisting of

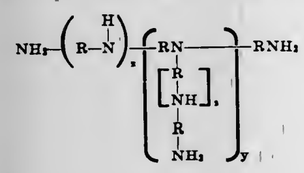
(1) a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

(2) an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

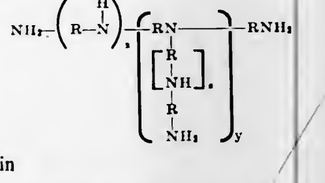
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

(i) a carboxylic acid having 7–39 carbon atoms and

(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(3) an oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula

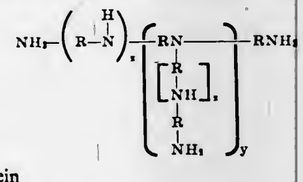


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms,

(4) an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula

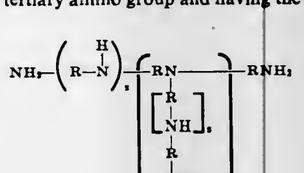


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

(5) an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula

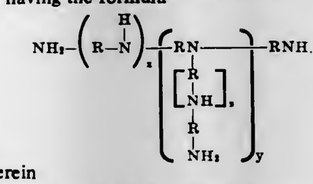


wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylenepolyamine with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones,

(6) a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,

formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(7) an acylated, then oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(8) an oxyalkylated, then acylated branched polyalkylenepolyamine, containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(10) an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(11) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited fromula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(12) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(13) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(15) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated

polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,259,588

REACTIVATION OF THERMACTIVATED CATALYST

Phillip D. Harvey and Jack W. Unverferth, Walnut Creek, Calif., assignors to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Aug. 21, 1963, Ser. No. 303,667
7 Claims. (Cl. 252—411)

1. In the process of reactivating a hydrocracking catalyst which, before exposure to hydrocarbon oil, is a high surface area catalyst composition composed of an active cracking support having disposed thereon a hydrogenating metal component selected from the group consisting of Group VI and Group VIII metals and compounds thereof other than noble metals and compounds thereof, and which catalyst, before exposure to hydrocarbon oil, has been activated by heating in a non-reducing atmosphere at 1200–1500° F. for 0.25–48 hours sufficient to activate the composite catalyst, but which catalyst, after being contacted with an oil under conditions to deposit a carbonaceous coating thereon, has become deactivated, the improvement which comprises impregnating the resultant coated catalyst composition with an aqueous solution of at least one hydrogenating metal salt, said hydrogenating metal being selected from Groups VI and VIII of the Periodic Table other than noble metals and the amount of said salt being sufficient to add at least one percent of said metal salt, calculated on a metal basis, to the catalyst composition, drying said impregnated catalyst composition, and heating the catalyst at temperatures below about 1100° F. to decompose the hydrogenating metal salts and to remove the carbonaceous deposits.

3,259,589

PREPARATION OF CATALYST FOR THE TREATMENT OF COMBUSTIBLE WASTE PRODUCTS

Edward Michalko, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

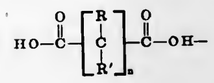
Filed Apr. 20, 1962, Ser. No. 189,101
7 Claims. (Cl. 252—466)

1. In the preparation of a particle-form catalytic composite including the step of impregnating an inorganic oxide carrier particle with a Group VIII metal component, the improvement in the method of effecting said impregnation so that said metal component is disposed essentially as a continuous layer interposed between the center and the surface of said particle which comprises using with said metal component from about 0.1% to about 1.5% by weight, based upon the weight of said carrier, of an organic acid in solution selected from the group consisting of dibasic acids and derivatives thereof having the following structural formula:



where:
R is selected from the group consisting of hydrogen, hydroxyl and alkyl groups;
R' is selected from the group consisting of hydrogen, alkyl and carboxyl groups; and
n is within the range of 0 to 6;
said impregnation being effected in the absence of alkaline reagent.

6. A method of preparing a particle-form catalytic composite of alumina and a platinum component which comprises impregnating an alumina particle, in the absence of alkaline reagent, with a platinum compound and from about 0.13% to about 0.70% by weight, based upon the weight of said alumina, of an organic acid in solution selected from the group consisting of dibasic acids and derivatives thereof having the following structural formula:



where:
R is selected from the group consisting of hydrogen, hydroxyl and alkyl groups;
R' is selected from the group consisting of hydrogen, alkyl and carboxyl groups; and
n is within the range of 0 to 6;
drying the resulting impregnated particle at a temperature within the range of from about 100° F. to about 250° F., and thereafter subjecting the particle to an atmosphere of hydrogen at a temperature within the range of from about 900° F. to about 1800° F. to yield a platinum-containing particle in which said platinum component is disposed essentially as a continuous layer interposed between the center and the surface of said particle.

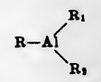
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POLYMERS OF OXACYCLOALKANES PREPARED WITH ORGANIC ALUMINUM CO-CATALYST

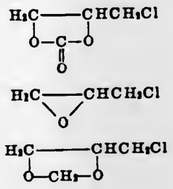
Klaus Weissermel, Edgar Fischer, and Klaus Küllmar, all of Frankfurt am Main, and Manfred Reiher, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 25, 1960, Ser. No. 31,532
Claims priority, application Germany, May 29, 1959, F 28,549; June 6, 1959, F 28,628
10 Claims. (Cl. 260—2)

1. A process for the production of polyethers of high molecular weight which comprises the step of polymerizing, at a temperature within the range of —80 to 150° C., at least one monomer of the group consisting of saturated oxacyclobutanes and oxacyclopentane in the presence of a combination of (A) at least one organic aluminum compound of the formula



in which R represents a member of the group consisting of a monovalent alkyl containing 1 to 6 carbon atoms, a monovalent alkoxy containing 1 to 6 carbon atoms, a hydrogen atom and a halogen atom, R_1 represents a member of the group consisting of a monovalent alkyl containing 1 to 6 carbon atoms, a hydrogen atom and a halogen atom, and R_2 represents a monovalent alkyl containing 1 to 6 carbon atoms, and (B) at least one compound of the formula



$CH_3OC_2H_4Cl$

$ClC_2H_4OC_2H_4Cl$

$[FC1CHCF_2OCH_2]_3CCH_2OH$

$C_2H_5OCF_2CHFCF_3$

$(CH_3)_3COCF_2CFCl_2$

and

$CH_2ClOC_2H_4Cl$

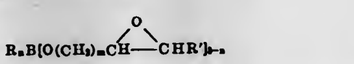
3,259,591

POLYMERIC BORON-CONTAINING EPOXY RESINS

James W. Shepherd, Gibsonia, Pa., assignor to Callery Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

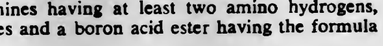
No Drawing. Filed Apr. 14, 1961, Ser. No. 102,919
4 Claims. (Cl. 260—2)

1. A solid resilient boron-containing resin produced by polymerizing through the epoxy groups at least one boron acid ester having the formula



where R is a radical selected from the group consisting of alkyl containing from 1 to 18 carbon atoms, phenyl, benzyl, cyclohexyl, allyl, di-(epoxyalkoxy) boryl alkyl and di-(epoxyalkoxy) boryl phenyl, R' is a radical selected from the group consisting of hydrogen and alkyl containing from 1 to 14 carbon atoms, *n* is a number from 0 to 1 and *m* is a number from 1 to 10.

3. A method of producing a boron-containing polymeric resin which comprises admixing an epoxy curing agent selected from the group consisting of carboxylic acid anhydrides, amines having at least two amino hydrogens, and boroxines and a boron acid ester having the formula



where R is a radical selected from the group consisting of alkyl containing from 1 to 18 carbon atoms, phenyl, benzyl, cyclohexyl, allyl, di-(epoxyalkoxy) boryl alkyl and di-(epoxyalkoxy) boryl phenyl, R' is a radical selected from the group consisting of hydrogen and alkyl containing from 1 to 14 carbon atoms, *n* is a number from 0 to 1 and *m* is a number from 1 to 10, at a temperature sufficient to cure said mixture to a solid.

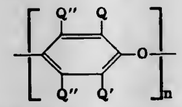
3,259,592

SULFONATED POLYPHENYLENE ETHER CATION EXCHANGE RESIN

Daniel W. Fox and Popkin Shenian, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,825
8 Claims. (Cl. 260—2.2)

1. A cation exchange resin having a repeating structural unit of the formula:



wherein the oxygen atom of one unit is connected to the benzene nucleus of the adjoining unit, *n* is a positive integer and is at least 100, Q is a monovalent substituent selected from the group consisting of hydrogen, aliphatic hydrocarbon radicals free of a tertiary α-carbon atom, aliphatic halohydrocarbon radicals having at least two carbon atoms and being free of a tertiary α-carbon atom; Q' is a monovalent substituent which is the same as Q and in addition halogen, arylhydrocarbon radicals, haloarylhydrocarbon radicals, hydrocarbonoxy radicals having at least two carbon atoms and being free of an aliphatic tertiary α-carbon atom, and halohydrocarbonoxy radicals having at least two carbon atoms and being free of an alphatic tertiary α-carbon atom, and Q'' is the same as Q' and in addition —SO_3H, there being at least one —SO_3H group in a substantial portion of the units.

3,259,593

SELF-EXTINGUISHING URETHANE POLYMER COMPOSITIONS

Jacob Eichhorn, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 31, 1960, Ser. No. 32,620
The portion of the term of the patent subsequent to Dec. 22, 1981, has been dedicated to the Public
30 Claims. (Cl. 260—2.5)

1. A composition of matter comprising a polyurethane resin obtainable by reacting a polyisocyanate and a compound containing active hydrogen as determined by the Zerewitinoff test containing intimately admixed therewith, as the sole self-extinguishing composition, a synergistic composition consisting of from 2 to 30 percent based on the weight of the resin of an organic bromine compound having a plurality of bromine atoms attached to the carbon atoms of a radical selected from the group consisting of cyclohexyl and aliphatic radicals, the bromine atoms constituting at least 45 percent by weight of the compound, and from 1 to 15 percent based on the weight of the resin of an antimony compound selected from the group consisting of $SbCl_3$, $SbBr_3$, SbI_3, SbOCl, Sb_2S_3 and mixtures thereof.

3,259,594

EXPANDABLE POLYSTYRENE COMPOSITIONS

Harold A. Wright, Murrysville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed July 15, 1963, Ser. No. 295,183
5 Claims. (Cl. 260—2.5)

1. A foamable styrene copolymer suitable for forming a cellular article possessing uniformly small cells and having a density of about one pound per cubic foot which composition comprises a copolymer of from 97.0–99.5 parts by weight of styrene and from 3.0–0.5 parts by weight of a diallyl ester of a saturated aliphatic dibasic acid which acid contains from two to six carbon atoms said copolymer being soluble in toluene and said copolymer having uniformly incorporated therein a normally liquid expanding agent.

3,259,595

EXPANDABLE POLYSTYRENE COMPOSITIONS

Harold A. Wright, Murrysville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed July 15, 1963, Ser. No. 295,197
6 Claims. (Cl. 260—2.5)

1. A foamable styrene copolymer suitable for forming a cellular article possessing uniformly small cells, good thermal stability at temperatures between 100–150° C. and having a density of about one pound per cubic foot which composition comprises a copolymer of from 99.6–99.8 parts by weight of styrene and from 0.4–0.2 part by weight of a diallyl ester of an unsaturated aliphatic dibasic acid which acid contains from four to five carbon atoms selected from the group consisting of diallyl itaconate and diallyl fumarate, said copolymer being soluble in toluene and, said copolymer having uniformly incorporated therein a normally liquid expanding agent.

3,259,596
PAPER COATING COMPOSITION COMPRISING PIGMENT, STARCH, BUTADIENE COPOLYMER AND STYRENE-MALEIC ANHYDRIDE COPOLYMER

John Michael Downer, Harpenden, Donald Graham Hobbs, Welwyn Garden City, and David Brian Wootton, Wheathampstead, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 11, 1962, Ser. No. 201,737
Claims priority, application Great Britain, June 29, 1961, 23,558/61
8 Claims. (Cl. 260—17.4)

1. A method of making a paper coating composition which comprises forming an intimate mixture of mineral pigment, starch and a copolymer containing from 30 to 50% by weight of butadiene-1,3 residues and at least half of the remainder being at least one member selected from the group consisting of styrene and methyl methacrylate residues, any other constituent of the copolymer being derived from another monoethylenically unsaturated compound, said copolymer being brought into contact with the starch in the form of a stable dispersion containing as a stabilizing agent from 2 to 5% by weight based on the weight of said butadiene-1,3 copolymer of an alkaline solution of a copolymer of styrene and maleic anhydride, there being in the composition from 8 to 50 parts by weight of starch and butadiene-1,3 copolymer together per 100 parts by weight of pigment and from 0.5 to 2 parts by weight of butadiene-1,3 copolymer to each part by weight of starch.

3,259,597
COMPOSITIONS COMPRISING A VINYL CHLORIDE RESIN, A SOLVENT AND AN ANTI-GELLING AGENT

Charles A. Burger, Clark, N.J., assignor to Carlisle Chemical Works, Inc., Reading, Ohio

No Drawing. Filed July 2, 1963, Ser. No. 292,893
17 Claims. (Cl. 260—23)

13. A liquid resin composition stabilized against heat and gelling comprising a solvent, a vinyl chloride containing resin, as heat stabilizer a salt of a metal of the second group of the periodic system of elements with an aliphatic carboxylic acid having 8 to 24 carbon atoms, in an amount of 0.2 to 5 percent, calculated on the resin, and as anti-gelling agent a member of the group consisting of polyfunctional aliphatic monocarboxylic acids wherein at least one functional group has a Group VIA element bound to a carbon atom adjacent to the carboxylic acid group and polyfunctional aliphatic monocarboxyl acids wherein at least one halogen atom is bound to a carbon atom adjacent to the carboxylic acid group, said anti-gelling agent being present in an amount ranging from about 0.3 times the weight of the stabilizer up to 10% of the agent based on the weight of the resin.

3,259,598
VULCANIZING AGENT PREPARED FROM SULFUR, LINSEED OIL AND STYRENE

Jack M. Solomon, Franklin Park, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Oct. 17, 1963, Ser. No. 317,064
14 Claims. (Cl. 260—23)

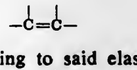
5. A process for making a vulcanizing agent which comprises preparing a mixture of sulfur, linseed oil and styrene containing from 10 to 100 atoms of sulfur per molecule of styrene and having a weight ratio of styrene to linseed oil of about 1:2 to 3:1, heating the resulting mixture at 128° to 135° C. for at least 5 hours to form an interpolymer, and cooling and comminuting the interpolymeric product.

3,259,599
NON-PRESS CURING OF POLYETHER TYPE POLYURETHANES WITH BUTADIENE ACRYLONITRILE COPOLYMER

William R. Walker, Seattle, Wash., assignor to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware

No Drawing. Filed July 31, 1961, Ser. No. 127,818
8 Claims. (Cl. 260—23.7)

1. A process for curing an elastomeric composition of a polyurethane elastomer having side chains containing aliphatic



groups comprising adding to said elastomer butadiene-acrylonitrile rubber and a curing system consisting essentially of an acid selected from the group consisting of stearic acid, acetic acid and citric acid, and dicumyl peroxide; and curing said elastomeric composition by subjecting it to a temperature in the range of 290–330° F. in an oxygen-free atmosphere.

3,259,600
STABLE AQUEOUS SOLUTIONS OF METAL COORDINATION COMPLEXES OF CATIONIC THERMOSETTING POLYAMIDO-POLYAMINE-EPICHLOROHYDRIN WET STRENGTH RESINS

Anthony Thomas Coscia, South Norwalk, and Laurence Lyman Williams, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 9, 1965, Ser. No. 486,234
16 Claims. (Cl. 260—29.2)

1. An aqueous solution of a metal coordination complex of a water-soluble cationic thermosetting polyamido-polyamine-epichlorohydrin wet-strength polymer, the weight of said polymer being more than 10% of the weight of said solution, the metal of said complex having a charge density greater than that of sodium.

3,259,601
BAKED METAL PRIMERS OF TERNARY BUTADIENE POLYMER AND PHOSPHORIC ACID

William L. Protzek, New Kensington, and Edward H. Gleason, Monroeville, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed July 31, 1963, Ser. No. 299,116
8 Claims. (Cl. 260—29.7)

1. A method of making a coating composition comprising copolymerizing 50–80 parts of a vinyl aryl monomer, 50–20 parts of an aliphatic conjungated diolefin and 0.5–4.0 parts of an unsaturated acid by emulsion polymerization in an aqueous medium that has a pH of from 1.5 to 3.2, said polymerization being carried out in the presence of 0.5–6.0 parts of ortho-phosphoric acid.

3,259,602
RUBBERY INTERPOLYMER OF BUTADIENE AND STYRENE PLASTICIZED WITH A SOLVENT EXTRACTED MINERAL OIL RAFFINATE

Archie B. Hoel, Cherry Hill, N.J., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 409,510, Feb. 10, 1954. This application Aug. 25, 1964, Ser. No. 392,019
5 Claims. (Cl. 260—33.6)

1. A rubber composition having excellent color stability and non-staining properties comprising (1) a rubbery interpolymer of butadiene and styrene and (2) a plasticizing amount of mineral oil raffinate from solvent extraction, which raffinate (a) has been obtained by removing aromatic compounds from mineral oil by extraction with a selective solvent for aromatic compounds, (b) contains 10 to 45 weight percent of aromatic compounds, and (c) is completely compatible with said interpolymer in said plasticizing amount.

3,259,603
STABILIZED POLYMERIC COMPOSITIONS

Walter L. Hawkins, Montclair, and Field H. Winslow, Springdale, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

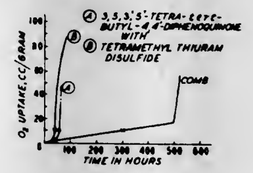
Filed Sept. 20, 1961, Ser. No. 139,410
5 Claims. (Cl. 260—41)

1. A composition comprising polyethylene containing oxide particles of at least one of the group IV elements of periods 3, 4, 5 and 6, in an amount of 0.2 percent to 5 percent by weight of the polymeric composition, said particles having phenolic groups chemically bonded to their surface.

3,259,604
STABILIZED LONG-CHAIN POLYMERS

Walter L. Hawkins, Montclair, N.J., and Mary Ann Worthington, Monroe, Conn., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 24, 1964, Ser. No. 364,882
15 Claims. (Cl. 260—45.9)



1. A composition stabilized against oxidative degradation comprising a polymer of an alpha-mono-olefin containing at least two components, each of said components being included in an amount of at least 0.1% by weight and the maximum amount of both components together being 10% by weight, a first component selected from the group consisting of

aromatic disulfides having the general formula

R—S—S—R′

in which R and R′ are ring structures each containing at least one carbon atom and in which the maximum number of carbon atoms in each of the said ring structures including substituents is 30,

alkyl disulfides having the general formula

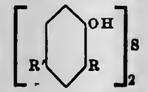
R—S—S—R′

in which R and R′ are alkyl radicals each containing from 4 to 30 carbon atoms,

aromatic mercaptans having the general formula R—SH in which R is a ring structure containing from 1 to 30 carbon atoms,

aliphatic mercaptans having the general formula $R(SH)_x$ in which R is an alkyl radical containing from 6 to 30 carbon atoms, and x is an integer having a maximum value of two,

aromatic thioethers having the general formula:



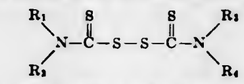
where R is selected from the group consisting of a normal alkyl group containing from 6 to 20 carbon atoms and a branched alkyl group containing from 3 to 6 carbon atoms, and R′ is selected from the group consisting of hydrogen and a normal alkyl group containing up to 6 carbon atoms, and the total number of carbon atoms in R and R′ does not exceed 30,

diaryl thioethers having the general formula

Ar—S—Ar′

in which Ar and Ar′ are fused ring carbocyclic benzenoid aromatic radicals containing at least one substituent selected from the group consisting of hydroxyl radicals and secondary amine radicals and further in which compound the maximum number of carbon atoms in each fused ring moiety including substituents is 30,

aliphatic thiuramdisulfides having the structure



in which R_1, R_2, R_3 and R_4 are aliphatic groups and in which the total number of carbon atoms contained in each of the substituent pairs R_1, R_2 and R_3, R_4 is from 2 to 30,

and a second component selected from the group consisting of

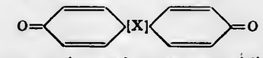
conjugated cyclic alkenes having the general formula:

$$R—(CH=CH—)_n—R'$$

where R and R′ are conjugated cyclic radicals and n is an integer greater than 2,

condensed polynuclear compounds having greater than three unsaturated rings,

quinones having the general formula:



where X is any conjugated system providing unbroken conjugation between the quinoid rings including a single double bond.

3,259,605
COPOLYMERIZATES OF p-ISOPROPENYLPHENYL ESTERS

Heinrich Krimm, Krefeld-Bockum, and Hermann Schnell, Krefeld-Uerdingen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Nov. 27, 1962, Ser. No. 240,402
Claims priority, application Germany, Dec. 9, 1961, F 35,514
7 Claims. (Cl. 260—47)

1. Copolymerizates of p-isopropenylphenyl esters and a copolymerizable compound selected from the group consisting of styrene, α-methyl styrene, chloro styrene, acrylonitrile, methacrylonitrile, acrylic acid ester, methacrylic acid ester, acrylamide, methyl vinyl ketone, methyl vinyl ether, vinyl acetate, vinyl chloride, vinylidene chloride, maleic anhydride, maleic acid semi ester, maleic acid dimethyl ester, maleic acid diethyl ester and unsaturated poly esters of maleic or fumaric acid.

3,259,606
NOVEL COPOLYAMIDES FROM CAPROLACTAM, PIPERAZINE AND A DICARBOXYLIC ACID

Akira Okada, Yokohama, Japan, assignor to Agency of Industrial Science and Technology, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Nov. 19, 1962, Ser. No. 238,754
3 Claims. (Cl. 260—78)

1. A polycarbonamide consisting essentially of (1) epsilon-caprolactam, (2) at least one diamine selected from the group consisting of piperazine, 2,5-dimethylpiperazine, and 2-methylpiperazine, and (3) at least one dicarboxylic acid selected from the group consisting of adipic acid, terephthalic acid, and isophthalic acid, the mole ratio of diamine to dicarboxylic acid being 1:1, and

the weight ratio of caprolactam to diamine-dicarboxylic acid being between 95:5 and 80:20, said polycarbonamide being suitable for the manufacture of fibers having superior dyeing affinity and water absorption properties

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3,259,607

PREPARATION OF HIGH MOLECULAR WEIGHT POLYESTERS

Harald H. O. Cherdron, Ittenbach (Rhine), Hans H. Ohse, Oberdollendorf (Rhine), and Friedrich W. A. G. K. Korte, Hangelar uber Siegburg, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 25, 1963, Ser. No. 267,853
Claims priority, application Germany, Mar. 30, 1962, S 78,764
12 Claims. (Cl. 260—78.3)

1. A process for the production of high-molecular weight polylactones comprising polymerizing a lactone selected from the group consisting of beta-propiolactone, delta-valerolactone, and epsilon-caprolactone by maintaining it in contact at a temperature in the range from room temperature to 100° C. with 10^{-1} to 10^{-6} mole per mole of said lactone of a catalyst consisting of an organo-aluminum compound selected from the group consisting of aluminum trialkyls and aluminum alkyl alkoxides wherein the alkyl groups have from 1 to 12 carbon atoms, together with a carefully controlled, catalyst-modifying amount of water in the range from ⅙ to 1 mol per mol of aluminum compound.

2. A process for the production of high-molecular weight polylactones comprising polymerizing a lactone selected from the group consisting of beta-propiolactone, delta-valerolactone, and epsilon-caprolactone by maintaining it in contact at a temperature in the range from room temperature to 100° C. with from 10^{-1} to 10^{-6} mole per mole of said lactone of a catalyst consisting of an organo-aluminum compound selected from the group consisting of aluminum alkyl halides wherein the alkyl groups have from 1 to 12 carbon atoms, together with a carefully controlled, catalyst-modifying amount of water in the range from ⅙ to ½ mol per mol of aluminum compound.

3,259,608

CYCLODODECYL ACRYLAMIDE AND METHACRYLAMIDE, AND POLYMERS THEREOF

Edward H. Hill and John R. Caldwell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 17, 1962, Ser. No. 224,208
12 Claims. (Cl. 260—82.1)

1. A compound selected from the group consisting of cyclododecyl acrylamide and cyclododecyl methacrylamide.

4. A resinous polymer of a compound selected from the group consisting of cyclododecyl acrylamide and cyclododecyl methacrylamide.

3,259,609

PREPARATION OF POWDERED RESINS

Shozo Satake, Shinjuku-ku, Tokyo, and Kenji Tatebayashi, Hodogaya-ku, Yokohama, Japan, assignors to The Furukawa Chemical Industries Company, Limited, a company of Japan

No Drawing. Filed Aug. 8, 1961, Ser. No. 129,996
Claims priority, application Japan, Sept. 13, 1960, 35/38,318
8 Claims. (Cl. 260—88.2)

1. Process for preparing finely divided powders of normally solid polymers of vinyl olefins having from 2 to 8 carbon atoms in the molecule which comprises contacting said normally solid polymer with an inert solvent, characterized by having a solvating action on said polymer, to form a solid polymer-rich phase swollen with solvent, treating said solid polymer rich phase with steam to remove imbibed solvent and to obtain a porous polymer phase containing up to about 25% by weight of water imbibed in the pores thereof, and grinding said wet porous polymer phase at a temperature below the softening point of said resin to produce a finely divided powder of said polymer.

3,259,610

POLYMERIZATION PROCESS AND CATALYST THEREFOR

George N. Grammer and Edwin D. Hornbaker, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Feb. 12, 1962, Ser. No. 172,803
15 Claims. (Cl. 260—85.5)

1. A process for the polymerization of vinylidene chloride which comprises contacting said monomer under polymerization conditions with a catalyst system initially consisting essentially of

(1) an alkyl aluminum compound of the formula R_xAlH_y wherein R is an alkyl group of up to about 8 carbon atoms, x is an integer from 2 to 3, and y is an integer from 0 to 1, $x+y$ being equal to 3;
(2) an inorganic molybdenum trihalide; and
(3) a material selected from the group consisting of
  (a) dialkylethers containing up to about 12 carbon atoms in the molecule,
  (b) alkyl acetates in which the alkyl group contains up to about 6 carbon atoms,
  (c) trialkyl amines containing 3 to about 24 carbon atoms in the molecule,
  (d) pyridine, and
  (e) dioxane;

the relative amounts of the catalyst ingredients being such that there are from about 1 to about 5 moles of (1) per mole of (2), and from about 0.5 to about 3 moles of (3) per mole of (1).

8. A catalyst system adapted for the polymerization of vinylidene chloride, which system initially consists essentially of

(1) an alkyl aluminum compound of the formula R_xAlH_y wherein R is an alkyl group of up to about 8 carbon atoms, x is an integer from 2 to 3, and y is an integer from 0 to 1, $x+y$ being equal to 3;
(2) an inorganic molybdenum trihalide; and
(3) a material selected from the group consisting of
  (a) dialkylethers containing up to about 12 carbon atoms in the molecule,
  (b) alkyl acetates in which the alkyl group contains up to about 6 carbon atoms,
  (c) trialkyl amines containing 3 to about 24 carbon atoms in the molecule,
  (d) pyridine, and
  (e) dioxane;

the relative amounts of the catalyst ingredients being such that there are from about 1 to about 5 moles of (1) per mole of (2), and from about 0.5 to about 3 moles of (3) per mole of (1).

3,259,611

POLYMERIZATION PROCESS FOR VINYLIDENE CHLORIDE POLYMERS

Edwin D. Hornbaker and George N. Grammer, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Feb. 12, 1962, Ser. No. 172,789
14 Claims. (Cl. 260—86.3)

1. A process for the formation of vinylidene chloride polymer in which the monomer charge consists of vinylidene chloride and from 0 to about 30 mole percent of a comonomer selected from the group consisting or acrylonitrile and vinyl chloride which process comprises contacting said monomer charge under polymerization conditions with a catalyst system initially consisting of

(1) an alkyl aluminum compound of the formula R_xAlH_y wherein R is an alkyl group of up to about 8 carbon atoms, x is an integer from 2 to 3, and y is an integer from 0 to 1, $x+y$ being equal to 3;
(2) an inorganic metal halide salt selected from the group consisting of vanadium tetrahalide, molybdenum trihalide and iron trihalide; and
(3) a material selected from the group consisting of tetrahydrofuran and the lower alkylated derivatives thereof;

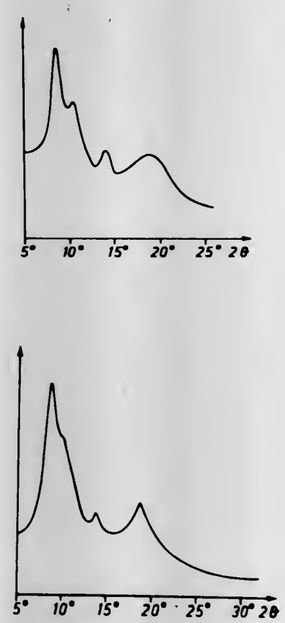
the relative amounts of the catalyst ingredients being such that there are from about 1 to about 5 moles of (1) per mole of (2) and from about 0.5 to about 3 moles of (3) per mole of (1).

3,259,612

POLYMERS HAVING A HIGHLY REGULAR STRUCTURE, OBTAINED FROM ESTERS CONTAINING AN INNER DOUBLE BOND AND PROCESS FOR PREPARING THE SAME

Giulio Natta, Mario Peraldo, and Mario Farina, Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy

Filed Feb. 1, 1961, Ser. No. 86,399
Claims priority, application Italy, Feb. 4, 1960, 1,980/60
8 Claims. (Cl. 260—89.3)



4. A method of producing a crystalline homopolymer, this method comprising polymerizing a monomer selected from the group consisting of tertiary butyl crotonate and isopropyl crotonate at a temperature of from about −100 to +50° C. in the presence of phenyl magnesium bromide, said crystalline homopolymer having the X-ray diffraction pattern shown in FIG. 1 when said monomer is tertiary butyl crotonate, said crystalline homopolymer having the X-ray diffraction pattern shown in FIG. 2 when the monomer is isopropyl crotonate.

3,259,613

PROCESS FOR POLYMERIZING UNSATURATED HYDROCARBONS WITH CATALYSTS BASED ON BERYLLIUM ALKYLS

Giulio Natta, Giorgio Mazzanti, and Paolo Longi, Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed July 31, 1961, Ser. No. 127,851
Claims priority, application Italy, July 16, 1957, 10,576/57, Patent 586,441; Nov. 12, 1957, 6,291/57, Patent 602,100
6 Claims. (Cl. 260—93.7)

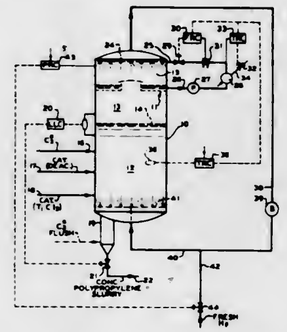
1. A process for polymerizing an alpha-olefin selected from the groups consisting of propylene and butene-1 which process comprises contacting the alpha-olefin, under polymerization conditions, with a catalyst prepared from (1) an alkyl beryllium compound selected from the group consisting of beryllium dialkyls and alkyl beryllium halides in which the alkyl group contains from 2 to 4 carbon atoms, (2) a complex of an organoaluminum compound selected from the group consisting of aluminum trialkyls and dialkyl aluminum monohalides with an electron donor selected from the group consisting of ether and organic bases, in which complex the organoaluminum compound is one that, in the presence of a transition metal chloride as defined under (3), would normally act as a polymerization catalyst for the alpha-olefin, but which is prevented from so acting by the electron donor with which is is complexed, and (3) a solid, crystalline, low valency, hydrocarbon-insoluble chloride of a transition metal selected from the group consisting of titanium, vanadium, zirconium and chromium, the molar ratio of (1):(2):(3) in the catalyst being in the range 0.05:0.25:1.0 to 0.05:5.0:1.0, and recovering from the polymerization mass a crude polymerizate containing a high proportion of isotactic macromolecules.

3,259,614

POLYMERIZATION PROCESS AND CONTROL SYSTEM

Lyle W. Pollock, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 7, 1961, Ser. No. 129,674
7 Claims. (Cl. 260—93.7)



1. In a process for polymerizing propylene by contacting organometallic catalyst with a body of boiling liquid propylene containing hydrogen in a reaction zone having a liquid phase and a vapor phase and to which polymerization catalyst, propylene, and hydrogen are fed continuously into said liquid phase, and particulate polymer solids are withdrawn from said zone, the improvement which comprises removing heat of reaction from said zone by contacting said vapor with subcooled liquid propylene cooler than said vapor to condense propylene therefrom, withdrawing said condensed propylene from said zone, subcooling said condensed propylene, returning said

condensed and subcooled propylene to said zone as said subcooled liquid, withdrawing propylene vapor and hydrogen from said vapor space and circulating same to said body of boiling propylene thereby agitating same.

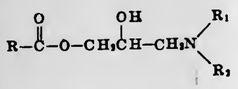
3,259,615

3-AMINO-2-HYDROXYPROPYL ESTERS OF ROSIN ACIDS AND METHODS FOR PREPARING THE SAME

John Edward Milks and Robert Dally Dworkin, Stamford, Conn., assignors to Arizona Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 14, 1965, Ser. No. 425,605
13 Claims. (Cl. 260—102)

1. A compound selected from the class consisting of an amino ester of the structure:



where R is a rosinyl substituent and R_1 and R_2 are each a substituent selected from the group consisting of hydrogen, alkyl, hydroxy-substituted alkyl, cycloalkyl and aryl and the quaternary ammonium salts thereof.

3,259,616

POLYPEPTIDES

Robert Schwyzer and Beat Iselin, Riehen, Heini Kappeler, Birsfelden, Werner Rittel, Basel, and Bernhard Riniker, Reinach, Switzerland, assignors to Ciba Corporation, a corporation of Delaware

No Drawing. Filed Jan. 19, 1961, Ser. No. 83,632
Claims priority, application Switzerland, Sept. 6, 1956, 37,189/56; Feb. 8, 1957, 42,508/57; Mar. 6, 1957, 43,519/57; Apr. 4, 1957, 44,616/57; July 31, 1957, 49,007/57
18 Claims. (Cl. 260—112.5)

1. A member of the group consisting of N-carbobenzoxy - L - asparaginyl - nitro-L-arginine and its methyl ester.

3,259,617

PROCESS FOR PURIFICATION OF PEPTIDES

John T. Sheehan, Middlesex, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 24, 1963, Ser. No. 282,873
5 Claims. (Cl. 260—112.5)

1. In the process for preparing peptides by reacting a compound selected from the group consisting of an ester of a protected amino acid and a protected peptide with a phenol substituted by an electro-negative substituent, with a compound selected from the group consisting of a free amino acid and a free peptide and removing the phenol by-product formed, the improvement wherein the phenol by-product formed is removed by complexing said phenol with a solid polymer of vinylpyridine.

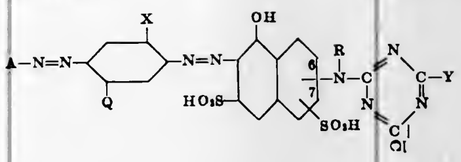
3,259,618

DISAZO AND METALLIZED DISAZO DYES CONTAINING A MONOCHLOROTRIAZINE SUBSTITUENT

Herbert Francis Andrew, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Original application Nov. 16, 1959, Ser. No. 852,982. Divided and this application July 3, 1963, Ser. No. 292,754
Claims priority, application Great Britain, Nov. 28, 1958, 38,435/58
4 Claims. (Cl. 260—146)

1. The disazo compounds represented by the formula:



wherein A is a radical selected from the class consisting of monocarboxy phenyl radicals, monosulphophenyl radicals, disulphophenyl radicals, disulphonaphthyl radicals, trisulphonaphthyl radicals, sulphocarboxyphenyl radicals and methylchlorsulphophenyl radicals Q is selected from the group consisting of H, CH_3 and CH_3O; X is selected from the group consisting of CH_3O and CO_2H; R is selected from the group consisting of H and CH_3; and Y is selected from the group consisting of amino, anilino, sulphonated naphthylamino, sulphocarboxyaniline, sulphohydroxycarboxyanilino, lower alkylamino, methoxy and phenoxy, and the 1:1-copper complexes of said disazo compounds.

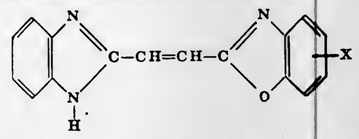
3,259,619

PROCESS FOR THE PREPARATION OF α-BENZIMIDAZOLYL - β - BENZOXAZOLYLETHYLENE DERIVATIVES

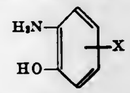
Adolf Emil Siegrist, Basel, Peter Liechti, Binningen, and Erwin Maeder, Muenchenstein, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Dec. 18, 1962, Ser. No. 245,432
Claims priority, application Switzerland, Jan. 9, 1962, 187/62
2 Claims. (Cl. 260—240)

1. Process for the manufacture of asymmetric bis-azolyl-ethylene compounds of the formula



wherein X is selected from hydrogen and lower alkyl, which comprises reacting one molecular proportion of 3-[benzimidazyl-(2')]-3-hydroxypropionic acid at a temperature ranging from 130 to 200° C. and in the presence of a two to twenty times excess of an oxygen containing phosphoric acid with one molecular proportion of an ortho-aminohydroxybenzene of the formula



wherein X is selected from hydrogen and lower alkyl.

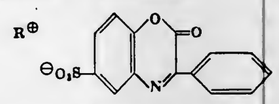
3,259,620

2-OXO-3-PHENYL-2H-1,4-BENZOXAZINE-6-SULFONIC ACID AND SALTS THEREOF

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 3, 1963, Ser. No. 327,800
2 Claims. (Cl. 260—244)

1. A compound of the formula:



wherein $R^{\oplus}$ is a cation selected from the group consisting of hydrogen, alkali metal, alkaline earth, and ammonium.

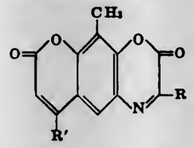
3,259,621

3-SUBSTITUTED-6-LOWER-ALKYL-10-METHYL-2H, 8H-PYRANO[3,2-g]-4,4-BENZOXAZINE-2,8 DIONES

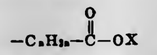
Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Dec. 3, 1963, Ser. No. 327,801
4 Claims. (Cl. 260—244)

1. A compound of the formula



wherein R is a member selected from the group consisting of lower-alkyl, phenyl and



R' is lower-alkyl; X is lower-alkyl; and *n* is an integer from 1 to 7, inclusive.

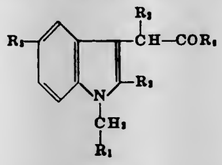
3,259,622

1-BENZYL-3-INDOLYL-α-HALOALKYL AND ALKYLIDENYL ACETIC ACIDS

Tsung-Ying Shen, Westfield, and Lewis H. Sarett, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 7, 1962, Ser. No. 222,179
29 Claims. (Cl. 260—247.5)

16. A compound of the formula:



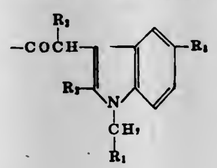
in which

R_1 is selected from the group consisting of phenyl, furyl, thienyl, pyrryl. thiazolyl, thiadiazolyl, pyrazinyl, pyridyl, pyrazolyl, imidazolyl, oxazolyl, pyrimidinyl and isoxazolyl, and substituted phenyl, furyl, thienyl, pyrryl, thiazolyl, thiadiazolyl, pyrazinyl, pyridyl, pyrazolyl, imidazolyl, oxazolyl, pyrimidinyl and isoxazolyl, wherein said substituent is selected from the group consisting of halogen, lower alkylthio, lower alkoxy, trifluoromethyl, and lower alkyl;

R_2 is selected from the group consisting of hydrogen, lower alkyl, phenyl, lower alkylphenyl, lower alkenyl and halophenyl;

R_3 is selected from the group consisting of halomethyl, dihalomethyl and trihalomethyl;

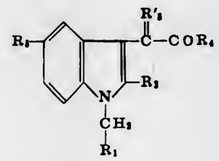
R_4 is selected from the group consisting of hydroxyl, amino, lower alkylamino, di(lower alkyl)amino, bis(hydroxy lower alkyl)amino, anilino, N-lower alkyl anilino, benzylamino, halogenoanilino, lower alkoxy anilino, di(lower alkyl)amino anilino, lower alkyl anilino, morpholino, lower alkoxy, phenyl lower alkoxy, and OM, in which M is selected from the group consisting of cations and the group



and

R_5 is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, nitro, cyano, benzyloxy, lower alkylthio, di(lower alkyl)amino, lower alkenyloxy, benzylthio, halogenomethyl.

23. A compound of the formula:



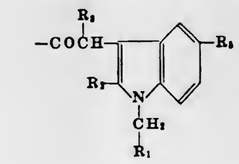
in which

R_1 is selected from the group consisting of phenyl, furyl, thienyl, pyrryl, thiazolyl, thiadiazolyl, pyrazinyl, pyridyl, pyrazolyl, imidazolyl, oxazolyl, pyrimidinyl and isoxazolyl, and substituted phenyl, furyl, thienyl, pyrryl, thiazolyl, thiadiazolyl, pyrazinyl, pyridyl, pyrazolyl, imidazolyl, oxazolyl, pyrimidinyl and isoxazolyl, wherein said substituent is selected from the group consisting of halogen, lower alkylthio, lower alkoxy, trifluoromethyl, and lower alkyl;

R_2 is selected from the group consisting of hydrogen, lower alkyl, phenyl, lower alkylphenyl, lower alkenyl and halophenyl;

R'_3 is selected from the group consisting of halomethene and dihalomethene;

R_4 is selected from the group consisting of hydroxyl, amino, lower alkylamino, di(lower alkyl)amino, bis(hydroxy lower alkyl)amino, anilino, N-lower alkyl anilino, benzylamino, halogenoanilino, lower alkoxy anilino, di(lower alkyl)amino anilino, lower alkyl anilino, morpholino, lower alkoxy, phenyl lower alkoxy, and OM, in which M is selected from the group consisting of cations and the group



and

R_5 is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, nitro, cyano, benzyloxy, lower alkylthio, di(lower alkyl)amino, lower alkenyloxy, benzylthio, halogenomethyl.

3,259,623

PROCESS FOR PREPARING 2-(SECONDARY AMINO)-HALOGENOPYRIMIDINES

Ehrenfried H. Kober and Rudi F. W. Rätz, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed June 14, 1963, Ser. No. 287,755
4 Claims. (Cl. 260—247.5)

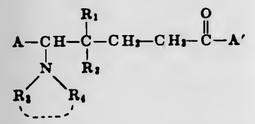
1. A process for preparing 2-N,N-substituted amino-halogenopyrimidines which comprises reacting a tertiary amine (R_3N) wherein at least one of the R substituents in said amine is an alkyl group having 1–8 carbon atoms with a compound chosen from the group consisting of a 2,4,6-trihalogenopyrimidine and a 2,4,5,6-tetrahalogenopyrimidine and recovering the 2-N,N-substituted amino-halogenated pyrimidine produced thereby.

3,259,624
NOVEL HETEROCYCLIC KETONES

Armin G. Wilson, Highland Park, Leonard Weintraub, South River, and Daniel M. Kennedy, East Brunswick, N.J., assignors to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application Sept. 6, 1961, Ser. No. 136,212. Divided and this application Jan. 18, 1965, Ser. No. 426,371
9 Claims. (Cl. 260—247.7)

1. A compound of the formula:

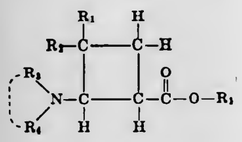


wherein each of R_1 and R_2 is alkyl having from 1 to 6 carbon atoms, each of A and A′ is the organic residue selected from the group consisting of alkyl, cycloalkyl, phenyl, substituted phenyl, benzyl and substituted benzyl, each of which has a number of carbon atoms falling in the range of from 1 to 12; and



is selected from the group consisting of piperidino, pyrrolidino, morpholino, piperazino, lower alkyl substituted piperazino and thiomorpholino.

5. A process for preparing amino ketones which comprises commingling in a molar ratio of at least 2 to 1 a Grignard reagent with a cyclobutane carboxylate of the formula:



wherein each of R_1, R_2 and R_5 is alkyl having from 1 to 6 carbon atoms and



is selected from the group consisting of saturated heterocyclic tertiary amino groups having 1 ring nitrogen and from 4 to 6 carbon atoms; saturated heterocyclic tertiary amino groups having 2 ring nitrogens and from 3 to 5 carbon atoms; saturated heterocyclic tertiary amino groups having 1 ring nitrogen and 1 ring oxygen and from 3 to 5 carbon atoms; and saturated heterocyclic tertiary amino groups having 1 ring nitrogen and 1 ring sulfur and from 3 to 5 carbon atoms; said saturated heterocyclic tertiary amino group being further selected from the group consisting of unsubstituted and lower alkyl substituted heterocyclic tertiary amino groups; subjecting the resulting mixture to a temperature high enough to effect reaction between the Grignard reagent and cyclobutane carboxylate; and finally, hydrolyzing the resulting reaction product, said Grignard reagent being of Formula I RM_gX, wherein X is a halogen having an atomic number of from 17 to 53 inclusive, and R is selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl and alkaryl radicals, each of which has a number of carbon atoms falling in the range of from 1 to 12.

3,259,625
POLYMERIZATION OF ISOCYANATES

Ivar Ugi, Leverkusen, Christian Wiegand, Wuppertal-Elberfeld, and Erwin Müller and Helmut Walz, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed June 4, 1963, Ser. No. 285,239
Claims priority, application Germany, June 5, 1962, F 36,989
10 Claims. (Cl. 260—248)

1. A method for the trimerization of aromatic isocyanates which comprises carrying out the trimerization in the presence of at least a catalytic amount of a catalyst obtained by the condensation of a primary amine having from 1 to 10 carbon atoms with a carbonyl compound having from 2 to 16 carbon atoms and having a methylene group attached directly to the carbonyl group.

3,259,626
ISOCYANURATE PROCESS

Gerhard Müller, Leverkusen, Rudolf Merten, Cologne-Flittard, and Wilhelm Bunge, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed June 21, 1963, Ser. No. 289,734
Claims priority, application Germany, July 5, 1962, F 37,236
5 Claims. (Cl. 260—248)

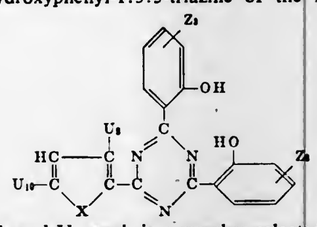
2. A method for the production of isocyanurates which comprises mixing at a temperature of about 50 to about 150° C. in an inert anhydrous polar solvent, an organo monoisocyanate having aliphatically-combined isocyanato and halogen groups and from about 1 to about 20% of a Friedel-Crafts catalyst, obtaining thereby a crude trimerization mixture, removing said catalyst from said crude mixture and recovering an isocyanurate having the same total number of halogen groups as the initial isocyanates.

3,259,627
FURYL AND THIENYL HYDROXYARYL-1,3,5-TRIAZINES

Max Duennenberger, Frenkendorf, and Christian Luethi, Munchenstein, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Feb. 12, 1964, Ser. No. 344,241
Claims priority, application Switzerland, Feb. 18, 1963, 1,991/63
16 Claims. (Cl. 260—248)

1. A hydroxyphenyl-1:3:5-triazine of the formula



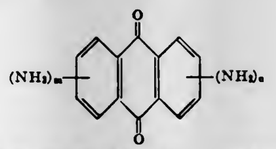
wherein U_9 and U_{10} each is a member selected from the group consisting of hydrogen, lower alkyl and phenyl, X stands for a member selected from the group consisting of —S— and —O—, and Z_3 is selected from the group consisting of —OH, lower alkyl, lower alkenyloxy, hydroxy(lower)alkoxy, phenyl(lower)alkoxy and alkoxy with at most 8 carbon atoms.

3,259,628
SEMICONDUCTORS FROM INDANTHRONE

Bernard S. Wildi, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

Filed June 7, 1960, Ser. No. 34,430
2 Claims. (Cl. 260—262)

1. A nonsublimable composition having semiconductor properties from sublimation of alkali-free material recovered from alkali fusion of a compound of the formula



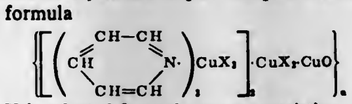
wherein m is an integer from 0 to 2 inclusive and n is an integer from 1 to 2, said composition made by heating said alkali-free material under high vacuum at a temperature in the range of about 180–700° C. for a time in the range of less than an hour to a number of days sufficient to make said composition.

3,259,629
COPPER CATALYST AND PROCESS OF MAKING

Harry S. Blanchard, Schenectady, and Herman L. Finkbeiner, Ballston Lake, N.Y., assignors to General Electric Company, a corporation of New York

Original application May 29, 1961, Ser. No. 113,364, now Patent No. 3,219,626, dated Nov. 23, 1965. Divided and this application Dec. 22, 1964, Ser. No. 428,004
10 Claims. (Cl. 260—270)

1. A novel crystalline cupric complex having the empirical formula



where X is selected from the group consisting of chlorine and bromine and n is an integer and is at least 1.

3,259,630
PROCESS FOR THE MANUFACTURE OF LINEAR QUINACRIDONES

Henri Streiff, Birsfelden, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company

No Drawing. Filed Sept. 18, 1963, Ser. No. 309,860
Claims priority, application Switzerland, Oct. 3, 1962, 11,600/62
4 Claims. (Cl. 260—279)

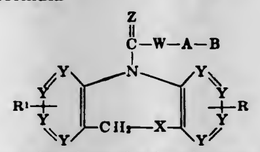
1. A process for the manufacture of linear quinacridone pigments which comprises heating a 2,5-diphenylaminoterephthalic acid which must be unsubstituted in a position ortho to the amino group of each phenylamine radical with an arylcarboxylic acid halide in the presence of a high boiling inert diluent and at least 0.3 mol of a pyridine base for each mol of diphenylaminoterephthalic acid used.

3,259,631
5,11-DIHYDRODIBENZ AND 5,11-PYRIDOBENZ-[b,e] [1,4]OXAZEPINE-5-CARBOXYLIC ACID AMIDES AND DERIVATIVES

Harry Louis Yale, New Brunswick, Francis Alexander Sowinski, Edison, and Jack Bernstein, New Brunswick, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 29, 1963, Ser. No. 254,597
5 Claims. (Cl. 260—295)

1. A compound selected from the group consisting of bases of the formula



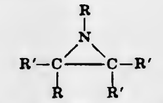
and non-toxic salts thereof wherein one Y is selected from the group consisting of aza and methylidene and the remaining Y's are methylidene; X is selected from the group consisting of oxy and thio, Z is oxo, W is imino, A is lower alkylene of at least two carbon atoms, B is a basic saturated nitrogen-containing radical of less than twelve carbon atoms, and R and R′ are each selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, trifluoromethyl, trifluoromethylmercapto, trifluoromethoxy and N,N-dimethylaminosulfonyl.

3,259,632
PYRROLINE PRODUCTION

Maximilian I. Fremery, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,300
7 Claims. (Cl. 260—313.1)

1. The process of producing a Δ^3-pyrroline by reacting a hydrocarbon aziridine of from 2 to 10 carbon atoms of the formula



wherein R and R′ independently are hydrogen, alkyl, aralkyl, phenyl or alkaryl and a hydrocarbon acetylenic compound of from 2 to 10 carbon atoms of the formula

$$R—C\equiv C—R$$

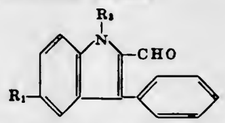
wherein R has the previously stated significance at a temperature from about 250° C. to about 500° C.

3,259,633
3-PHENYL-2-INDOLECARBOXALDEHYDES AND PROCESS FOR THEIR PREPARATION

Werner Metlesics, Clifton, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

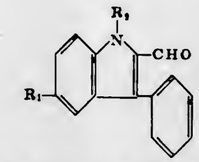
No Drawing. Filed Oct. 31, 1963, Ser. No. 320,563
9 Claims. (Cl. 260—326.16)

1. A compound of the formula



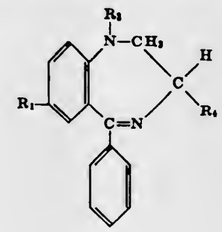
wherein R_1 is selected from the group consisting of halogen; and R_2 is selected from the group consisting of hydrogen and lower alkyl.

5. A process for the preparation of a compound of the formula



wherein R_1 is selected from the group consisting of hydrogen and halogen, and R_2 is selected from the group consisting of hydrogen and lower alkyl

which comprises hydrolyzing a compound having the formula of



wherein R_1 is selected from the group consisting of hydrogen and halogen; R_3 is selected from the group consisting of lower alkyl and lower alkanoyl and R_4 is selected from the group consisting of hydroxy and acetoxy.

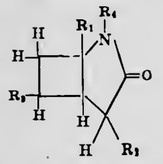
3,259,634

2-AZABICYCLO[3.2.0]HEPTAN-3-ONES

Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 9, 1963, Ser. No. 279,294
2 Claims. (Cl. 260—326.5)

1. A compound of the formula:



wherein R_1 and R_2 are alkyl of 1 to 4 carbon atoms, inclusive, wherein R_3 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, inclusive, and wherein R_4 is selected from the group consisting of hydrogen, alkyl of 1 to 6 carbon atoms, inclusive, alkenyl of 3 to 6 carbon atoms, inclusive, alkynyl of 3 to 6 carbon atoms, inclusive, cycloalkyl of 5 to 10 carbon atoms, inclusive, and aralkyl of 7 to 11 carbon atoms, inclusive.

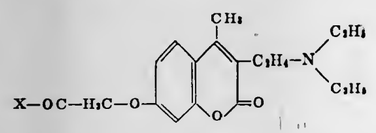
3,259,635

7-HYDROXY COUMARIN DERIVATIVE

Heinrich Ritter, Dornigheim, Krels, Hanau, and Rudi Beyerle and Rolf-Eberhard Nitz, Frankfurt am Main, Fechenheim, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main, Fechenheim, Germany

Original application July 26, 1962, Ser. No. 212,657. Divided and this application May 5, 1964, Ser. No. 368,754
9 Claims. (Cl. 260—343.2)

1. A compound of the formula



wherein X is selected from the group consisting of amino, lower alkylamino, lower dialkylamino, amino lower alkylamino, and lower dialkylamino lower alkylamino.

ERRATUM

For Class 260—347.2 see:
Patent No. 3,259,907

3,259,636

PROCESS OF PRODUCING ESTERS OF CIS-2,5-TETRAHYDROFURAN DICARBOXYLIC ACID

Baak W. Lew, Wilmington, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 3, 1963, Ser. No. 284,839
The portion of the term of the patent subsequent to Dec. 21, 1982, has been disclaimed
4 Claims. (Cl. 260—347.5)

1. A process of producing esters of cis-2,5-tetrahydrofuran dicarboxylic acid which comprises the steps of reacting hydrogen, dehydromucic acid, and an alcohol
in the presence of from about 0.1% to about 5.0% of a noble metal catalyst, based on the weight of dehydromucic acid starting material,
for a time of between about 2 and 6 hours,
at a hydrogen pressure of at least about 30 p.s.i.g.
at a temperature of between 120 and 200° C.

3,259,637

3,3-DIMETHYL-8-BROMOMETHYL-2,7-DIOXASPIRO (4.4)NONANE

Burton K. Wasson, Valois, Quebec, and John M. Parker, Montreal, Quebec, Canada, assignors to Charles E. Frosst & Co., Montreal, Quebec, Canada, a corporation of Canada

No Drawing. Filed May 27, 1963, Ser. No. 283,536
1 Claim. (Cl. 260—347.8)

3,3-dimethyl - 8 - bromomethyl - 2,7 - dioxaspiro(4.4) nonane.

3,259,638

OXIDATION OF OLEFINES

Kenneth Allison, Sunbury-on-Thames, England, assignor to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Nov. 19, 1963, Ser. No. 324,869
Claims priority, application Great Britain, Nov. 20, 1962, 43,828/62; Jan. 24, 1963, 3,005/63; Apr. 10, 1963, 14,327/63; May 28, 1963, 21,252/63
11 Claims. (Cl. 260—348.5)

1. A process for the preparation of epoxy alcohols having the hydroxy and epoxy groups attached to adjacent carbon atoms, comprising: oxidising a mono-olefinically unsaturated hydrocarbon feedstock material selected from the group consisting of internal olefins having a secondary carbon atom in the alpha position to the double bond, internal olefins and alpha olefins having a tertiary carbon atom in the alpha position to the double bond and 2-ethylbutene-1, the olefin feedstock material having the same carbon number and carbon skeleton as the desired epoxy alcohol product, in the liquid phase with molecular oxygen, in the presence of a catalyst selected from the group consisting of titanium, zirconium, hafnium, thorium, vanadium, niobium, tantalum, uranium, molybdenum, tungsten, and compounds thereof, the oxidation being carried out at temperatures in the range 0 to 200° C., and at such a conversion of the olefin that, in the absence of the said catalyst, the liquid phase oxidation of the said olefin feedstock material produces an oxidate product containing substantial proportions of hydroperoxides of the same carbon number as said olefin feedstock material.

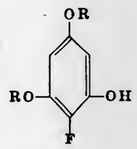
3,259,639

PROCESS OF MAKING FLUOROPHENOLS AND THE INTERMEDIATES THEREFOR

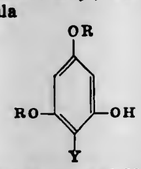
David Taub, Metuchen, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 22, 1962, Ser. No. 167,928
6 Claims. (Cl. 260—396)

1. The process for preparing phenols of the formula



where R represents lower alkyl, that comprises treating a phenol of the formula



where R is as defined above and Y is selected from the group consisting of hydrogen and chlorine with perchloryl fluoride and treating the resulting product with a metallic reducing agent.

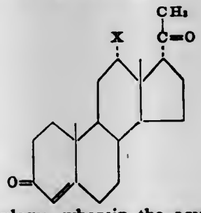
3,259,640

17α-Δ⁴-PREGNENE-12α-ACYLATE-3,20-DIONE AND PROCESS FOR THE PRODUCTION THEREOF

Patrick Andrew Diassi, Westfield, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 29, 1963, Ser. No. 327,044
3 Claims. (Cl. 260—397.45)

1. A compound of the formula:



wherein X is acyloxy, wherein the acyl radical is of a hydrocarbon carboxylic acid of less than twelve carbon atoms.

3,259,641

HALO-SUBSTITUTED ETHER PRODUCTION

Charles E. Castro, Riverside, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 28, 1961, Ser. No. 120,171
12 Claims. (Cl. 260—408)

12. A process for producing alpha-halo-beta-ether-substituted carboxylic acid ester wherein said halogen is chosen from the group consisting of chlorine and bromine which comprises,
intimately contacting and reacting at a temperature of about 50° C. to about the boiling point of the mixture for about 0.5 to about 12 hours,
(a) alpha,beta-ethylenic unsubstituted aliphatic nitrile having 3 to 9 carbon atoms per molecule
(b) with a saturated unsubstituted aliphatic alcohol of 1 to 20 carbon atoms per molecule, and
(c) with a cupric halide of the group consisting of cupric chloride and cupric bromide,
using at least two moles of said alcohol and at least two moles of said cupric halide per mole of said nitrile and heating the reacted mixture in the presence of water to form said alpha-halo-ether substituted ester wherein said halogen corresponds to that of said cupric halide and the ether and ester groups are derived from said alcohol.

3,259,642

PROCESS FOR THE PRODUCTION OF METAL-CYCLOPENTADIENYL COMPOUNDS

Günther O. Schenck and Ernst Koerner von Gustorf, Mulheim (Ruhr), Germany, assignors to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany

No Drawing. Filed Oct. 16, 1962, Ser. No. 230,984
Claims priority, application Germany, Oct. 18, 1961, St 18,449
11 Claims. (Cl. 260—429)

11. Process for the production of a metal cyclo-pentadienyl compound which comprises reacting thallium cyclopentadienyl with a member selected from the group consisting of metal halides and aryl substituted metal halides, wherein said metal is less electro-positive than thallium and is a member selected from the group consisting of Groups I*b*, II*b*, III*b*, IV*a*, IV*b*, V*a*, V*b*, VI*a*, VI*b*, VII*a*, and VIII metals, said group member containing water of crystallization, and recovering the metal cyclopentadienyl compound formed in the reaction.

3,259,643

UNSYMMETRICAL SALTS OF ALKYLENE BIS DITHIOCARBAMIC ACIDS AND PROCESS OF MAKING THE SAME

Lawrence H. Nash, P.O. Box 596, Belle Glade, Fla.

No Drawing. Filed Mar. 15, 1963, Ser. No. 265,340
12 Claims. (Cl. 260—429)

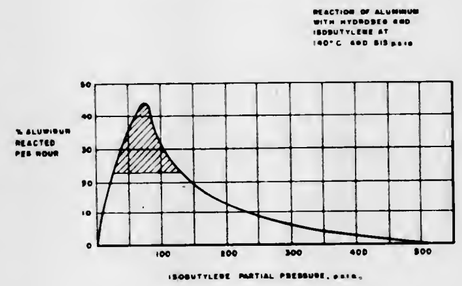
12. The process of making heavy metal salts of dimetallic dialkylene tetra dithiocarbamates wherein a solution consisting of one mole each of two different heavy metal salts is reacted with one mole of a dialkali alkylene bis dithiocarbamate and one mole of a different dialkali alkylene bis dithiocarbamate wherein the different dialkali alkylene bis dithiocarbamates each contains two different alkali metals and their alkylene groups are different from each other, said alkylene groups containing from 2 to 6 carbon atoms.

3,259,644

PREPARATION OF TRIISOBUTYLALUMINUM

John C. Snyder, Darling, Pa., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

Filed May 9, 1960, Ser. No. 27,597
3 Claims. (Cl. 260—448)



1. In the preparation of triisobutylaluminum by the reaction of aluminum with hydrogen and isobutylene at an elevated temperature and superatmospheric pressure, the improvement which comprises first pressuring the reaction with isobutylene and hydrogen in such proportions that the isobutylene contributes from 6 to 26% of the reaction pressure, and then throughout the reaction maintaining in the gas phase above the reaction an isobutylene pressure within said range.

3,259,645

CONTINUOUS SULFONATION PROCESS

Richard J. Brooks and Burton J. Brooks, Seattle, Wash., assignors to The Chemithon Corporation, Seattle, Wash., a corporation of Washington

Filed Dec. 12, 1962, Ser. No. 244,096
16 Claims. (Cl. 260—459)

1. A continuous process for substantially completely sulfonating a sulfonatable organic reactant selected from the class consisting of olefins, aromatic hydrocarbons,

unsaturated fatty acids and compounds having an alcoholic hydroxyl, which comprises introducing into a first reaction zone (1) a stream of a mixture of sulfur trioxide and an inert diluent, and (2) a stream of said organic reactant to produce a reaction mixture, vigorously mixing and maintaining said reaction mixture in said first reaction zone, for not more than about 10 seconds, in the form of a film thereof having a thickness of from .005 inch to about .040 inch, the said mixing being effected by conditions of high shear, immediately passing said reaction mixture into a first cooling zone, introducing the cooled reaction mixture together with a fresh stream of sulfur trioxide and inert diluent into a second reaction zone, subjecting the resultant reaction mixture to vigorous mixing as in the first reaction zone, immediately passing said reaction mixture from said second reaction zone into a second cooling zone, withdrawing the cooled reaction mixture from said second cooling zone and subsequently separating inert diluent containing any unreacted sulfur trioxide from said reaction mixture.

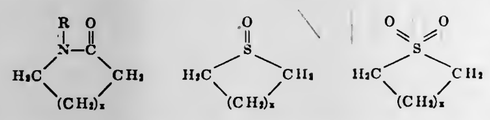
3,259,646

PROCESS FOR THE PREPARATION OF p-HYDROXYBENZONITRILE

Howard E. Harris, Bloomfield, and Hershel L. Herzog, Wayne Township, Passaic County, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed May 13, 1963, Ser. No. 280,076
6 Claims. (Cl. 260—465)

1. In a process for the manufacture of p-hydroxybenzonitrile the steps which comprise admixing cuprous cyanide and p-halogenophenol, wherein the halogen atom of the p-halogenophenol reactant has an atomic weight greater than 19, in a solvent selected from the group consisting of compounds of the following structural formulae:



wherein R is a member of the group consisting of hydrogen an dlower alkyl and x is a number from 1 to 3, and heating the mixture within the temperature range of substantially above room temperature to about 250° C. until an organically bound nitrile group is formed.

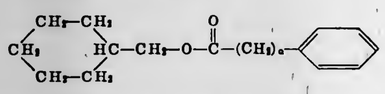
3,259,647

PHENYLALKANOATES

Henry E. Hennis, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 7, 1962, Ser. No. 222,214
3 Claims. (Cl. 260—476)

1. Compound of the formula



wherein n represents an integer selected from 1 and 2.

3,259,648

CYCLOHEXYLMETHYL CINNAMATE

Henry E. Hennis, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 7, 1962, Ser. No. 222,216
1 Claim. (Cl. 260—476)

Cyclohexylmethyl cinnamate.

3,259,649

CARBONYLATION OF ALPHA-HALOEPOXIDES

James D. McClure, San Francisco, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 29, 1963, Ser. No. 276,218
5 Claims. (Cl. 260—484)

1. The process for the production of 4-halo-3-hydroxybutyrate esters by reacting epihalohydrin with carbon monoxide at a temperature of from about 50° C. to about 150° C. in substantially anhydrous alcohol-inert diluent solution, said alcohol being primary alkanol having from 1 to 8 carbon atoms, in the presence of from about 0.0001 mole to about 0.1 mole per mole of epihalohydrin of cobalt carbonyl carbonylation catalyst and epoxyalkyltrialkylammonium halide co-catalyst, the molar ratio of said co-catalyst to said catalyst being from about 1:4 to about 8:1.

3,259,650

OXIDATION OF CARBONACEOUS MATERIALS IN THE PRESENCE OF A NON-ALKALINE MEDIUM TO PRODUCE COAL ACIDS

Dalton L. Decker and Robert McMurtrie, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Nov. 12, 1963, Ser. No. 333,248
6 Claims. (Cl. 260—515)

1. A process for the production of coal acids which comprises the steps of forming a non-alkaline, aqueous slurry containing from about 2 to about 50 percent by weight of a finely divided carbonaceous material, vigorously agitating the slurry so as to achieve Reynolds numbers of at least 20,000 therein and simultaneously therewith, while maintaining the temperature of the slurry at a temperature within the range from about 240° to about 320° C., and under autogenous pressure, contacting the non-alkaline slurry with oxygen in an amount of from about 1.5 to about 4.0 times the weight of carbonaceous material present for a period of time from about 4 to 30 minutes, whereby coal acids are produced.

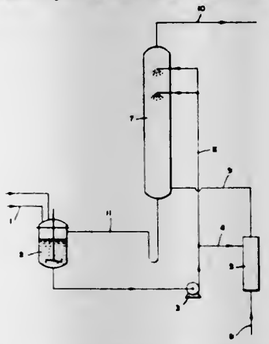
3,259,651

RECOVERY OF ALKALI METAL SALTS OF BENZENE-CARBOXYLIC ACIDS

Walter Schenk, Heidelberg, Albrecht Wallis, Ludwigshafen (Rhine), and Ludwig Vogel, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Jan. 7, 1965, Ser. No. 424,103
Claims priority, application Germany, July 21, 1961, B 63,356
3 Claims. (Cl. 260—525)

1. A process for the recovery of alkali metal salts of benzene-carboxylic acids other than terephthalic acid which comprises adding to an aqueous solution of alkali metal salts of benzenecarboxylic acids other than terephthalic acid, which solution also contains at least one acid substance selected from the group consisting of benzoic acid and acid alkali metal phthalates and has a pH below the equivalence point of said alkali metal salts, such an amount of alkali metal hydroxide that the pH of said solution is 0.05 to 0.9 unit above the equivalence point of said alkali metal salts, and dividing the solution obtained into two portions, one portion being evaporated for recovery of dry alkali metal salts of said benzenecarboxylic acids and the other portion being brought into intimate contact with a gas selected from the group consisting of carbon dioxide and a gas containing carbon dioxide and then being recycled to said aqueous solution of said alkali metal salts of a benzenecarboxylic acid other than terephthalic acid at a point ahead of that where said one portion is withdrawn, such an amount of alkali metal hydrogen carbonate being produced in said other portion by said contact with said gas that the whole excess of alkali metal hydroxide, which brings the pH of said solutions of said alkali metal salts of benzenecarboxylic acids other than terephthalic acid



to 0.05 to 0.9 unit above the equivalence point, is neutralized.

3,259,652

OXIDATION OF ACROLEIN OR METHACROLEIN TO THE CORRESPONDING ACID IN THE PRESENCE OF AN Sn-Sb-Mo CATALYST

Wolfgang M. H. Sachtler and Hervey H. Voge, Berkeley, and Lloyd B. Ryland, El Cerrito, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 31, 1961, Ser. No. 99,714
7 Claims. (Cl. 260—530)

1. The process for the production of alpha,beta-unsaturated aliphatic carboxylic acids selected from the group consisting of acrylic acid and methacrylic acid which comprises reacting the corresponding alpha,beta-unsaturated aliphatic aldehyde selected from the group consisting of acrolein and methacrolein with uncombined molecular oxygen in the presence of a catalyst consisting essentially of tin, antimony and molybdenum in combination with oxygen, at a temperature of from about 200 to about 550° C., the content in said catalyst of each of said tin, antimony and molybdenum components being in the range of from about 5% to about 50% by weight of the combined weight of tin, antimony, and molybdenum in said catalyst calculated as metal.

3,259,653

PENTACHLOROETHANESULFENYL CHLORIDE AND CHLORINATION PROCESS FOR PRODUCING SAME

Edward D. Weil, Lewiston, Emil J. Goering, Grand Island, and Keith J. Smith, Lockport, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,184
3 Claims. (Cl. 260—543)

1. Pentachloroethanesulfenyl chloride.

2. A method for producing pentachloroethanesulfenyl chloride which comprises chlorinating tetrachloroethanesulfenyl chloride with a chlorinating agent at a temperature between about —40° centigrade and 150° centigrade in the presence of a catalyst of trichloroacetic acid.

3,259,654

REACTION OF PHOSPHORUS TRICHLORIDE WITH CHLORINATED HYDROCARBON POLYMERS OF LOWER MONO-OLEFINS

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 29, 1963, Ser. No. 298,397
9 Claims. (Cl. 260—543)

1. A process for the preparation of liquid, oil-soluble phosphorus-containing compositions which comprises

heating at a temperature from about 130° C. to about 250° C., a mixture of a chlorinated hydrocarbon polymer of a lower mono-olefin containing from about 0.1% to about 20% by weight of chlorine, and from about 0.25 mole to about 2.0 moles of phosphorus trichloride per atom of chlorine in said polymer, and then contacting the mass with a nitrogen compound selected from the class consisting of ammonia, pyridine, and aliphatic hydrocarbon amines to remove a substantial portion of the water-soluble chlorine.

3,259,655

PHOSPHORUS CONTAINING LOWER MONO-OLEFIN POLYMERS AND THEIR PRODUCTION VIA REACTION OF THE POLYMER WITH PHOSPHORUS TRICHLORIDE

William M. Le Suer, Cleveland, Ohio, assignor to the Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 29, 1963, Ser. No. 298,419
17 Claims. (Cl. 260—543)

1. A process for the preparation of liquid, oil-soluble phosphorus-containing compositions which comprises heating at a temperature above about 130° C., a mixture of a chlorinated hydrocarbon polymer of a lower mono-olefin containing from about 0.1% to about 20% by weight of chlorine, and from about 0.25 to about 2.0 moles of phosphorus trichloride per atom of chlorine in said polymer, and then contacting the mass with a compound having the formula RXH wherein R is selected from the class consisting of hydrogen and a hydrocarbon radical and X is selected from the class consisting of oxygen and sulfur at a temperature of from about 80° C. to about 200° C. to remove a substantial portion of the water-soluble chlorine.

3,259,656

REACTION OF PHOSPHORUS TRICHLORIDE WITH CHLORINATED HYDROCARBON POLYMERS OF LOWER MONO-OLEFINS

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 29, 1963, Ser. No. 298,438
10 Claims. (Cl. 260—543)

1. A process for the preparation of liquid, oil-soluble phosphorus-containing compositions which comprises heating at a temperature above about 130° C., a mixture of a chlorinated hydrocarbon polymer of a lower mono-olefin containing from about 0.1% to about 20% by weight of chlorine, and from about 0.25 mole to about 2.0 moles of phosphorus trichloride per atom of chlorine in said polymer, and then contacting the mass with a chlorine reactive compound selected from the class consisting of formaldehyde, aliphatic carboxy amides having from 2 to 50 carbon atoms, and hydrocarbon epoxides at a temperature of from about 80° C. to about 210° C., to remove a substantial portion of the water-soluble chlorine.

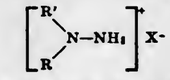
3,259,657

DIALKYL HYDRAZINIUM PERCHLORATE AND FLUOROBORATE

Manfred Stammler, Carmichael, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed July 30, 1962, Ser. No. 214,448
6 Claims. (Cl. 260—583)

1. Compounds having the formula

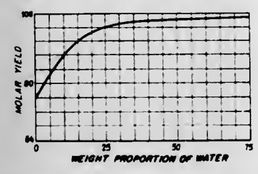


wherein R′ and R are lower alkyl groups and X is an anion selected from the group consisting of fluoroborate and perchlorate.

3,259,658
PREPARATION OF UNSATURATED CARBONYL COMPOUNDS

Jules Mercier and Albert Bouniol, Melle, Deux-Sevres, France, assignors to Les Usines de Melle (societe anonyme), Melle, Deux-Sevres, France

Filed May 9, 1962, Ser. No. 193,410
Claims priority, application France, May 19, 1961, 862,337
9 Claims. (Cl. 260—596)



1. A process which comprises contacting a liquid mixture containing an aliphatic hydroxy carbonyl compound containing up to seven carbon atoms together with at least 20% by weight of water based on the initial weight of the liquid mixture with a cation exchange carboxylic acid resin in its hydrogen form at a temperature of from about 100° C. to about 160° C. to produce the corresponding olefinic carbonyl compound.

3,259,659
PROCESS FOR THE PRODUCTION OF BORON ALKYLS CONTAINING METHYL GROUPS

Roland Köster, Mulheim (Ruhr), Germany, assignor to Studiengesellschaft Kohle m.b.H., a corporation

Filed June 19, 1961, Ser. No. 118,136
Claims priority, application Germany, June 22, 1960, St 16,624
15 Claims. (Cl. 260—606.5)

1. A method of producing methylated boranes which are fluid at room temperature which comprises heating a member selected from the group consisting of alkyl diboranes, trialkyl boranes, and mixtures thereof in which alkyl stands for C_2–C_4 to a temperature of above 150° C. and separating the methylated borane compounds thereby formed as a distillate from the reaction mixture.

3,259,660
PROCESS FOR PREPARING SULFONIUM COMPOUNDS

Merle E. Cisney, Camas, Wash., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,637
5 Claims. (Cl. 260—607)

1. A process for preparing a hydroxyaryl sulfonium chloride comprising:

(a) providing an organic sulfide compound of the formula R—S—R' wherein R and R' are radicals selected from the group consisting of alkyl of 1–20 carbon atoms, 2-chloroethyl, aryl, arylalkyl of 7–8 carbon atoms and alkylaryl of 7–10 carbon atoms, at least one of said R and R' having a methylene group which is attached to the sulfur atom;

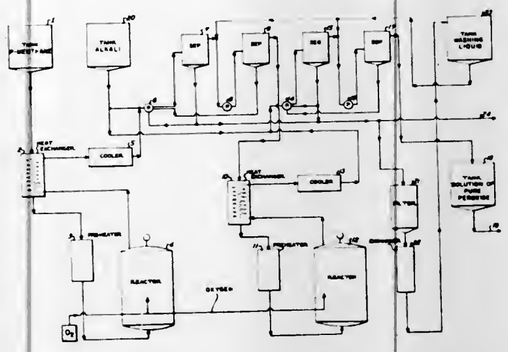
(b) reacting chlorine with said organic sulfur compound at a temperature between about —50° C. and +10° C. to thereby form an organic sulfide-chlorine adduct;

(c) and reacting said organic sulfide-chlorine adduct with a phenol selected from the group consisting of monohydroxybenzene, cresols, xylenols, butylphenols, octylphenols, nonylphenols, tridecylphenols, naphthols, monohalophenols, dihalophenols, guaiacol, catechol and resorcinol at a temperature between about —50° C. and +20° C. to form the corresponding hydroxyaryl sulfonium chloride.

3,259,661
PRODUCTION OF TERPENE HYDROCARBON HYDROPEROXIDES

Wilhelm Ester and August Sommer, Herne, Germany, assignors to Bergwerksgesellschaft Hibernia Aktiengesellschaft, Herne, Germany, a corporation of Germany

Filed Sept. 21, 1964, Ser. No. 402,051
Claims priority, application Germany, June 28, 1958, B 49,439
5 Claims. (Cl. 260—610)



1. Process for the preparation of terpene hydrocarbon hydroperoxides which includes in a first reaction sequence,

(A) oxidizing a terpene hydrocarbon with a gas containing oxygen for a time sufficient to produce a reaction product having a terpene hydrocarbon hydroperoxide concentration of about 5–10%,

(B) intimately mixing the resulting reaction product mixture containing terpene hydrocarbon hydroperoxide with a dilute solution of an alkaline reacting material selected from the group consisting of alkali metal and alkaline earth metal carbonates and alkali metal and alkaline earth metal hydroxides in a solvent selected from the group consisting of water, glycols and monovalent alkanols whereby the acids formed in said oxidizing step are neutralized,

(C) separating the organic phase comprising terpene hydrocarbon hydroperoxide and unconverted terpene hydrocarbon from the solution of alkaline reacting material in the resulting intimate mixture,

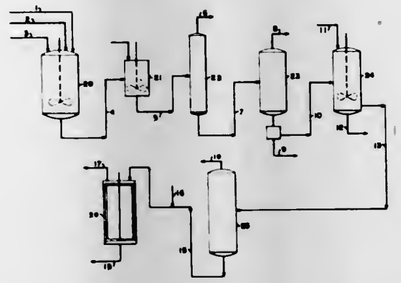
(D) contacting the separated organic phase with a liquid washing agent substantially immiscible with said organic phase and being selected from the group consisting of water, glycols, and monovalent alkanols, whereby there are formed two layers comprising an upper layer organic phase consisting of substantially pure hydroperoxide and unconverted terpene hydrocarbon and a lower layer comprising a mixture of said liquid washing agent, terpene hydrocarbon hydroperoxide and terpene hydrocarbon, separating and recovering said upper layer organic phase consisting of substantially pure hydroperoxide and unconverted hydrocarbon, and

(E) recycling the washed and separated upper layer from step D consisting of pure terpene hydrocarbon hydroperoxide and unconverted terpene hydrocarbon to a second reaction sequence including the sequential steps A–D as above set out thereby producing additional terpene hydrocarbon hydroperoxide and recovering by distillation said terpene hydrocarbon hydroperoxide from the upper layer produced in step D of said second reaction sequence and representing the total of the terpene hydrocarbon hydroperoxide contained in the upper layer organic phase produced in step D of said first and second reaction sequences.

3,259,662
PURIFICATION OF TRIMETHYLOLPROPANE

William J. Munley, Jr., North Plainfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Apr. 2, 1962, Ser. No. 184,396
10 Claims. (Cl. 260—635)



1. In a process for the preparation of an alcohol selected from the group consisting of trimethylolpropane and neopentylglycol wherein a butyraldehyde is reacted with formaldehyde in the presence of an inorganic base and wherein the reaction mixture obtained is neutralized with acid and stripped of excess formaldehyde and subsequently acidified and the alcohol distilled therefrom, the improvement which comprises carrying out the distillation of said alcohol by first distilling light ends from said formaldehyde-stripped reaction mixture containing said alcohol under acidic conditions and subsequently distilling said alcohol under alkaline conditions to produce an alcohol substantially free from odor as the overhead product therefrom.

3,259,663
DEHALOGENATION OF ORGANIC COMPOUNDS

Royston Henry Bennett and William Hopkin, Avonmouth, England, assignors to The National Smelting Company Limited, London, England

No Drawing. Filed July 2, 1963, Ser. No. 292,489
Claims priority, application Great Britain, July 3, 1962, 25,415/62
19 Claims. (Cl. 260—650)

1. A process for the preparation of a highly fluorinated compound containing double-bond unsaturation, comprising the essential step of contacting a fluorine-containing highly halogenated organic compound selected from the group consisting of aliphatic chlorofluorocarbon, aliphatic chlorofluorohydrocarbons, fluoro- and chlorofluorocyclohexanes, fluoro- and chlorofluoro-cyclohexenes, fluoro- and chlorofluoro-cyclohexadienes, perfluorodecahydronaphthalene, and perfluoroethylbenzene in the vapour phase at a temperature in the range 200° C.–700° C. with at least one initially present metal fluoride selected from the group consisting of chromous fluoride, ferrous fluoride and stannous fluoride which is capable of acting as a strong reducing agent in order to dehalogenate the said fluorine-containing highly halogenated organic compound.

3,259,664
SOLVENT EXTRACTION OF HALO-PARAFFINS FROM PARAFFINS

Gardner C. Ray and Van C. Vives, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 21, 1963, Ser. No. 303,584
4 Claims. (Cl. 260—652)

1. A process for separating a mixture of compounds having 8 to 20 carbon atoms per molecule comprising paraffins, mono-halo-paraffins, and poly-halo-paraffins, said halo- being selected from chloro- and bromo-, which comprises:

contacting said mixture with liquid SO_2 at a temperature between —25 and 50° C. with a volume ratio of liquid SO_2 to mixture of from 0.5:1 to 5:1 to form an extract phase rich in SO_2 and said halo-paraffins and a raffinate phase rich in said paraffins;

separating said phases;

contacting said halo-paraffins in said extract phase with liquid SO_2 at a temperature between —25 and 50° C. with a volume ratio of SO_2 to halo-paraffins of from 0.5:1 to 5:1 to form a raffinate phase rich in mono-halo paraffins and an extract phase rich in poly-halo paraffins;

separating said phase rich in mono-halo-paraffins from said phase rich in poly-halo-paraffins; and

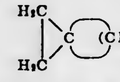
recovering said paraffin, said mono-halo paraffin, and said poly-halo-paraffins from their respective phases.

3,259,665
PROCESS FOR THE POLYMERIZATION OF SPIRO COMPOUNDS

Arthur D. Ketley, Bethesda, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Aug. 28, 1963, Ser. No. 305,218
6 Claims. (Cl. 260—666)

1. The process of polymerizing spiroalkanes containing a cyclopropyl ring of the formula



wherein n is an integer from 4 to 12 which comprises subjecting under anhydrous conditions said spiroalkanes to the action of a catalytic amount of a Friedel-Crafts catalyst at a temperature in the range 0 to 150° C.

3,259,666
PREPARATION OF VINYL AROMATIC COMPOUNDS

Frederick J. Soderquist, Essexville, James L. Amos, Midland, and Harold D. Boyce, Coleman, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 5, 1962, Ser. No. 171,304
4 Claims. (Cl. 260—669)

1. In a method for the preparation of ortho-vinyltoluene by the catalytic dehydrogenation of ortho-ethyltoluene, the improvement whereby ring-isomerization is inhibited which comprises: passing a vaporized, heated ortho-ethyltoluene feedstock mixed with a steam diluent into contact with an active alumina-vanadium catalyst containing an amount of vanadium, calculated as elemental vanadium, greater than about 0.5 percent by weight, at a temperature of from about 500° to 800° C. and at a space velocity between about 0.1 and 10 grams of feedstock per cubic centimeter of catalyst per hour; recovering condensable effluent gases and separating ortho-vinyltoluene product therefrom.

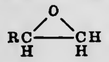
3,259,667
SYNTHETIC LUBRICATING OIL PREPARATION

Donald H. Antonsen, Glen Mills, and Robert H. Johnson, Swarthmore, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 21, 1963, Ser. No. 317,775
17 Claims. (Cl. 260—683.15)

1. Method of preparing a synthetic lubricating oil which comprises contacting straight chain alpha olefin of the C_6–C_{12} range in the substantial absence of an added solvent and at a temperature in the range of 0–50° C. with a catalyst system formed from (1) an aluminum alkyl

sesquichloride, (2) titanium tetrachloride, (3) an oxygen-containing organic compound selected from the group consisting of oxiranes having the formula



wherein R is selected from the group consisting of hydrogen and alkyl groups having 1–20 carbon atoms and methyl alkyl ethers in which the alkyl groups has 1–20 carbon atoms, and (4) a diene capable of chelating with a metal component of the catalyst system, the amounts of the aluminum alkyl sesquichloride and titanium tetrachloride being such that the atomic ratio of Al to Ti is in the range of 0.8–2.5, the amount of said oxygen-containing organic compound being such that the atomic ratio of O to Al is in the range of 0.4–0.8 and the amount of said diene being in the range of 0.1–3.0 moles per atom of titanium, and thereafter separating from the reaction mixture olefin polymer of lubricating oil boiling range.

3,259,668

PREPARATION OF SYNTHETIC LUBRICATING OIL

Donald H. Antonsen, Glen Mills, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Jan. 13, 1964, Ser. No. 337,136
17 Claims. (Cl. 260—683.15)

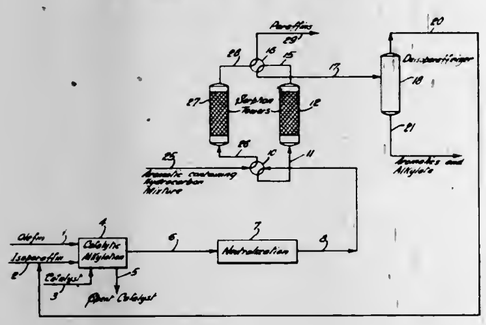
1. Method of preparing a synthetic lubricating oil which comprises contacting straight chain alpha olefin of the C_6–C_{14} range at a temperature in the range of 0–50° C. with a catalyst system formed from (1) an aluminum alkyl sesquichloride, (2) titanium tetrachloride, and (3) an amine oxide selected from the group consisting of tertiary amine N-oxides and aromatic amine N-oxides wherein the nitrogen atom is a member of an aromatic ring, the amounts of said aluminum alkyl sesquichloride and titanium tetrachloride being such that the atomic ratio of Al to Ti is in the range of 0.8–2.5 and the amount of said amine oxide being such that the atomic ratio of O to Al is in the range of 0.2–0.6, and thereafter separating from the reaction mixture olefin polymer of lubricating oil boiling range.

3,259,669

HYDROCARBON CONVERSION PROCESS

David K. Beavon, Lockport, Ill., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed June 28, 1963, Ser. No. 291,435
8 Claims. (Cl. 260—683.43)



1. In the manufacture of motor fuels comprising aromatic hydrocarbons and alkylate wherein said aromatic hydrocarbons are separated from mixtures containing paraffinic and aromatic hydrocarbons and said alkylate is formed by isoparaffin olefin alkylation, the combination which comprises

contacting a hydrocarbon mixture containing paraffinic and aromatic hydrocarbons with a sorbent affecting sorption of said aromatics,

withdrawing unsorbed hydrocarbons comprising said paraffinic hydrocarbons,

contacting an olefin and a stoichiometric excess of isoparaffin reactant under alkylation conditions with an alkylation catalyst forming an alkylation reaction mixture comprising alkylate and isoparaffin reactant,

contacting said sorbent and sorbed aromatics with said alkylation reaction mixture effecting transfer of said aromatic hydrocarbons from said sorbent to said alkylation reaction mixture,

separating said alkylation reaction mixture containing said aromatic hydrocarbons into a first fraction comprising said isoparaffin reactant and a second fraction comprising alkylate and said aromatic hydrocarbons,

recycling said first fraction to provide at least a part of said stoichiometric excess of isoparaffin reactant, and

withdrawing said second fraction as a product.

3,259,670

RESINOUS COMPOSITION COMPRISING THE REACTION PRODUCT OF A POLYAMIDE AND A PHENOL-ALDEHYDE CONDENSATE

William C. Weltman, Wilkinsburg, and Norman E. Martello, Turtle Creek, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 21, 1960, Ser. No. 70,568
6 Claims. (Cl. 260—841)

1. A composition of matter consisting essentially of a resinous reaction product of a phenol, from about 1 mol to about 1.5 mols of an aldehyde for each mol of said phenol, and from about 5% to 30% by weight, based upon the total weight of the phenol plus the aldehyde, of a polyamide derived from at least one diamine having at least one hydrogen atom attached to each amino nitrogen atom, at least one dibasic carboxylic acid, and at least one polymerizable amino acid.

3,259,671

PROCESS FOR PREPARING ORGANIC PHOSPHINIC ACIDS AND ESTERS FROM OLEFINS AND PRODUCTS PRODUCED THEREBY

Eric Jungermann, La Grange, Ill., and Raymond J. Clutter, Colonial Heights, Va., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 13, 1962, Ser. No. 209,768
8 Claims. (Cl. 260—961)

1. The process of preparing an organo-phosphorus compound, comprising reacting an olefin compound containing from 2 to 30 carbon atoms in an aliphatic hydrocarbon chain with a phosphorus chloride compound in intimate association with a Friedel-Crafts catalyst, said olefin compound being characterized by containing an olefinic bond in said hydrocarbon chain and by being free of halide groups, said phosphorus chloride compound being represented by the formula

$$R—PCl_2$$

wherein R is selected from the class consisting of chloride and aromatic hydrocarbons, whereby a phosphorylation reaction occurs at said olefinic bond to produce a phosphorylated intermediate, and hydrolyzing said intermediate in an aqueous medium to obtain a phosphinic acid.

3. The process of preparing an organo-phosphorus compound, comprising reacting an olefin compound containing from 2 to 30 carbon atoms in an aliphatic hydrocarbon chain with a phosphorus chloride compound in intimate association with a Friedel-Crafts catalyst, said olefin compound being characterized by containing an olefinic bond in said hydrocarbon chain and by being free of halide groups, said phosphorus chloride compound being represented by the formula

$$R—PCl_2$$

wherein R is selected from the class consisting of chloride and aromatic hydrocarbons, whereby a phosphorylation reaction occurs at said olefinic bond to produce a phosphorylated intermediate, hydrolyzing said intermediate in an aqueous medium to obtain a phosphinic acid, and esterifying said phosphinic acid with an esterifying agent selected from the group consisting of alcohols and alkoxides to obtain a phosphinic acid ester.

5. The process of preparing an organo-phosphorus compound, comprising reacting an olefin compound containing from 2 to 30 carbon atoms in an aliphatic hydrocarbon chain with a phosphorus chloride compound in intimate association with a Friedel-Crafts catalyst, said olefin compound being characterized by containing an olefinic bond in said hydrocarbon chain and by being free of halide groups, said phosphorus chloride compound being represented by the formula

$$R—PCl_2$$

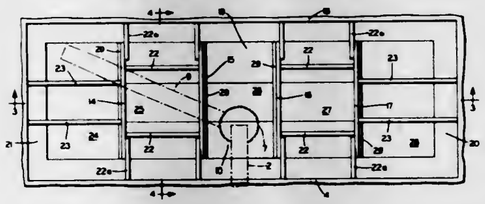
wherein R is selected from the class consisting of chloride and aromatic hydrocarbons, whereby a phosphorylation reaction occurs at said olefinic bond to produce a phosphorylated intermediate, and esterifying said intermediate product with an esterifying agent selected from the group consisting of alcohols and alkoxides to obtain a phosphinic acid ester.

3,259,672

METHOD OF FORMING AND MAINTAINING REFRACTORY BOTTOMS OF OPEN HEARTH FURNACES FOR THE MANUFACTURE OF STEEL

Raymond C. Oswald, Poland, Ohio, Albert L. Renkey, Pittsburgh, Pa., Dale R. Pflaumer, Poland, Ohio, and Harry Guy Mauk, Pittsburgh, Pa., assignors of one-half to Sharon Steel Corporation, Sharon, Pa., a corporation of Pennsylvania, and one-half to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 2, 1962, Ser. No. 227,818
6 Claims. (Cl. 264—30)



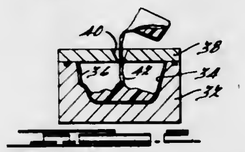
1. The method of forming from a large mass of 119.5 and more tons of refractory material an entire cast, joint-free, monolithic, uniformly and extremely dense, highly refractory furnace bottom on flat and sloping front, back, end and bank sub-hearth brickwork walls of an open hearth furnace including the steps of applying treatment material to the surface of the sub-hearth brickwork walls to prevent the absorption of water from subsequently applied castable material; providing form means contoured to the profile of the sub-hearth flat and sloping front, back, end and bank walls dividing the sub-hearth flat into cavities each extending from the front to the back bank wall and into climbing cavities extending along the sloping bank walls; rapidly batch-mixing 5% to 10% by weight of water with dry castable refractory material, said refractory material being made from dead burned magnesite having an MgO content of at least about 90% by weight on the basis of an oxide analysis and said castable refractory material being characterized by being quick-setting upon being cast further characterized by a green bonding complex which readily releases free and combined water upon being heated after casting and setting; rapidly substantially continuously conveying immediately after mixing successive batch-mixes of the refractory material to and deposit-placing the same in successive adjacent zones of said cavities; extending the placement of the mixed material from zone to zone throughout each cavity and in successive cavities along the flat and bank walls; progressively vibrating the refractory material in each zone simultaneously with deposit continuously from zone to zone throughout all said cavities to compact and develop high density in the thus-cast refractory material and to eliminate joints between said zones, meanwhile removing the form means defining any cavity after the refractory material has been compacted in such cavity; completing the mixing, conveying, deposit-placing and compacting of the thus-cast refractory material of any batch-mix within 5 to 15 minutes; permitting the thus-cast refractory material to set; then combustion heating the cast bottom material to about 800° F. as rapidly as possible to remove water therefrom while simultaneously venting and discharging from the furnace chamber water vapor resulting from such water removal during such heating; then rapidly combustion heating the cast material to 2900° F. to 2950° F.; and then continuing the combustion heating of the cast material at between 2900° F. and 3000° F. for 24 hours to develop ceramic bonds in the refractory material and to complete the formation of a cast, joint-free, monolithic, uniformly and extremely dense, highly refractory entire bottom for the open hearth furnace.

3,259,673

METHOD OF MOLDING A COMPOSITE FOAMED PLASTIC ARTICLE UTILIZING AIRLESS SPRAYING OF AN OUTER FILM FORMED FROM HEAT CURABLE MATERIALS

Lloyd J. Ericson, Keokuk, Iowa, assignor to Sheller Manufacturing Corporation, Detroit, Mich., a corporation of Indiana

Filed Oct. 9, 1961, Ser. No. 143,527
10 Claims. (Cl. 264—45)

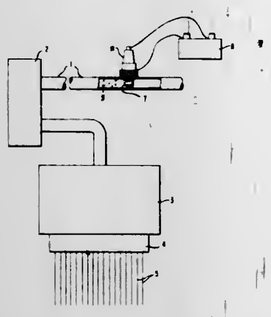


1. The method of forming a composite article having an impervious resinous film of a preselected contour on the exterior thereof and a core tenaciously bonded to the inner surface of said film which comprises the steps of providing a vinyl polymer plastisol having a viscosity ranging from about 1000 centipoises to about 15,000 centipoises, fragmenting said plastisol into a plurality of fine-sized droplets by forcing said plastisol through a nozzle under a pressure ranging from about 1200 p.s.i. to about 2000 p.s.i., directing the fragmented said plastisol against a mold surface of a preselected contour, said mold surface having a temperature in the range of about 180° F. to about 400° F. forming thereby a substantially uniformly gelled film thereon, controlling the quantity of the fragmented said plastisol directed toward said mold surface so as to achieve the desired thickness of said film, heating said gelled film at a temperature below that at which thermal degradation of the film will occur for a period of time sufficient to effect substantially complete fusion of said plastisol forming therewith a substantially integral homogeneous film, and thereafter tenaciously bonding a core material to the interior of said film, forming therewith said composite article.

3,259,674
PROCESS FOR MELT SPINNING HOLLOW FILAMENTS

Paul T. Scott, Kinston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 5, 1965, Ser. No. 453,463
3 Claims. (Cl. 264—53)

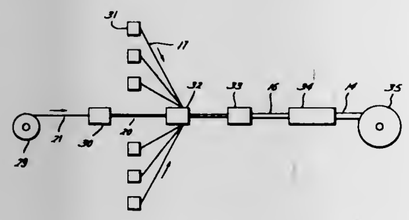


1. In the production of melt-spun textile fibers of synthetic linear polymer by extruding a melt of the polymer through a spinneret to form filaments, the process which comprises forming bubbles in the polymer by pyrolyzing a portion of the molten polymer flowing to the spinneret to form gas, then extruding the bubble-containing polymer and solidifying the extruded polymer to form hollow filaments.

3,259,675
METHODS FOR MANUFACTURING ARMORED CABLES

William E. Bowers, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas

Original application Dec. 29, 1960, Ser. No. 79,390. Divided and this application June 18, 1963, Ser. No. 288,761
8 Claims. (Cl. 264—103)

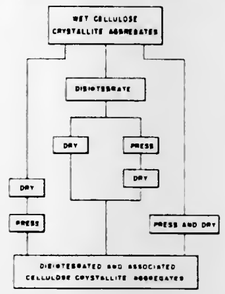


1. In a method of manufacturing an armored, load-bearing, multiconductor, electrical cable, the steps of: extruding an elongated inner matrix section of generally circular cross section; arranging a plurality of elongated, insulated, electrical conductors in spaced-apart relationship about the outer surface of said elongated inner matrix section and coextending longitudinally of said section while maintaining sufficient tension on said insulated conductors to partially embed them in said surface; extruding an outer matrix section of generally cylindrical outer periphery about said arranged insulated conductors and inner matrix section to form, together with said inner matrix section, a matrix completely encasing said insulated conductors, said inner and outer matrix sections comprising an uncured, semiconductive elastomer; and curing said elastomer to form a monolithic matrix.

3,259,676
METHOD OF MAKING FORMED PRODUCTS OF CELLULOSE CRYSTALLITE AGGREGATES

Orlando A. Battista, Drexel Hill, and Patricia F. Smith, Parkside, Pa., assignors, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Jan. 8, 1963, Ser. No. 250,026
7 Claims. (Cl. 264—123)

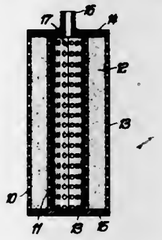


1. Method of producing a heat and impact-resistant hard plastic structure comprising subjecting cellulose crystallite aggregates having a particle size in the range of 1 to 300 microns to distintegrating action so as to reduce at least 1% by weight of the aggregates to a particle size less than one micron, and associating and shaping the distintegrated aggregates together in dense compact relationship with each other in the form of a unitary self-supporting three dimensional structure having a specific gravity in the range of 1.2 to 1.57.

3,259,677
METHOD OF PRODUCING FLUID-PERMEABLE SHAPED BODIES

Franz Zwick, Reuttlerstrasse 52, Neu-Ulm (Danube), Germany

Filed Jan. 31, 1964, Ser. No. 351,266
Claims priority, application Germany, Sept. 4, 1957, Z 6,291; May 30, 1958, Z 6,681
4 Claims. (Cl. 264—126)



1. A method for producing a fluid-permeable shaped body, comprising the steps of introducing into a mold a loose, granular mass consisting of discrete latently adhesive grains of thermoplastic material, adapted to become actively adhesive at an elevated activating temperature corresponding to the softening temperature of said thermoplastic material, and forming therebetween interconnected pores within said mass, said mold having a cavity corresponding to the configuration of said shaped body and being formed with at least two opposite fluid-permeable wall portions formed of porous material; and introducing a stream of heating fluid being maintained at at least said activating temperature through one of said opposite permeable porous wall portions and thus subdivided and evenly distributed into said mold, said heating fluid leaving said mold through the other of said opposite permeable wall portions and passing between

said opposite wall portions only through the interconnected pores between the granular particles of said mass directly contacting said individual granular particles so as to soften the surface portions only of said granular particles and to make the same actively adhesive, passage of said heating fluid through said mold being discontinued upon softening of said surface portions of said granular particles and before softening of the core portions of said granular particles occurs, thereby adhering contacting surface portions of adjacent granular particles to each other while substantially maintaining the initial dimensions of said granular particles and of said interconnected pores therebetween, thereby transforming said mass into a coherent, shaped fluid-permeable body of substantially even porosity throughout, formed with interconnected pores substantially corresponding to the interconnected pores of said loose granular mass in said mold and consisting exclusively of said adhering thermoplastic granular particles.

3,259,678
METHOD FOR MANUFACTURING ELECTRICAL COMPONENTS AND THE LIKE

Jesse B. Davis, 196 S. Kilburn Road, Garden City, N.Y.

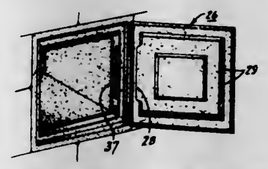
Filed July 7, 1961, Ser. No. 123,388
10 Claims. (Cl. 264—132)

1. A method of manufacturing an electrical component comprising forming a solid toroidal body with substantially flat radial faces and circular inner and outer walls extending between said faces, forming evenly spaced axially extending grooves in said walls, masking said faces with a substance resistant to a predetermined abrasive and leaving strips exposed connecting the slots in the inner wall with respective slots in the outer wall, the strips and slots constituting a spiral path around said body, propelling said abrasive at said faces to erode said strips, and depositing in the eroded strips and the slots a metal from a readily decomposed and volatile metal bearing compound.

3,259,679
METHOD OF MAKING A CONCRETE SAFE

Carl C. Nielsen, 1354 Van Antwerp Road, Schenectady, N.Y.

Filed June 24, 1964, Ser. No. 377,673
4 Claims. (Cl. 264—242)

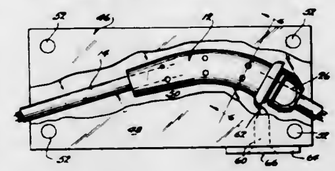


1. The method of making a concrete safe comprising the steps of:
providing first form means defining a continuous wall-shaped cavity and open at either end thereof,
providing second form means comprising sheet material of relatively thin uniform thickness shaped to provide a tiered cross-section from its periphery toward its center,
placing the first and second form means together with the second form means on the bottom closing off one open end of the first form means,
filling said first form means with concrete to provide a safe body,
inverting said safe body to place the second form means on top,
filling the other side of the second form means with concrete to provide a safe door, and
opening said safe door and removing the second form means.

3,259,680
METHOD OF MOLDING SLEEVES

Robert K. Schelke, Richmond, Ind., assignor to Belden Manufacturing Company, Chicago, Ill., a corporation of Illinois

Continuation of application Ser. No. 78,076, Dec. 23, 1960, which is a division of application Ser. No. 697,584, Nov. 20, 1957, now Patent No. 3,051,774. This application Sept. 16, 1963, Ser. No. 309,918
2 Claims. (Cl. 264—275)

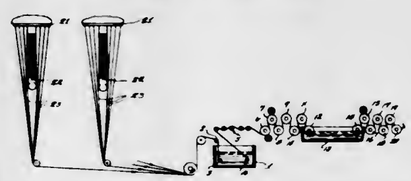


1. The method of injection molding an integral flexible sleeve directly around a portion of a flexible insulated electrical conductor cord, which method comprises the steps of disposing a portion of said cord within a suitably shaped mold, maintaining said flexible cord in a centrally located position within the mold through the utilization of a plurality of axially spaced rigid pins which are disposed within the mold cavity in a plane extending transverse to the axis of said cord and which extend into the mold cavity a distance so as to engage the insulated covering of said cord to maintain said cord in said central position without piercing said covering, said pins being axially spaced throughout substantially the entire length of the mold to support said cord in said central position, injecting a molding compound into the mold cavity surrounding said conductor cord while said pins are in engagement with said covering of said cord so as to prevent axial and transverse movement of said cord within the mold cavity, allowing said molding compound to set in said mold to form an integral sleeve about said cord while maintaining said pins in engagement with the insulating covering of said cord, and thereafter removing said pins thereby forming apertures in said sleeve, whereby a conductor cord is provided having an integral sleeve disposed thereabout which includes a plurality of apertures extending therethrough which impart desired flexibility to the sleeve.

3,259,681
POLYESTER FILAMENTS

Thomas Henry Bull and Arthur Murray Gardiner Kinnear, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Apr. 29, 1963, Ser. No. 276,477
Claims priority, application Great Britain, Apr. 27, 1962. 16,153/62
9 Claims. (Cl. 264—290)



1. A process for melt-spinning and orienting polyester filaments by drawing up to 5 times their spun length in the form of a tow, comprising submitting filaments issuing from a spinneret to a quenching gas stream at a distance 0 to 10 cm. from the spinneret, wetting the tow of a linear density of at least 100,000 denier per inch at draw speeds from 100–600 feet per minute in a pre-

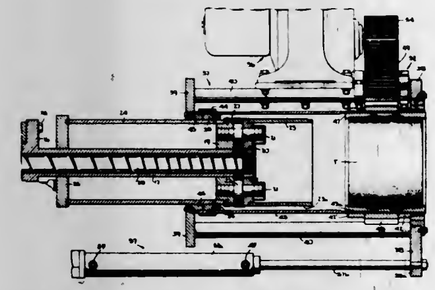
drawframe bath at a temperature between 10 and 25° C., straightening any loops in the tow and lubricating the tow, tensioning the tow, then drawing the tow by forwarding it to feed rolls, the last of which is at least partially immersed in a drawframe bath filled with aqueous liquid at a temperature between 50 to 100° C., then forwarding to draw rolls at least one of which is partially immersed in the drawframe bath and rotating said draw-rolls at a linear speed at least twice that of the feed rolls.

3,259,682

PROCESSES OF AND APPARATUS FOR PRODUCING SEAMLESS ANNULAR BODIES

James J. Neville, Smoke Rise, Kinnelon, Henry F. Miller, Clifton, and Thomas J. Rhodes, Smoke Rise, Kinnelon, N.J., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 2, 1962, Ser. No. 235,054
8 Claims. (Cl. 264—312)



3. The process of forming an annular article of plastic material having rubber-like characteristics, comprising the steps of defining an annular mold cavity, having substantially the desired cross-sectional shape of said article, between an inner mold member and an outer mold member surrounding said inner mold member in coaxial and spaced relationship thereto, introducing said material into said cavity at one axial extremity of the latter and substantially simultaneously ground the entire circumference of said one extremity of said cavity, advancing said material through said cavity from said one axial extremity of the latter to the other while maintaining a fixed axial relation between the inner and outer boundaries of said cavity during the entire advance of said material through said cavity, effecting a relative rotation between said inner and outer mold members during the entire advance of said material through said cavity to aid the filling of said cavity, and thereafter axially displacing said outer mold member, and therewith the annular article formed in said cavity, along said inner mold member while maintaining a state of relative rotation between said inner and outer mold members until said article is completely clear of said inner mold member.

6. Apparatus for forming a spliceless annular article having rubber-like characteristics and having a substantially cylindrical inner surface from plastic material, comprising a pair of concentric mold members defining between the inner surface of the outer mold member and the outer surface of the inner mold member an annular mold cavity, said outer surface of said inner mold member being substantially cylindrical, means for extruding said material into said cavity and for advancing said material axially through said cavity to fill said cavity while maintaining a fixed axial relation between the inner and outer boundaries of said cavity during the entire advance of said material through said cavity, means for axially displacing one of said mold members relative to the other of said mold members with the article seated in said outer mold member to separate said mold members, and means for effecting a relative rotation between said inner and outer mold members during the entire advance of said material through said cavity and during the axial displacement of said one mold member relative to said other mold member, said extruding means being effective to extrude material into one axial extremity of said cavity, and said inner mold member being provided with relatively shallow helical screw flights in said outer surface thereof, said helical screw flights in said outer surface of said inner mold member further aiding the movement of the finished annular article relative to said inner mold member upon relative separation of the latter and said outer mold member.

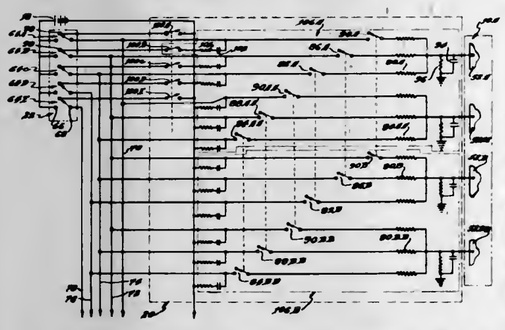
ELECTRICAL

3,259,683

ELECTRIC ORGAN

Daniel J. Tomcik, Buchanan, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Indiana

Filed Apr. 4, 1962, Ser. No. 184,972
11 Claims. (Cl. 84—1.11)



1. An electric organ comprising a plurality of tone generators for generating the tones of a musical scale, each tone generator having two parallel confronting plates, one plate being a stator plate with a plurality of electrically conducting areas thereon disposed at the same distance from the center of the plate, each of said areas representing a different voice for a given note and a plurality of tone generators having the same voice for other notes, the other plate being a scanner plate with an electrically conducting area thereon, means for rotating each of the scanner plates relative to the confronting stator plate at a relatively constant rate, a source of electrical potential having first and second terminals, a keyboard having a key for each note of the musical scale, a key switch mounted adjacent to each key of the keyboard and actuatable by said key each key switch having a pole terminal and two stationary terminals, and means for electrically connecting each electrically conducting area of the stator plates in a series circuit with a key switch and the source of electrical potential including a stop switch assembly, said stop switch assembly including a plurality of flat circuit boards of electrically insulating material having a straight edge, means for mounting the boards in parallel spaced relationship with the straight edge of said boards on a common plane normal to the boards, a plurality of electrically conducting pins mounted on each of said boards and extending normally therefrom, said pins being disposed at spaced intervals adjacent to the straight edge of said board and each of said pins

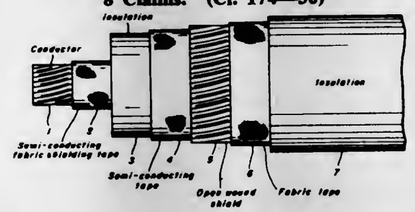
being on a common axis normal to the boards with a pin on another board, one of the pins on each board being electrically connected to the negative terminal of the power source, each of said other pins on each board being electrically connected to the pole terminal of a key switch, a plurality of contact springs equal in number to the number of pins mounted on the boards, each contact spring being mounted at one end and on a board on the opposite side of one pin from the edge of said board and extending past the pin and beyond the straight edge of the board, said contact springs being generally disposed in a plurality of parallel planes normal to the boards and normal to the straight edge of the boards, the one contact spring of each board adjacent to the one pin of said board being electrically connected to one of the stationary terminals of one key switch, a decay circuit mounted on each board between said one contact spring and the negative terminal of the power source, the positive terminal of the power source being electrically connected to the other stationary terminal of each key switch, each of the other contact springs disposed in a given plane being connected to the electrically conducting areas of the stator plate of the tone generators for reproducing the same voice, and means to independently control the position of the contact springs in each of the parallel planes including an elongated electrically insulating rod positioned adjacent to the straight edge of the boards and adjacent to each plane of contact springs, said means positioning the rod in one position to place the contact springs adjacent thereto in abutment with pins and a second position to separate said contact springs from said pins.

3,259,684

SHIELDED RESIN INSULATED ELECTRIC CABLE

Frederick W. Wakefield, Northboro, Mass., assignor to United States Steel Corporation, a corporation of Delaware

Filed Mar. 19, 1965, Ser. No. 441,027
8 Claims. (Cl. 174—36)



1. An electric cable comprising a stranded metallic conductor, a semi-conducting shielding tape surrounding said conductor, insulation having an average linear thermal expansion coefficient per degree centigrade greater than 1.7×10^{-4} surrounding said shielding tape, a semi-conducting tape surrounding said insulation, a concentric open wound conducting metal shield surrounding said semi-conducting tape, the ratio between the length of lay of the open wound shield and the diameter inside the open wound shield being between 5 and 12, a fabric tape surrounding said open wound shield, and an insulating jacket having substantially the same coefficient of expansion as said first named insulation surrounding said last named tape.

3,259,685

ELECTRICAL CONDUCTOR CONNECTIONS

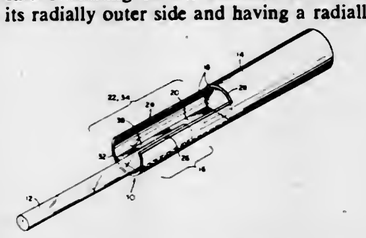
Ralph E. Parrilli, Paterson, N.J., assignor to General Precision, Inc., Little Falls, N.J., a corporation of Delaware

Filed Jan. 2, 1964, Ser. No. 335,198
5 Claims. (Cl. 174—68.5)

4. An electrical connection between conductors, comprising:

a length of insulated-wire conductor with an end face and a longitudinal axis having an electrically-conductive metallic wire core with a finite segment of reduced cross-section adjacent one end thereof and an insulating sheath of etch-resistant dielectric material covering said wire core;

said conductor end face having a recess having a depth extending substantially parallel to said conductor axis and having opposite sidewalls formed by portions of said insulating sheath material and being open on its radially outer side and having a radially inner



sidewall which is formed at least in part by said end segment of said wire core;

a length of electrically-conductive filament having an end portion received within said conductor recess and overlapping said wire-core end segment; and

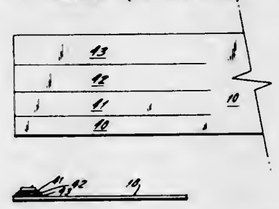
means composed of electrically-conductive material and disposed within said recess and engaging said overlapping portions of said filament and insulated-wire conductor for making an electrically-conductive lap joint therebetween.

3,259,686

TERMINAL CONSTRUCTION AND METHOD OF MANUFACTURE THEREOF

Joseph W. Farquhar, West Berlin, N.J., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed July 19, 1965, Ser. No. 472,914
2 Claims. (Cl. 174—75)



1. A terminal for an elongated thin conductive sheet of material; said thin conductive sheet of material having a plurality of parallel fingers spaced along the width of said thin conductive sheet and folded at a generally common angle with respect to the direction of elongation of said sheet; each of said fingers overlying one another and extending beyond one edge of said elongated thin conductive sheet; said overlying fingers defining a terminal for said thin conductive sheet having a thickness approximately n times greater than said sheet where n is the number of fingers, and a width of approximately $1/n$ times the width of said thin conductive sheet; each of said fingers having a successively decreasing width.

3,259,687

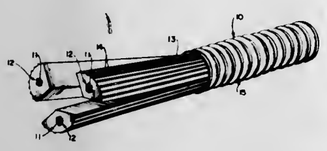
DEEP OIL WELL ELECTRIC CABLE

Cecil J. Oatess, Marion, Ind., and James R. Taylor, Jr., Avon Lake, Ohio, assignors to Anaconda Wire and Cable Company, New York, N.Y., a corporation of Delaware

Filed Apr. 9, 1964, Ser. No. 358,594
1 Claim. (Cl. 174—103)

A deep oil well submersible pump cable comprising three conductors, an oil resistant dielectric material surrounding each of said conductors forming a unitary in-

sulated conductor having a uniform cross sectional area in the shape of a sector equivalent to one-third of a circle, said unitary insulated conductors being arranged geometrically to form a cylindrical element with each conductor spaced at equal distance from the others, a plurality of ribs equally spaced around the circumference of said cylindrical element and substantially parallel to each



other along the longitudinal axis of the cylindrical element, said ribs being an integral part of said dielectric material, and a metallic protective covering surrounding said element engaging the apexes of said ribs to form a plurality of voids between the insulation and the protective covering to provide expansion space for said insulation.

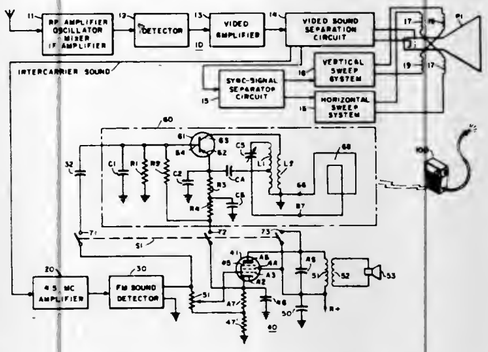
3,259,688
HIGH VOLTAGE INSULATED ELECTRICAL CABLE WITH LAYER OF IRRADIATED SEMICONDUCTIVE ETHYLENE COPOLYMER
Allen N. Towne and Robert A. Ward, both of Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Jan. 2, 1964, Ser. No. 335,153
12 Claims. (Cl. 174—107)



1. A high voltage electrical cable having a conductor surrounded by a composite insulation comprising a first taped layer of irradiated semiconductive material comprising a copolymer of ethylene and a mono-unsaturated material selected from vinyl materials, acrylate materials and olefins and mixtures thereof filled with conductive material and a second extruded layer of ground insulation comprising a polyolefin.

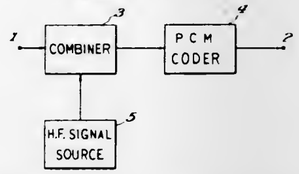
3,259,689
TELEVISION APPARATUS FOR LOCALLY TRANSMITTING THE DETECTED AUDIO SIGNAL
Leon J. Sienkiewicz, Metuchen, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1962, Ser. No. 191,116
5 Claims. (Cl. 178—5.8)

1. A television receiver adapted to receive a picture carrier amplitude modulated with video information and for concurrently receiving a sound carrier having a fixed frequency separation from said picture carrier and frequency modulated with sound information comprising, means for demodulating said picture carrier to obtain said video information, picture reproducing means, means for applying said video information to said picture reproducing means to obtain a visual display thereon, means for demodulating said sound carrier for obtaining said sound information, sound amplifying means for amplifying said sound information, sound reproducing means, radio frequency transmission means for locally transmitting said sound information on a low power radio frequency carrier, means for selectively (1) actuating said transmitting means for applying biasing power thereto from said sound amplifying means for locally transmitting said sound information on the radio frequency carrier thereof,



or (2) connecting said sound amplifying means to said sound reproducing means for reproducing said sound information thereby.

3,259,690
CODING SYSTEM FOR TELEVISION SIGNALS
Shintaro Oshima, Musashino-shi, Tokyo-to, Hajime Enomoto, Ichikawa-shi, and Kitsutaro Amano, Ota-ku, Tokyo-to, Japan, assignors to Kokusai Denshin Denwa Kabushiki Kaisha, Tokyo-to, Japan, a joint-stock company of Japan
Filed July 11, 1962. Ser. No. 209,205
Claims priority, application Japan, Sept. 11, 1961, 36/32,170
5 Claims. (Cl. 178—6)

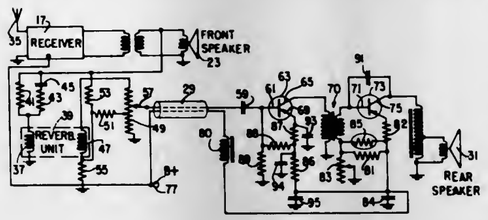


1. A coding system for television transmission comprising, a combiner means for receiving a video signal having a given horizontal scanning-line frequency and for receiving at least one high frequency signal and combining it with said video signal to deliver a combined signal output, a high frequency signal source for applying to said combiner means said high frequency signal with said high frequency signal having a frequency accurately an odd multiple of one half of said given horizontal scanning-line frequency and means connected to receive said signal output and convert it to a pulse-code-modulated signal.

3,259,691
SPEAKER CONTROL SYSTEM WITH REVERBERATION
Theodore A. Byles, Villa Park, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed June 29, 1962, Ser. No. 206,494
8 Claims. (Cl. 179—1)

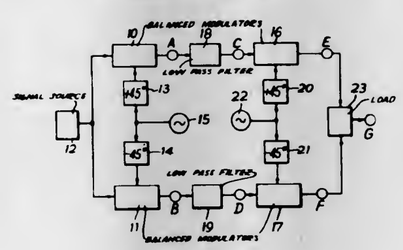
1. A reverberation system for sound reproduction in an automobile having a dashboard and a rear interior portion, said system including in combination, an audio signal source and a first speaker connected thereto for mounting in the dashboard, a second speaker and a driving amplifier coupled thereto for mounting in the rear interior portion of the automobile, reverberation means for producing a delayed signal of decaying amplitude,

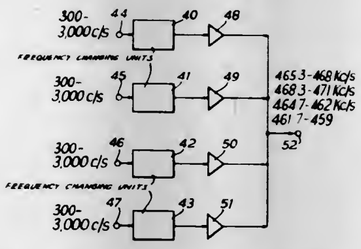
a first circuit connecting said audio signal source directly to said amplifier and coupling audio signals directly thereto, a second circuit connecting said audio signal source to said amplifier through said reverberation means and coupling delayed audio signals of decaying amplitude to said amplifier, cable means for carrying portions of said first and second circuits from the dashboard to the rear in-



terior portion of the automobile, and a control connected in said first and second circuits to permit variation in the strength of the signal therethrough, whereby when said system is installed in an automobile, the controlled direct and reverberated audio output of said first and second speakers may provide faithful and intelligible reproduced sound to occupants of the automobile for all forms of audio intelligence.

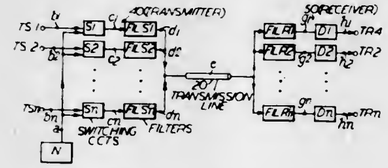
3,259,692
MULTI-CHANNEL ELECTRIC WAVE SIGNALLING APPARATUS
John Francis Herbert Aspinwall, Purley, England, assignor to Communications Patents Limited, London, England
Filed July 21, 1961, Ser. No. 125,721
Claims priority, application Great Britain, Oct. 26, 1960, 36,746/60
5 Claims. (Cl. 179—15)





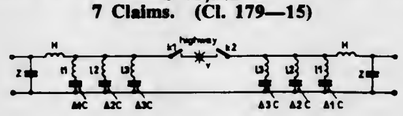
1. Multi-channel electric wave signalling apparatus having separate signal channels for a plurality of signals each occupying a band of frequencies comprising separate frequency changing means for each signal, the frequency changing means together transposing the frequency of the plurality of signals to a plurality of adjacent or closely spaced frequency bands; each frequency changing means comprising a first pair of balanced modulators having first inputs connected in parallel and supplied with the signal concerned and having second inputs supplied from a first oscillator through first and second phase-shifting networks respectively advancing and retarding the phase of the first oscillator signal, a second pair of balanced modulators having first inputs separately fed from the outputs of the first pair of balanced modulators and having second inputs supplied from a second oscillator through third and fourth phase-shifting networks respectively advancing and retarding the phase of the second oscillator signal, and an output load common to the outputs of both of the second pair of balanced modulators, so that each signal is transposed in frequency by separately modulating the signal twice using different carriers in each modulation; output means being provided in said apparatus to combine the output signals from the separate frequency changing means into a single multi-channel signal.

3,259,693
FREQUENCY DIVISION MULTIPLEX COMMUNICATION SYSTEM
Hitoshi Watanabe, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Sept. 26, 1961, Ser. No. 141,278
Claims priority, application Japan, Sept. 28, 1960, 35/39,961
5 Claims. (Cl. 179—15)



1. A frequency division pulse communication system comprising a source of white noise, a plurality of distinctive filters coupled to said source for selecting a plurality of distinct bands of frequencies, a common transmission means coupled to said filters, and means for modulating each frequency band with a separate source of signals.

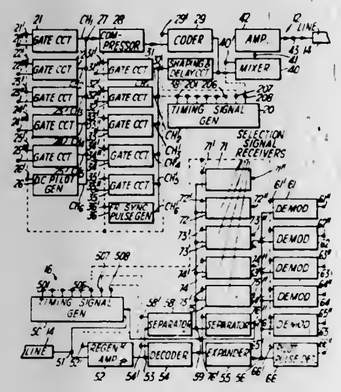
3,259,694
RESONANT TRANSFER SWITCH CIRCUIT FOR TIME MULTIPLEX COMMUNICATION SYSTEMS
Max Schlichte, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Dec. 18, 1961, Ser. No. 160,088
Claims priority, application Germany, Jan. 20, 1961, S 72,142
7 Claims. (Cl. 179—15)



1. A resonant transfer switching circuit for use in a time multiple communication system, comprising a switch including a periodically operable contact for periodically communicatively interconnecting two-conductor subscriber lines, and an impulse-forming reactance network which is matched to the two-conductor lines, said impulse-forming reactance network having a low pass filter with a limit frequency which is lower than half of the operating frequency of the switch, said network having a plurality of oscillation circuits with different resonant frequencies, each of said oscillator circuits having a period which is related and proportional to the closure time of said

switch to develop a wave shape which transfers energy at a relatively constant rate during a substantial portion of the closure time of said switch thereby reducing peak currents traversing said switch, said network forming an equivalent shunt capacitance and an equivalent inductance in series with said contact, said inductance and said capacitance being so dimensioned that their period of resonant oscillation is twice as long as the closure time of the contact.

3,259,695
MALFUNCTION MONITORING OF TIME-DIVISION MULTIPLEX PCM EQUIPMENT
Ryuichi Murakami, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Oct. 15, 1962, Ser. No. 230,328
Claims priority, application Japan, Nov. 27, 1961, 36/43,013
5 Claims. (Cl. 179—15)



1. In a time division multiplex PCM transmission system which includes a transmitter for transmitting a PCM pulse train which has been formed by sampling and coding the output signals from a plurality of channels in said transmitter, and a receiver for receiving and decoding the transmitted PCM pulse train and then distributing the decoded pulse train to a plurality of channels in said receiver, a monitoring system for monitoring the operation of said transmission system as data is being processed therein, said monitoring system comprising:

(A) means in said transmitter for generating uniformly spaced pilot pulses which have the same predetermined width, polarity and amplitude;

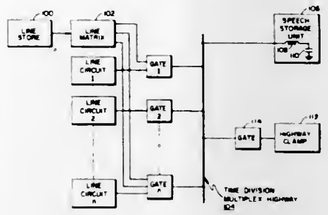
(B) amplitude-modulating means in said transmitter, including means for inserting said pilot pulses at predetermined positions, into the sampled information signals to form an amplitude modulated pulse train which includes said pilot signals;

(C) means in said transmitter for coding said amplitude modulated pulse train, including said pilot pulses, into the time division multiplex PCM pulse train which is to be transmitted;

(D) decoding means in said receiver for decoding the received PCM pulse train to produce a replica of said amplitude-modulated pulse train, which replica includes said inserted pilot signals;

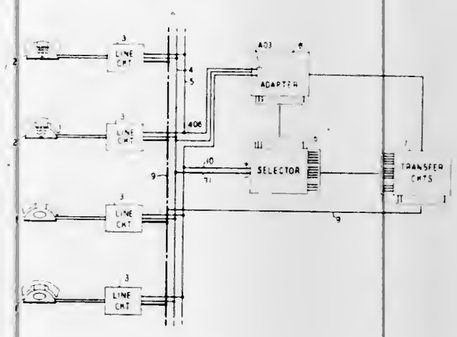
(E) and detection means in said receiver responsive only to the pilot signals contained in said replica pulse train, for determining whether said pilot pulses have been distorted beyond preselected limits thereby indicating whether a malfunction, including undesired drift in direct current working points, has occurred in the transmission system.

3,259,696
TRIPLE TRANSFER TIME DIVISION MULTIPLEX COMMUNICATION SYSTEM
William F. Bartlett, Rochester, Koho Ozone, Webster, and Richard Scott, Pittsford, N.Y., assignors, by mesne assignments, to Stromberg-Carlson Corporation, Rochester, N.Y., a corporation of Delaware
Filed Mar. 26, 1963, Ser. No. 268,010
3 Claims. (Cl. 179—15)



1. In a time division communication system in which a predetermined number of distinct time slots occur successively in a repetitive time frame, each distinct time slot being composed of at least three successively occurring sub-slots, the combination comprising a plurality of individual communication line circuits, a common transmission highway, respective normally closed line gates each individually connecting a different one of said line circuits to said highway, an information signal storage means directly connected to said highway, and control means for extending a communication connection between any two of said line circuits, said control means including means for opening that line gate individually connected to one of said two line circuits during the first and third-occurring sub-slots of a particular time slot each time frame and means for opening that line gate individually connected to the other of said two line circuits during the second-occurring sub-slot of said particular time slot each time frame.

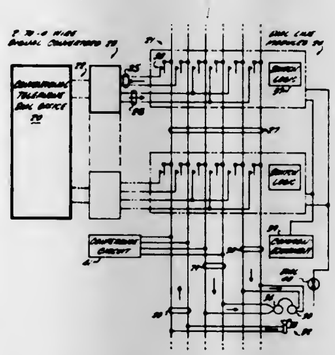
3,259,697
TELEPHONE SIGNALING SYSTEM
Grayson E. Brumfield, Freehold, and Charles E. Morse and John P. Smith, Holmdel, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 28, 1962, Ser. No. 240,601
2 Claims. (Cl. 179—16)



1. In a telephone intercommunication system, in combination, a first group of telephone sets each including means for generating unidirectional pulses corresponding

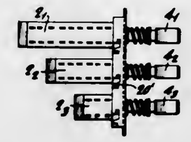
to a dialed digit, a second group of telephone sets each including means for generating multifrequency pulses corresponding to a dialed digit, a source of ringing current, a multifunction stepping switch having an armature and a plurality of output terminals in cooperative relation therewith, means responsive to said unidirectional pulses from one of said first group sets, said last named pulses being indicative of a particular preselected one of said sets, for stepping said armature to one of said terminals corresponding to said last named set, means responsive to said last named means for applying current from said source to said last named terminal by way of said armature, and thence to said last named set, by way of a conducting path including logic relays, means responsive to said multifrequency pulses from one of said second group sets, said last named pulses being indicative of said particular set, for stepping said armature to a non set-designating one of said terminals, and means responsive to said last named means for applying current from said source to said last named terminal by way of said armature, thence to said terminal corresponding to said particular set and thence to said particular set by way of said conducting path, whereby substantially common ringing facilities are utilized whether a call is initiated by one of said first group or by one of said second group sets.

3,259,698
SOLID STATE INTERCOMMUNICATION SYSTEM
Paul Korda, West Los Angeles, and Sidney P. Rea, Vandenberg A.F.B., Calif., assignors to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Feb. 25, 1963, Ser. No. 260,785
20 Claims. (Cl. 179—41)



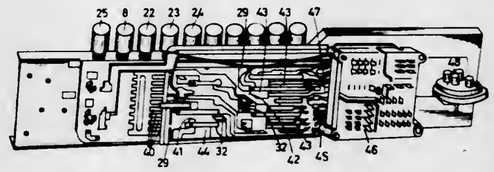
1. An intercommunication system comprising a plurality of two-wire lines for extending connection between said system and distant offices, a plurality of dial line switching means, means comprising four-wire lines for completing connections through said system via said dial line switching means to said two-wire lines, means comprising 2-to-4 wire signal converters for interconnecting said two-wire and four-wire lines, a headset comprising at least one earphone and a microphone, a plurality of common talking busses extending through said dial line switching means, means associated with some of said busses for extending connections to said earphone, means associated with other of said busses for extending connections to said microphone, and means comprising said dial line switching means for independently switching the two-wire connections to said common busses, thereby individualizing the headset earphone and microphone to specific two-wire connections.

3,259,699
ASSEMBLY MOUNTING AND INTERLOCKING MEANS FOR PLURAL PUSHBUTTON SWITCHES
Christian Marie Godefroy du Temple de Rougemont, 46 Rue de la Faisanderie, Paris, France, and Max Stapfer, Antony, France; said Stapfer assignor to said du Temple de Rougemont
Filed June 7, 1963, Ser. No. 286,339
Claims priority, application France, June 16, 1962, 900,983
7 Claims. (Cl. 200—5)



1. A multiple pushbutton switch assembly comprising a plurality of elongated switch casings of equal or different length each containing pushbutton operated contact means, an elongated assembling member, means for removably anchoring said casings in parallel relationship to said member at longitudinally spaced points thereof, and deformable means forming an integral part of said member adjacent to each of the switch casings for locking said casings in the anchored position thereof.

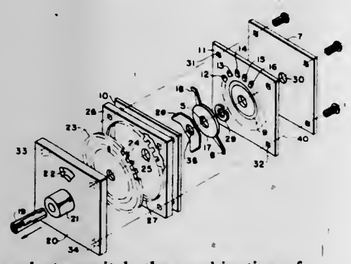
3,259,700
MULTIPLE PUSH BUTTON SWITCH
Walter Holzer, Drosteweg 19, Meersburg (Bodensee), Germany
Filed June 17, 1963, Ser. No. 288,214
Claims priority, application Germany, June 27, 1962, H 46,193
7 Claims. (Cl. 200—5)



1. In a multiple key program switch mechanism; a casing, a plurality of key operated plungers arranged in coplanar parallel relation in said casing and moveable therein in the direction of their lengths, flat printed circuit plate means mounted on said casing and disposed parallel to the plane of said plungers, paired fixed and moveable contacts on said plate means, the moveable contacts being moveable in a direction perpendicular to said plate means to open and close said paired contacts, said paired contacts being arranged on said plate means at different spaced regions thereon, said regions being spaced in the direction of the length of said plungers and extending in a direction at right angles to the length of said plungers, an elongated slide in said casing adjacent and parallel to each said region and in the plane of said plungers, apertures in said slides through which said plungers extend, each aperture having a dimension in the direction of the length of the slide greater than the dimensions in the same direction of the plunger extending therethrough, cams on said plungers operable upon movement of the key operated plungers to engage said slides and move the slides in the direction of the length thereof, finger means on said moveable contacts engaging the sides of said slides adjacent said regions, and cam

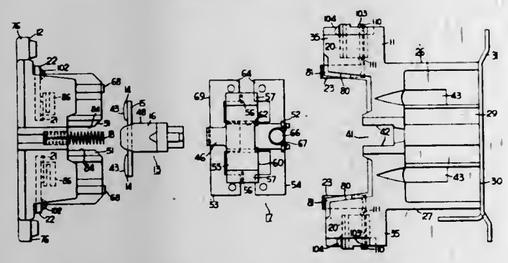
means on said sides of said slides operable upon movement of the slides by said plungers to act on said fingers to actuate said paired contacts between open and closed positions.

3,259,701
LOCK TYPE SELECTOR SWITCH
George J. Neff, Jr., Erlanger, Ky., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Oct. 22, 1965, Ser. No. 501,634
9 Claims. (Cl. 200—11)



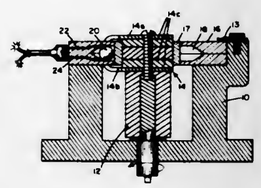
1. In a selector switch, the combination of:
a shaft and means for journaling the shaft;
a rotor formed with a switch arm and keyed to the shaft for rotation therewith;
a stator element formed to receive the shaft and having a multiplicity of angularly spaced contacts with any desired one of which the switch arm is to be registered;
and means for accurately performing the registration, comprising:
a stator index positioned in fixed relation to the stator and having a ring gear formation;
a rotor index formed as a spur gear keyed to said shaft for rotation therewith and adapted to mesh with said ring gear when the spur gear is in axial alignment with said ring gear;
and biasing means for normally urging said gears into axial alignment but yieldable to permit axial displacement of the shaft whereby the shaft and spur gear can be turned;
the gears being formed to define angular positions of registry between said arm and individual ones of said contacts.

3,259,702
MULTIPLE CONTACT SWITCH WITH REMOVABLE COVER
Lawrence A. Burton, Oconomowoc, and Gustav W. Doos, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Mar. 2, 1964, Ser. No. 348,651
12 Claims. (Cl. 200—16)



1. A contactor comprising
an insulating support comprising a stationary part and a removable part,
a pair of terminals mounted on said stationary part and adapted to receive external wires,
a pair of fixed contacts mounted on said removable part,
a movable contact assembly positioned within said stationary part of said support,
means mounted on said stationary part for moving said movable contact assembly toward said removable part to conductively connect said pair of fixed contacts and away from said removable part to disconnect said fixed contacts, and
means for conductively connecting each said fixed contact to an associated terminal, said means being mounted on said removable part for disconnection from said terminals when said removable part is separated from said stationary part.

3,259,703
DISTRIBUTOR MECHANISM HAVING MAGNETICALLY RESPONSIVE BALL
Herman Lansing Vail, Jr., and Alfred L. W. Williams, Cleveland, Ohio, assignors to Clevite Corporation, a corporation of Ohio
Filed July 30, 1963, Ser. No. 298,756
9 Claims. (Cl. 200—19)

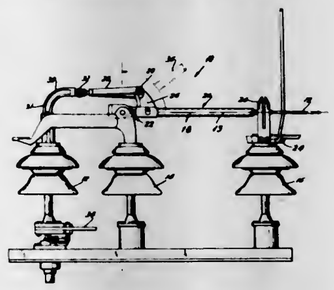


1. A high voltage vacuum switch comprising, in combination: a substantially circular housing member of electrically insulating material having an air evacuated circular cavity defining a passageway; an input conductor and an output conductor each projecting into said housing member and each terminating proximate to said passageway substantially flush with the surface thereof: magnetically responsive means movably disposed within said passageway; and a rotatably disposed magnetic actuator arranged proximate to said magnetically responsive means for rotating said means along said passageway to establish, periodically, a closed electric circuit between said conductors.

3,259,704
HINGED CONTACT MECHANISM FOR DISCONNECT SWITCHES
Joseph A. Turgeon, Toronto, Ontario, Canada, assignor to I-T-E Circuit Breaker (Canada) Limited, Port Credit, Ontario, Canada, a limited-liability company of Canada
Filed May 20, 1963, Ser. No. 281,596
3 Claims. (Cl. 200—48)

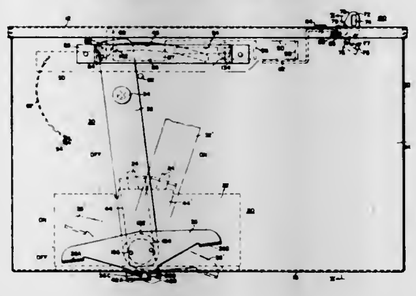
1. A disconnect switch comprising:
a stationary contact means:
movable contact means including first current carrying pivot means spaced from said stationary contact means, and an elongated current carrying blade angularly rotatable about said first pivot means for swinging into electrical engagement with said stationary contact means:
second current carrying pivot means being pivotally mounted by said first current carrying pivot means for receiving said blade, wherein said blade is axially rotatable with respect to said stationary contact means for turning into gripping engagement with said stationary contact means;

said second current carrying pivot means including a generally tubular, current carrying stationary member angularly rotatable with said blade;
said blade having a generally cylindrical extension member, electrically and mechanically interconnected to said blade for angular rotation therewith;
said cylindrical extension member positioned in said tubular member, and axially rotatable with respect thereto responsive to angular rotation of said blade;
ball bearing means positioned at a first end of said tubular member, and interposed between said tubular member and a first end of said cylindrical extension member, to facilitate rotation thereof;



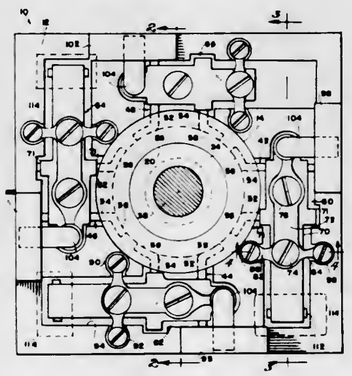
said tubular member being circumferentially disposed about said ball bearing means;
a second end of said tubular member being in electrical contact with a second portion of said cylindrical extension member spaced inwardly from its first end;
the current path in the vicinity of said ball bearing means being confined to said tubular member circumferentially disposed thereabout, whereby said ball bearing means is in a region of substantially zero electromagnetic field intensity;
said tubular stationary member surrounding said cylindrical extension member to permit the pivotal connection between said stationary member and said first current carrying pivot means to be positioned anywhere along the length of said stationary member.

3,259,705
OPERATING MECHANISM FOR ENCLOSED CIRCUIT INTERRUPTERS
Gerald J. Freese and William W. Hamilton, Jr., Brighton Township, Beaver County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 10, 1963, Ser. No. 329,571
6 Claims. (Cl. 200—50)



1. In combination, a circuit interrupter having a movable operating member for opening and closing the interrupter, an enclosure in which the interrupter is mounted, said enclosure having an openable top cover with a catch thereon and side walls, means disposed in said enclosure for actuating said operating member to open and close said interrupter, an external operating member rotatably mounted on one of said side walls and connected to said actuating means, an interlocking member slidably supported adjacent to one end thereof on said one of said side walls adjacent to the catch, means disposed on said one of said walls for biasing a portion of the interlocking member adjacent the other end of the interlocking member upwardly to bear against said cover when said cover is closed, said external operating member having a portion extending through the side wall to drive said interlocking member generally parallel to said cover into engagement with said catch on the cover to prevent opening of the cover when the interrupter is closed, and a projecting member disposed on said one of said walls to be engaged by a portion of said interlocking member adjacent said other end of said interlocking member when the cover is opened to permit upward movement of said other end of said interlocking member to thereby prevent sliding movement of said interlocking member and the closing of said interrupter.

3,259,706
MAGNETICALLY ACTUATED CONTROL DEVICE
Gordon Ralph Brown, Garden City, and Robert W. Kearns and Kenneth J. Law, Detroit, Mich., assignors to Tann Corporation, Detroit, Mich., a corporation of Michigan
Filed Jan. 30, 1962, Ser. No. 169,797
14 Claims. (Cl. 200—61.46)

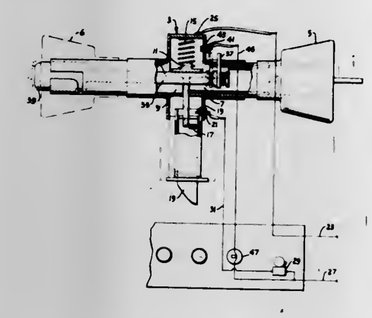


1. An electric control device comprising magnetic means for producing lines of flux, an M.M.F. generator positioned in said lines of flux, said M.M.F. generator comprising an electrical conductor and a magnetically permeable core, means for moving said conductor and lines of flux relative to one another to produce an M.M.F. in opposition to said magnetic means, and means linked with said lines of flux for detecting the variation in the number thereof.

3,259,707
ELECTRICAL DOOR SIGNAL
Henry Eickhoff III, 1165 Barcelona Drive, Pacifica, Calif.
Filed Jan. 6, 1965, Ser. No. 423,688
1 Claim. (Cl. 200—61.67)

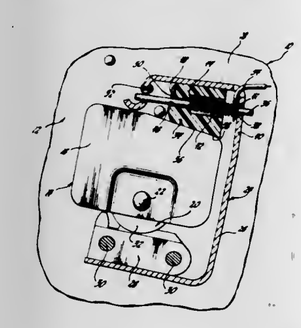
In a lock structure having a bolt which is extended from a frame when the door is latched and which is retracted to unlatch the door, the improvement comprising two stationary contact points on said frame, a moveable locking bar within said frame having a locking member thereon whereby movement of a key in said lock structure

brings said locking member in contact with a stationary contact point to close an electrical circuit, a bolt member at right angle to said moveable locking bar and responsive thereto, and a bolt actuating mechanism connected to said



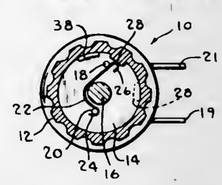
bolt member and having a moveable contact thereon whereby retraction of said bolt member brings said moveable contact in contact with a stationary contact point to close an electrical circuit.

3,259,708
SWITCH AND STRIKER ASSEMBLY FOR VEHICLE BODIES
Bela Sandor, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,190
5 Claims. (Cl. 200—61.68)



1. In combination with a closure member movable relative to a body member, support means mounted on one of said members and including guide means, an abutment member of nonconductive material mounted on said guide means for movement relative to said support means, first contact means mounted on said support means, second contact means mounted on said abutment member, means normally biasing said abutment member along said guide means in a direction to engage said first and second contact means, and cooperating latch and striker means on a respective one of said closure member and body member, one of said cooperating means being movable into engagement with the other of said cooperating means to wedge said one of said cooperating means between the other of said cooperating means and said abutment member upon movement of said closure member to closed position relative to said body member as said abutment member moves along said guide means against the action of said biasing means and disengages said first and second contact means.

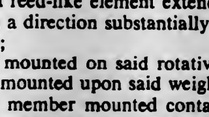
3,259,709
SNAP ACTION SWITCH DEVICES
Cecil Godfrey Hemmens, Purton, England, assignor to Plessey-UK Limited, Essex, England, a British company
Filed July 16, 1964, Ser. No. 383,174
Claims priority, application Great Britain, July 24, 1963, 29,345/63
17 Claims. (Cl. 200—65)



1. A switch for use in combination with rotary electrical control devices having a rotatable control member, said switch comprising, in combination,
- a circular base plate,
- first and second fixed contacts relatively spaced on said base plate,
- a fixed boss extending axially from said base plate and positioned intermediate said first and second contacts, said boss including a portion disposed laterally of an axially extending plane passing through said first and second contacts,
- a resilient electrically conductive contact spring having opposite ends, one end of said contact spring anchored to said first contact, the opposite end releasably engaging said second contact and said contact spring engaging the laterally disposed portion of said boss intermediate said ends, said contact spring being flexed intermediate its ends by engagement with said boss and biased into engagement with said second contact,
- cam means connected to and rotatable with said control member relative to said contacts and contact spring,
- said opposite end of said contact spring extending into the path of movement of said cam means and said cam means characterized by having a first surface of predetermined angular extension projecting toward said contacts to flex said contact spring toward said first contact upon engagement therewith, said cam means also including a trailing edge surface disposed at an angle to said first surface and extending away from said contacts permitting expansion of said contact spring and cooperating to cam said opposite contact spring end away from said second contact,
- and stop means fixed on said base plate and disposed in the path of movement of said cam means to limit movement of said cam means relative to said contacts, said stop means angularly spaced from said second contact a distance less than the angular extension of said cam means and said cam means trailing edge holding said contact spring out of engagement with said second contact when said cam means is in engagement with said stop member.

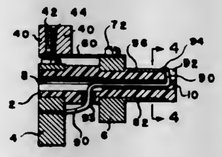
3,259,710
ELECTRICAL SWITCH
Irving Strauss, Fairfield, Conn.
(81 Cherry Hill, Bridgeport, Conn.)
Original application Aug. 24, 1959, Ser. No. 835,631, now Patent No. 3,109,901. Divided and this application Nov. 4, 1963, Ser. No. 321,207
3 Claims. (Cl. 200—67)

1. An electrical switch comprising: first and second elongate actuator devices spaced apart end to end in substantial alignment, each of said devices comprising first and second actuator arms joined together at juxtaposed ends and having outer ends, the outer end of one of said arms of each of said devices being relatively longitudinally fixed, and the two arms of each of said devices being slightly misaligned and having an included obtuse angle therebetween at all times and resiliently biased to increase said angle; first and second levers pivotally mounted on spaced axes and comprising receptacles engaging, respectively, the proximal ends of the arms of said first and second devices to apply longitudinal pressure to said



devices when said levers are pivoted, thereby reducing the obtuse angles between the arms of said devices when said levers are pivoted outwardly, said levers converging together from their respective axes toward said receptacles; and a plunger having a transverse member thereon between said levers, the ends of transverse member making contact with said levers to spread said levers apart as said transverse member moves toward said receptacles, said levers being substantially parallel when said plunger is fully depressed.

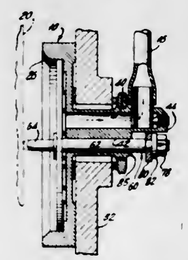
3,259,711
AXIAL GOVERNOR HAVING A WIDE REED FOR STIFFNESS IN A CIRCUMFERENTIAL DIRECTION
Edward William Moorman, Dayton, Ohio, assignor to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio
Filed Aug. 6, 1963, Ser. No. 300,365
2 Claims. (Cl. 200—80)



2. A governor unit adapted to be employed in an electrical circuit to maintain the speed of a governed device at a preselected speed, comprising, in combination:
- a shaft member having non-conductive portions thereon,
- a rotative member mounted on a non-conductive portion of said shaft and extending in a direction radially away from its rotating axis,
- a movable mass juxtaposed to said rotative member and arranged to lie substantially in the same plane as said rotative member;
- spring means mounted at one end to said shaft having said mass affixed thereto at its other end for urging same towards said rotative member, said spring means comprising a reed-like element extending out of said plane and in a direction substantially parallel to said rotating axis;
- contact means mounted on said rotative member, and contact means mounted upon said weight juxtaposed to said rotative member mounted contact means,
- both of said contact means and the center of gravity of said movable mass being arranged along a diametric plane of said rotative member, and said reed-like element at least at the location of said diametric plane having a width greater than at least half the width of said rotative member measured in the radial direction away from its rotating axis in order to provide stiffness in a circumferential direction to said unit;

whereby when said governor unit is operatively assembled to a governed device and rotated therewith, the full component of centrifugal force is applied against the weight and spring means thereby providing increased sensitivity of governing action.

3,259,712
VACUUM ACTUATED SWITCH AND HOLD-IN DEVICE
Willis E. Libby, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Apr. 2, 1964, Ser. No. 356,796
5 Claims. (Cl. 200—82)

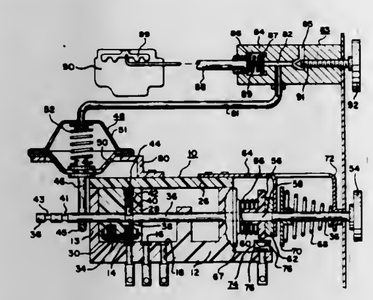


1. Switch actuating and hold-in apparatus for use with magnetic tape reels adapted to have write lockout means mounted thereon during read-out in a tape transport having a vacuum pump, said apparatus comprising,
- cylinder means having an open mouth,
- means for mounting said cylinder means in the tape transport so that said open mouth faces the write lockout ring of a tape reel operatively positioned in the tape transport, said mounting means being positioned at the end of said cylinder means opposite from said mouth,
- pin means carried slidably by said mounting means and having a forward end projecting out of said cylinder means through said open mouth, the forward end of said pin means being engageable and movable by the tape mounted write lockout ring from an initial position to an intermediate position,
- piston means fixedly mounted on said pin means to be spaced forwardly of said open mouth when said pin means is in said initial position,
- switch operating means fixed on the rear end of said pin means, and
- means for effecting fluid communication through said cylinder means and said mounting means to a vacuum pump of the tape transport whereby said pin means and said piston is drawn into said cylinder away from the write lockout ring to a final position by said vacuum pump.

3,259,713
VEHICLE LIGHT CONTROL WITH SHUT-OFF TIME DELAY
William G. Herridge, Jr., and Robert G. Taylor, Flint, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application June 17, 1959, Ser. No. 820,915, now Patent No. 3,125,702. Divided and this application Sept. 18, 1963, Ser. No. 313,718
5 Claims. (Cl. 200—83)

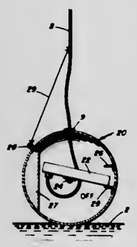
1. A circuit controller comprising, a base member carrying a plurality of electrical contacts, a contact carrier slidably supported by said base member carrying an electrical contact, a rod member, secured to said contact carrier, having at least one recessed portion, a vacuum

motor fixed with respect to said base member having an actuator located at substantially right angles to said rod member and having a pin that snaps into said recessed portion when said vacuum motor is connected with a vacu-



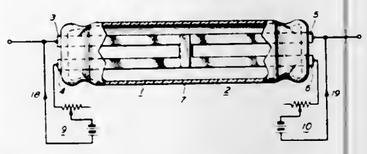
um source, manually operable means for shifting said rod member, and means connected to said rod member applying a force to said rod member that is operative to constantly urge said rod member in one direction.

3,259,714
LIQUID LEVEL SWITCH HAVING LANYARD ROTATING MEANS
Edward J. St. Coeur, Joppa, Md., assignor of twenty-four percent each to William B. Snyder, Sr., and William B. Snyder, Jr., Joppa, Md.
Filed Jan. 7, 1964, Ser. No. 336,152
4 Claims. (Cl. 200—84)



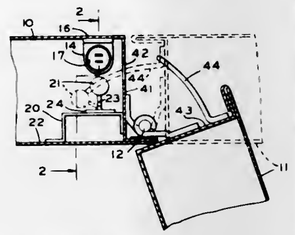
4. A switch for signaling the level of a liquid, comprising an annular housing floating on said liquid so as to move with the level thereof, eye means secured to the exterior of said housing intermediate the top and bottom thereof, an electrical cable extending from the interior of said housing to the exterior thereof through the top of said housing, an upper lanyard having its upper end secured to said cable exteriorly of said housing and thereby restrained independently of said housing and its lower end secured to said eye means to exert a pull thereupon and a corresponding rotation of said housing in the upper direction upon a predetermined fall of the level of said liquid, a weight secured to the periphery of said housing to rotate said housing in the opposite direction upon a predetermined rise in the level of said liquid, an elongated container positioned within said housing and containing an electrically conducting fluid medium for alternately passing from end-to-end of said container upon rotation of said housing in said upper direction and in said opposite direction, and electric circuit means including a pair of spaced electrodes connected to said cable on the interior of said housing and positioned at one end of said container for circuit completion by said electrically conducting fluid medium.

3,259,715
LOCALLY BIASED REED SWITCHES
Harold N. Wagar, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 22, 1964, Ser. No. 384,440
6 Claims. (Cl. 200—87)



1. In an electromagnetic switching device, the combination comprising:
a tipped pair of electrically conducting magnetic contacts disposed with their tips in overlapping relation, one of said contacts comprising means for conducting current in a loop including the overlapping tip of said one magnetic contact and for conducting current between said pair of magnetic contacts.

3,259,716
MAGNETICALLY OPERATED SWITCH
Ole K. Nilssen, Livonia, Mich., assignor to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 19, 1964, Ser. No. 412,350
3 Claims. (Cl. 200—87)

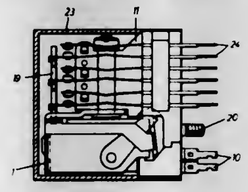


1. In an automotive vehicle, a body structure, a door mounted on said body structure for movement into an open position and a fully closed position, a magnetic reed switch mounted in said body structure, a permanent magnet flexibly mounted adjacent said magnetic reed switch and providing sufficient magnetomotive force on said magnetic reed switch to cause said switch to close, and means mounted on said door and engaging said permanent magnet when said door is fully closed for moving said permanent magnet sufficiently from said magnetic reed switch to cause said switch to open.

3,259,717
MINIATURE ELECTROMAGNETIC RELAY
Max Amann, Ditzingen, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 12, 1963, Ser. No. 294,664
Claims priority, application Germany, July 21, 1962, St 19,508
1 Claim. (Cl. 200—104)

An electromagnetic relay structure comprising an adjustable magnet system assembly and a separately detachable and adjustable spring contact assembly, said spring contact assembly including a plurality of relay type contact springs fastened thereto, first support means including a first supporting bolt connected to said magnet system assembly mounting said spring contact assembly directly to said magnet system assembly, an operating

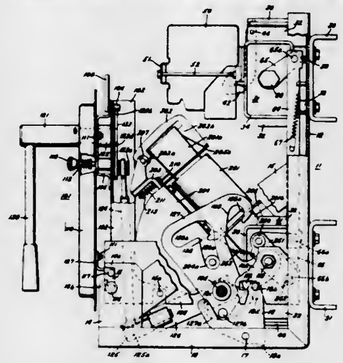
plate associated with said spring contact assembly engaging said magnet system assembly and engaging said relay contact springs and thereby operating said spring contact contact assembly in response to operation of said magnet system assembly, said operating plate being removably supported to permit its ready replacement by another structurally different operating plate selected to operate said spring contact assembly as determined by the arrangement of contacts in the spring contact assembly and providing another predetermined switching function, second support means comprising a second supporting bolt connected to said spring contact assembly and protruding therefrom in a manner enabling the spring contact assembly to receive mechanical support from outside



sources, said first and second supporting means being held by their respective connections in positions normal to one another, said spring contact assembly including a unitary T-shaped spring contact support body having a longitudinal leg and a transverse leg, an aperture in the longitudinal leg receiving said supporting bolt, said contact springs having one end thereof rigidly secured in the transverse leg of said T-shaped support body, said longitudinal leg of said T-shaped body including a plurality of support means supporting the free ends of predetermined ones of said contact springs, and said contact springs each including a terminal portion extending externally of said transverse leg of said T-shaped support body and arranged to slidingly engage an associated printed circuit board.

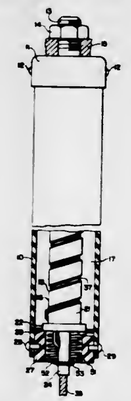
3,259,718
FUSIBLE ELECTRIC SWITCH EQUIPPED WITH COMBINATION FUSE HOLDER AND ARCING CONTACT
Leslie L. Baird, Swarthmore, Pa., and Clarence B. Gehringer, Jr., Audubon, N.J., assignors to General Electric Company, a corporation of New York
Filed Jan. 11, 1965, Ser. No. 424,731
6 Claims. (Cl. 200—114)

1. A switch comprising:
(a) first and second spaced-apart main electric contacts;
(b) a relatively stationary arcing contact connected electrically to the first main contact and disposed physically adjacent thereto; and
(c) means adapted removably to support a cartridge fuse having first and second terminals at opposite ends thereof, said means being movable between a predetermined closed position—in which the first and second terminals of the supported fuse respectively engage said first and second main contacts—and an open position in which said first terminal and said first main contact are disengaged;
(d) said supporting means including means adapted to hold the first terminal of said fuse, said holding means comprising
(i) a cooperating arcing contact releasably attached to the supporting means where it is normally fastened in a predetermined position—said cooperating arcing contact having one surface means for separably engaging said stationary arcing contact during movement of the supporting means from said closed position toward said open position until after said first terminal disengages said first main contact, and having another surface means adapted to engage the side of said first terminal nearest to the first main contact with the supporting means in said open position,
(ii) means adapted to maintain contact pressure between said other surface means of the coop-



erating arcing contact and said first terminal side when engaged thereby, and
(iii) means for unfastening the cooperating arcing contact, the contact when unfastened being movable from its predetermined position, whereby said other surface means disengages the first terminal and the supported fuse is released for removal from the supporting means.

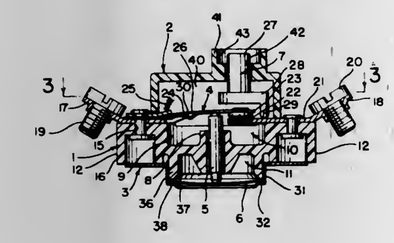
3,259,719
CURRENT LIMITING INDICATING FUSE HAVING SHEARING FORCES ON THE STRAIN ELEMENT
Robert T. Innis, Elletsville, and George A. Rusnak, Bloomington, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 10, 1963, Ser. No. 315,305
9 Claims. (Cl. 200—120)



1. A fuse comprising, in combination, a casing of insulating material, an electrical terminal at one end of the casing, an interrupter rod of insulating material extending substantially the length of the casing substantially centrally thereof, the interrupter rod having a groove along the length thereof, said groove having a first conductor disposed therein connected to the electrical terminal at one end of the rod, the space between the inter-

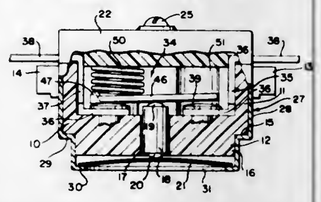
rupter rod and the casing being filled with sand, a spacer member disposed at the other end of the interrupter rod, said spacer member having an aperture centrally disposed therein for receiving the end of the rod, retaining means mounted in the casing adjacent the spacer member for holding the interrupter rod in position in the casing, the adjacent end of the interrupter rod having an axial aperture centrally disposed therein, a movable conductive connector extending into the casing and into the aperture in the adjacent end of the interrupter rod, washer means secured to the movable connector, a normally tensioned spring exerting pressure between the spacer member and the washer means and tending to force the washer means and connector out of the end of the casing, the connector having a transverse bore passing therethrough near the inner end thereof, a fusible element connecting said first conductor to the connector, the fusible element being adapted to melt when at least a predetermined current passes therethrough, a second conductor passing through the bore in the connector and normally holding the connector in position in the aperture in the interrupter rod, the portion of the second conductor which holds the connector in place having shear forces exerted thereon by the spring while the connector is in place, the second conductor being electrically connected to the first conductor, the melting of the fusible element causing the entire fuse current to flow through the second conductor, the second conductor being adapted to be vaporized in the area of the connector by a current not greater than said predetermined current and to release the connector whereupon the spring forces the washer means and connector out of the end of the casing to give a visual indication that the fuse has blown.

3,259,720
THERMOSTATIC CONTROL WITH MANUAL RESET
Clifford S. Odson, Mansfield, Ohio, assignor to Therm-O-Disc, Incorporated, Mansfield, Ohio, a corporation of Ohio
Filed July 12, 1963, Ser. No. 294,592
4 Claims. (Cl. 200—138)



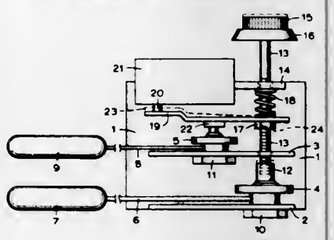
1. A thermostatic control comprising a housing forming a switch chamber, an electric switch in said housing having a mobile contact and a fixed contact, a snap-acting arm of flexible metal mounted on said housing and carrying said mobile contact, said arm having two stable positions and yieldably resisting movement out of either of said positions, said mobile contact being held against said fixed contact by said arm when the arm is in one of said stable positions and being held out of contact with said fixed contact when the arm is snapped to the other of said positions, means for actuating the arm to snap it to said other of said positions comprising a bimetallic disc peripherally mounted in said housing and a bumper connected between said arm and the central portion of said disc, and reset means slidably mounted in said housing for engaging said arm to snap it to said one of said positions.

3,259,721
THERMOSTATIC SWITCH WITH ROCKING BRIDGING CONTACT
Rexford M. Morris, Mansfield, Ohio, assignor to Therm-O-Disc, Incorporated, Mansfield, Ohio, a corporation of Ohio
Filed Mar. 19, 1964, Ser. No. 353,115
5 Claims. (Cl. 200—138)



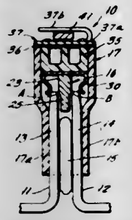
5. A thermostatic control device comprising a housing defining an elongated switch chamber therewithin, switch means mounted within said chamber including longitudinally spaced fixed contact members positioned at one end and on the bottom of said switch chamber and a substantially rigid bridging contact member within said chamber adapted to have one side thereof engage simultaneously both of said fixed contact members, spring means adjacent one end of said chamber and engaging one end of the bridging contact member for biasing said bridging contact member into said simultaneously engagement with said fixed contact members, means acting at the center of said bridging contact member in opposition to said last named means for rocking said bridging contact member with respect to one of said contact members while maintaining contact therewith.

3,259,722
COMPENSATING THERMOSTAT
Henry J. Durst, St. Louis, Mo., assignor to Diatemp, Inc., St. Louis, Mo., a corporation of Missouri
Filed May 22, 1964, Ser. No. 369,492
3 Claims. (Cl. 200—140)



1. In a compensating thermostat of the class described,
a frame provided with a pair of diaphragm bases and a support bracket disposed vertically thereto,
a microswitch mounted on said support bracket,
a pair of diaphragms, each one mounted on one of said diaphragm bases,
a pair of diaphragm bulbs filled with thermoresponsive fluid, one bulb connected to each of said diaphragms,
an adjusting screw threadably mounted on one of said diaphragms, and movably disposed through the diaphragm base associated with the second of said diaphragms,
a pivot nut threadably disposed on and normally fixed with respect to said adjusting screw,
a switch lever mounted at one end against said nut, said other end of said switch lever being between said second diaphragm and said microswitch,
said microswitch mounted on said support bracket being provided with a switch point actuable by said second diaphragm through said switch lever.

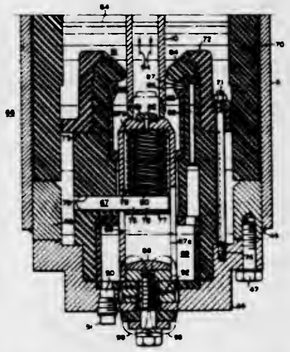
3,259,723
ELECTRIC SWITCH HEAD
Russell S. Davis, Detroit, Mich., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 4, 1963, Ser. No. 313,939
2 Claims. (Cl. 200—144)



1. An electric switch including a first and a second stationary contact means having a first and a second contact section, respectively; said contact sections disposed in face to face relationship with a gap therebetween; a movable head including an insulating housing, a contact slug, an insulating barrier and a force applying device including biasing means; said slug and said device mounted to said housing and disposed therein; said contact sections extending rearwardly into said housing with said barrier positioned in said gap; said barrier positioned forwardly of said slug and being narrower than the width of said gap when said switch is open; said slug including a main section and an arcing section disposed forward of said main section; said head guided by said contact sections for rectilinear movement between a first position wherein said switch is open and a second position wherein said switch is closed; said second position being forward of said first position; said slug positioned to the rear of said gap when said head is in said first position; said slug positioned within said gap when said switch is closed; said force applying device engaging outer surfaces of said contact sections when said switch is closed and urging confronting inner surfaces of said contact sections toward each other into good electrical contact with said main section; said force applying device being free of engagement with said outer surfaces when said head is in said first position; said arcing section being narrower than said main section and also being narrower than the width of said barrier; at the time of initial engagement between said contact sections and said slug as said head is moving from said first to said second position, said force applying device being free of engagement with said outer surfaces; said force applying device including a portion which, at said time of initial engagement, is positioned forward of the most rearwardly extending portions of said contact sections whereby upon closing of said switch said force applying means acts upon said contact sections before current through said switch can build up to a destructive value.

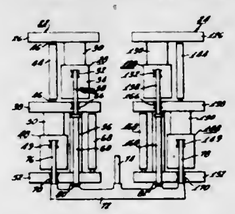
3,259,724
FLUID-BLAST CIRCUIT INTERRUPTER HAVING SERIALLY-RELATED PRESSURE-GENERATING AND INTERRUPTING ARCS
Wayne S. Aspey, Monroeville, Pa., and Benjamin P. Baker, deceased, late of Monroeville, Pa., by Mellon National Bank & Trust Co., executor, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Original application Aug. 27, 1959, Ser. No. 836,405, now Patent No. 3,110,791, dated Nov. 12, 1963. Divided and this application Nov. 5, 1962, Ser. No. 235,573
6 Claims. (Cl. 200—148)

1. The combination in a circuit interrupter of a relatively stationary contact, a movable tubular intermediate contact having a substantially closed end portion, and a movable interrupting contact all making end-to-end engagement in the closed circuit position of the interrupter, an opening spring disposed interiorly of the tubular intermediate contact, a relatively stationary spring seat disposed interiorly of the movable tubular intermediate contact and serving as a spring seat for said opening spring, a slot in the side wall of the movable tubular intermediate contact, a relatively stationary support member extending through said slot and stationarily supporting said relatively stationary spring seat, the movable tubular intermediate contact being moved by said opening spring away from the relatively stationary contact to establish a pressure-generating arc, the movable interrupting contact



separating from the movable tubular intermediate contact to establish another serially related interrupting arc during the opening operation of the interrupter following abutting contact of said relatively stationary support member with the end of the slot, means defining orifice means for facilitating interruption of said interrupting arc, supporting means for supporting said orifice means and containing fluid-passage means communicating radially inwardly with the upstream side of said orifice means, and restricting guide means for slidably guiding opening motion of said intermediate contact and compelling substantially all the fluid to flow under pressure from the pressure-generating arc through said fluid-passage means for extinguishing said interrupting arc.

3,259,725
ELECTRIC CIRCUIT BREAKER HAVING A MODULAR ARRANGEMENT OF INTERRUPTING ASSEMBLIES
William E. Harper, Walpole, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Oct. 16, 1963, Ser. No. 316,734
5 Claims. (Cl. 200—150)



1. In an electric circuit breaker, in combination,
a pair of spaced apart arc extinguishing unit assemblies,
each assembly comprising an upper interrupting device having a vertical axis and a lower interrupting device having a vertical axis,
each of said interrupting devices having a stationary contact therein,
all of said devices in one of said assemblies having their

axes lying in one vertical plane and all of said devices in the other of said assemblies having their axes lying in another vertical plane which is spaced from and parallel to said one vertical plane,

the lower interrupting device in each assembly having its axis offset from but parallel to the axis of the upper interrupting device,

and a movable cross bar for cooperation with said pair of arc extinguishing assemblies,

said cross bar having one cross bar contact in alignment with the axis of one of said devices in said one vertical plane,

said cross bar further having one movable contact operator in alignment with the axis of the other of said devices in said one vertical plane,

said cross bar having another cross bar contact in alignment with the axis of one of said devices in said other vertical plane,

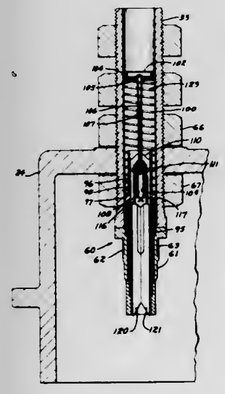
said cross bar further having another movable contact operator in alignment with the axis of the other of said devices in said other vertical plane.

3,259,726

TELESCOPING TYPE CIRCUIT BREAKER HAVING ISOLATOR CONTACT WITH ARC SNUFFING MEANS

Raymond L. Rueffer, Affton, Mo., assignor to Kearney-National Inc., St. Louis, Mo., a corporation of Delaware

Filed Mar. 2, 1964, Ser. No. 348,749
6 Claims. (Cl. 200—151)



1. In an electric circuit isolator having a first fixed contact member; a second fixed contact member;

means mounting said contact members in substantial alignment and spaced a substantial distance apart; and a bridging member mounted for rectilinear movement between said contact members to make and break a circuit therebetween, said bridging member being continuously electrically connected to said first fixed contact member but movable relative thereto, and being selectively electrically connected to and disconnected from said second fixed contact member, the improvement which comprises: said bridging member having:

(a) a main contact selectively engageable with said second fixed contact member,

(b) a spear contact permanently electrically and mechanically connected to said main contact and continuously electrically connected with said first fixed contact member,

said second fixed contact member having electrically connected thereto, a gripper contact member, said gripper contact member:

(c) being spring mounted for limited rectilinear movement toward and away from said first fixed contact member,

(d) being constantly spring biased in a direction away from said first fixed contact member,

(e) having means for receiving and resiliently gripping said spear contact when said main contact and said second fixed contact are engaged; and

(f) having an arc snuffer mounted thereon, movable therewith and projecting therefrom for a substantial distance toward said first fixed contact, said arc snuffer providing a channel for traverse by said spear contact to and from said means (e),

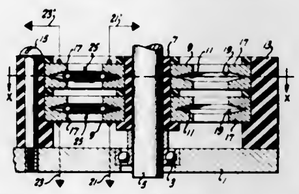
the gripping force exerted by said means (e) upon said spear contact being so coordinated with the spring bias on said gripper contact member that during circuit interruption the gripper contact member moves with said spear contact until said main contact has separated from said second fixed contact.

3,259,727

LOW-RESISTANCE CONNECTOR

William A. Casler, 3487 Barhite, Pasadena, Calif.

Filed Oct. 16, 1963, Ser. No. 317,110
11 Claims. (Cl. 200—155)



1. Means for establishing a low resistance electrical connection between mutually rotatable parts comprising an outer contact ring having a generally V-shaped groove formed in the inner periphery thereof, a circular contact member mounted substantially coaxially within said contact ring for rotation relative thereto and having a generally V-shaped groove formed in its outer periphery substantially coplanar with and facing the groove in said contact ring, and an endless loop intermediate transfer contact including a spring of generally toroidal form distorted into a generally kidney shaped form and wedged between the V-shaped grooves facing each other, the cross section of the spring being less than the radial separation between said ring and said circular member and the diameter of the undistorted loop being greater than the radial separation between said ring and said circular member so that when so distorted there is an appreciable arc of contact between said spring and each of said ring and said circular contact member.

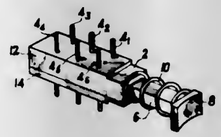
3,259,728

ELECTRICAL SWITCH WITH CONTACT ELEMENTS SERVING AS EXTERNAL TERMINALS AND AS ASSEMBLY FASTENERS

Christian-Marie-Godefroy du Temple de Rougemont, 46 Rue de la Faisanderie, Paris, France, and Max Stapfer, Antony, France; said Stapfer assignor to said Du Temple de Rougemont

Filed June 7, 1963, Ser. No. 286,307
Claims priority, application France, June 16, 1962, 900,983
8 Claims. (Cl. 200—166)

1. An electric switching arrangement comprising an insulating casing having a plurality of parts carrying fixed contacts and which houses a sliding selector element carrying movable contacts for coacting with the fixed contacts, the latter being formed of straight lengths of wire of circular cross-section inserted in holes made in opposed pairs in



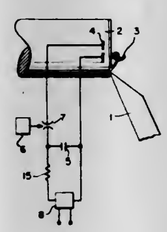
opposed parts of the casing, and the wires being crimped into contact with said parts to interconnect the parts, and the wires projecting from the casing on at least one side thereof.

3,259,729

METHOD AND APPARATUS FOR PERIODICALLY SEPARATING CHIPS FORMED DURING A MACHINING OPERATION

Hans-Josef Mürtz, Lampertheim, and Ewald Jensko, Weinheim an der Bergstrasse, Germany, assignors to Brown, Boveri & Cie, Aktiengesellschaft, Mannheim-Kafertal, Germany, a German corporation

Filed Nov. 20, 1964, Ser. No. 412,652
Claims priority, application Germany, Nov. 23, 1963, B 74,377
13 Claims. (Cl. 219—68)



1. Apparatus for periodically detaching chips from a workpiece during a machining operation, comprising pulse generating means for generating a periodic high current pulse, and means electrically connected to said pulse generating means and energizable thereby for producing a compression wave applying a shearing force to a chip at its place of attachment to a workpiece so as to detach the chip from the workpiece.

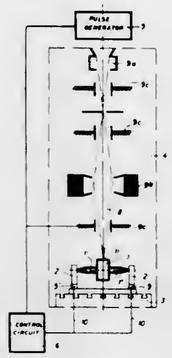
3,259,730

BALANCING METHOD AND APPARATUS

Heinz Wehde and Manfred Spreng, Wiesloch, Rainer Schreieck, Heidelberg-Wieblingen, and Heinz Schröpl, Schwetzingen, Germany, assignors to Teldix Luftfahrt-Ausrüstungs G.m.b.H., Heidelberg-Wieblingen, Germany

Filed Dec. 5, 1962, Ser. No. 242,447
Claims priority, application Germany, Dec. 14, 1961, T 21,275
29 Claims. (Cl. 219—69)

1. A method of balancing a rotating unbalanced work piece, comprising measuring the magnitude and phase position of the unbalance, and during rotation of the work piece removing portions of the unbalance mass, in two planes which are spaced axially from the center of gravity of the work piece and which are located axially, on opposite sides of such center of gravity, by means of at



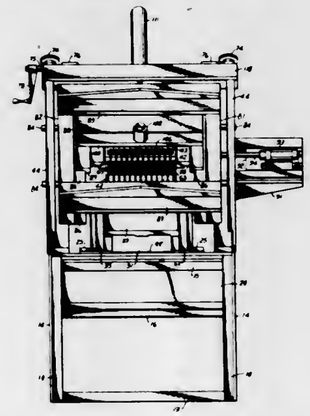
least one focussed beam until the work piece has attained the desired degree of balance.

3,259,731

METHOD AND MACHINE FOR MAKING HONEYCOMB CORE

Henry Poniktera, El Cajon, Calif., assignor to Rohr Corporation, a corporation of California

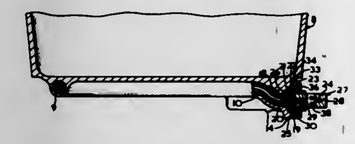
Filed Jan. 22, 1957, Ser. No. 635,357
22 Claims. (Cl. 219—82)



1. A resistance welding machine for welding strips of corrugated metal together at predetermined spaced apart points, comprising: a first set of evenly spaced apart parallel pins disposed in a common plane and arranged to support a first strip of corrugated metal; means for supporting said first set of pins, said supporting means being arranged and constructed to move said first set of pins axially and normal to the plane of the pins; a second set of evenly spaced apart parallel pins disposed in a common plane and extending between and parallel to said first set of pins, said second set of pins being arranged to support a second strip of corrugated metal disposed over said first strip and in contact with said first strip over each of the pins of said first set; means for supporting said second set of pins, said supporting means being arranged and constructed to move said second set of pins axially and normal to the plane of the pins; a plurality of wheels rotatably supported in alignment with selected pins of said first set; means for moving said wheels across said corrugated strips along said

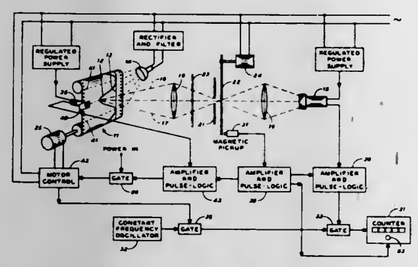
selected pins; and means for simultaneously passing a welding current through said corrugated strips between said pins and wheels.

3,259,732
WATERPROOF TERMINAL CONSTRUCTIONS AND ELECTRICAL HEATING ELEMENTS INCLUDING SAME
Ivar Jepson, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 28, 1963, Ser. No. 319,390
6 Claims. (Cl. 219—436)



3. In a cooking vessel a waterproof terminal construction for a heating element comprising a cast metal cooking vessel, a sheathed type heating element cast in the cooking vessel, said element including a tubular sheath, means on said vessel defining a well at one end of said sheath, a central terminal lead for the heating element, a sealing element of a heat-resistant flexible material which element is cylindrical in its unstrained state, an axial bore through the sealing element, the terminal lead extending through the axial bore, an elongated hollow terminal enclosing the said central terminal lead, an enlarged end to the hollow terminal, an insulator surrounding the inner end of the terminal, a well in the base of the insulator enclosing the enlarged end of the terminal, a circumferentially extending step on the outer surface of the insulator, a retaining washer seated on the step of the insulator and means for securing the retaining washer within the well in the casting to compress the sealing element axially between the base of the well in the casting and the enlarged end of the terminal, the sealing element expanding radially to fill the greater part of the base of the well in the casting.

3,259,733
AUTOMATIC INTEGRATOR FOR CHROMATOGRAPH RECORDS
Rudolf F. Klaver, Albany, and Kenneth W. Gardiner, Menlo Park, Calif., assignors to Chevron Research Company, a corporation of Delaware
Filed Feb. 24, 1961, Ser. No. 91,519
3 Claims. (Cl. 235—61.6)



3. Apparatus for automatically counting signals representative of incremental areas enclosed between a base line and a curving line displaying variations in a charted quantity on a record chart and for accumulating said counted signals for a predetermined portion of said chart having beginning and ending marks comprising:

(a) first sensing means for sensing the beginning and the ending marks of said predetermined portion in sequence,

(b) second sensing means for sensing said base line and said curving line on said record chart in sequence,

(c) a start circuit connected to said second sensing means,

(d) a counter and means for energizing said counter with said signals to be counted,

(e) an actuating circuit means for connecting said counter to said means for energizing,

(f) said start circuit means being responsive to said sensing of said base line for operating said counter actuating circuit, whereby said counter is energized to accumulate said signals,

(g) a stop circuit means connected to said second sensing means,

(h) a circuit switching means, and means in said start circuit means for actuating said circuit switching means so as to disconnect said start circuit from said second sensing means and to connect said stop circuit means to said second sensing means,

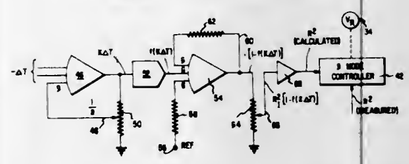
(i) said stop circuit means being responsive to said sensing of said curving line for interrupting said connection of said counter to said means for energizing,

(j) said start circuit means, said actuating circuit means for connecting said counter and said stop circuit means being operated in sequence to accumulate said counted signals in incremental areas enclosed between said base line and said curving line beginning with the sensing of said beginning mark of said predetermined portion and terminating with the sensing of said ending mark of said predetermined portion,

(k) and additional circuit means for controlling said circuit switching means to disconnect said stop circuit means from said second sensing means and to reconnect said start circuit means to said second sensing means,

said additional circuit means including a terminating circuit for terminating operation of said counter if said start circuit, said actuating circuit and said stop circuit are not operated in sequence before operation of said additional circuit tion of said counter by said terminating cirand means for indicating termination of operacuit.

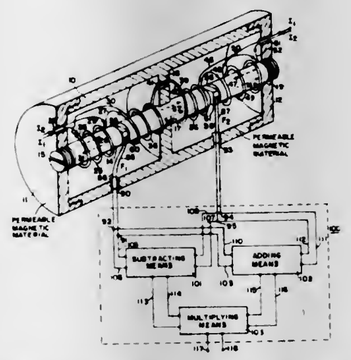
3,259,734
COMPUTER CONTROL OF EXTERNAL REFLUX TO A FRACTIONATING COLUMN
George R. Marr, Jr., Princeton Junction, N.J., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Jan. 2, 1963, Ser. No. 249,069
3 Claims. (Cl. 235—151.35)



1. A computer for controlling the application of external reflux to a distillation column, the computer comprising; means for sensing the temperature difference between overhead reflux streams of the distillation column and applying the said temperature difference as an electrical signal to the computer, means for multiplying the temperature difference signal by an electrical signal representing a predetermined constant, function generator means for generating a signal representing a function of said constant times said temperature difference, means for subtracting said last-named signal from numerical 1, and

means for multiplying the result of the subtraction operation by the square of the desired internal reflux mass flow rate to obtain the square of the external reflux flow rate which would be required to provide the desired internal reflux flow rate.

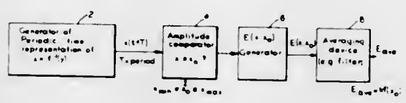
3,259,735
ARITHMETIC COMPUTATION USING A NUCLEAR MAGNETIC RESONANCE ANALOG TO DIGITAL CONVERTER
Paul D. Senstad, Golden Valley, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 31, 1962, Ser. No. 248,526
7 Claims. (Cl. 235—151)



1. An analogue to digital converter of the class described comprising: first and second nuclear magnetic resonance devices, each having a sensitive coil and an output providing a signal having a frequency proportional to magnetic flux applied to said sensitive coil; a first magnetic field variable in accordance with the sum of a first current plus a second current and said first current minus said second current; a second magnetic field variable in accordance with the difference between said first current plus said second current and said first current minus said second current; means mounting said sensitive coil of said first nuclear magnetic device within said first magnetic field and said sensitive coil of said second nuclear magnetic device within said second magnetic field; summing means having an output which is the sum of a first and second freqeuncy applied thereto; subtracting means having an output which is the difference between a first and second frequency applied thereto; multiplying means; means connecting said outputs of said first and second nuclear magnetic resonance devices to said summing means and said subtracting means; and means connecting said outputs of said summing means and said subtracting means to said multiplying means, said multiplying means producing an output proportional to the square of said first current minus the square of said second current.

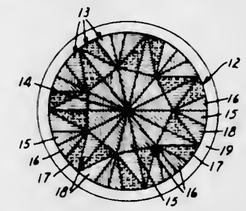
3,259,736
METHODS AND APPARATUS FOR GENERATING FUNCTIONS OF A SINGLE VARIABLE
Hugo M. Martinez, San Mateo, Calif., assignor to Yuba Consolidated Industries, Inc., San Francisco, Calif., a corporation of Delaware
Filed May 11, 1959, Ser. No. 812,566
23 Claims. (Cl. 235—197)

2. An apparatus for generating the arc sine of an independent variable comprising a comparator; means for supplying to said comparator a periodic time representation of a sine function and an input terminal for supplying said independent variable to said comparator; an auxiliary variable function generator controlled by the output of said comparator for generating an auxiliary variable of value representing $\pi/2$ radians during an interval of time equal to that when the value of said sine time function is equal to or less than said independent variable and of value representing $-\pi/2$ radians during



an interval of time equal to that when the value of said sine time function is greater than said independent variable; and means for averaging the values of said auxiliary variable, this average being proportional to the arc sine of said independent variable.

3,259,737
ANTI-GLARE DEVICE FOR AUTOMOTIVE HEADLIGHTS
George J. Germann, P.O. Box 375, New Ulm, Minn.
Filed Dec. 26, 1963, Ser. No. 333,559
6 Claims. (Cl. 240—46.57)



1. In an automotive headlight having a lens:

(a) a color transparent glare-reducing filter covering the greater portion of the area of the lens of said headlight, said filter comprising:

(1) a plurality of filter sections of at least two different colors and with each section being of a single color,

(2) said colored filter sections being arranged so that differently colored sections are adjacent to one another,

(b) said filter being carried by the lens of said headlight,

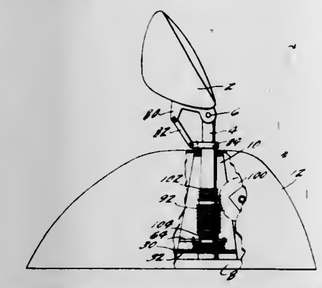
(c) each of said filter sections being small enough in size whereby rays from said light extending from opposite sides of each such filter section at the greatest dimension thereof subtends not more than a one minute angle at a distance at least approximately 50 feet away from the headlight, and

(d) said color sections blending together to produce a generally glare-free and white or near white illumination at or beyond said distance.

3,259,738
SCANNING DEVICE
George W. Strother, Jr., Arlington, Va., assignor to Navionics, Inc., a corporation of Delaware
Filed Nov. 15, 1963, Ser. No. 323,940
10 Claims. (Cl. 240—61.9)

1. A remotely controlled searchlight assembly, including a base, a turnable shaft on said base, a searchlight carried by said shaft, means for turning said shaft on the base and thereby turning the searchlight on a sub-

stantially vertical axis, slip clutch means between said shaft and turning means and clutch actuating means including interacting cam and follower means carried by



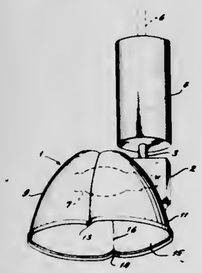
said base and shaft for disengaging said clutch and limiting the turning movement of said support to an arc substantially greater than 360°.

3,259,739

LUMINAIRE WITH SIAMESE DOMED REFLECTOR

Frederick E. Guth, Clayton, Mo., assignor to The Edwin F. Guth Company, St. Louis, Mo., a corporation of Missouri

Filed Jan. 6, 1964, Ser. No. 335,780
1 Claim. (Cl. 240—103)



A luminaire comprising an open-based reflector composed of a couplet of two identical halves wherein the respective halves each consists of a segment of a conoid-like surface which segment embraces substantially more than 180°, said segments being joined together at their plane of segmentation to define an internal rib extending from the open base of the reflector across the top thereof substantially normal to said open base, a vapor discharge lamp having an elongated filament, and means for positioning said lamp within said reflector with said filament extending substantially normal to the plane of said internal rib for a substantial distance on both sides of said plane so that said filament is substantially bisected by said plane; said filament being otherwise so positioned within said reflector and said reflector being so shaped that a symmetrical light pattern of substantially uniform intensity is produced at areas substantially parallel with the open base of said reflector.

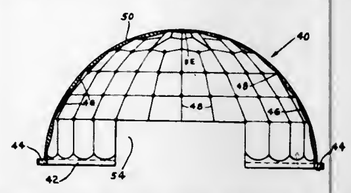
3,259,740

ILLUMINATING ORNAMENT HAVING A LENS MEMBER

Jack Burnbaum, 451 D St., Newton, Mass.

Filed Nov. 21, 1963, Ser. No. 325,242
4 Claims. (Cl. 240—106)

1. A bow-shaped lens member having a continuous, smooth outer surface comprising an outer edge portion, a plurality of integral circumferential rows of double-convex lens portions at the inner surface of said lens member and adjoining each other some of which portions are completely bordered by four straight lines, an integral central portion at the apex of said bowl, and a



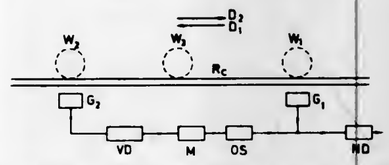
circumferential row of said lens portions intermediate said outer edge and said apex each being completely bordered by five straight lines.

3,259,741

DEVICE FOR INDICATING THE PASSAGE OF A TRAIN

Jacques Fossé, Argenteuil, and Louis Desprez, Paris, France, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 13, 1962, Ser. No. 216,425
7 Claims. (Cl. 246—250)



1. A railway signal system for indicating the passage of a train in a given direction of travel along a section of railway track comprising first control means located near said track and responsive to the presence of a passing train for producing a first control signal, second control means located along said track and spaced apart from said first control means so that the train passes said first control means first when moving in said given direction of travel and passes said second control means first when moving in the opposite direction, said second control means being responsive to the presence of a passing train for producing a second control signal, monostable circuit means having a stable condition and an unstable condition and responsive to said second control signal, said monostable circuit means being switched to said unstable condition by said second control signal upon passage of a train past said second control means, third control means coupled to said monostable circuit means and responsive to the switching thereof for producing a third control signal of a duration sufficient to overlap in time the produced first control signal when said train moves in said opposite direction, indicating means, and means for supplying said first and third control signals to said indicating means so that for said opposite direction of travel said third control signal inhibits said first control signal from producing an indication on said indicating means.

3,259,742

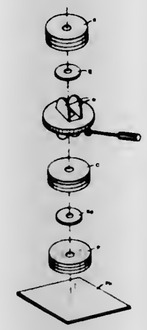
ARRANGEMENT FOR MAGNETICALLY AFFECTING OBJECTS UNDER INVESTIGATION IN ELECTRON MICROSCOPES

Ekkehard Fuchs, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Sept. 5, 1961, Ser. No. 135,989
Claims priority, application Germany, Oct. 17, 1960, S 70,893
10 Claims. (Cl. 250—49.5)

1. An arrangement for investigating, with the aid of a corpuscular beam microscope, magnetic regions contained in thin layers, comprising, disposed in the specimen plane,

a Helmholtz coil combination consisting of ring-shaped coils the coil radius of which is substantially equal to the coil spacing, means for rotating the Helmholtz coil com-



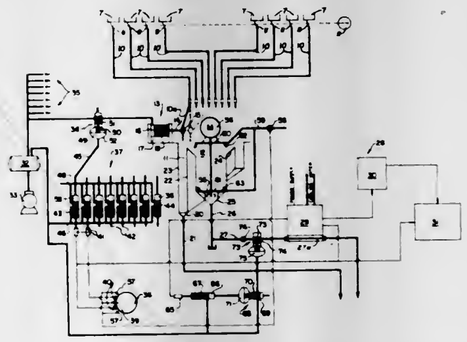
bination about an axis extending in parallel with the direction of the corpuscular beam, and means for focusing the imaging optics of the microscope to the plane outside the specimen plane.

3,259,743

APPARATUS FOR SAMPLING AND ANALYZING A PLURALITY OF CONTINUOUSLY FLOWING STREAMS OF MATERIAL THROUGH FLEXIBLE CONDUITS

Hans H. Pick and Edward R. Bingham, Jr., Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Dec. 11, 1963, Ser. No. 329,766
11 Claims. (Cl. 250—51.5)



1. Apparatus for sampling and analyzing a plurality of streams of material, comprising

a corresponding plurality of flexible conduits through which said streams are passed, one to each conduit;

means for normally receiving the flow of material from said conduits;

a material analyzer having a sample presentation portion;

means for flowing material into said presentation portion of the analyzer;

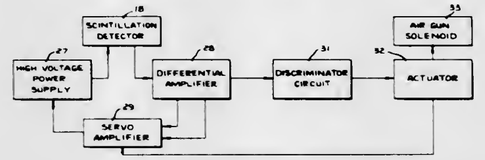
and means for successively moving the individual flexible conduits between normal discharge positions with respect to said receiving means and sample discharge positions with respect to the means for flowing material to the analyzer.

3,259,744

SIGNAL STABILIZED RADIATION MEASURING AND DISCRIMINATING APPARATUS USING A SCINTILLATION DETECTOR

John A. Gorecki, Chicago, and Stephen F. Skala, Glen Ellyn, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed May 6, 1963, Ser. No. 278,074
16 Claims. (Cl. 250—71.5)



4. Signal-stabilized radiation measuring and discriminating apparatus, which comprises:

a scintillation detector system sensitive to an intermittently varying radiation flux and operable to produce combined electrical signals consisting of a reference signal corresponding to a normal level of flux intensity and an intelligence signal corresponding to the change in flux intensity for each intermittent variation with respect to the normal level;

a differential amplifier responsive to the output signals of said detector system and to a fixed signal for producing complementary signals, and operative normally in a balanced condition between variations in flux intensity when the reference signal remains at a selected value, the fixed input signal being maintained at such selected value to control one of the complementary signals, said amplifier also amplifying the intelligence signal to provide a corresponding amplified output signal proportional to the change in flux intensity with respect to the normal level;

a discriminator circuit responsive to the output of said amplifier to provide an output pulse in response to such signal attaining a selected absolute magnitude and returning a selected value of reference signal; and

control means sensitive to an unbalanced condition in said amplifier and operable to control said detector system, said control means being energizable to balance said amplifier by controlling the reference signal of said detector system;

means for selectively energizing said control means between intermittent variations in flux intensity when the detector output consists of the reference signal alone, so that said control means may adjust the reference signal of said detector system to the selected value to balance said amplifier;

whereby said control means may stabilize the reference signal and control drift in the output signals of said detector system between variations in the flux intensity, and said discriminator circuit may effect continuous bilevel discrimination and compensate for drift in the detector output signals during variations in flux intensity.

3,259,745

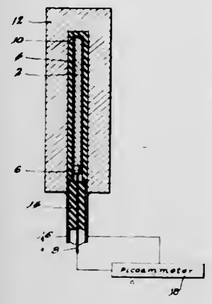
BORON-12 BETA DECAY NEUTRON DETECTOR

George F. Garlick, Kennewick, and Wilbur L. Bunch, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 18, 1963, Ser. No. 317,392
7 Claims. (Cl. 250—83.1)

1. A neutron detector comprising a body of boron enriched in the isotope boron-11, a conducting metal envelope enclosing said boron body and insulated there-

from, electrically conducting leads from said boron body and said envelope and means for measuring electrical



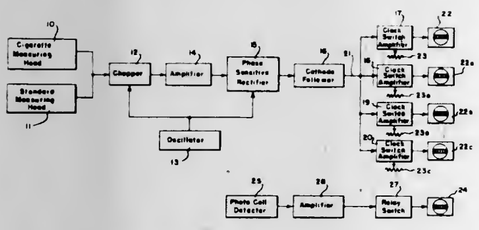
current produced by the neutron irradiation of said boron body.

3,259,746

APPARATUS FOR AUTOMATICALLY WEIGHING AND TOTALIZING THE PRODUCTION TIME INTERVALS OF A PLURALITY OF DIFFERENT WEIGHT CATEGORIES OF CIGARETTES DURING MANUFACTURE

Julian A. Blunt, Louisville, Ky., assignor to The American Tobacco Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 29, 1960, Ser. No. 11,889
3 Claims. (Cl. 250—83.3)



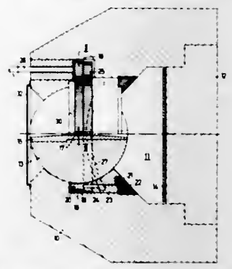
1. In a cigarette maker, means for automatically weighing all cigarettes manufactured in the maker and means for totalizing the respective production time intervals devoted to the manufacture of all cigarettes in each one of a plurality of different predetermined weight categories, said weighing means including a radiation-type density measuring head and circuit means connected thereto for generating a measuring voltage related in amplitude to the amount of tobacco in each of the cigarettes issuing from the maker, an electrically operated elapsed-time indicator for each weight category, a separate switch means for energizing each indicator, and separate switch operating means for each of said separate switches, each of said switch operating means having a separate control input connected at all times to the measuring voltage generating circuit in parallel with each of the other control inputs, each of said switch operating means being selectively operable by said measuring voltage and each having a predetermined different threshold operating voltage corresponding to a separate one of each of said predetermined weight categories.

3,259,747

APPARATUS FOR RECORDING AN IMAGE OF THE LOCAL DISTRIBUTION AND THE RADIATION INTENSITY OF RADIOACTIVE MATERIALS DEPOSITED IN A SPACE

Albert Ziegler, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Sept. 10, 1963, Ser. No. 308,030
Claims priority, application Germany, Sept. 21, 1962, S 81,583
9 Claims. (Cl. 250—65)



1. An apparatus for determining the local distribution and radiation intensity of radioactive materials deposited in a space, comprising a chamber shielded on all sides against radioactive radiation, replaceable carrier means including an illustration of the space taken from a specific viewing angle, said illustration being coated with a radiation-sensitive film and being mounted in a specific plane in said chamber, and a sphere partly defining said chamber and spaced from said radiation-sensitive film, said sphere being formed with a central bore communicating between said chamber and the exterior thereof and being rotatable about a pair of mutually perpendicular axes, one of said axes being located transverse to said specific plane and the other of said axes being located substantially parallel thereto, said one axis coinciding at a position of said sphere with the axis of said bore, said sphere being provided with a pair of opposed trunnions aligned on the other of said axes, and mechanism for rotating said sphere, said mechanism comprising first rotatable means surrounding said sphere and having an axis of rotation coinciding with said one axis, drive means for rotating said first rotatable means about said axis of rotation, said trunnions being diametrically mounted in said first rotatable means, and second rotatable means connected between said first rotatable means and said sphere for rotating said sphere about said other axis as said first rotatable means is rotated about said axis of rotation by said drive means, so that an area of the space wherein radioactive materials are deposited at the exterior of said chamber and a corresponding area of said radiation-sensitive film are simultaneously scannable at said specific viewing angle through said bore, whereby said sphere acts as a camera objective focussing radiation in the exterior area through said bore onto said radiation-sensitive film for forming a recorded image of the radiation superimposed on said illustration.

3,259,748

ISOTOPE STORAGE DEVICE

C. Jay Lammers, deceased, late of Billings, Mont., by Lola M. Lammers, administratrix, 948 Lake Elmo Road, Billings, Mont.

Filed Jan. 18, 1963, Ser. No. 252,461
1 Claim. (Cl. 250—106)

A device for storing radioisotopes in a refrigerated cabinet having a front opening comprising,

a rectangular supporting framework insertable through said opening,

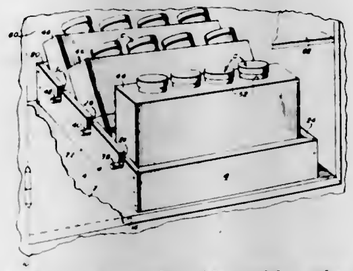
said framework having a periphery defined of parallel side rails, a front rail and a rear rail,

a first substantially solid lead block within said framework and adjacent said rear rail and at least one other lead block between said first block and said front rail,

each of said blocks having an outer surface defined by a bottom, side walls and a top,

a plurality of cavities formed in each of the said top sides for the reception of cans containing radioisotopic materials, each of said cavities having a lower portion defined by an inner surface, said inner surface being spaced sufficiently from said outer surface to shield personnel in the vicinity of said device from isotopes contained in said cavities,

means pivotally supporting said first block for pivotal



movement to a normal, stable position wherein said rear rail supports said block at an angle where the top side thereof is obliquely inclined away from said opening and to,

a second, vertical, unstable position wherein said top side is generally horizontal and easy access is had to said cavities from said opening,

second means pivotally supporting said other block to a normal, stable position wherein said first block supports said other block at an angle where the top thereof is obliquely inclined away from said opening and to a second, unstable position wherein the top side of said other block is generally horizontal and easy access is had to the cavities of said other block.

3,259,749

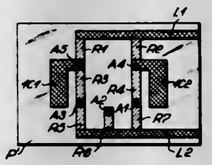
WITHDRAWN

3,259,750

PHOTOSENSITIVE CIRCUIT AND SUPPORT

Richard Volkmann, Seligenstadt, Germany, assignor to Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany, a firm

Filed Apr. 1, 1963, Ser. No. 269,648
2 Claims. (Cl. 250—211)



1. An electric circuit comprising in combination:

(a) a supporting plate of insulating material;

(b) transistor means supported by said plate and arranged on one side thereof;

(c) resistor means arranged on the other side of said plate formed by predetermined illuminated areas of a photoconductive layer substantially coextensive with said other side of said plate;

(d) a mask covering said layer having opaque portions excluding light from other predetermined areas of said layer; and

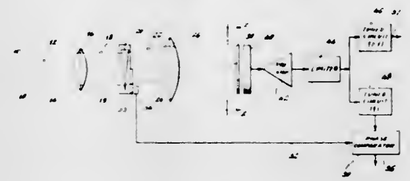
(e) conductor means conductively interconnecting said transistor means and said resistor means, said conductor means including sections projecting transversely through said plate.

3,259,751

STAR TRACKING SYSTEM

Harold L. Sachs, White Plains, N.Y., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed July 9, 1962, Ser. No. 208,364
9 Claims. (Cl. 250—236)



1. A monitoring device for determining the position of a target object in the field of view of the monitoring device comprising:

means for nutating said field of view including said target object about a nutation axis at a certain fundamental rotation frequency;

a reticle positioned in the radiant energy of said nutating field view with its center on said nutation axis,

said reticle having a pattern which is symmetrical about its center and includes at least one obscuring and at least two transmitting sectors;

said reticle therefore modulating light from said target object, when it is in the center of said field of view so as to form a circle centered with respect to said nutation axis and therefore the center of said reticle, at a fully modulated frequency equal to the number of transmitting sectors times said fundamental nutation frequency;

light from said target object, when not so centered, being passed by said reticle at least partially at a lesser frequency than said full modulated frequency;

detector means, positioned behind said modulating means, thereby receiving said modulated radiant energy,

said detector therefore producing a signal containing components at both said fully modulated frequency and said lesser frequency when said target object is at a distance from said center of said field of view;

and means for deriving solely from said lesser frequency component of said detector signal an output containing information as to the magnitude and direction of the monitored position of said object from said centered position.

3,259,752

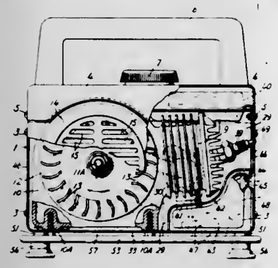
PORTABLE ENGINE

Soichiro Honda, Tokyo, Japan, assignor to Kabushiki Kaisha Honda Gijutsu Kenkyusho, Kitaadachi-gun, Saitama-ken, Japan

Filed Oct. 23, 1963, Ser. No. 318,235
Claims priority, application Japan, Oct. 24, 1962, 37/62,467
4 Claims. (Cl. 290—1)

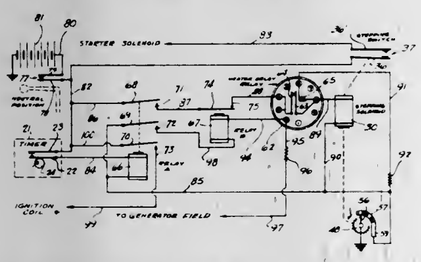
1. A portable engine comprising, a casing with a cylinder and a crank chamber longitudinally disposed therein; said crank chamber having a crank shaft extending through it; a first suction fan; a first end of said crank

shaft being linked to said first suction fan; a dynamo; the other end of said crank shaft being linked to said dynamo; said casing having a bottom surface; a heat in-



sulating plate fixed in spaced relationship with the bottom of said casing and held in spaced relationship by a plurality of spacing members.

3,259,753
AUTOMATIC ENGINE STARTER
Wayne T. McWhirter, P.O. Box 198, North Miami, Fla.
Filed Jan. 24, 1964, Ser. No. 340,062
11 Claims. (Cl. 290—38)



1. In an automatic engine starting system, a starting switch, a solenoid provided with a movable armature, means on said armature operatively engageable with said starting switch to close same responsive to each energization of the solenoid, means biasing the armature away from switch-closing position, a time-controlled switch, a normally closed delay switch provided with an operating winding and means to open the delay switch after a predetermined period of energization of said operating winding, a source of current, means to connect said operating winding to said source of current responsive to closure of said time-controlled switch, and circuit means connecting said solenoid to said source of current through said time-controlled switch and said delay switch.

3,259,754
POLARITY INDICATOR
Leslie C. Matheson, 24023 Mapleridge Drive, North Olmsted, Ohio
Filed Oct. 23, 1962, Ser. No. 232,458
2 Claims. (Cl. 307—85)



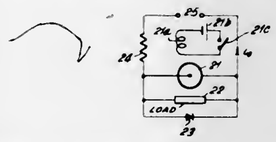
1. In a method for connecting together in proper polarity first and second sources of current by first and second conductors each having two ends with first and second clips, and a rectifier and electric lamp serially connected across said conductors,

said method comprising attaching first and second clips of the first ends of the conductors to the first current source to determine proper polarity of the conductors relative to said first source by illumination of said lamp,

disconnecting at least one of the clips on the first end of said conductors,

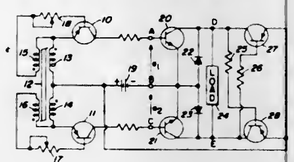
and determining the polarity of said conductors relative to said second source by connecting said first and second clips of the second ends of the conductors attached to said second source with at least one of the clips on the first end disconnected from the first source.

3,259,755
HALL GENERATOR SWITCHING CIRCUITS
Herbert Weiss, Nurnberg, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed June 27, 1961, Ser. No. 120,080
Claims priority, application Germany, Aug. 10, 1960, S 69,869
8 Claims. (Cl. 307—88.5)



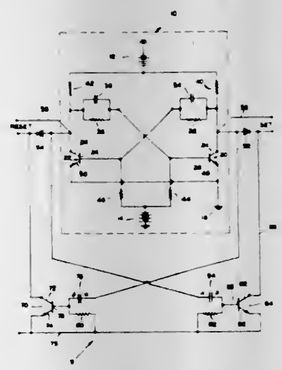
1. Electronic switching circuit, comprising current supply means, a load connected to said supply means, galvanomagnetic member means and tunnel diode means connected with each other and with said load for jointly switching the current passing from said supply means through said load, said member means having controllable magnetic field means for controlling the switching operation by galvanomagnetic variation of said member means, said tunnel diode means having a current-voltage characteristic with a negative range between a current maximum at relatively low voltage and a current minimum at higher voltage, said negative range being matched to the range of said galvanomagnetic variation so as to be located within the range of diode-current change due to said variation, whereby said variation causes the load voltage to switch between two limit values corresponding to respective points near said maximum and minimum respectively of said tunnel-diode characteristic.

3,259,756
COMPLEMENTARY BRIDGE DIFFERENTIAL CONTROL CIRCUIT
Don E. Meier, Minneapolis, Minn., and Charles A. Oppedahl, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Apr. 1, 1963, Ser. No. 269,421
6 Claims. (Cl. 307—88.5)



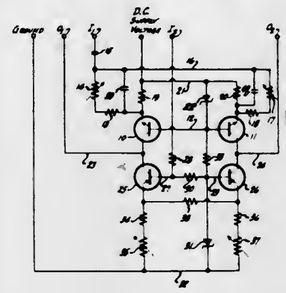
1. A differential control circuit for a two-terminal direct-current load whereby said load may be reversibly controlled from a three-wire differential pulse-width modulated drive signal source; said control circuit comprising a four terminal bridge network the respective arms of which comprise switching means, a source of direct current voltage, said source of current voltage forming a first diagonal of said bridge network, said load forming the other diagonal of said bridge, said three-wire drive signal source having a first common terminal thereof connected to the common junction between first and second ones of said switching means and said direct current voltage source, said first and second switching means being responsive to said drive signal to alternately close in repetitive sequence, control means interconnecting each of said first and second switching means with respective oppositely disposed ones of the others of said switching means in response to which said others of said switching means are respectively closed in response to the closing of the interconnected one of said first and second switching means, whereby said load is alternately serially connected in opposing polarization with said direct current voltage source, the net direct current voltage across said load being zero in response to a respectively equal closed and open time intervals of said first and second switching means, and the net direct current voltage across said load being respectively positive and negative in response to mutually opposite differential variations of said first and second switch open and closed time intervals.

3,259,757
HIGH SPEED ACTIVE TRIGGERING CIRCUIT FOR USE WITH A BINARY
Thomas J. Lavin, Lodi, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed May 20, 1963, Ser. No. 281,571
8 Claims. (Cl. 307—88.5)



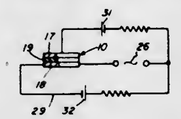
1. A trigger circuit for use with a binary of the kind having SET and RESET inputs and changing state in response to a predetermined polarity going trigger signal, comprising first and second transistors connected respectively to the SET and RESET inputs of the binary, means connected to the transistors for applying a given polarity going complementary input signal thereto, capacitors connected to the input signal means and connecting the first and second transistors respectively to the RESET and SET inputs of the binary, said capacitors being connected and arranged to receive a charge from the input signal means prior to an excursion of the signal in a given polarity sense and then discharging through at least one transistor rendering said transistor in a conducting state immedately subsequent to the given polarity excursion of said input signal to apply the predetermined polarity trigger signal to the binary.

3,259,758
SUM AND DIFFERENCE CIRCUIT
Gilbert Louis Hobrough, Los Altos, Calif., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Sept. 13, 1963, Ser. No. 308,776
12 Claims. (Cl. 307—88.5)



1. A circuit for accepting first and second input signals to develop two output signals therefrom one of which is proportional to the approximate arithmetic sum of and the other of which is proportional to the approximate arithmetic difference between the two input signals, comprising: first and second input means adapted to have such first and second input signals respectively applied thereto, a pair of output means, a signal duplication network interconnecting said first input means with said pair of output means for delivering to each a duplicate of such first input signal, a pair of transistors each having an emitter and collector and one thereof having a base, said second input means being connected to the base of said one transistor for applying such second input signal thereto, and a network coupling the emitters of said transistors so that such second input signal applied to the base of said one transistor is duplicated at the emitter of the other transistor, said pair of output means also being respectively connected with the collectors of said transistors so that a phase-inverted amplified reproduction of such second input signal is delivered to the output means connected to said one transistor and an amplified duplicate of such second input signal is delivered to the other output means, whereby the resultant appearing at one of said output means is essentially the sum of the two signals delivered thereto and the resultant output appearing at the other of said output means is essentially the difference between the two outputs delivered thereto.

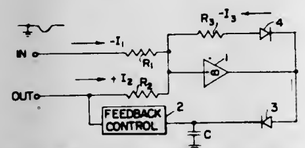
3,259,759
LAMINATED ELECTRONIC DEVICES IN WHICH A TUNNELING ELECTRON-PERMEABLE FILM SEPARATES OPPOSED ELECTRODES
Ivar Giaever, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Original application Nov. 17, 1960, Ser. No. 70,074, now Patent No. 3,166,427, dated Dec. 31, 1963. Divided and this application Sept. 18, 1963, Ser. No. 309,806
7 Claims. (Cl. 307—88.5)



1. An electronic device comprising a laminated body, means for connecting the body in an electric circuit, and means for maintaining the laminated body at a temperature such that an element of said body will be superconducting, the said laminated body comprising a semi-

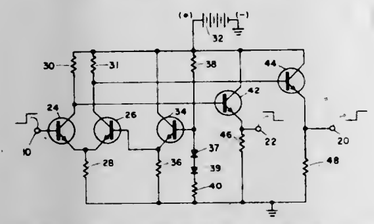
conductor in the form of a film, a second conductor in the form of a film of metal which is superconducting within a certain temperature range, and a continuous film of insulating material disposed between and engaging the semiconductor and the superconductor and through which electrons can tunnel in travel from one of said conductors to the other.

3,259,760
PEAK HOLDING CIRCUIT
Kenneth H. Morey, Framingham, and Kenneth E. Perry, Arlington, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Nov. 7, 1963, Ser. No. 322,244
8 Claims. (Cl. 307—88.5)



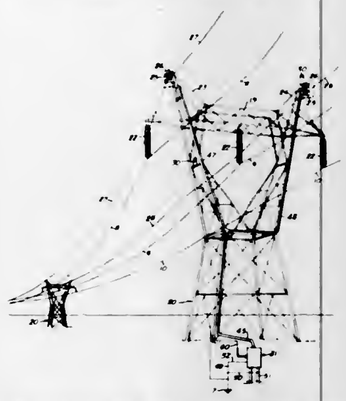
1. A signal detecting circuit for holding peak values of an input signal comprising amplifying means having an input responsive to said input signal and producing an output, means coupled to the output of said amplifying means for storing signals of only one polarity, means responsive to said storing means for providing feedback to the input of said amplifying means and means for coupling signals of a polarity opposite said one polarity from said output to said input.

3,259,761
INTEGRATED CIRCUIT LOGIC
Jan A. Narud and Walter C. Seelbach, Scottsdale, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 13, 1964, Ser. No. 344,718
7 Claims. (Cl. 307—88.5)



3. A logic circuit constructed in integrated circuit form and responsive to a binary logic input signal having first and second voltage levels with respect to a reference potential, such logic circuit including in combination: a first transistor and a plurality of second transistors of the same conductivity type each including an emitter, a collector and a base electrode, said emitter electrodes and said collector electrodes of said second transistors being connected together respectively; means for connection to a power supply and including a first conductor at the reference potential and a second conductor providing a direct current potential with respect to said reference potential; first resistance means connected between said collector electrode of said first transistor and said second conductor and forming the sole potential supply to said collector electrode, second resistance means connected between said collector electrodes of said second transistors and said second conductor and forming the sole potential supply to said collector electrodes, and third resistance means connected between said first conductor and said emitter electrodes of said first and second transistors; bias circuit means coupled to said base electrode of said first transistor for establishing thereat a predetermined bias potential having a voltage with respect to said reference potential intermediate said first and second voltage levels; input circuit means including an input portion coupled to said base electrode of each of said second transistors for applying thereto binary logic input signals to switch the circuit between a first state in which said first transistor is conductive and a second state in which one of said second transistors is conductive, said levels of said input signals and said bias potential having values such that said first and second transistors when conductive are in a non-saturated condition; and output circuit means including third and fourth transistors of the same conductivity type as said first and second transistors, each of said third and fourth transistors being connected in an emitter follower circuit and having a collector electrode connected to said second conductor, a base electrode and an emitter electrode, said base electrode of said third transistor being conductively connected to said collector electrode of said first transistor and said base electrode of said fourth transistor being conductively connected to said collector electrodes of all of said second transistors, and fourth and fifth resistance means connected respectively between said emitter electrodes of said third and fourth transistors and said first conductor; and first and second output terminals connected respectively to said emitter electrodes of said third and fourth transistors for providing binary logic output signals, the base to emitter junctions of said third and fourth transistors each translating the voltage levels of the signal at the base electrode so that said binary output signals have voltage levels substantially the same as the levels of the binary input signal.

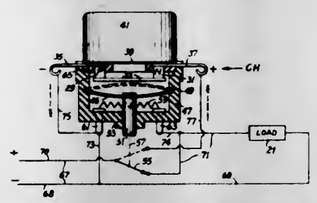
3,259,762
ELECTROSTATIC INDUCTION POWER SUPPLY
John E. Skuderna, Denver, Colo., assignor to the United States of America as represented by the Secretary of the Interior
Filed Apr. 16, 1963, Ser. No. 273,535
2 Claims. (Cl. 307—109)



1. In combination with the high-voltage transmission conductors of an alternating current power system, which are suspended on insulator means attached to each one of a multiplicity of support means individually maintained and electrically grounded at spaced intervals, said insulator means electrically isolating said conductors from said electrical grounds, continuous lengths of electrically conductive wires suspended on said support means at said spaced intervals by further insulator means whereby said wires are isolated from said electrical grounds and extend adjacent to the path of the said first mentioned conductors, and substantially parallel thereto, a

load circuit comprising two principal leads and a plurality of voltage modifying and regulating components connected in and between said leads, the respective terminal segments of said leads providing input and output connections for said load circuit, one of said input connections being electrically connected to a predetermined continuous portion of said isolated conductive wires, said plurality of components comprising a transformer supplying from its secondary a voltage output reduced from a voltage supplied at said one input connection to said load circuit, variable resistance and capacitance components having impressed across them the said reduced voltage output, and an adjustable inductance in a series connection with said resistance and capacitance components, said output connections being electrically connected to further circuit means operably responsive to an output from said load circuit to energize low voltage appliances, said further circuit means comprising an additional predetermined continuous portion of said isolated conductive wires, and electrically conductive elements connecting said low voltage appliances in parallel circuits between said conductive wires of said additional portion, another of said connections provided by said load circuit lead segments being electrically grounded to said electrical grounds, and means operatively responsive to a voltage surge above a predetermined voltage in a circuit between the said one input connection and the said another connection of the said load circuit, to complete a direct circuit from said portion of isolated conductive wires to said electrical grounds.

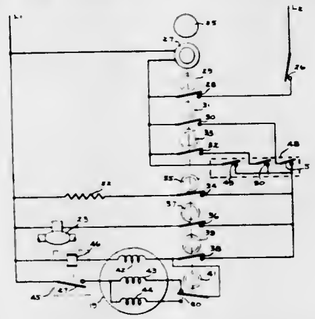
3,259,763
THERMALLY RESPONSIVE CONTROL MEANS
Francis H. Appleton, Pasadena, Calif., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 4, 1962, Ser. No. 242,223
4 Claims. (Cl. 307—117)



1. Thermostatic control means comprising a thermostatic element adapted for resistance heating thereof and movable from a first to a second position, at least one thermoelectric element in heat-exchange relationship with said thermostatic element, said thermoelectric element adapted upon electrical excitation to function as a cooler in connection with the thermostatic element, circuit means adapted to supply an electrical load and excitation for said thermostatic and thermoelectric elements, switch means adapted in alternate positions alternately to excite the thermostatic element and the load on one hand and to excite the thermoelectric element on the other hand, and an operating connection between said thermostatic element and said switch means adapted to set it into one or the other of its alternate positions.

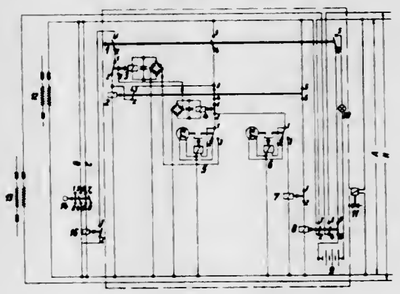
3,259,764
DISHWASHER CONTROL MEANS
Norman L. Kendt, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Nov. 8, 1963, Ser. No. 322,375
6 Claims. (Cl. 307—141)

6. A control means for an automatic dishwasher comprising:
(a) timer means,
(b) a manually operated selector switch including at least a first manually operated switch and a second manually operated switch,
(c) a first timer operated switch in electrical series circuit with said first manually operated switch,
(d) a second timer operated switch in electrical series circuit with said second manually operated switch, and
(e) additional timer operated switches in electrical parallel circuit with each other and in electrical series circuit with both said first timer operated switch and said second timer operated switch,



(f) said first timer operated switch and said second timer operated switch being in electrical parallel circuit with each other,
(g) said first timer operated switch being closed by said timer means only long enough to allow said additional timer operated switches to conduct the dishwasher through the first several steps of a complete wash cycle whereupon said first timer operated switch is opened to thereby terminate the admission of electrical power to said additional timer operated switches.

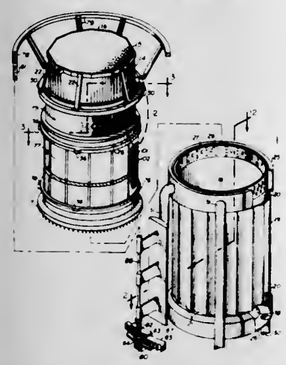
3,259,765
AUTOMATIC CONTROL CIRCUIT FOR THE WORKING CYCLES OF A MACHINE
Helmut Fernholz, Meinerzhagen, Westphalia, Germany, assignor to Werner Battenfeld, trading as Gebr. Battenfeld, Meinerzhagen, Westphalia, Germany
Filed May 16, 1963, Ser. No. 280,951
Claims priority, application Germany, June 1, 1962, B 67,495
7 Claims. (Cl. 307—141.4)



2. An arrangement for supervising the automatically operating, pre-set course working cycle of an automatic injection moulding, pressing or blowing machine for working plastics comprising driving and heating circuits for the machine, a live main relay having separate make contacts over which the driving and heating circuits respectively extend, a maximum relay, a minimum relay,

two rest contacts in series in the circuit of the main relay and adapted to be actuated by the maximum relay, and the minimum relay respectively, means for producing an electrical impulse at a predetermined constant point in each working cycle, means for checking the time intervals between successive impulses comprising a time switch set to a minimum time and a time switch set to a maximum time, means for energising the maximum relay when the maximum time switch operates as a result of the maximum time being exceeded and relay means for energising the minimum relay when the minimum time is reached by the minimum time switch, said time switches returning to their initial position when the minimum time is reached and the maximum time is not reached.

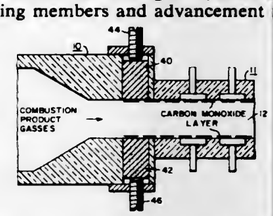
3,259,766
THERMIONIC NUCLEAR REACTOR
Eric S. Beckjord, Pittsburgh, Pa., and Paul J. Fellows and Robert R. Hobson, San Jose, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 25, 1964, Ser. No. 347,320
9 Claims. (Cl. 310—4)



1. In a thermionic nuclear reactor in combination, a plurality of elongated tubular thermionic nuclear fuel elements arranged and retained in ordered array with means forming a generally cylindrical reactor core, a sealed vessel enclosing said reactor core including a generally cylindrical central portion disposed concentrically about said core and having upper and lower head portions, said upper head portion comprising a plurality of I beams arranged with webs parallel and flanges aligned to define a vessel head having an upper and lower plane with said flanges sealed and affixed together, a plurality of spaced apart reinforcing I beams affixed to said upper plane at right angles to said vessel head I beams, a ring affixed and sealed to the periphery of said vessel head I beams to form a circular sealed upper vessel head, manifold means for circulating a liquid metal coolant through said vessel to contact said fuel elements, a neutron reflector disposed about the central portion of said vessel including portions movable into the neutron field of said core effective to control the reactivity thereof.

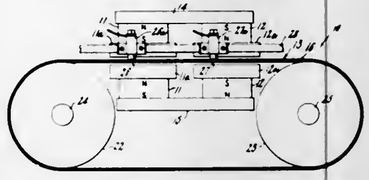
3,259,767
ELECTRODE PROTECTION FOR MAGNETOHYDRODYNAMIC GENERATORS
Stewart Way and William E. Young, Churchill Borough, and Richard L. Hundstad, Forest Hills Borough, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 13, 1962, Ser. No. 209,602
2 Claims. (Cl. 310—11)

1. In magnetohydrodynamic thermal to electrical energy conversion apparatus operative with a flow of working fluid containing combustion gas products, the combination of: a generator member having a duct through which said flow of working fluid may pass; a plurality of electrically conducting electrodes disposed along said duct adjacent said flow of working fluid; and feeding means including feeding members and advancement means, said



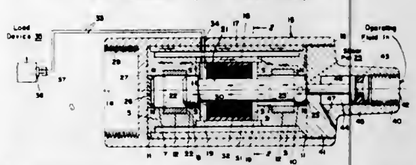
feeding members comprising carbon being disposed adjacent said flow of working fluid upstream of said electrodes in order to provide a protective layer to said electrodes, and said advancement means being operatively connected to said feeding members to progressively advance said feeding members into said flow of working fluid.

3,259,768
DYNAMOELECTRIC MACHINE AND METHOD OF MAKING ARMATURE
Robert P. Burr, Lloyd Harbor, Huntington, N.Y., assignor to Printed Motors, Inc., New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 800,254, Mar. 18, 1959. This application Mar. 22, 1963, Ser. No. 267,266
21 Claims. (Cl. 310—13)



4. A direct-current electrical motor comprising: means for supplying a magnetic field; a substantially non-ferrous armature comprising a cylindrical, rotatable insulating sheet having a conductive circuit coating over the surface thereof and having an open portion disposed in said magnetic field; said coating forming conductors which are substantially uniformly distributed over substantially the entire surface of said insulating sheet; means attached to said coated sheet solely near one end thereof for supporting said armature for rotation; and direct-current means for supplying current flow through said coating to cause displacement of said armature.

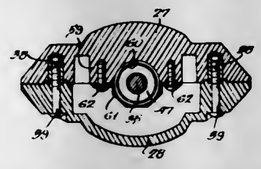
3,259,769
ELECTRICAL PULSE GENERATOR
Albert M. Stott, Southampton, Pa., assignor to United States of America as represented by the Secretary of the Army
Filed Jan. 30, 1964, Ser. No. 341,470
8 Claims. (Cl. 310—14)



1. An electrical pulse generator for converting input pulses of mechanical energy into output pulses of electrical energy, comprising in combination, a longitudinally-movable plunger-type armature, a pair of annular-ring

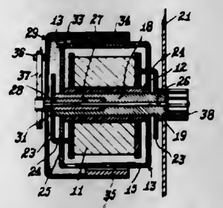
permanent magnets at opposite ends of and coaxial with said armature providing two pairs of longitudinally-spaced unlike poles with the armature in a retracted position bridging one pair in a strong magnetic field, said magnets further providing means for positioning and guiding said armature in its movement, fluid-pressure operated means in driving connection with the armature for imparting thereto sudden linear motion along the longitudinal axis thereof and rapid axial travel to alternatively bridge the other pair of magnet poles in opposite polarity relation, a pickup coil closely surrounding the armature between said magnets for deriving electrical pulse output from said generator in response to said armature movement, means connected with the armature for with-holding movement thereof in response to fluid pressure application below a predetermined magnitude, and means providing spaced internal annular pole pieces for said magnets with interposed rings of non-magnetic material having a common internal diameter of the armature with a sliding fit.

3,259,770
PORTABLE ELECTRIC TOOL WITH A TWO PART HOUSING
Charles A. Mattson and William V. Kalnins, Oak Park, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 8, 1962, Ser. No. 200,984
8 Claims. (Cl. 310—50)



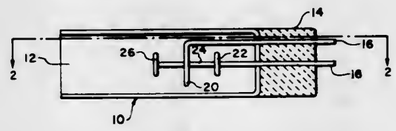
1. A portable electric tool comprising a tubular housing having a hand grip portion suitable for being gripped by the hand of the user, said housing being formed of an electrically insulating plastic material, an elongated motor having a stator and a rotary armature positioned within said housing, said housing being divided lengthwise into a base and a cover, an operating head mounted at the forward end of said base, means securing said stator and the bearings for said armature directly to said base, a pair of housing projections extending laterally of said tubular housing rearwardly of said hand grip portion, said projections being integrally formed with said base and said cover, said projections each having inwardly opening recesses formed therein, and brush assemblies formed of electrically conducting material and being supported in said recesses by said housing in insulated relation to the other parts of said motor.

3,259,771
SYNCHRONOUS MOTORS
Samuel J. Rubin, 971 Wade St., Highland Park, Ill.
Filed May 13, 1963, Ser. No. 279,705
8 Claims. (Cl. 310—164)



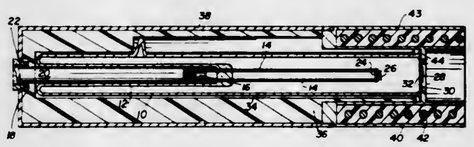
1. A permanent magnet synchronous motor comprising a non-rotatable field coil, a plurality of cage-like elements nested together and surrounding said field coil, means mounting said cage-like elements to allow said elements to be oscillatably rotatable relative to the field coil, means to limit the degree of oscillatable rotation of said cage-like field elements, and a permanent magnet rotor overlying and forming an air gap with the cage-like elements.

3,259,772
COLD CATHODE GAUGE FOR MEASURING VACUUM
Bruno Bedetti, Brookline, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed Dec. 23, 1963, Ser. No. 332,598
5 Claims. (Cl. 313—7)



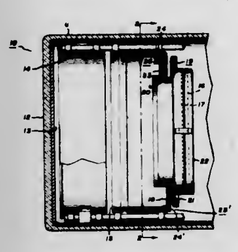
4. A Penning gauge consisting of a tubular body member of glass having one end fully open and the other end pressed to a flat closure, anode and cathode wires pressed within said closure apart from each other and passing through said closure into the tube, the anode wire extending parallel to the axis of the tube and apart from said axis and terminating in a loop having its axis coincident with the tube axis, the cathode wire extending down the axis of the tube and having a first cathode loop between the closed end of the tube and the anode wire loop and terminating in a second cathode loop beyond the end of the anode loop, the first cathode wire loop having a saddle adjacent the anode wire, the cathode wire loop axes coinciding with the tube axis, and a tubular magnet surrounding the portion of the tube containing the loops, for producing an axial magnetic field through the loops.

3,259,773
VACUUM ARC X-RAY TUBE
Walter P. Dyke and Frank J. Grundhauser, McMinnville, Oreg., assignors to Field Emission Corporation, McMinnville, Oreg., a corporation of Oregon
Filed Sept. 25, 1961, Ser. No. 141,260
12 Claims. (Cl. 313—57)



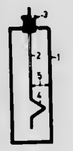
1. A vacuum arc X-ray tube, which comprises:
an evacuated envelope,
an anode of thin sheet metal positioned to have at least one surface exposed in the interior of said envelope,
a cathode having at least one cathode element positioned in said envelope, said cathode element having a sharp field emission portion with a radius of curvature less than 10^{-3} centimeters and being spaced from and directed toward said surface of said anode,
and electrical connection means leading to said cathode and anode so that a high voltage, high current, pulse electric discharge can be produced between said cathode and said anode to puncture said anode and simultaneously produce a pulse of high intensity X-ray radiation from the surface of said anode remote from said cathode.

3,259,774
TARGET VIBRATION ISOLATION MOUNT
Robert J. Ney, Liverpool, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 12, 1964, Ser. No. 374,672
9 Claims. (Cl. 313—67)



1. In an image orthicon camera tube a vibration damping target support therefor comprising in combination
(a) a first fixed electrode support having a depending surface,
(b) a moveable target containing frame having an upstanding surface,
(c) an intertwined metal fiber member attached to each said surface to support said moveable frame in tension, and
(d) at least three of said vibration damping supports being equidistantly peripherally positioned about said moveable frame for vibrational isolation thereof.

3,259,775
GEIGER-MUELLER COUNTER TUBE
Kornelis Nienhuis and Kars van Duuren, both of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 6, 1961, Ser. No. 143,454
Claims priority, application Netherlands, Oct. 14, 1960, 256,886
5 Claims. (Cl. 313—93)



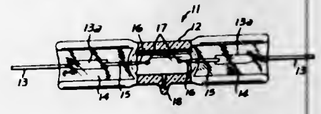
1. A Geiger-Mueller counter tube for detecting radiation comprising a cylindrical cathode electrode whose length-diameter ratio is less than 2 and surrounding a discharge space containing an ionizable gas filling constituted of a rare gas and between 0.005% and 25% by volume of a halogen quench, said cathode including a radiation-pervious window portion, an anode electrode disposed within the cathode and having an active spherical anode surface defining wth the opposed active cathode surface a mean spacing, said anode having a conductive portion extending toward the said window portion and spaced therefrom a distance less than one-fourth of the said mean spacing, and means for applying a potential difference between the cathode and anode, whereby at the said extension a localized region of high field intensity is established thereby reducing the dead time of the tube.

3,259,776
SEALED BEAM HEADLAMP WITH PLURAL OPTICAL DEVICES
George A. Wallace, Valley View Trailer Park, Doylestown, Pa.
Filed Feb. 5, 1963, Ser. No. 256,296
4 Claims. (Cl. 313—111)



1. A headlight, comprising a body portion of transparent material having its inner face in the form of a parabola, a transparent plate secured to the front of the body portion, vertically disposed bands of prisms formed on the rear face of the body portion, a reflecting coating on the outer face of the body portions and the prisms, the body portion being adapted to receive a centrally disposed filament, and flat louvers disposed horizontally above the center line and seated in opposite sides of the body portion.

3,259,777
METAL HALIDE VAPOR DISCHARGE LAMP WITH NEAR MOLTEN TIP ELECTRODES
Elmer G. Fridrich, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 9, 1961, Ser. No. 108,773
10 Claims. (Cl. 313—184)
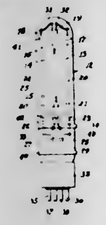


1. A high pressure metal vapor electric discharge lamp comprising a tubular envelope of refractory light-pervious material having an internal diameter in the range of 1 to 10 millimeters, a pair of rod-like tungsten electrodes projecting into opposite ends of said envelope, a quantity of vaporizable metallic iodide in said envelope exerting a pressure above one atmospshere at input loadings exceeding 2000 watts/cm.^{3}, said electrodes having their tips at temperatures close to the melting point of tungsten at said loading in order to operate with diffuse arc-electrode junctions, said iodide being of a metal yielding a substantial continuum at the operating pressure in said lamp, said envelope being proportioned for wall stabilization of the discharge with substantially the entire inner envelope wall receiving heat directly from the discharge in order for the iodide regenerative cycle effectively to maintain the envelope clear.

3,259,778
STARTING OF HIGH TEMPERATURE ELECTRODE LAMPS
Elmer G. Fridrich, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York
Filed May 9, 1963, Ser. No. 279,153
4 Claims. (Cl. 313—217)



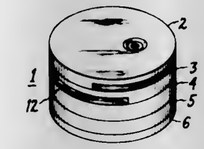
1. An electric discharge device comprising a sealed envelope of refractory insulating material, a pair of electrodes projecting into said envelope of which at least one is a small rod-like tungsten electrode serving as cathode correlated in heat-dissipating capacity to the energy loading of the lamp whereby to operate with its tip at a temperature close to the melting point of tungsten, an ionizable medium in said envelope including a substance providing iodine vapor in operation of the lamp, and refractory insulating material from the group consisting of thorium oxide and zirconium oxide on the shank of said one electrode and removed from the tip thereof to lower the starting voltage.

3,259,779
IMPROVING EFFICIENCY OF INFRARED RADIATION GENERATION BY ALKALI METAL VAPOR LAMPS AND PROLONGING THEIR USEFUL LIVES
Norman C. Beese, Verona, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 17, 1951, Ser. No. 256,916
1 Claim. (Cl. 313—221)



A vapor lamp comprising a cylindrical envelope formed of borosilicate glass with a small percentage of alumina, designated as a tungsten sealing glass, with a softening point at 703° C., an annealing point at 496° C., a coefficient of expansion of 46×10^{-7} between 0° and 300° C., and a density of 2.23, the $\log_{10}$ of its resistivity at 350° C. being 6.77, it power factor being .0033 (expressed as a decimal—not as percent) its dielectric constant being 4.9, and its loss factor being .0161 (expressed as a decimal—not as percent), the interior surface of which is coated with a film composed largely of boric acid and protective against alkali metal vapor, electrodes in said envelope between which a discharge occurs upon the application of electrical energy thereto, and an inert gaseous filling admixed with rubidium in said envelope.

3,259,780
ELECTRIC GAP DEVICE USING POROUS MATERIAL IN THE ARC CHAMBER
Earl W. Stetson, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed July 6, 1964, Ser. No. 380,421
3 Claims. (Cl. 313—231)



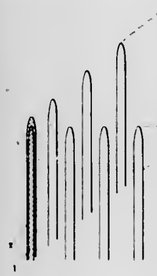
1. A series current interrupting gap unit for valve type lightning arresters comprising, in combination, a plurality of individual serially connected horn gaps sandwiched between stacked axially aligned body plates of porous ceramic material, each pair of contiguous plates forming between their facing surfaces a closed arc chamber having a relatively shallow portion at one side in which the part of its horn gap which has the minimum electrode spacing is located, said arc chamber having a relatively deep arc deionizing portion with a substantially larger ratio of volume to wall surface area than said relatively shallow portion, the runners of said gap divergingly extending into said arc chamber and terminating in tips at opposite ends of said relatively deep portion, said relatively deep portion having an arcuate wall extending between said tips and facing the point of minimum gap electrode spacing, the configuration of said horn gap electrodes providing the sole means for electromagnetically forcing an arc initially struck between said electrodes at their point of minimum spacing into said arc chamber along said runners to their tips and against said arcuate wall, said arcuate wall having a plurality of conductive deionizing grids inserted therein and extending radially inwardly therefrom across the path of an arc along said wall between said horns, the porosity of the walls of said relatively shallow portion of said arc chamber serving to absorb and shrink a high current arc struck across the point of minimum spacing of gap electrodes so as to preserve the automatic action of the horn gap in rapidly moving such high current arc away from such points, said relatively deep portion of said arc chamber serving to provide a rapid gap recovery voltage after normal current zero without developing substantial arc voltage before current zero.

3,259,781
METHOD OF AND MEANS FOR DISTRIBUTING THE ELECTRICAL FIELD AROUND THE BUSHING OF LIGHTNING ARRESTORS
Herman R. Person, Columbus, Nebr., assignor to Dale Electronics, Inc., Columbus, Nebr.
Filed July 25, 1961, Ser. No. 126,541
7 Claims. (Cl. 313—243)



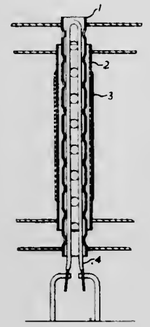
1. In a bushing device for lightning arrestors,
a hollow vertical housing of non-electro conducting material and being substantially cylindrical in shape,
a plurality of spaced apart horizontal bands of high-electro-conductive material mounted on the inner side of said housing,
a helical ribbon means of low electro-conductive material vertically disposed on the inner side of said housing and electrically connecting said spaced apart bands,
means for electrically connecting one end of said ribbon means to an electrical ground,
and means for connecting the other end of said ribbon means to an antenna element;
said bands and ribbon means being metallic and being plated on the inner wall of said housing.

3,259,782
ELECTRON-EMISSIVE STRUCTURE
Arvind M. Shroff, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Oct. 25, 1962, Ser. No. 233,081
Claims priority, application France, Nov. 8, 1961, 878,265
6 Claims. (Cl. 313—336)



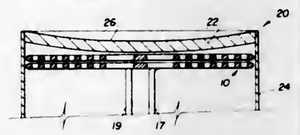
1. A point-like cathode emitter, comprising a point-shaped tungsten support, and a thin layer of a zirconium carbide coating on said point-shaped support.

3,259,783
INDIRECTLY-HEATED CATHODE ASSEMBLIES
John Albert Norris and Albert Trevor Watts, London, England, assignors to Thorn-A.E.I. Radio Valves & Tubes Limited, London, England, a British company
Filed Feb. 14, 1964, Ser. No. 344,889
4 Claims. (Cl. 313—337)



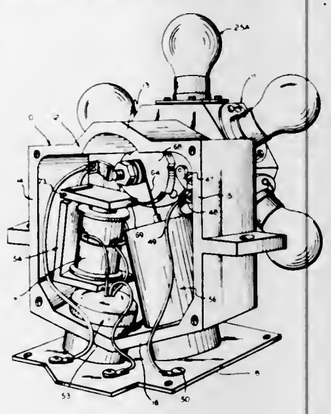
2. An indirectly heated cathode assembly adapted for use in an electron discharge device comprising:
- an electrical heater having an outer layer of insulating material;
- a hollow cylindrical cathode surrounding and in coaxial alignment with said heater, said cathode having a layer of potentially emissive materials on the outer surface thereof; and
- a metal tube of relatively low mass and high hot strength disposed intermediate and in coaxial alignment with said heater and said cathode, said tube supporting and electrically insulated from said heater and spaced from said cathode and including a plurality of perforations spaced throughout the longitudinal length thereof and formed to provide a path for energy flow in the form of heat from said heater to said cathode.

3,259,784
NON-INDUCTIVE WIRE CONFIGURATIONS
Siegfried F. Vogel, Belmont, Calif., assignor, by mesne assignments, to Varian Associates, a corporation of California
Filed Dec. 23, 1963, Ser. No. 332,685
13 Claims. (Cl. 313—342)



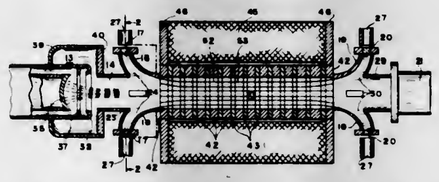
12. A cathode-heater package comprising, in combination, a cathode having an electron emitting surface, a support for said cathode, and a non-inductive heater mounted adjacent said cathode, said non-inductive heater comprising a plural layer wire arrangement having a plurality of wire sections in each layer of wire, each one of said plurality of wire sections in each layer of wire having a current flow path opposite in direction to the direction of the current flow path in the adjacent wire section in the adjacent layer of wire, each one of said plurality of wire sections in each layer of wire having a current flow path opposite in direction to the directions of the current flow paths of the adjacent wire sections in the same layer of wire, each of said layers of wire of said plural layer wire arrangement having a spiral configuration, said plural layer wire arrangement consisting of a single continuous wire, each of said wire sections in each layer of wire being lined up directly behind the adjacent wire section in each adjacent layer of wire, and each of said layers of wire of said plural layer wire arrangement lying in a plane parallel to the plane of the adjacent layer of wire.

3,259,785
LAMP CHANGER
Paul G. Salerno, Glenview, Ill., assignor to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Dec. 2, 1963, Ser. No. 327,473
10 Claims. (Cl. 314—1)



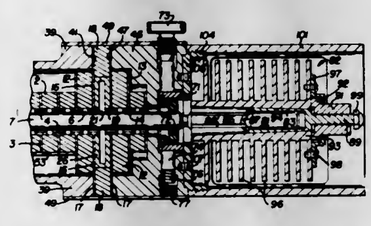
1. An automatic lamp changer comprising a frame, a turret rotatably mounted in the frame, a plurality of circumferentially spaced lamp sockets in said turret, each socket adapted to receive a lamp, means for applying an intermittent illuminating voltage to one lamp socket arranged in a preselected position, means for detecting a defective lamp in the lamp socket arranged in said preselected position, means for continually applying a directional torque to said turret, dashpot means for causing the turret to rotate at a relatively slow speed, blocking means for selectively preventing movement of said turret in the direction of said torque, and means for actuating said blocking means to permit rotation of said turret by said directional torque to bring another socket having a good lamp to said preselected position.

3,259,786
UNDULATING BEAM ENERGY INTERCHANGE DEVICE
Robert M. Phillips, Redwood City, Calif., assignor to General Electric Company, a corporation of New York
Filed Oct. 18, 1965, Ser. No. 497,154
15 Claims. (Cl. 315—3)



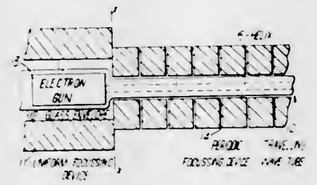
1. An energy interchange device comprising: means for projecting a stream of charged particles along an axis; a source of magnetomotive force disposed to provide a magnetic field proximate to said axis and directed substantially parallel to said axis; means forming a waveguide coaxially aligned with said axis, said means providing a spatially alternating component of said magnetic field in a direction perpendicular to said axis for causing said stream to undulate in a direction transverse to said axis, said means forming said waveguide being formed with a plurality of internal slots parallel to said axis; and launching means for launching an electromagnetic wave to travel along said axis wherein an electric field component of said wave is directed perpendicularly to said axis.

3,259,787
FOCUSING AND COOLING APPARATUS FOR ELECTRON BEAM TUBES
Richard L. Fenton, San Jose, and Saul Schwartz, Sunnyvale, Calif., assignors, by mesne assignments, to Varian Associates, a corporation of California
Filed Mar. 26, 1962, Ser. No. 182,195
9 Claims. (Cl. 315—3.5)



1. In combination with a traveling wave tube having an electron gun section for generating and projecting an electron beam along an axis, a collector electrode for intercepting the beam, and a radio-frequency interaction section interposed therebetween and including a slow wave structure having radio-frequency input and output ends and waveguides coupled thereto; an apparatus for focusing the traveling wave tube inserted therein comprising, a periodic permanent magnet stack constituted of a series of juxtaposed alternately arranged annular permanent magnets and ferromagnetic pole pieces, adjacent magnets of said series having like poles facing each other and with said pole pieces forming a plurality of periodic magnetic fields having a common axis, the two pole pieces next adjacent opposite sides of each waveguide projecting diametrically beyond the outer peripheries of the next adjacent permanent magnets, auxiliary parallelepiped permanent magnets interposed between the diametric extensions of said two pole pieces, a nonmagnetic housing supporting said periodic permanent magnet stack and said auxiliary parallelepiped permanent magnets in fixed relation to said waveguides, and means on the housing to selectively position the traveling wave tube within the housing to align the axis of the electron beam with the axis common to said periodic magnetic fields.

3,259,788
MAGNETIC FOCUSSING DEVICE FOR AN ELECTRON TUBE
Ryuzo Orui, Minato-ku, Tokyo, Japan, assignor to Nippon Electric Company, Limited, Tokyo, Japan, a corporation of Japan
Filed Jan. 8, 1962, Ser. No. 164,752
Claims priority, application Japan, Jan. 19, 1961, 36/1,854
4 Claims. (Cl. 315—3.5)

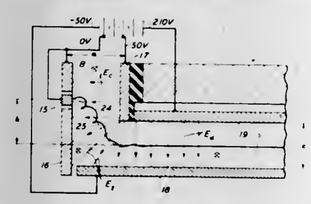


1. A magnetic focussing system for a travelling wave tube including an electron gun region and a delay line region comprising:
- a uniform magnetic device for producing a substantially uniform magnetic field axially threading said electron gun region of an inserted travelling wave tube, said device having an inherent leakage magnetic field;
- a periodic magnetic device encircling the delay line region of said tube, having a sequence of successively oppositely directed annular permanent magnets of equal magnetic strength
- and radial pole pieces arranged between respective pairs of neighboring of said magnets, each of said pole pieces having an annular axial segment, said segments being of substantially equal length and being fixedly positioned relative to said pole pieces to provide different axial separations between adjacent successive pairs of said axial segments such that the magnetic effect of magnets having magnetic fields opposed to said leakage flux will be increased and the magnetic effect of magnets having magnetic fields in coincidence with said leakage magnetic field will be decreased, the difference in said separation between adjacent successive pairs of segments decreasing with distance from said uniform magnetic device to compensate substantially for the effects of said inherent leakage magnetic field on said periodic magnetic field.

3,259,789
ELECTRON GUN FOR REDUCING TROCHOIDAL MOTION OF ELECTRONS

Johan Wilhelm Klüver, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 22, 1963, Ser. No. 267,148
5 Claims. (Cl. 315—3.5)

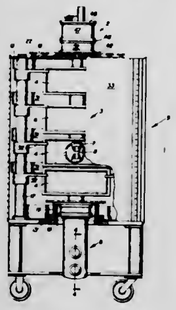


1. An electron beam device comprising:
means for defining a drift region having a central axis;
a cathode region displaced from the central axis and separated from the drift region by a transition region;
a cathode in the cathode region for emitting electrons parallel with the central axis;
means for producing a first electric field in the cathode region which is parallel to the central axis;
means for producing a second electric field in the drift region which is at right angles to the central axis;
means for producing a third electric field in the transition region which is substantially radial and which changes direction through substantially 90 degrees to be parallel to the first electric field at one end thereof and parallel to the second electric field at the other end;
and means for producing a magnetic field extending through the cathode, transition, and drift regions which is transverse to the first, second, and third electric fields.

3,259,790
BEAM TUBE AND MAGNETIC CIRCUIT THEREFOR

Arthur A. Goldfinger, Palo Alto, Calif., assignor, by mesne assignments, to Varian Associates, a corporation of California

Filed Aug. 31, 1961, Ser. No. 135,323
11 Claims. (Cl. 315—5)

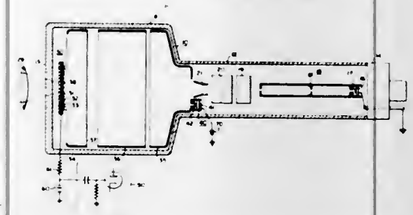


1. Electron beam generating apparatus comprising a beam tube having an electron gun including an energizable cathode and anode to project and accelerate a beam of electrons and a collector electrode to intercept the beam, a magnetic frame about the tube between the electron gun and collector having first and second apertured ferromagnetic pole pieces adjacent the electron gun and collector, respectively, and including magnetic means establishing lines of magnetic force between the cathode and said first pole piece, means associated with the electron gun on the side of said anode remote from said first apertured pole piece and cooperating with said first apertured pole piece to control the pattern of distribution of said lines of magnetic force, and said first apertured pole piece comprising a first portion fixed with respect to the tube and a second portion selectively movable with respect to said means associated with the electron gun.

3,259,791
STORED SIGNAL ENHANCEMENT ELECTRON DISCHARGE DEVICE

Arthur S. Jensen and Melvin P. Siedband, Baltimore, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 31, 1962, Ser. No. 198,932
8 Claims. (Cl. 315—12)

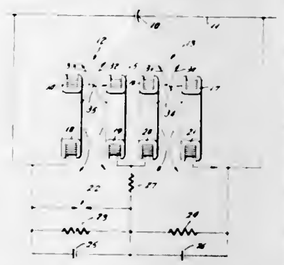


2. An electron discharge device comprising an evacuated envelope, target means within said envelope capable of possessing a voltage pattern thereon, means for continuously exciting said target to establish said voltage pattern, electron beam producing means for the projection of electrons onto said target, potential means connected between said target and said electron beam producing means, said potential means providing to provide that electrons from said source are incident upon said target with energy corresponding only to that portion of the target material's secondary emission curve in which the rate of secondary emission rises with an increase in said potential to provide an enhanced halftone voltage pattern of said voltage pattern and means for deriving an output signal from said target.

3,259,792
HIGH VOLTAGE SPARK GAP

Otto Jensen, Malvern, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 31, 1962, Ser. No. 248,368
3 Claims. (Cl. 315—36)



1. In a high voltage spark gap comprising first and second spaced electrodes; one of said electrodes having an extended arcing surface defining an extended path for the motion of an arc root; a magnetic field generating means; said magnetic field generating means being stationarily positioned with respect to said extended arcing surface; said magnetic field generating means generating a magnetic field which is at an angle to the direction of an arc extending from any point on said electrode having said extended arcing surface to the other of said first and second electrodes; said magnetic field generating means comprising an electrical winding; said electrical winding being connected in series with said first and second spaced electrodes; said electrical winding having one terminal thereof connected to said extended arcing surface and the other terminal thereof connected to an input terminal for said electrode having said extended arcing surface.

3,259,793
SYSTEM FOR CONTROLLING THE OVER-VOLTAGE OR "HOT SHOT" TIME ON INSTANT HEATING TUBES

Leon A. Glynn, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Jan. 28, 1963, Ser. No. 254,246
5 Claims. (Cl. 315—86)



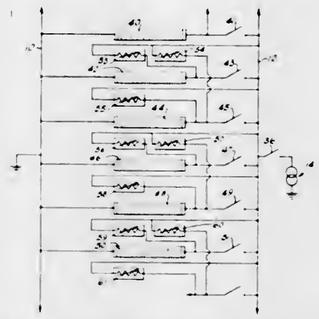
1. Means for quickly heating the cathode of an electron tube having a cathode comprising an electrode mounted adjacent the cathode, a voltage supply connected across the cathode and the electrode, a pair of heater power supplies selectably connected to the cathode, a switching means connected to the cathode and the pair of heater power supplies, a detector means connected to the diode formed by the cathode and the electrode, the detector means connected to the switching means so as to control connection of the pair of power supplies to the filament, and said detector means comprises a relay and a voltage divider circuit with its armature connected to the switching means.

3,259,794
ELECTROLUMINESCENT-PHOTOCONDUCTIVE TRIGGERING DEVICE

Max Krawitz, Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed July 15, 1963, Ser. No. 295,127
3 Claims. (Cl. 315—151)

1. Means for triggering lamps to become lit comprising an energizing source, a lamp, and a switch in series therewith connected to the energizing source, a number of photoconductive cells adapted to be irradiated by the lamp, a second lamp and series connected switch connected to the energizing source, a number of photoconductive cells adapted to be irradiated by the second lamp, there being one less photoconductive cell irradiated by the second lamp than by the first lamp, a third series connected lamp and switch across the energizing source, and at least one photoconductive cell irradiated by said third lamp, one of the photoconductive cells of the first lamp bridging the switch of the second lamp, a second photoconductive cell of the first lamp bridging the switch of the third lamp, the photoconductive cell associated with the second lamp bridging the switch of the third

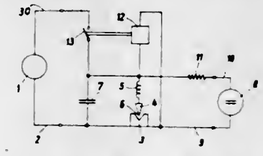


lamp and the photoconductive cell adapted to be irradiated by the third lamp adapted to bridge yet another switch.

3,259,795
METHOD OF OPERATING A SPARK EROSION MACHINE AND A CIRCUIT FOR PERFORMING THE METHOD

Hans Schierholt, Iserlohn, Germany, assignor to Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, and Allgemeine Elektricitäts-Gesellschaft, Berlin-Grunewald, Germany

Filed Aug. 6, 1962, Ser. No. 215,133
Claims priority, application Germany, Aug. 12, 1961, D 36,792
5 Claims. (Cl. 315—173)



1. Means for controlling discharge across a spark-eroding gap between a workpiece and a working electrode in a spark erosion machine, comprising a charging circuit including switch means and storage condenser means and means to create energy for storing by said latter means and discharge across the said gap, further circuit means connected across the said gap for supplying a reference potential and incapable itself of maintaining a discharge across said gap, said further circuit means including voltage measuring means and being operative in such a way that during deionization and cleaning out of the said gap and the establishment of a suitable distance between the working electrode and the workpiece the build-up of voltage across the gap by said further circuit means is used through said measuring and switch means and when the voltage has reached a predetermined value less than the sparking voltage to trigger the charging of the said storage means to sparking potential.

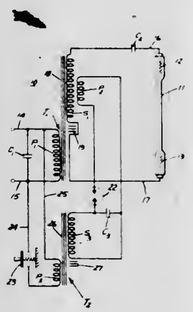
3,259,796
APPARATUS FOR STARTING AND OPERATING ARC LAMPS

Alexander R. Hallay, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Filed June 10, 1963, Ser. No. 288,580
12 Claims. (Cl. 315—174)

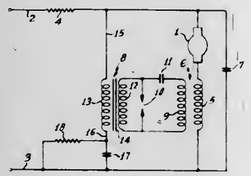
5. An apparatus for starting and operating an arc lamp from an alternating source, said apparatus comprising: a first high reactance transformer having a primary winding adapted for connection to a source of alternating

current, a secondary winding inductively coupled with said primary winding, and an auxiliary winding wound over said secondary winding; output means including at least a pair of output terminal leads for connection to the arc lamp and for supplying the output of said apparatus thereto; and a pulse generating circuit including a second high reactance transformer having a primary winding for connection to the alternating current source and having a secondary winding inductively coupled with said primary winding, a capacitor connected in parallel



circuit relationship with the secondary winding of said second high reactance transformer, and a spark gap means; said spark gap means and said auxiliary winding of said first high reactance transformer being connected in series circuit relation with each other and in parallel circuit relation with said capacitor, and said auxiliary winding and said secondary winding of said first high reactance transformer operating as a pulse transformer during the starting condition to supply the peak output voltage at said output terminal leads for starting the arc lamp.

3,259,797
ARC LAMP STARTER
Hans G. Heine, Northfield, Ill., and Otto E. Lienhard, Upper Montclair, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
Filed Dec. 5, 1962, Ser. No. 242,458
1 Claim. (Cl. 315—174)



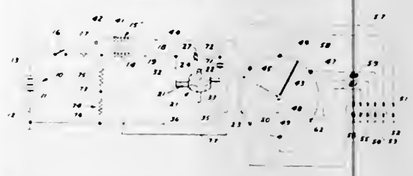
A starter for a high pressure arc lamp comprising a source of alternating current, a radio frequency transformer having a primary winding and a secondary winding connected in series with the lamp and across said source, a spark gap across said primary winding, a capacitor connected between the primary winding and the spark gap, a reactive transformer having a primary winding connected across said source and a secondary winding connected in parallel with the spark gap, and a capacitor and a resistor in parallel relation to each other and connected in series to the primary winding of the reactive transformer.

3,259,798
IGNITION SYSTEM
Elmer E. Yonge, Manchester, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Continuation of application Ser. No. 862,883, Dec. 30, 1959. This application Mar. 18, 1963, Ser. No. 266,468
12 Claims. (Cl. 315—209)



1. A transistorized ignition system for an internal combustion engine comprising a plurality of spark plugs, a distributor for distributing electrical energy to said spark plugs, an ignition coil including a primary, a secondary and a feedback winding, said secondary winding being connected to said distributor, a transistor including an emitter, a collector and a base, the primary winding of said ignition coil being connected in series with said emitter and said collector, the feedback winding of said ignition coil being connected between the emitter and the base of said transistor, a control circuit connected to said base for applying a bias to said transistor, a pair of breaker points positioned in said control circuit, said feedback winding applying a pulse of electrical energy to the base of the transistor when said breaker points are opened, the polarity of said pulse being opposite to the polarity of the base bias.

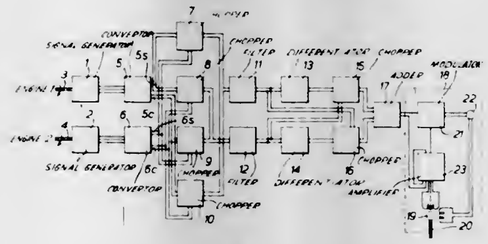
3,259,799
IGNITION SYSTEM UTILIZING A ROTATABLE COMMUTATOR IN COMBINATION WITH A SATURABLE CAPACITOR
Ole K. Nilssen, Livonia, Mich., assignor to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,037
4 Claims. (Cl. 315—214)



1. An ignition system for an internal combustion engine comprising, a spark plug, an ignition coil having a primary and a secondary winding, means electrically coupling said spark plug and said secondary winding, a source of electrical energy, a commutator including terminals connected in circuit with said source of electrical energy and said primary winding of said ignition coil, said commutator being rotatable by means coupled to said internal combustion engine, said commutator including means for periodically interrupting current through said primary winding of said ignition coil, first means including a saturable capacitor connected to said primary winding of said ignition coil and across the terminals of said commutator, said saturable capacitor constructed of a material having a substantially square hysteresis loop and having a small saturation charge to remnant charge ratio, said first means including means coupled to said source of electrical energy and said saturable capacitor for applying a voltage to said saturable capacitor at least equal

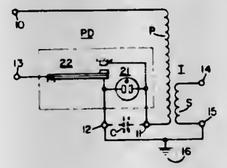
to the coercive voltage of said saturable capacitor and of a polarity opposite to the polarity of the voltage applied across said saturable capacitor as said commutator interrupts current in said primary winding.

3,259,800
ELECTRIC SIGNAL GENERATING APPARATUS
John Fawcett Ogilvie Evans, Woodmancote, near Cheltenham, England, assignor to S. Smith & Sons (England), Limited, London, England, a British company
Filed Mar. 18, 1963, Ser. No. 266,094
6 Claims. (Cl. 317—5)



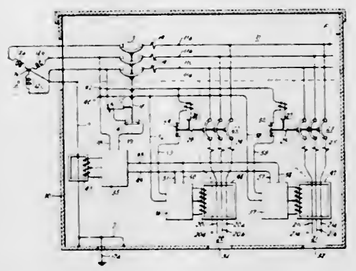
6. An engine control system for maintaining the rotational speeds of two engines substantially equal comprising means for generating first and second signals in phase quadrature with one another and having a frequency in accordance with the rotational speed of one of said two engines, means for generating third and fourth signals in phase quadrature with one another and having a frequency in accordance with the rotational speed of the other of said two engines, means for generating first, second, third and fourth product signals respectively representing the products of the first and the third, the first and the fourth, the second and the third, and the second and the fourth signals, means for generating a sum signal representing the sum of the first and fourth product signals and a difference signal representing the difference of the second and third product signals, means for differentiating the sum and difference signals with respect to time to produce differentiated sum and difference signals, means for generating fifth and sixth product signals representing respectively the product of the differentiated sum signal with the difference signal and the product of the differentiated difference signal with the sum signal, means for generating a control signal representing the sum of the fifth and the sixth product signals, and servo means responsive to said control signal for controlling the rotational speed of one of the two engines in a sense to reduce said sum of the fifth and sixth product signals to zero.

3,259,801
PROTECTIVE SYSTEM
Arthur M. Lockie, Hickory Township, Mercer County, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 31, 1963, Ser. No. 255,247
6 Claims. (Cl. 317—12)



1. A protective device for capacitive apparatus comprising thermo-responsive means connected in series circuit relation with said capacitive apparatus, voltage sensitive means connected in parallel circuit relation with said capacitive apparatus, said voltage sensitive means having the characteristic of being substantially an open circuit until a predetermined voltage is reached, at which time current is allowed to flow, means including normally open contacts connected in parallel circuit relation with said voltage sensitive means, said normally open contacts being responsive to said thermo-responsive means, with said normally open contacts closing when the temperature of said thermo-responsive means reaches a predetermined magnitude, and opening again when the temperature of said thermo-responsive means drops below a predetermined magnitude, said thermo-responsive means being heated by current flow therethrough and by the ambient temperature, said thermo-responsive means protecting said capacitive apparatus when the current through said thermo-responsive means and ambient temperature cause said thermo-responsive means to reach a predetermined temperature and close said normally open contacts to establish a circuit in parallel with said capacitive apparatus, said voltage sensitive means protecting said capacitive apparatus by establishing a circuit in parallel with said capacitive apparatus when the voltage across said capacitive apparatus reaches a predetermined magnitude, said thermo-responsive means protecting said voltage sensitive means after said voltage sensitive means has established a circuit in parallel with said capacitive apparatus, by closing the normally open contacts and establishing a circuit in parallel with said voltage sensitive means, said thermo-responsive means opening the normally open contacts to restore said capacitive apparatus to normal operation when the temperature of said thermo-responsive means drops below a predetermined magnitude.

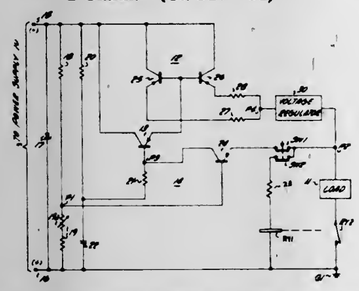
3,259,802
GROUND FAULT RESPONSIVE PROTECTIVE SYSTEM FOR ELECTRIC POWER DISTRIBUTION APPARATUS
Floyd L. Steen, Lansdowne, Pa., assignor to General Electric Company, a corporation of New York
Filed June 3, 1963, Ser. No. 284,934
12 Claims. (Cl. 317—18)



1. In electric power switchgear:
(a) a multiconductor polyphase A.-C. electric power bus;
(b) switching means for connecting said bus to a source of polyphase A.-C. electric energy having one terminal adapted for grounding, the switching means being equipped with a normally deenergized trip coil and being openable to disconnect the bus from the source upon energization of said trip coil;
(c) main relaying means connected to said trip coil and activated by ground current flowing through said switching means for effecting energization of said trip coil;
(d) a plurality of circuit controlling means for connecting a plurality of feeder circuits respectively to said bus; and

(e) a plurality of feeder relaying means respectively connected to said circuit controlling means, all of the feeder relaying means being connected in common to said main relaying means and each of them being responsive to ground current flowing through said switching means and through the associated circuit controlling means for substantially instantaneously preventing activation of said main relaying means, thereby rendering it ineffective to open the switching means, and for effecting a circuit opening operation of the associated controlling means.

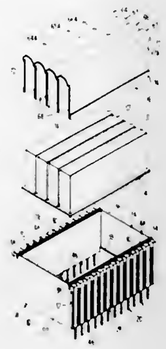
3,259,803
ELECTRONIC CIRCUIT BREAKERS
Joseph Battista, Chicago, Ill., assignor to International Telephone and Telegraph Corporation
Filed Nov. 29, 1962, Ser. No. 240,879
1 Claim. (Cl. 317—31)



An electronic circuit breaker comprising electronic switch means coupled between a power supply and a load circuit for conducting a relatively heavy current from said supply to said load, said switch means including a pair of parallel connected semiconductor devices, each of said semiconductor devices having one electrode coupled to said power supply and another electrode coupled to said load, means for balancing the total current flow between the two devices, said balancing means including a resistor connected in series with each of said devices to provide negative feedback, trigger means for controlling the application of signals to said switch means and for selectively switching said switch means "off" and "on," means for providing a source of reference potential relative to the potential applied across said load including a Zener diode and a voltage divider incorporating a variable resistor connected in parallel across the output of said power supply, said Zener diode being coupled to conduct capacitively caused surge currents to ground, said trigger means including a transistor having its base electrode connected to said source of reference potential and having its emitter electrode connected to the potential applied across said load, means including said trigger means for selectively switching said switch means "off" or "on" as a function of the voltage difference between said applied potential and said reference potential, capacitance multiplier means including said switch means for filtering and regulating the output of said power supply, and electromechanical circuit breaking means associated with said load for breaking the circuit from said supply to said load to provide long term protection against overload conditions.

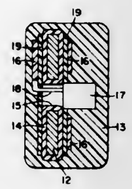
3,259,804
ELECTRICAL MODULE WITH MEANS FOR DISSIPATING HEAT
John Parstorfer, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 26, 1962, Ser. No. 190,442
9 Claims. (Cl. 317—100)

1. A plug-in electrical module structure comprising, a vertical frame having side and end wall members, spaced parallel spring contacts on the outside of said side wall members extending between the top and bottom of said frame, shoulder means inside said frame adjacent to the bottom thereof, a printed circuit panel having electrical conductors and being inserted broadwise into said frame and positioned on said shoulder means with the panel conductors in circuit with said spring contacts, a plurality of similarly shaped block-like electrical unit assemblies having substantially parallel major side surfaces and mounted on said printed circuit panel in equally-spaced-apart relation and substantially flush with the top of said frame, each electrical unit assembly containing heat generating electrical components electrically connected to said panel conductors, an elastic structure for dissipating heat



generated by said electrical components comprising, heat conductive fins inserted into the spaces between said electrical unit assemblies, each fin being in contact with said major side surfaces of adjacent said electrical unit assemblies, and a plurality of heat conductive draft hoods at the top of and external to said frame and at the outside of said module structure and connected to said fins, one said draft hood over each electrical unit assembly, and means for forcing fluid coolant through said draft hoods, said elastic structure being compressed in a direction transverse to the direction of insertion of said fins in order to effect said insertion, and said draft hoods being constructed so that said coolant can contact said electrical unit assemblies.

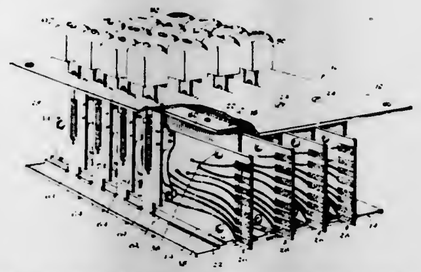
3,259,805
METALLIC BASED PRINTED CIRCUITS
Edward A. Osipchak and Leland L. Kessler, Lima, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 6, 1963, Ser. No. 256,582
7 Claims. (Cl. 317—100)



1. An electrically insulated thermally conductive printed circuit structure comprising, in combination, a shaped metallic base member having a first planar surface area and a flange portion extending angularly from the first planar area to form a second planar surface area, an adherent thin essentially rupture free uniform continuous resinous insulating coating deposited on the first surface

area, said second surface area being uncoated so that heat may be conducted therefrom and a thin flexible printed circuit composite bonded to the first surface area, said printed circuit comprising planar conductors affixed to a thin insulating sheet.

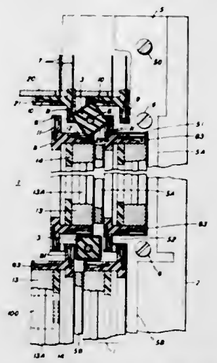
3,259,806
TRANSLATING KEYBOARD FOR DATA HANDLING SYSTEMS
Spencer D. Reed, Endicott, N.Y., assignor to Sensing Devices, Inc., Endicott, N.Y.
Filed Oct. 21, 1963, Ser. No. 317,753
10 Claims. (Cl. 317—101)



1. A keyboard and circuit assembly, comprising
a pair of mounting plates and a plurality of channel members extending between said mounting plates,
each channel member having a pair of legs and a web joining such legs, and said channel members being oriented such that the webs thereof extend normal to said mounting plates and in spaced, parallel relation to each other, one leg of each channel member being secured to one mounting plate and the other leg of each channel being secured to the other mounting plate,
said mounting plates having a plurality of rows of aligned openings therein with such rows corresponding in number to and being arranged parallel to the direction of said webs,
a key stem reciprocally received in each pair of said aligned openings,
a circuit board releasably secured to the inner face of each web, and each circuit board having a plurality of switch members thereon, one opposite each key stem and operable in response to reciprocation of the associated key stem,
and means on said channel members for guiding each circuit board for withdrawal and replacement endwise of an associated channel member.

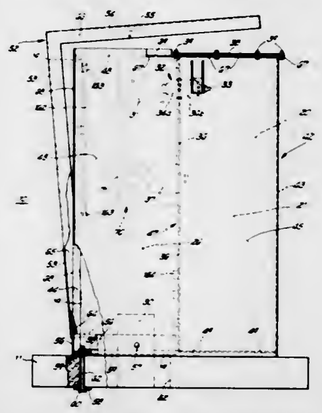
3,259,807
ELECTRONIC CIRCUIT PACKAGE UTILIZING CAMS FOR CIRCUIT CONNECTIONS
Walter T. Drugan, Millington, John S. Hagen, Jr., West Caldwell, Goodwin J. Smith, Morristown, and John G. Trautman, Whippany, N.J.; said Hagen assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York, and said Drugan, Smith, and Trautman assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 23, 1964, Ser. No. 362,202
7 Claims. (Cl. 317—101)

1. In an electronic circuit package of the type comprising a rack having a plurality of compartments with parallel side walls to slidably receive a plurality of circuit chassis, each chassis having two of its opposite sides arranged parallel for slidable entry between the side walls of said compartments, having electric circuits contained within it, and having connecting terminal means at its inner end to make connections with a stationary cooperating connecting means in said rack as the chassis is inserted in its compartment, the improvement comprising a terminal access frame secured along each of the parallel sides of said chassis, each frame including a plurality of contact springs connected to said electric circuits, cam shafts rotatably supported in said rack with their axes of rotation parallel to the parallel sides of the chassis, a plu-



rality of conductive cam elements having lobes, said elements secured to each cam shaft and so arranged that their lobes may engage contact springs on all adjacent access frames as said shaft is rotated to a first angular position and will disengage from said springs to permit slidable withdrawal of said chassis from their compartments as said shaft is rotated to a second angular position.

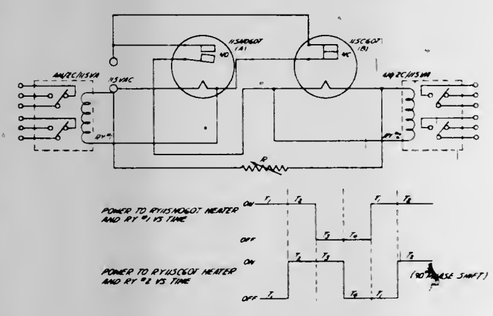
3,259,808
GROUND LEVEL DISTRIBUTION TRANSFORMER
Paul F. Gramlich, Zanesville, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 14, 1963, Ser. No. 315,762
25 Claims. (Cl. 317—103)



1. In a ground level distribution transformer supported on a concrete pad, a unitary metallic housing adapted to be supported on said concrete pad and having a transformer-containing compartment and a switching compartment isolated from said transformer-containing compartment, said housing comprising a U-shaped sheet metal member disposed in vertical planes and adapted to rest on said concrete pad and a generally Z-shaped sheet metal member disposed within said U-shaped member and having the mid-piece in a vertical plane and welded at its edges intermediate the ends of the legs of said U-shaped

member and also having upper and lower end pieces integral with said mid-piece and disposed in vertically spaced apart horizontal planes and welded along their edges to the interior periphery of said U-shaped member, said transformer-containing compartment being defined by the bight portion of said U-shaped member and said mid-piece and said lower end piece of said Z-shaped member, said mid-piece forming a common wall for said switching and transformer-containing compartments, said switching compartment being defined by said mid-piece and upper end piece of said Z-shaped member and by the portion of the legs of said U-shaped member beyond said mid-piece.

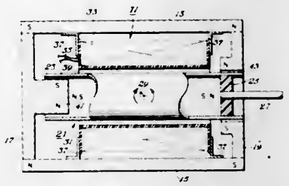
3,259,809
LOW-FREQUENCY SWITCHING WITH THERMOSTATIC DELAY RELAYS
Hugh R. Carlon, Edgewood, Md., assignor to The United States of America as represented by the Secretary of the Army
Filed Feb. 6, 1962, Ser. No. 171,544
3 Claims. (Cl. 317—132)



1. A low-frequency square wave oscillator as described, comprising first and second input terminals, first and second complementary thermal relays, each of said relays provided with a filament and a pair of electrical contacts, the contacts of said first relay being normally opened, the contacts of said second relay being normally closed, the filament of said first relay and the contacts of said second relay series connected across said input terminals, the filament of said second relay and the contacts of said first relay series connected across said input terminals, said oscillator operative upon application of a potential to said input terminals whereupon a pulse is obtained across the filament of said first relay and the contacts of said first relay close after a predetermined period of time and thereby apply said potential across the filament of said second relay causing a pulse to be obtained across the filament of said second relay, the contacts of said second relay subsequently opening to disconnect the filament of said first relay whereupon the contacts of said first relay open and recycling occurs, and means for varying the pulse duration of at least one of said pulses.

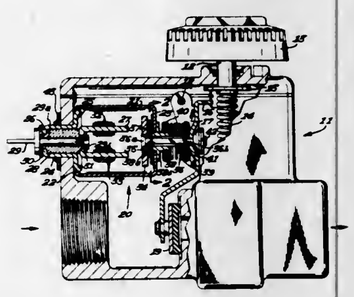
3,259,810
ELECTROMAGNETIC SWITCHING DEVICES
Robert A. Williams, Fort Worth, Tex., assignor to Talon, Inc., Meadville, Pa.
Filed Nov. 27, 1963, Ser. No. 326,633
4 Claims. (Cl. 317—172)

1. An electromagnetic switching device comprising:
(a) a pivoted structure mounted for oscillatory pivoting movement about a pivot axis;
(b) means for producing a first set of magnetic poles having alternately a first and a second polarity at spaced locations on opposite sides of said pivot axis;
(c) permanent magnet means producing a second set of predominant poles adjacent said first set when said pivoted structure is in a first terminal position and while said first set has said first polarity, said second set of poles being of polarity such as to produce a first repelling force couple on said pivoted structure tending to push said structure toward a second terminal position;
(d) permanent magnet means producing a third set of predominant poles adjacent said first set as said pivoted structure approaches said second terminal position, said third set of poles being of polarity



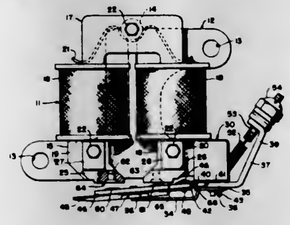
such as to produce a first attracting force couple on said pivoted structure while said first set still has said first polarity, said attracting force couple tending to pull said pivoted structure toward said second terminal position;
(e) so that when said first set of poles assumes its second polarity a repelling force couple is produced to push said pivoted structure back toward said first terminal position and as it approaches same an attracting force couple acts to pull same toward said first terminal position, with the cycle being repeated at the frequency of the cycle of charge of polarity of said first set of poles.

3,259,811
ELECTROMAGNETIC SAFETY DEVICE HAVING A NON-ROTATABLE ARMATURE
William R. Dunn, Los Angeles, Calif., assignor to Honeywell Inc., a corporation of Delaware
Filed Aug. 17, 1964, Ser. No. 389,995
5 Claims. (Cl. 317—191)



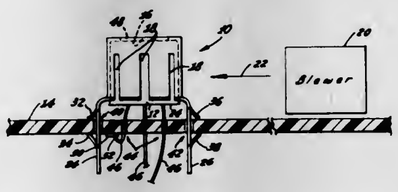
1. An electric power unit, adapted to be energized by a thermocouple heated by a pilot burner for controlling a safety device, comprising a housing, an electromagnet mounted on a wall of said housing, an armature positioned in said housing and movable into and out of engagement with said electromagnet, an actuator for said armature, a swivelled connection between said actuator and said armature, and resilient means positioned in said housing and engaging said armature so as to prevent rotation of the armature about the axis thereof which is perpendicular to the electromagnet engaging surface thereof.

3,259,812
NON-STICKING ARMATURE STRUCTURE FOR ELECTROMAGNET
William Marshall O'Neil, Oak Park, Ill., assignor to Teletype Corporation, Skokie, Ill., a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,996
6 Claims. (Cl. 317—194)



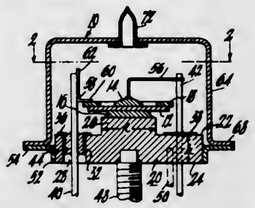
1. An electromagnet assembly comprising:
a frame;
a core mounted on the frame and having pole faces;
means for generating a flux field through the core;
an armature for actuation toward the pole faces by the generated flux field;
a flexible member fixed to the frame and to the armature to form a hinge connection between them;
urging means attached to the armature at a point intermediate the point of attachment of the armature to the flexible member and the point of attachment of the flexible member to the frame for urging the free end of the armature away from the pole faces;
means positioned intermediate the point of attachment of the urging means to the armature and the point of attachment of the flexible member to the armature for pivoting the armature during the first part of its movement toward the pole faces; and
means positioned on the armature at a point intermediate its free end and its point of attachment to the flexible member for pivoting the armature during the second part of its movement toward the pole faces and for increasing the effective forces of the urging means in urging the free end of the armature away from the pole faces.

3,259,813
TRANSISTOR HEAT SINK
Robert R. Lindstrand, Los Angeles, Calif., assignor to Litton Precision Products, Inc., Beverly Hills, Calif., a corporation of Delaware
Filed Apr. 5, 1962, Ser. No. 185,388
3 Claims. (Cl. 317—234)



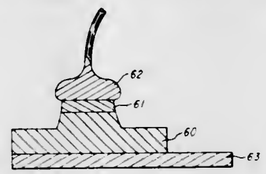
1. In a heat-dissipating component mounting, a cylindrical openwork receptacle adapted for removably receiving a transistor in intimate surface contact therewith, and a pair of spaced strip-shaped prongs secured to and extending parallel from said receptacle, each of said prongs having a pair of parallel longitudinally extending cuts interconnected by a centrally located cross-cut in a slender H-configuration to form a pair of resilient tongues bent away from the plane of the prong for resiliently engaging the edges around apertures in a mounting panel, said tongues being axially spaced from said receptacle, so that the receptacle protrudes completely into the space adjacent the panel to expose to the atmosphere in said space all of the free receptacle and transistor surfaces.

3,259,814
POWER SEMICONDUCTOR ASSEMBLY INCLUDING HEAT DISPERSING MEANS
Milton W. Green, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 20, 1955, Ser. No. 509,806
10 Claims. (Cl. 317—235)



1. Semiconductor apparatus including a cap member having an open end, a closure member hermetically sealed to said cap member within said open end and comprising a metallic heat conducting member, said closure member having a pair of substantially parallel surfaces and having a generally circular pedestal rising from one of said surfaces within said cap member, the thickness of said closure member between said two surfaces being at least equal to the radius of said pedestal and a semiconductor device disposed within said cap member and including a base electrode and comparatively large area rectifying emitter and collector electrodes and having said collector electrode bonded to said pedestal, and a pair of electrical contact members insulatingly supported by said closure member and making electrical contact with said emitter and base electrodes.

3,259,815
GALLIUM ARSENIDE BODY CONTAINING COPPER
Rowland E. Johnson and Ernest C. Wurst, Jr., Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed June 28, 1962, Ser. No. 206,050
3 Claims. (Cl. 317—237)

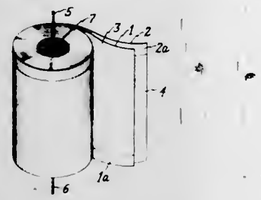


3. Monocrystalline gallium arsenide semiconductor material containing copper in an amount of about the maximum solid solubility of copper in monocrystalline gallium arsenide, said monocrystalline gallium arsenide being doped to degeneracy with a P-type conductivity doping agent.

3,259,816
ELECTRICAL CAPACITOR WITH A PLASTIC DIELECTRIC
Arthur Katchman, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 12, 1963, Ser. No. 294,512
1 Claim. (Cl. 317—247)

An electrical capacitor comprising a pair of electrodes separated by dielectric material, said dielectric material

comprising a phthalate polyester of a bis(hydroxyphenyl)-alkane wherein the alkane group contains from 1–5 carbon atoms and the phthalate radical of the polyester is from about 50–100 mole percent isophthalate and from

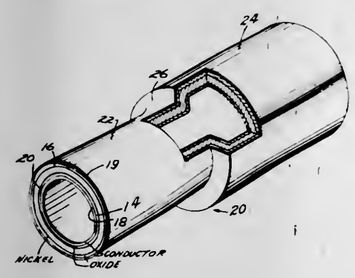


50–0 mole percent terephthalate radicals, the polyester being co-esterified with 4,4-bis(4-hydroxyphenyl)pentanoic acid in the amount of from 1–10 mole percent based on the total moles of bis(hydroxyphenyl)alkane and diphenolic acid.

3,259,817
ELECTRICAL CAPACITORS HAVING A POLYMER COMPOSITION AS A DIELECTRIC
Leon Adany, Champigny-sur-Marne, France, assignor to Electro-Organics, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 6, 1962, Ser. No. 171,530
7 Claims. (Cl. 317—258)

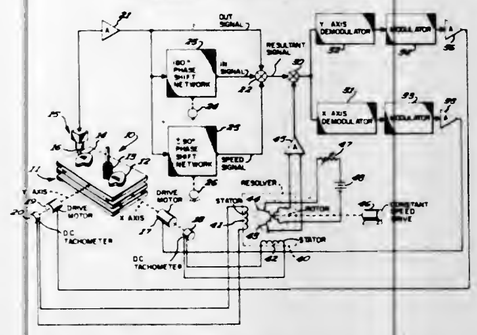
4. A dielectric sheet material comprising a combination of a polymerized olefinically unsaturated monomer with a polymeric substituted phosphorus nitride according to the formula $(PNX_2)_n$ where X is a member selected from the group consisting of halogen, amino, alkyl, alkoxy, and aryl, and *n* is integer up to 7, the proportions ranging from about 3–7 parts by weight of monomer per part of nitride.

3,259,818
CAPACITORS EMPLOYING NiO AS A DIELECTRIC
William W. Garstang and Robert L. Wolff, Milwaukee, and William S. Parsons, Nashotah, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed June 27, 1963, Ser. No. 291,107
5 Claims. (Cl. 317—258)



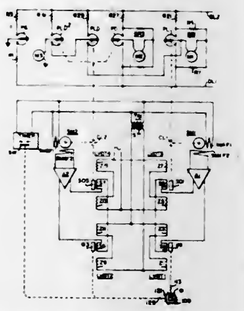
1. A feed-thru capacitor comprising a member formed essentially of nickel having a first portion of reduced diameter, a second portion of greater diameter, and an offset portion interconnecting said first and second portions, substantially all of the outer surface of said member being covered with a thin layer of NiO, and a thin conductive layer covering substantially all of said NiO layer, said member forming one terminal of said capacitor and said conductive layer forming a second terminal of said capacitor.

3,259,819
CONTROL APPARATUS UTILIZING ELECTRO-MAGNETIC RESOLVER
Richard K. Heiser, Minneapolis, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Oct. 28, 1963, Ser. No. 319,155
7 Claims. (Cl. 318—19)



1. Resolver apparatus, comprising;
a pair of drive means connected to produce rectilinear movement along quadrature axis,
command means to provide an A.C. output command signal whose quadrature components are indicative of a command drive speed for each of said drive means along each of said quadrature axis,
means controlled by said A.C. command signal connected in controlling relation to said drive means to produce said command drive speed thereof
further means associated with each of said drive means to provide a pair of D.C. output signals indicative of the actual drive speed of each of said drive means,
a resolver having a pair of quadrature related input windings and an output winding,
means producing relative rotation between said input windings and said output winding,
means connecting said input windings to said further means to apply one of said D.C. output signals to each of said input windings, to thereby cause an A.C. reference signal to be generated in said output winding whose quadrature components are indicative of the actual drive speed of each of said drive means.

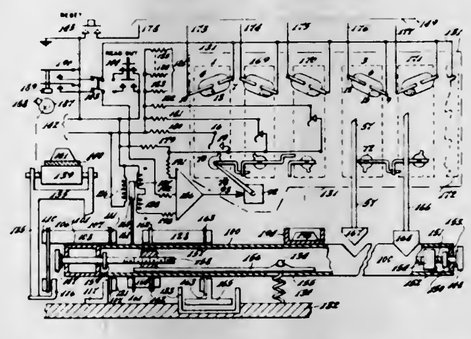
3,259,820
COMPUTER APPARATUS
Wallace Jones, Saltsburg, Pa., assignor to Nuclear Materials and Equipment Corporation, Apollo, Pa., a corporation of Pennsylvania
Original application Mar. 14, 1961, Ser. No. 108,220. Divided and this application Dec. 2, 1964, Ser. No. 423,885
4 Claims. (Cl. 318—28)



4. Computer apparatus for setting the analogue of a parameter of an object comprising means to be connected

to said object for determining said parameter, a first linear variable differential transformer responsive to said determining means to be set in accordance with said parameter, a second linear variable differential transformer, means connecting said transformers in balancing relationship, an unbalance being produced in said relationship on the setting of said first transformer in accordance with said parameter, a servo motor having a first and second quadrature winding, said motor operating only on the flow of current through both said windings, means connected to said first winding for supplying current to said first winding independently of said output windings, means connected to said transformers responsive to said unbalance produced during said setting of said first transformer as aforesaid for supplying current to said second winding to operate said motor, means connected to said motor responsive to the operation thereof to actuate said second transformer to return said first and second transformer to balancing relationship, and variable impedance means, actuable by said motor to be set in accordance with said return of said first and second transformers to balancing relationship.

3,259,821
MEASURING SYSTEM
James A. Potter, 12 Green House Road, West Hartford, Conn.
Original application Feb. 24, 1964, Ser. No. 346,630. Divided and this application May 3, 1965, Ser. No. 465,225
1 Claim. (Cl. 318—28)



A measuring system comprising: an amplifier actuated in part by an electrical signal indicative of the direction and amount of deflection of a lever from its normal position, said lever being deflectable by the quantity being measured; a servomotor driven by the output from the amplifier; a plurality of bistable mechanisms, each bistable mechanism being shifted either to advanced position or to a withdrawn position in accordance with the direction of the most recent complete revolution of a rotor associated with such bistable mechanism; a plurality of rotors, each rotor being associated with its bistable mechanism; a finger on each rotor; a U shaped spring having two spring tips extending from a slot in a bistable mechanism; positioning means associating the finger of a rotor and the spring tips so that the orientation of the bistable mechanism is controlled by the most recent complete rotation of the rotor and so that the spring tip yieldingly permits continued rotation of the rotor in the direction corresponding to the established orientation of the bistable mechanism; a pair of pivoted members in each bistable mechanism; a spring urging said pivoted members to each of the advanced and withdrawn positions but yieldingly permitting the shifting therebetween when actuated by the engagement of the finger with the slot in which the U shaped spring is positioned; a series drive connection among the plurality of rotors, whereby rotation of the servomotor in a particular direction initially rotates the first rotor in said direction, and then, after a selected amount of takeup of backlash, rotates successive rotors in the series until a stopping or reversing signal is transmitted to the servomotor; and means associated with each bistable unit to apply a balancing force while in the advanced position, the servomotor being responsive to such balancing forces so that the servomotor rests motionless after selecting the precise combination of bistable mechanisms oriented in the advanced position.

3,259,822
GIMBAL ERROR CORRECTED GYROSCOPIC SYSTEM
William W. Burmeister and Richard K. Radtke, Phoenix, Ariz., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Sept. 13, 1963, Ser. No. 308,835
6 Claims. (Cl. 318—30)

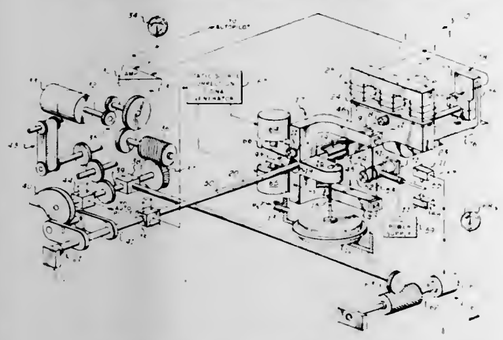


1. In a gyroscopic data transmission system,
(a) a gyroscope,
(b) data transmission means including a transmitter connected to said gyroscope, a receiver and a connecting circuit connected in multi-circuit fashion between said transmitter and receiver, said transmitter being adapted to provide an output signal representative of the relative position of said gyroscope which signal is normally in error dependent upon the gimbal configuration and the attitude of the gyroscope,
(c) means for providing an attitude signal representative of the attitude of said gyroscope,
(d) and electrical circuit means responsive to said attitude signal and coupled to a portion of said data transmission means for providing a compensating signal which effectively compensates for said error due to the gimbal configuration and attitude of the gyroscope, the impedance of said electrical circuit means being variable in response to changes in said attitude signal by virtue of the fact that said circuit includes a multi-electrode electronic device which itself presents, between a first pair of its electrodes, an impedance to current flow internally of the device between these electrodes that may be varied by varying a potential difference applied between a second pair of its electrodes connected to receive said attitude signal.

3,259,823
PRESSURE RESPONSIVE APPARATUS
Harry Miller, Scottsdale, Ariz., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Oct. 23, 1963, Ser. No. 318,244
11 Claims. (Cl. 318—32)

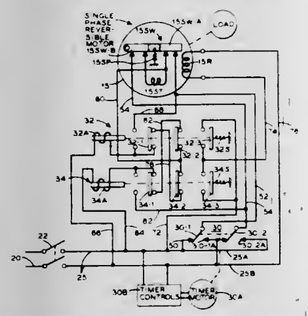
1. In pressure responsive apparatus,
(a) a torsion member having a longitudinal axis,

(b) pressure capsule means movable in response to pressure variations and connected to apply a torque about the longitudinal axis of said torsion member tending to rotate said torsion member as a function of said pressure variations,
(c) pick-off means for providing a signal representative of the movement of said torsion member,
(d) servo means responsive to said pick-off signal for rotating said torsion member in a direction tending



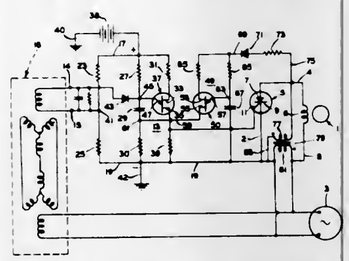
to eliminate said pick-off signal whereby said apparatus tends to operate about a null condition,
(e) and monitoring means including switch means having a first portion responsive to the amplified movement of said torsion member and cooperative with a second fixed portion having elements spaced to permit contact with said first portion for providing a monitor signal only when the rotation of said torsion member exceeds a predetermined angle indicative of malfunction of said apparatus.

3,259,824
SINGLE PHASE MOTOR REVERSING SYSTEMS
Harry Greenwald, Whitestone, N.Y., assignor of one-third each to Louis Wolff and Harry Silberglait, Brooklyn, N.Y.
Filed May 10, 1963, Ser. No. 279,451
5 Claims. (Cl. 318—207)



1. A reversing system for a single phase motor having a running winding, a starting winding and a speed-responsive switch normally closed below a predetermined motor speed and arranged to open when the motor speed reaches or exceeds said speed, said system comprising
a source of alternating voltage for energizing the two motor windings to cause operation of the motor;
a reversing switch for controlling the direction of energization of the starting winding relative to the direction of energization of the running winding;
a first relay switch having an operating coil and a switch assembly operable thereby for controlling the connection of the running winding to the voltage source when said first relay switch is energized and moved to operated position;
a second relay switch similarly having an operating coil and a switch assembly operable thereby to control the connection of the running winding to the voltage source when said second relay switch is energized and moved to operated position;
and means including said reversing switch for controlling whether said first relay or said second relay shall operate to connect the running winding to said voltage source.

3,259,825
CONTROL CIRCUIT FOR A LOW-NOISE SILICON CONTROLLED RECTIFIER SERVO DRIVE
Robert L. James, Bloomfield, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed July 17, 1963, Ser. No. 295,648
13 Claims. (Cl. 318—341)

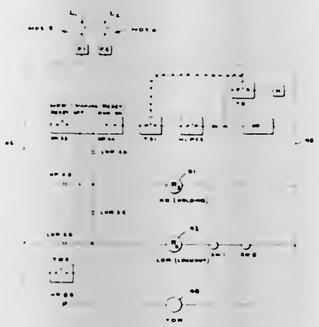


5. A circuit for proportionally controlling the operation of an electric motor from an alternating current power source in accordance with a signal,
comprising a controlled rectifier connected to the motor and source,
a pulse forming circuit connected to the controlled rectifier for providing pulses in each half cycle of positive anode supply voltage of the controlled rectifier at a time corresponding to the amplitude of the signal for rendering the controlled rectifier conductive during the remainder of the half cycle to energize the motor from said source in accordance with the signal,
pulse generating means operatively connected to said source of alternating current so as to provide saw tooth pulses in synchronism with said source,
means for controlling the pulse forming circuit,
and means operatively connecting the saw tooth pulse output of said pulse generating means to said control means for causing said pulse forming circuit to render the controlled rectifier conductive at the start of each half cycle of the positive anode supply voltage at all output power levels.

3,259,826
CIRCUIT FOR AUTOMATICALLY RESTARTING A COMPRESSOR MOTOR AFTER A POWER FAILURE
Bruce M. Paul, Belleville, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,737
1 Claim. (Cl. 318—454)

A control system for a refrigeration system having a refrigerant compressor and a drive motor therefor, said control system being operative to automatically restart said compressor drive motor subsequent to stoppage thereof due to a discontinuance of electrical power supplied to said drive motor, which control system includes:
(a) a compressor drive motor adapted to be connected to a source of electrical power;

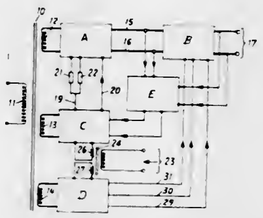
(b) switching means operative to connect and disconnect the source of electric power to and from said drive motor;
(c) safety means including a safety switch operable to connect and disconnect said motor to and from the source of power, said safety means including pressure sensing switches and motor heat sensing switches each individually operable to connect and disconnect said motor and from the source of power when an abnormal condition is sensed;
(d) manual starting means operative, upon closing of switch contacts, to energize said switching means to initiate operation of said motor;
(e) said manual switching means and said safety means being operative to maintain their state of operation upon failure of the source of electrical power,



said switching means being operative to disconnect said motor from said source of power upon loss of electrical power;
(f) time delay means, said time delay means being operative to delay energization of said switching means to reconnect the drive motor to the source of power when electric power is available after a stoppage thereof subject to the safety means and manual switching means being in their motor connect position; and
(g) a manually resettable by-pass means, said manually resettable by-pass means being associated with said manual switching means to by-pass said time delay means and immediately reconnect said drive motor to the source of power when electric power is available after a stoppage thereof.

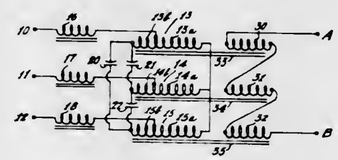
3,259,827
FREQUENCY TRANSFORMER INCLUDING IMPROVED INVERTER CIRCUIT
Walter Strohmeier, Riehen, Basel-Land, Switzerland, Julio Gonzales Bernaldo de Quiros, Madrid, Spain, and Werner Ullmann, Ascona, Switzerland, assignors to Agie A.G. für Industrielle Elektronik, Losone-Locarno, Switzerland, a corporation of Switzerland
Filed Dec. 10, 1962, Ser. No. 243,527
Claims priority, application Switzerland, Dec. 13, 1961, 14,454/61
9 Claims. (Cl. 321—4)

1. A frequency transformer comprising a power rectification stage, a source of alternating current voltage for said power rectification stage, a power output stage provided with controlled rectifiers for converting a direct-current voltage into an output alternating-current voltage, an ignition circuit for igniting said controlled rectifiers of said power output stage, said power output stage being provided with a transformer having a primary winding including a center-tap and connected at its primary winding terminals via a respective one of said controlled rectifiers with one terminal of said power rectification stage, the other terminal of said power rectification stage being coupled to said center-tap of said primary winding of said transformer, a capacitor for commutation elec-



trically connected to said terminals of said primary winding, so that upon ignition of one of said controlled rectifiers the other controlled rectifier is extinguished by the charge of said capacitor, and a separate rectifier directly connected in series with each terminal of said primary winding for load-independent charging of said commutation capacitor.

3,259,828
STATIC FREQUENCY MULTIPLYING SYSTEM
Paul Peter Biringer, Toronto, Ontario, Canada, assignor to Ajax Magnethermic Corporation, Youngstown, Ohio, a corporation of Ohio
Filed Oct. 26, 1961, Ser. No. 147,969
5 Claims. (Cl. 321—7)

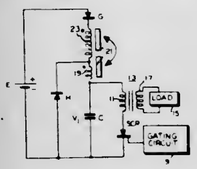


3. A power supply system comprising a multiphase source of alternating voltage of sinusoidal form and predetermined frequency and adapted to deliver single phase power of the harmonic frequency of the source symmetrically distributed with respect to said source, a primary structure for each phase of said source energizable by the latter having a current voltage relationship which is non-linear for each phase of said source; a reactance having a current voltage relationship which is linear disposed between said primary structure and said source; said linear reactances developing non-sinusoidal voltages across the junctures of said linear reactances and said primary structures; condensers interposed between said primary structures passing non-sinusoidal current to said primary structures; means associated with each of said primary structures whereby the value of voltages supplied to said condensers is caused to differ from those values of voltages appearing across the junctures of said linear reactances and said primary structures while preserving the non-linear characteristics of said primary structures; secondary windings for each primary structure magnetically coupled to the latter; and means connecting said secondary windings electrically in series thereby to obtain a single phase harmonic frequency power symmetrically distributed with respect to said source, the relationship between the reactances and condensers being such that a substantial unity power factor is achieved at the source.

3,259,829
RESONANT CHARGING CIRCUIT CAPABLE OF PRODUCING AN OUTPUT VOLTAGE WHICH IS HIGHER THAN THE INPUT VOLTAGE

George C. Feth, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 25, 1961, Ser. No. 126,665
3 Claims. (Cl. 321—15)

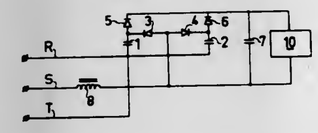


1. A resonant charging circuit for applying a voltage to a load comprising a potential source, a capacitor, switching means normally connecting said potential source to said capacitor to charge said capacitor to a first potential, a controlled rectifier, a transformer having a primary and secondary winding, the secondary winding of said transformer connected to said load, said controlled rectifier and the primary winding of said transformer connected in series with said capacitor, gating means for gating on said controlled rectifier to discharge said capacitor through the primary winding of said transformer to cause a voltage to be applied to said load through the secondary winding of said transformer, and to cause said capacitor to be recharged to a second potential opposite in polarity to said first potential, and a bypass resonant circuit including said capacitor operative when said capacitor is charged to said second potential to discharge said capacitor and recharge said capacitor to a third potential, said switching means operative when said capacitor is being charged to said third potential to disconnect said potential source from said capacitor and operative after said capacitor is charged to said third potential to connect said potential source to said capacitor to charge said capacitor to a fourth potential.

3,259,830
PLURAL PHASE CONVERTER WITH VOLTAGE MULTIPLICATION

Göran Axel Runo Öjelid, Huskvarna, Sweden, assignor to Husqvarna Vapenfabriks Aktiebolag, Huskvarna, Sweden

Filed Jan. 29, 1962, Ser. No. 169,292
Claims priority, application Sweden, Feb. 2, 1961, 1,053/61
3 Claims. (Cl. 321—15)

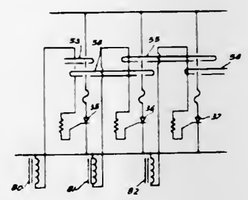


1. In apparatus for driving a load from a three phase alternating current supply system having first, second, and third phase lines, a voltage and frequency multiplier, comprising:
- an inductance in said first line, two condensers respectively in said second and third lines,
- a first pair of back-to-back connected unidirectional current conducting devices respectively coupled at their outer ends to the output sides of said condensers and at their inner ends in common to the output side of said inductance,
- a second pair of back-to-back connected unidirectional current conducting devices having their outer ends of polarity opposite the outer ends of said first pair and connected respectively to the said output sides of said condensers,
- a third condenser coupled between the connected inner ends of said second pair of unidirectional devices and the output side of said inductance, and
- means for connecting said load across said third condenser,
- the reactance of said inductance in conjunction with that of one of said two condensers being such as to effect resonance thereof at a frequency slightly higher than the frequency of said alternating current supply system.

3,259,831
BALANCING CIRCUIT FOR ELECTRICALLY INTERCONNECTED SEMICONDUCTOR DEVICES

Isadore K. Dortort, Philadelphia, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania

Original application Dec. 2, 1960, Ser. No. 73,332. Divided and this application Feb. 13, 1964, Ser. No. 344,738
8 Claims. (Cl. 321—16)



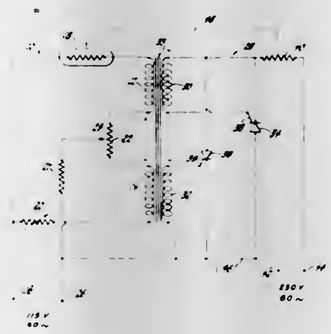
1. A current balancing circuit for first and second parallel connected controlled rectifiers; said first and second controlled rectifiers each having first and second main terminals and a control terminal; said current balancing circuit including a magnetic core having a first, second, third and fourth winding; one end of said first and second windings being connected in series with said first and second main terminals respectively of said first and second controlled rectifiers respectively; one end of said third and fourth windings being connected to said control terminal of said first and second controlled rectifiers respectively; the other end of said first and second windings being connected together; and a firing signal generating means; the other end of each of said third and fourth windings being connected to said firing signal generating means.

3,259,832
ELECTRICAL CONTROL DEVICE

Raymond E. Summerer, Grand Blanc, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 3, 1962, Ser. No. 228,129
7 Claims. (Cl. 323—4)

4. A circuit for controlling the application of energy to a load comprising a pair of primary transformer coils connected to produce respective flux fields which are in effective opposition, means to energize the primary coils, a condition sensitive impedance element connected in series with one of the primary coils whereby the flux fields may be unbalanced, a pair of secondary coils magnetically linked to the primary coils and adapted to generate respective signals related to the net field produced by the primary coils, a pair of unidirectional current-controlling devices each having a control terminal adapted to control the conductivity between two output terminals, the control terminals being respectively connected to the secondary coils whereby the controlling devices are rendered conductive when a net primary field of predetermined magnitude exists, a source of alternating current, the controlling devices being oppositely connected in parallel across the series combination of the source and a load, the condition sensitive impedance element being

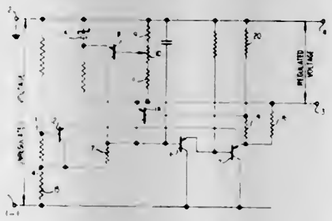


operatively linked with the load and responsive to the energization thereof to vary the impedance in a sense tending to balance the flux fields produced by the primary coils.

3,259,833
REGULATED POWER SUPPLY

Le Roy D. Barter, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed Oct. 15, 1962, Ser. No. 230,501
3 Claims. (Cl. 323—4)

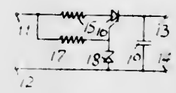


1. In a power supply for supplying power to a load, a voltage regulating circuit having a common terminal, an unregulated voltage terminal and a regulated voltage terminal, comprising
- a series regulating element having a control input;
- a current sensor, said series regulating element and said current sensor being connected in series between said unregulated voltage terminal and said regulated voltage terminal;
- means for generating a reference voltage across said common terminal and said regulated voltage terminal;
- means for generating an electrical difference signal in accordance with the difference between said reference voltage and at least a portion of the voltage across said common terminal and said regulated voltage terminal;
- means for applying said electrical difference signal to said control input of said series regulating element, thereby regulating the voltage between said common terminal and said regulated voltage terminal;
- a first voltage divider connected across said common terminal and said unregulated voltage terminal, said first voltage divider including first, second and third resistors connected in series;
- a first amplifier having a first input connected to the junction of said second and third resistors, a second input connected to the junction of said current sensor and said series regulating element and an output connected to the junction of said first and second resistors and resistively connected to said control input of said series regulating element, whereby said series regulating element is isolated from voltage fluctuations at the unregulated voltage terminal;
- a second voltage divider comprising fourth and fifth resistors connected in series between said common terminal and said junction of said current sensor and said series regulating element;
- a second amplifier having a first input connected to the junction of said fourth and fifth resistors, a second input connected to said regulated voltage terminal and having an output connected to said control input of said series regulating element whereby, during overload, said second amplifier operates to cut off the conductance of said series regulating element.

3,259,834
VOLTAGE STABILISERS

Maurice James Wright, Harborne, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Oct. 29, 1962, Ser. No. 233,628
Claims priority, application Great Britain, Nov. 1, 1961, 39,065/61
13 Claims. (Cl. 323—22)



1. A circuit for stabilising a D.C. voltage supply, comprising in combination first and second terminals connected to the unstabilised supply, a switchable rectifier, said switchable rectifier having an anode, a cathode and a gate, and being switched on by a positive voltage applied between its gate and cathode, and switched off by a negative voltage applied between its gate and cathode, means connecting the anode of the switchable rectifier to the first terminal, a capacitor connecting the cathode of the switchable rectifier to the second terminal, third and fourth terminals connected across the capacitor for connection to a load to be driven by the voltage supply, biasing means connected in circuit with the gate of said switchable rectifier and normally tending to render the switchable rectifier conductive, and means connected in circuit with the gate of said switchable rectifier and sensitive to the voltage across the third and fourth terminals for switching the switchable rectifier on and off to maintain the voltage across the third and fourth terminals substantially constant.

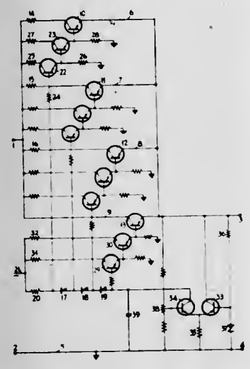
3,259,835
VARIABLE-IMPEDANCE ELECTRIC CIRCUITS

John Wemyss McPherson, Hayes, Middlesex, England, assignor to The General Electric Company Limited, London, England

Filed Nov. 20, 1962, Ser. No. 238,978
Claims priority, application Great Britain, Nov. 24, 1961, 42,210/61; Jan. 17, 1962, 1,791/62
9 Claims. (Cl. 323—22)

1. A variable-impedance electric circuit comprising an input terminal, an output terminal, a plurality of paths, means to connect said paths in parallel between the input and output terminals, a plurality of transistors equal in number to the number of said paths, each transistor having first and second electrodes and a control electrode, each one of said paths including the path between said first and second electrodes of a respective one of said transistors, at least one of said plurality of paths including a resistance connected directly in series with the respective transistor, a potential dividing network, the con-

trol electrodes of said transistors each being connected to a respective tapping point of the potential dividing network, and means for applying a variable voltage across



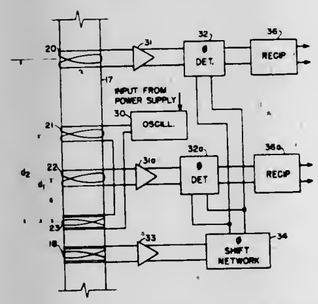
the potential dividing network so as to vary the impedance of the circuit measured between said input and output terminals.

3,259,836

INDUCTION LOGGING APPARATUS HAVING PLURAL RECEIVER COILS EACH FORMING A MUTUALLY BALANCED SYSTEM WITH THE TRANSMITTER COILS

Howard I. Oshry, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Jan. 19, 1962, Ser. No. 167,311
3 Claims. (Cl. 324—6)



2. Apparatus for induction logging of earth well boreholes and the like comprising:

a pair of transmitter coils producing two unequal opposing fields adapted to be lowered into a borehole in fixed, longitudinally spaced apart relation with respect to one another;

a first receiver coil adapted to be lowered into a borehole in fixed, longitudinally spaced apart relation with respect to said transmitter coils but not between said transmitter coils and forming a first substantially mutually balanced system therewith;

first circuit means producing time-dependent voltages to energize said transmitter coils oppositely;

second circuit means connected to said first receiver coil including means for deriving a direct current proportional to the voltage induced in said first receiver coil;

a second receiver coil adapted to be lowered into a borehole in fixed, longitudinally spaced apart relation with respect to said transmitter coils between the said two transmitter coils and forming a second substantially mutually balanced system therewith;

third circuit means, independent of said second circuit means connected to said second receiver coil including means for deriving a direct current proportional to the voltage induced in said second receiver coil;

a phase detector connected to each of the second and third circuit means, and

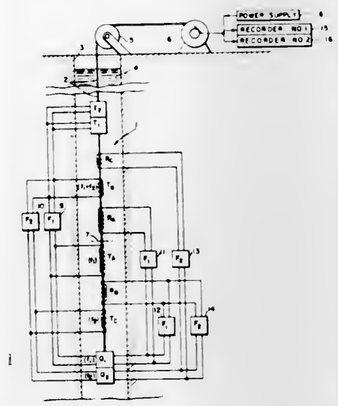
means for deriving a phase reference voltage from the circuit energizing the transmitter coils, the reference voltage being fed to said phase detectors.

3,259,837

INDUCTION LOGGING APPARATUS UTILIZING PLURAL FREQUENCIES FOR INVESTIGATING DIFFERENT ZONES SURROUNDING A BOREHOLE

Howard I. Oshry, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Feb. 5, 1963, Ser. No. 256,395
8 Claims. (Cl. 324—6)



6. Multiple investigation induction logging apparatus comprising:

a plurality of coaxially disposed transmitter coils and a plurality of coaxially disposed receiver coils adapted for movement through a borehole;

circuit means for energizing a first group of the transmitter coils at a first frequency and a different group of transmitter coils at a second frequency with at least one of the transmitter coils being included in both groups;

circuit means for detecting the resultant response of a first group of receiver coils at the first frequency and detecting the resultant response of a different group of receiver coils at the second frequency with at least one of the receiver coils being included in both groups.

3,259,838

BOREHOLE INDUCTION LOGGING SYSTEM UTILIZING THE QUADRATURE SIGNAL COMPONENT AS AN INDICATION OF FORMATION CONDUCTIVITY

Harry Sandoe Thomsen, Tokyo, Japan, assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Feb. 21, 1963, Ser. No. 260,181
1 Claim. (Cl. 324—6)

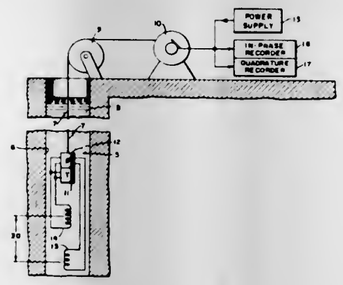
A method of induction logging by means of a pair of coils lowered into a borehole to investigate the earth formation traversed by the borehole, comprising the steps of

energizing one of the coils with alternating current to induce current flow in the earth formation surrounding the borehole,

receiving a signal in the other coil produced as a result of said induced current, said signal being composed of at least two signal components, simultaneously and separately selecting each of said signal components

one of said components being in phase with respect to said energizing alternating current, the other component of the received signal being in phase quadrature with respect to said energizing alternating current,

the magnitude of the said in phase component being proportional to the formation conductivity



at some distance D_1 from the axis of the borehole and the magnitude of said quadrature component being proportional to the formation conductivity at a distance D_2 from the axis of said borehole wherein D_2 is greater than D_1,

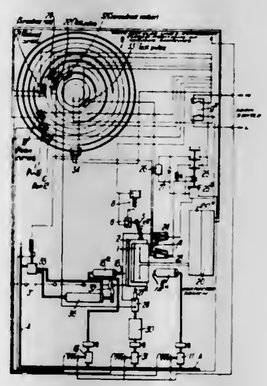
separately recording the simultaneously detected quadrature and in phase components in accordance with the vertical depth within the borehole at which the measurements are taken to provide a record of the variation in conductivity with depth at the said two spaced distances D_1 and D_2 from the axis of the borehole.

3,259,839

ELECTRIC CIRCUIT BREAKERS

Edward Coleman, Walsall, and Walter Henry Thompson, Solihull, England, assignors to J. A. Crabtree & Co. Limited, Walsall, England, a British company

Filed Jan. 18, 1961, Ser. No. 83,563
Claims priority, application Great Britain, Jan. 27, 1960, 2,903/60
7 Claims. (Cl. 324—28)



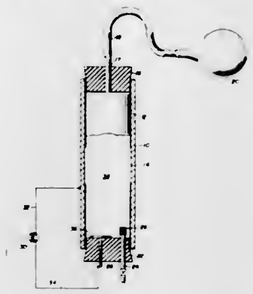
1. The method of setting a predetermined current value for an assembled circuit breaker having a casing with an aperture therein, a dolly, fixed and moving contacts, an adjustment screw, a tension means, an electromagnetically operated trip mechanism including a plunger, said method consisting in first ramming a pin through said aperture into said mechanism to prevent tripping thereof, then passing a heavy current of approximately six times said value through said mechanism to raise said plunger, thereafter lowering said plunger by reducing said current to approximately 1.2 times said value and simultaneously withdrawing said pin, then turning said screw and adjusting said tension means to trip said mechanism at said value.

3,259,840

APPARATUS AND METHOD FOR DETERMINING SOIL CORROSITIVITY

Edward Schaschl and Glenn A. Marsh, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed May 4, 1962, Ser. No. 192,424
8 Claims. (Cl. 324—29)



1. The method of determining the corrosivity of a soil sample as a function of measured galvanic current comprising

(A) contacting a confined comminuted soil sample with an upper electrode and a lower electrode spaced from each other, said lower electrode being anodic with respect to said upper electrode,

(B) mixing with said confined soil sample an amount of aqueous liquid in excess of the amount required to saturate said sample,

(C) draining from said sample aqueous liquid until the level thereof is below that of the upper electrode but above that of the lower electrode, and

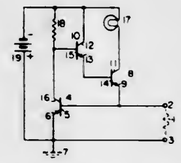
(D) measuring the generated current passing between said electrodes.

3,259,841

NEGATIVE-FEEDBACK TRANSISTORIZED ELECTRICAL CONTINUITY TESTER

Donald R. Proctor, Santa Ana, and Donald E. Sweet, Anaheim, Calif., assignors to Electric Engineering Company of California, Santa Ana, Calif., a corporation of California

Filed May 15, 1963, Ser. No. 280,583
4 Claims. (Cl. 324—62)



1. A circuit for providing an indication of electrical resistance comprising

first, second and third transistors, each having emitter, base and collector electrodes,

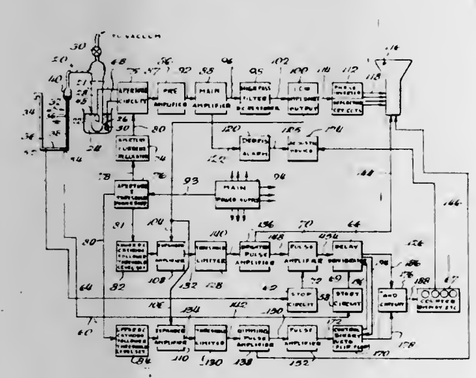
the base and emitter of said first transistor connected to said electrical resistance,
the collector of said first transistor connected to the base of said second transistor,
the emitter of said second transistor connected to the base of said third transistor,
a resistor and
an indicating lamp connected in series and from the base of said second transistor to the collector of said third transistor,
the collector of said second transistor connected to said lamp,
the emitter of said third transistor connected directly to the base of said first transistor,
means to energize said circuit connected between the emitter of said first transistor and the junction connection between said resistor and lamp;
said lamp indicating by illumination values of said electrical resistance less than a given value, said given value being low with respect to the resistance of said resistor.

3,259,842

PARTICLE ANALYZING DEVICE

Wallace H. Coulter, Walter R. Hogg, Joseph P. Moran, and William A. Claps, all of Chicago, Ill., assignors to Coulter Electronics, Inc., Chicago, Ill., a corporation of Illinois

Filed Aug. 19, 1959, Ser. No. 834,860
15 Claims. (Cl. 324—71)



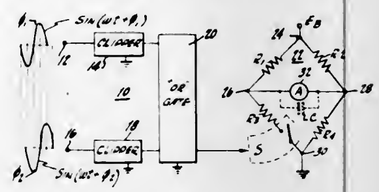
1. Apparatus for studying the physical properties of particles which comprises, means producing a flow of a fluid suspension containing said particles along a fluid path in a stream whose dimensions are related to those of the particles so that the passage of a single particle through the stream will result in a substantial displacement of the fluid in the stream, an electrical detecting circuit electrically coupled with the fluid of said stream, means establishing a constant electrical current to pass along said stream in said fluid, the electrical properties of the particles and fluid being sufficiently different such that the passage of particles in said fluid path will modulate the electric current flowing along said stream to produce signals, the said detecting circuit comprising a current sensitive amplifier the impedance of which is lower than that of the fluid in the stream whereby the signals will have amplitudes which are substantially independent of changes in the impedance of the fluid of said path.

3,259,843

FREQUENCY INSENSITIVE PHASE MEASURING BY AVERAGING THE IMBALANCE OF A WHEATSTONE BRIDGE

Robert N. Hurst, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Sept. 27, 1963, Ser. No. 312,067
5 Claims. (Cl. 324—83)



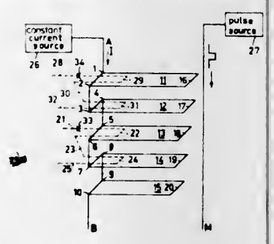
4. A phase-measuring circuit for measuring the phase relationship between two signals, said circuit comprising, in combination,
(a) a Wheatstone bridge having four terminals and four resistors,
(b) a first resistor of said four resistors being connected between a first terminal and a second terminal of said four terminals,
(c) a second resistor of said four resistors being connected between said second terminal and a third terminal of said four terminals,
(d) a third resistor of said four resistors being connected between said third terminal and a fourth terminal of said four terminals,
(e) an OR gate circuit having two inputs and a pair of output terminals,
(f) means to connect a source of operating potential between said second and said fourth terminals,
(g) means to apply said two signals respectively to separate ones of said inputs,
(h) means to connect said two output terminals in a series circuit with a fourth resistor of said four resistors, said series circuit being connected between said first and said fourth terminals, and
(i) indicating means connected between said first and and said third terminals to indicate said phase relationship.

3,259,844

SIGNAL AMPLITUDE DISCRIMINATOR HAVING A PLURALITY OF SUPERCONDUCTING LOOPS ARRANGED TO RESPOND TO THE MAGNETIC FIELD PRODUCED BY THE SIGNAL

Hendrik Brugt Gerhard Casimir, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 19, 1962, Ser. No. 231,713
Claims priority, application Netherlands, Oct. 26, 1961, 270,682
19 Claims. (Cl. 324—103)



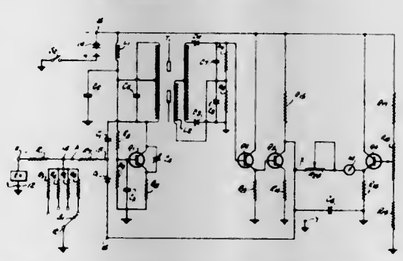
14. A signal amplitude detector adapted to operate at a given low temperature comprising a first conductor having a finite resistance at said given temperature, means coupled to said first conductor for causing a predetermined current to flow therein, a second conductor connected in parallel with a portion of said first conductor and composed of a superconductor material which is normally superconductive at said given low temperature, a third conductor connected in parallel with another portion of said first conductor and composed of a superconductive material which is normally superconductive at said given low temperature, a fourth conductor adjacent to and in magnetic field applying relationship to said second and third conductors, and means coupled to said fourth conductor for causing a current flow therein which is proportional to the amplitude of the signal to the detected, said second, third and fourth conductors being positioned in a predetermined relationship whereby the magnetic field produced by said current flow in said fourth conductor is differentially coupled to said second and third conductors to produce different intensities of magnetic field therein.

3,259,845

HIGH IMPEDANCE DIRECT CURRENT VOLTMETER AND AMPLIFIER CIRCUITS

Herbert Cohen, 180 West End Ave., New York, N.Y.

Filed Feb. 9, 1962, Ser. No. 172,303
4 Claims. (Cl. 324—123)



1. A high impedance D.C. circuit comprising a voltage control capacitor; means for impressing an external voltage to be measured upon said voltage controlled capacitor; a variable frequency oscillator connected to said voltage controlled capacitor and responsive to tuning by said voltage controlled capacitor; means connected to said oscillator for generating a direct current signal which is a function of the difference between the frequency of said oscillator and a predetermined frequency; a direct current amplifier connected to said generating means for amplifying said direct current signal; feedback circuit means connected between said amplifier and said voltage controlled capacitor to impress the algebraic sum of the external voltage and the output voltage of said amplifier upon said voltage controlled capacitor; an adjustable reference potential circuit; and meter means connected between said amplifier and said adjustable reference potential circuit to measure the difference between said amplifier output voltage and said adjustable reference circuit potential.

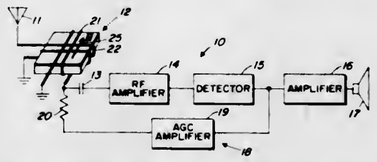
3,259,846

AGC VOLTAGE CONTROLLED THIN-FILM RF ATTENUATOR

William S. Elliott, Cedar Rapids, Iowa, and Harlan G. Michael, Huntsville, Ala., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Apr. 19, 1963, Ser. No. 274,190
17 Claims. (Cl. 325—415)

1. An RF amplifier automatic gain control (AGC) system using a thin-film ferromagnetic attenuator for attenuation of RF input signals to the amplifier, for operation over a wide dynamic range, including: said thin-film ferromagnetic attenuator with a ferromagnetic substantially single domain thin-film desposited on a mounting substrate in the presence of an external magnetic field for obtaining a magnetization vector having a predetermined rest direction, and having two coil windings about the thin-film with the windings substantially mutually perpendicular and with the rest direction of the single domain magnetic vector being within a relatively small angle from being parallel to the axis of one of said coil windings; RF signal input means connected to one of said coil windings



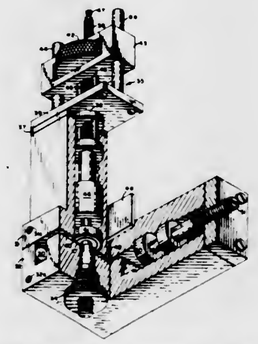
with the coil a signal input primary winding; means coupling the other coil winding, as a signal output secondary winding, to an RF amplifier; a detector connected for receiving the output of said RF amplifier and having output means; and an AGC loop connected to said output means for developing AGC direct current control voltage and applying the control voltage to one of the coil windings of said thin-film attenuator.

3,259,847

MULTI-IDLER PARAMETRIC AMPLIFIER WITH LOWER FREQUENCY PUMP

Janis Vilcans, Chelmsford, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed June 22, 1964, Ser. No. 376,826
5 Claims. (Cl. 330—4.9)



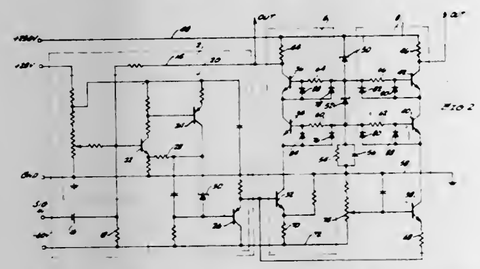
1. A multi-idler parametric amplifier for a microwave signal wherein a microwave signal to be amplified is mixed with a pump signal having a frequency greater than one half the frequency of such microwave signal but less than the frequency thereof, comprising:
(a) means, including a resonator, for simultaneously supporting standing fields at frequencies, f_s, f_p, f_s-f_p, and $2f_p-f_s$, where f_s equals the frequency of the microwave signal and f_p equals the frequency of the pump signal;
(b) a varactor mounted in the resonator and coupled to the standing field at the frequency f_p;
(c) means for independently adjusting the standing fields at the frequencies f_s,f_s-f_p and $2f_p-f_s$ to couple each such field to the varactor; and,
(d) means for extracting an amplified output signal from the resonator, said resonator comprising a length of ridge guide having a cut-off frequency greater than f_s-f_p but less than $2f_p-f_s$, the microwave signal to be amplified being applied to one end of such guide and the pump signal being applied to the sec-

ond end thereof, and a cavity orthogonally disposed with respect to the upper surface of the ridge guide, the longitudinal axis of the cavity coinciding with the longitudinal axis of the varactor; an adjustable band elimination filter having a cut-off frequency greater than f_p but less than f_s disposed between the varactor and the second end of the ridge guide to adjust, at f_s, the electrical length of the ridge guide; a first adjustable tuner coupled to the standing field at the frequency $2f_p-f_s$ between the varactor and the second end of the ridge guide at a null point in the standing field at the frequency f_s; a filter surrounding the varactor and filling the mouth of the cavity, the transmission band of such filter including f_s-f_p but excluding $2f_p-f_s$; and a second adjustable tuner coacting with the cavity to set up therein a standing field at the frequency f_s-f_p.

3,259,848
HIGH VOLTAGE CASCADED SEMICONDUCTOR AMPLIFIER INCLUDING FEEDBACK AND PROTECTIVE MEANS

John A. Rado, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Nov. 18, 1963, Ser. No. 324,373
2 Claims. (Cl. 330—14)



1. A linear semiconductor amplifier for providing output voltages larger than those which can be provided by a single semiconductor comprising:

a low impedance source of input signals of predetermined waveform including input means for providing said signals and a multistage preamplifier for amplifying said signals coupled with said input means, said preamplifier including feedback means coupled between stages thereof for improving linearity of the amplifier signals and including a low impedance coupling circuit for developing said amplifier signals;

first and second sources of direct current operating potential and a source of fixed reference potential;

first and second pluralities of semiconductor devices including a collector-emitter current path and a control electrode for controlling current in said path, the paths of the semiconductor devices of said first plurality being connected in series to provide a dynamic first conductor with one electrode of the path of a first of the semiconductor devices of said first plurality forming a first terminal of said first conductor and one electrode of the path of a second of the semiconductor devices of said first plurality forming a second terminal of said first conductor, the paths of the semiconductor devices of said second plurality being connected in series to provide a dynamic second conductor with one electrode of the path of a first of the semiconductor devices of said second plurality forming a first terminal of said second conductor and one electrode of the path of a second of the semiconductor devices of said second plurality forming a second terminal of said second conductor, first and second load impedance elements being respectively connected between said first terminals and said first source of direct current operating potential, and additional feedback means being coupled between one of said first terminals and said preamplifier for improving linearity of said output voltages;

biasing means for each of said semiconductor devices including an adjustably tapped impedance element connected between said source of fixed reference potential and said second source of direct current operating potential and including a stabilized voltage source for each of said semiconductor devices other than said second semiconductor devices and a bias current-determining impedance element connected between each of said stabilized voltage sources and the control electrode of the corresponding semiconductor device, said bias current-determining impedance element connected to each of said corresponding semiconductor devices of said first plurality being proportioned and the semiconductor devices of said first plurality being matched with respect to current gain to provide substantially equal instantaneous voltage drops across each of said devices of said first plurality, and said bias current-determining impedance element connected to each of said corresponding semiconductor devices of said second plurality being proportioned and the semiconductor devices of said second plurality being matched with respect to current gain to provide substantially equal instantaneous voltage drops across each of said devices of said second plurality;

circuit means for determining current flow in said conductors and providing oppositely phased changes in current magnitude therein in response to said input signals including a conductor current-determining impedance element connected between said second terminal of said second conductor and said source of input signals and including another conductor current-determining impedance element connected between said second terminal of said first conductor and said second source of direct current operating potential, said control electrode of said second semiconductor of said first plurality being connected to said low impedance coupling circuit, and said control electrode of said second semiconductor of said second plurality being connected to an intermediate tap of said adjustably tapped impedance element; and

unilaterally conducting protective means connected between each of said stabilized voltage sources and the collector electrode of the current path of the semiconductor device immediately preceding said corresponding semiconductor device for limiting the instantaneous collector-emitter voltage of said preceding semiconductor device to less than breakdown potential.

3,259,849
AMPLIFIERS WITH DELAYED TURN-ON

Richard L. Willett, Bel Air, and Richard F. Mack, Baltimore, Md., assignors to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed July 25, 1962, Ser. No. 212,271
2 Claims. (Cl. 330—29)

1. An electronic circuit comprising:

a source of operating potential adapted to be turned on and off;

a transistor having at least three electrodes and connected to operate from said source as an amplifier;

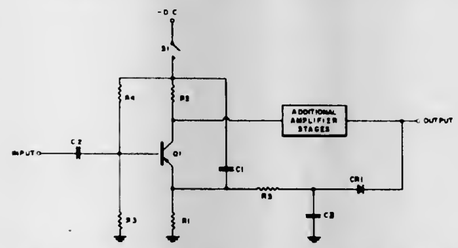
means including filter means connected to an ouput electrode of said transistor for developing a substantially D.C. control voltage and for feeding said control voltage back to one electrode of said transistor;

a capacitor;

said filter means including said capacitor;

an impedance connected in series with said capacitor and forming therewith a charging network;

said one electrode being connected to said charging network at a point between said capacitor and said impedance; and

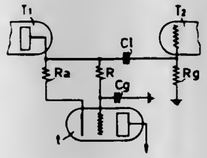


said charging network being connected across said source in such a manner that the initial voltage across said capacitor when said source is turned on serves to bias said transistor off, and thereafter said capacitor charges toward a voltage tending to turn said transistor on.

3,259,850
LOW-FREQUENCY CORRECTING CIRCUIT FOR WIDE-BAND AMPLIFIERS

Jacques Fournol, Paris, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 266,281, Mar. 19, 1963. This application Aug. 10, 1965, Ser. No. 478,658
Claims priority, application France, Apr. 9, 1962, 893,761
4 Claims. (Cl. 330—164)



1. A wide band amplifying circuit comprising; a first amplifying stage for receiving the signal to be amplified; a second amplifying stage; first capacitive means connecting the output of the first stage with the input of the second stage; impedance means connecting the input of said second stage to a source of reference potential; load means connected to the output of said first stage; a third amplifying stage including a control electrode, said third amplifying stage being connected between said load means and a source of constant potential; and second capacitive means connecting said control electrode to said source of reference potential whereby the impedance of said third stage varies as a function of signal frequency to provide a flat frequency characteristic for the amplifier circuit over a wide frequency band.

3,259,851
DIGITAL SYSTEM FOR STABILIZING THE OPERATION OF A VARIABLE FREQUENCY OSCILLATOR

Frank M. Brauer, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Nov. 1, 1961, Ser. No. 149,399
6 Claims. (Cl. 331—14)

1. In a system for generating a plurality of frequency stabilized oscillations, the combination comprising:

a variable frequency oscillator for generating a preselected number of cycles during a given time period;

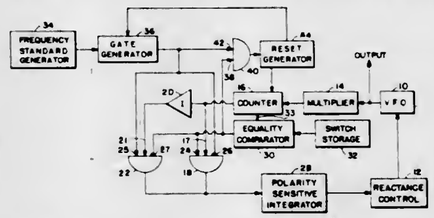
a reactance control device connected to said oscillator for adjusting the frequency of said oscillator in response to the application of an error signal;

a counter for counting the number of cycles generated by said oscillator and for generating a direct voltage pulse for each cycle counted;

first and second closed gates, each having an input circuit and an output circuit;

means for applying said pulses to the input circuit of each of said closed gates, the polarity of the pulses applied to one of said gates being inverted;

a polarity sensitive device for generating an error voltage having a magnitude and a polarity dependent on the number and polarity of the pulses applied



it, said device being connected to the output circuits of said gates;

means responsive to the counting of said cycles during a given period for opening the first of said gates when the number of said cycles is less than said preselected number, whereby pulses of one polarity are applied to said device to produce error signals of one polarity;

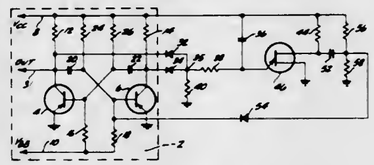
means responsive to counting of said cycles during a given period for opening the second of said gates when the number of said cycles is greater than said preselected number, whereby pulses of the opposite polarity are applied to said device to produce error signals of the opposite polarity;

and means applying said error signals to said reactive control device.

3,259,852
MULTIVIBRATOR WITH SELF-STARTING CIRCUIT

Carl D. Todd, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Dec. 27, 1963, Ser. No. 333,985
8 Claims. (Cl. 331—52)



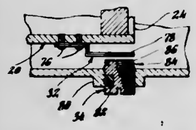
1. A signal generator comprising:

an astable multivibrator including two current paths and having an oscillatory mode in which said paths alternate with each other in conducting current and a nonoscillatory mode in which said paths conduct current continuously; and

feedback means including first gating means coupled to said paths for developing a voltage signal in response to the continuous conduction of current in said paths, a relaxation oscillator coupled to said first gating means for generating a trigger pulse in response to said voltage signal, and second gating

means coupled between said relaxation oscillator and one of said paths and responsive to said pulse for temporarily reducing the conduction of current in said one of said paths to trigger said multivibrator into said oscillatory mode.

3,259,853
MICROWAVE OSCILLATOR WITH VARIABLE BIMETALLIC FREQUENCY STABILIZER
George D. Faulkner, Tampa, Fla., assignor to Trak Microwave Corporation, Tampa, Fla.
Filed May 13, 1963, Ser. No. 280,057
10 Claims. (Cl. 331—98)



7. In a high frequency electronic device having distributed capacitance and inductance forming parts of operating circuits the combination of

(A) a bimetallic strip

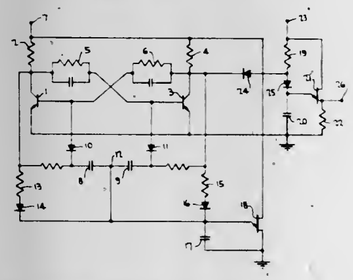
(1) positioned between two conductors in the device to alter the spatial relationship therebetween with temperature changes of the device,

(B) tuning element means positioned adjacent said bimetallic strip for varying the distributed capacitance and inductance of the device, and

(C) means for varying said tuning element position from outside said device while said device is operating

whereby said tuning element may be moved toward and away from said bimetallic strip for adjusting the distributed capacitance and inductance thereof.

3,259,854
RESISTANCE-CAPACITANCE TIMING CIRCUIT FOR LONG INTERVALS
Ira R. Marcus, Silver Spring, Md., and Ronald J. Reyzer, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Army
Filed Jan. 23, 1964, Ser. No. 339,833
3 Claims. (Cl. 331—111)



1. A relaxation oscillator comprising:

(a) a relaxation circuit including—

(1) a charging capacitor,

(2) a source of constant fixed voltage,

(3) a current-limiting resistor,

(4) a gating device having an input junction for receiving a series of gating pulses,

(5) said gating device and said current-limiting resistor being connected in series between said source and said capacitor,

(6) said gating device being adapted to allow the flow of current into said capacitor during the presence of a gating pulse and to stop the flow of current to said capacitor in the absence of a gating pulse; and

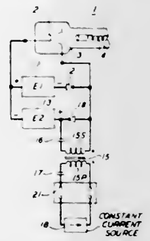
(b) a gating-pulse generator for producing a series of gating pulses having a uniform duration t_1 and a uniform repetition rate t_1+t_2, the output of said generator being connected to said input junction of said gating device, said generator including—

(1) a bistable device having an output terminal and a triggering junction, said output terminal being connected to the input junction of said gating device, said bistable device being adapted to switch between a first stable state characterized by the presence of a pulse at said output terminal and a second stable state characterized by the absence of a pulse at said output terminal, said bistable device being adapted to switch from one of said states to the other of said states each time a triggering pulse is received at said triggering junction, and

(2) triggering means, having its output connected to said triggering junction, for producing a series of triggering pulses the leading edges of which are time-spaced from each other alternately by a first uniform time interval equal to t_1 and a second uniform time interval equal to t_2.

(c) whereby the time constant of said relaxation circuit is effectively multiplied by a factor equal to the ratio of t_1 plus t_2 to t_1.

3,259,855
TRAVELING WAVE TUBE MODULATOR CIRCUIT
Richard P. Massey, Westfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 25, 1964, Ser. No. 347,311
10 Claims. (Cl. 332—7)

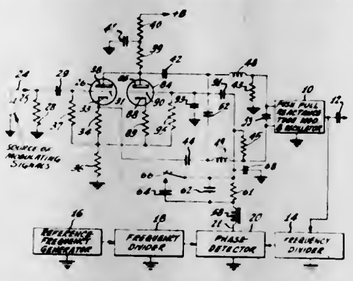


1. A modulator circuit for the beam of a traveling wave tube having a cathode and a modulating anode, said modulator circuit comprising one bias source of direct voltage connected in series with a first diode between said cathode and anode and poled to cut off said beam when said diode is rendered conductive, a second source of direct voltage connected in series with a second diode between said cathode and anode and poled to turn on said beam when said second diode is rendered conductive, and a switching means coupled to said two diodes to alternately render one diode conductive and the other one non-conductive.

3,259,856
PHASE INVERTER AND AUTOMATIC FREQUENCY CONTROL STABILIZER FOR A FREQUENCY MODULATOR SYSTEM
Adolf Hans Bott, Cherry Hill Township, Camden County, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 21, 1962, Ser. No. 196,392
13 Claims. (Cl. 332—19)

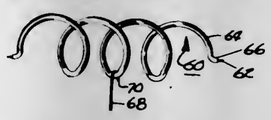
1. In combination,

a frequency modulator of the type having an oscillator, an automatic frequency control system having an input coupled to said oscillator and having means for providing a control signal for said oscillator, a phase inverter including coupling means for applying an input signal to said frequency modulator, said



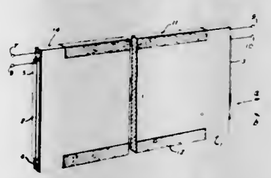
coupling means tending to introduce an undesired phase shift in said control signal, and means for substantially eliminating the phase shift effect of said coupling means on said control signal.

3,259,857
CONDUCTOR HAVING DISTRIBUTED CAPACITANCE
William W. Garstang, Milwaukee, Wis., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 30, 1963, Ser. No. 298,735
5 Claims. (Cl. 333—29)



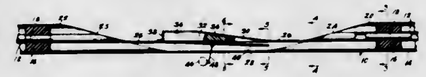
5. A circuit element having series inductance and distributed capacitance for delaying an electrical signal, comprising an elongate inner conductor formed essentially of nickel for transmitting said electrical signal, a dielectric sheath formed essentially of NiO surrounding said inner conductor, and an oxygen-permeable conductive coating surrounding said dielectric sheath, said conductor, said sheath and said coating being in the form of a helix to bring about flux linkages between different portions of said circuit element, said inner conductor forming one terminal of said shunt capacitance and said conductive coating forming another terminal of said shunt capacitance.

3,259,858
NONDISPERSIVE ULTRASONIC DELAY LINE USING DELAY MEDIUM CONSISTING OF CUBIC SYMMETRY CRYSTAL HAVING PARTICULAR ORIENTATION
Allen H. Meitzler, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 27, 1962, Ser. No. 190,690
3 Claims. (Cl. 333—30)



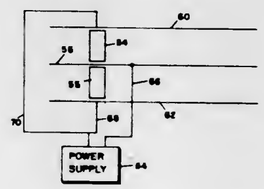
1. A delay line comprising a thin, elongated plate, with a width at least ten times the thickness, and an electromechanical transducer associated with one end thereof, the plate being cut from a single crytsal having a cubic system of symmetry and three mutually perpendicular crystallographic axes X, Y, and Z, the plate having a length dimension with direction cosines $(1/\sqrt{2}, 1/\sqrt{2}, 0)$ with respect to X, Y, and Z and a thickness dimension with direction cosines $(-1/\sqrt{2}, 1/\sqrt{2}, 0)$ with respect to X, Y, and Z.

3,259,859
POWER DIVIDER AND ATTENUATOR
Phillip L. Jessen, Colorado Springs, Colo., assignor to Kaman Aircraft Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Mar. 15, 1962, Ser. No. 179,873
12 Claims. (Cl. 333—81)



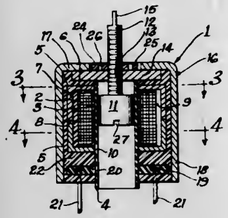
12. A power divider and attenuator for electrical energy comprising a pair of parallel transmission lines, having an input and an output, a recess formed in one of said lines intermediate the input and output in a direction away from said other line, a movable energy transmitting vane mounted at one end on said one line in position to effect a closure for said recess with the other end being free and adapted to be positioned at selected positions intermediate said lines and a lossy material positioned within said recess wherein the recess is provided with a tapered portion and has a portion beyond the tapered portion toward said output forming with said one line and said vane a second pair of parallel lines.

3,259,860
TRANSMISSION LINE PACKAGING COMPONENTS
Donald R. Ayer, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Original application July 7, 1960, Ser. No. 41,420. Divided and this application Feb. 6, 1964, Ser. No. 343,058
4 Claims. (Cl. 333—84)



1. A high frequency circuit unit comprising, in combination, a strip transmission line including a center conductor disposed between a pair of ground plane conductors, an electrically controllable diode disposed between and in contact with said center conductor and one of said ground plane conductors and means connected to said center conductor and said one ground plane conductor for electrically controlling said diode, a second controllable diode having substantially the same characteristics as said first diode and connected in registration with said first diode between and in contact with said center conductor and the other of said ground plane conductors, and means effectively connecting together said ground plane conductors for the energy from said controlling means.

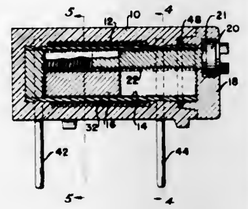
3,259,861
ADJUSTABLE INDUCTORS
James H. Walker, Hermitage, Tenn., assignor to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Apr. 29, 1963, Ser. No. 276,620
1 Claim. (Cl. 336—136)



An adjustable inductor, comprising the combination of a pair of cup-shaped members made of low-loss ferrite magnetic material, each of said members having a substantially circular end wall connected to a substantially cylindrical side wall, each of said end walls having an axial bore therein, said cup-shaped members being positioned opposite each other with said cylindrical side walls disposed end to end to form a generally cylindrical space within said side walls and between said end walls, an insulating tube positioned within said space and extending through said axial bores in said end walls, a coil mounted on the outside of said tube and disposed in said space within said cup-shaped members, a substantially cylindrical core made of low-loss ferrite magnetic material and movable inside said tube and within said coil for changing the inductance thereof, a disc having one side engaging one end of said insulating tube, said disc having a threaded bore therein disposed opposite the end of said tube and along the axis thereof, a threaded metal stud secured to and projecting from one end of said core and threaded through said threaded bore in said disc for moving said core along the inside of said tube, a metal housing mounted around said cup-shaped members and having an end wall engaging said disc on the opposite side thereof from said insulating tube, a mass of potting compound filling said housing and occupying the spaces therein around said cup-shaped members and said insulating tube to retain said tube and said cup-shaped members in said housing, said end wall of said metal housing having an axial opening therein around said stud, and a nut threaded onto said stud and engageable with said disc for locking the adjustment of said stud, said axial opening in said end wall of said housing being larger than said nut for freely receiving said nut, said nut having a thickness corresponding to the thickness of said end wall of said housing and being substantially flush with said end wall of said housing when said nut is engaged with said disc.

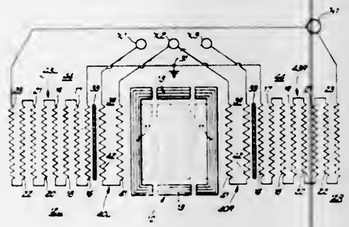
3,259,862
TUNABLE ELECTRONIC COMPONENT
Kenneth L. Richard, S. Ostrander Road, East Aurora, N.Y.
Filed May 27, 1963, Ser. No. 283,479
3 Claims. (Cl. 336—136)

1. In a tunable electronic component,
a body presenting a chamber having an end wall,
coil means fixed within said chamber and having a bore whose axis is perpendicular to said end wall,
a tuning slug slidably received in said bore,
a feed screw journalled in said end wall and extending therefrom into said bore parallel to the axis thereof but eccentric thereto,
said slug having an axially extending trough therein receiving said feed screw,



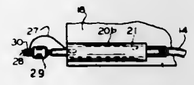
and means within said trough having threaded engagement with said feed screw.

3,259,863
WINDING ARRANGEMENT FOR CORE TYPE TRANSFORMER
Robert W. Russell, New Concord, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 326,126
7 Claims. (Cl. 336—182)



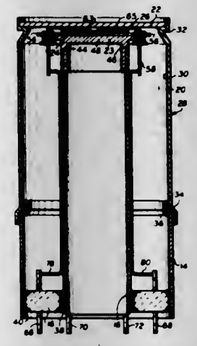
1. In a step-down core type electrical power distribution transformer operated at power frequency, in combination, a closed magnetic core having a pair of winding legs, a cylindrical electrical coil surrounding each winding leg, each coil including a low voltage winding section, a high voltage winding section surrounding and having a substantially greater number of turns than and being inductively linked with said low voltage winding section, and a cylindrical insulating barrier disposed between said low and high voltage winding sections, said high voltage winding sections of said two coils being connected in parallel and wound in opposite directions.

3,259,864
COIL CONSTRUCTION AND MEANS FOR LOCKING THE LEADS THEREON
Robert G. Marzolf and Max E. Lautner, Watertown, N.Y., assignors to Bomax, Inc., Watertown, N.Y., a corporation of New York
Filed June 26, 1963, Ser. No. 290,681
4 Claims. (Cl. 336—192)



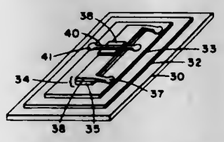
1. An electric motor coil comprising: a bobbin having a flange at either end, a wire winding on said bobbin between said flanges and having start and finish wires extending therefrom, a locking tube of insulating material secured along its length on a flange for each start and finish wire, each tube having a passage therethrough, an insulated lead wire extending from each tube, the lead wire for each tube having a stripped end portion lying in said passage, a collar mechanically secured around said end portion and having an interference fit in said passage, said start and finish wires being each electrically connected to a respective one of said lead wire end portions within a tube passage, said connection preventing withdrawal of said end portion through the collar, said connection being at the stripped end of the lead wire and said collar being between the connection and the lead wire extension out of the tube, said locking tubes being of heat-softenable material, said collars being of metal adapted to be forced into said tubes when hot for locking the lead wires to the bobbin.

3,259,865
DEWAR FOR CRYOGENIC COOLING OF SOLID STATE DEVICE
Saul R. Lederhandler and Roy Durnwirth, Somerville, N.J., assignors, by mesne assignments, to The Micro State Electronics Corporation, Murray Hill, N.J., a corporation of Delaware
Filed Jan. 6, 1964, Ser. No. 335,865
13 Claims. (Cl. 338—18)



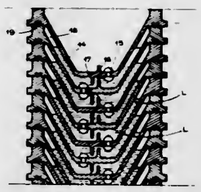
1. A Dewar for a solid state device, comprising inner and outer spaced apart thin walls made of metal having low thermal conductivity, an annular ceramic disc connected to said inner and outer walls adjacent one end thereof in sealed relation thereto, said annular disc being made of ceramic having low thermal conductivity, a cap overlying the other end of said inner wall in sealed relation therewith, said cap being made of metal having high thermal conductivity, a radiation transparent window carried by the other end of said outer wall in sealed relation therewith, the space between said inner and outer wall being substantially evacuated.

3,259,866
SUPERCONDUCTORS
John L. Miles, Belmont, and Paul H. Smith, Cambridge, Mass., assignors to Arthur D. Little Inc., Cambridge, Mass., a corporation of Massachusetts
Original application June 13, 1961, Ser. No. 116,844. Divided and this application June 3, 1965, Ser. No. 470,260
5 Claims. (Cl. 338—32)



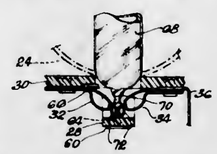
4. An electrical device adapted to be used in a bolometer to detect electromagnetic radiation, said device containing a superconducting element whose longitudinal resistance changes with the intensity of said radiation incident thereon and electrical lead means for connecting said element into said bolometer circuit, said elemnet characterized as being a laminar superconductor which exhibits a critical temperature gradient in at least one direction, comprising a tihn layer of a natural superconductor and a thin layer of a non-superconductor metal in surface contact therewith, the relative thicknesses of said layers varying within said laminar super-conductor in at least one direction.

3,259,867
LIQUID RESISTANCE, ESPECIALLY FOR ELECTRICAL CIRCUIT BREAKERS
André Latour, Grenoble, Isere, France, assignor to Etablissements Merlin & Gerin, S.A., Grenoble, Isere, France
Filed Dec. 9, 1963, Ser. No. 328,931
Claims priority, application Belgium, Dec. 12, 1962, 626,002
13 Claims. (Cl. 338—222)



1. An electrical device comprising at least one group of two electrodes respectively provided on two adjacent dish shaped electrically insulated receptacles each of said receptacles having generally the same size and shape and having walls defining a closed bottom flaring to define an open top substantially larger than said closed bottom, said receptacles being disposed one above the other, a liquid conductor in the lower of said receptacles, and said receptacles being nested one within the other with their bottoms and their electrodes in spaced relationship, the bottom of the upper receptacle being immersed in said liquid conductor to provide between said receptacles only a shallow depth of said liquid conductor which is substantially less than the height of said walls, and said electrodes extending into said liquid conductor so as to provide an electric current path between said electrodes through said liquid conductor.

3,259,868
FLASH BULB HOLDING MEANS
George Irwin, Highland Park, Ill., assignor to Imperial Camera Corp., Chicago, Ill., a corporation of Delaware
Filed Oct. 11, 1963, Ser. No. 315,505
10 Claims. (Cl. 339—33)



1. In a flash bulb firing construction of the type including a source of electrical power and conductor members connected to said source and to a flash bulb holding means whereby the flash bulbs can be included in a firing circuit, the improvement in said holding means comprising a pair of spaced-apart contact arms, means mounting said arms whereby the arms can be displaced when engaged by flash bulbs, a first conductive means fixed to one of said arms, a second conductive means positioned to be engaged by the other of said arms, and a third conduc-

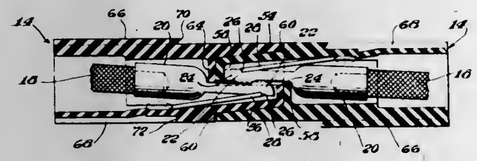
tive means disposed between said arms, said first and second conductive means being adapted to include a flash bulb in said firing circuit when engaged by conductive elements on the flash bulb and said first and third conductive means being adapted to include a flash bulb of a different type in said firing circuit when conductive elements on said different flash bulb are engaged.

3,259,869
ELECTRIC CONNECTOR MEMBER
Kent J. Batcheller, 30 Bush Hill Road, Newton, Mass.
Filed Mar. 12, 1964, Ser. No. 351,482
4 Claims. (Cl. 339—47)



1. An electric connector member comprising a piece of resilient sheet metal having a generally rectangular tongue portion longitudinally split from the extremity thereof to form a plurality of ears, alternate ears being mutually offset in a direction perpendicular to their planes a distance equal to the thickness of the sheet metal, said ears being biased so that mutually adjacent edges thereof lap each other, said ears also being tensed to press the lapping areas against each other.

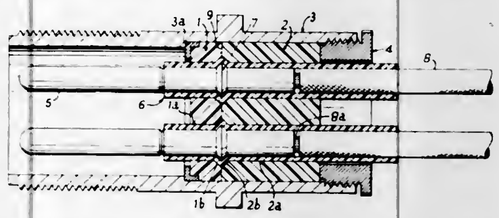
3,259,870
ELECTRICAL CONNECTOR
Edward D. Winkler, Reading, Mass., assignor to Albert & J. M. Anderson Manufacturing Company, Boston, Mass., a corporation of Massachusetts
Filed Mar. 6, 1963, Ser. No. 263,320
6 Claims. (Cl. 339—49)



1. An electrical connector comprising an insulating housing having a terminal member mounted therein and adapted for electrical engagement with a second connector, opposite sides of said housing being provided with tongues and grooves, respectively, adapted for mating engagement with the tongues and grooves of like connectors to produce an assembly of connectors adapted for electrical engagement with the connectors of a second and similar assembly, said tongues and grooves being arranged to permit assembly side by side and one on top of the other to provide a bank of connectors having vertical and horizontal rows, and means extending between cutouts in adjacent connectors for locking the connectors in their assembled relation.

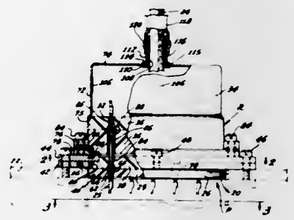
3,259,871
PLUG-AND-SOCKET TYPE CONNECTORS
Walter Chandler, Theydon Bois, Essex, England, assignor to Plessey U.K. Limited, a British company
Filed Jan. 16, 1964, Ser. No. 338,257
Claims priority, application Great Britain, Jan. 25, 1963, 3,198/63
6 Claims. (Cl. 339—63)

1. An electrical plug-in connector member comprising in combination at least one contact two body members secured to each other so as to abut each other on an abutment surface transverse to the plug-in direction, said body members having for each contact aligned through bores extending in the plug-in direction, and jointly constituting a contact-accommodation chamber having a widened portion at the abutment surface, each contact including a shaft portion accommodated in such chamber and having a shoulder-forming flange accommodated in said widened portion of the chamber, said chamber having, at least in the vicinity of the abutment surface,



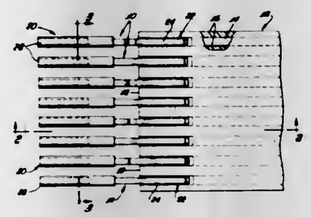
a diameter greater than the diameter of the shaft portion of the contact, an undivided sleeve of insulating material so arranged as to encase a part of the length of the contact extending across the abutment surface and including the flange of the contact, said sleeve consisting of a material of sufficient deformability to permit the sleeve to be applied to the contact and the thickness of the sleeve being sufficient to prevent the flange from leaving the widened portion of the chamber.

3,259,872
SEALED MULTI-CONTACT CONNECTOR
James C. Kyle, Glendora, Calif., assignor, by mesne assignments, to Physical Sciences Corporation, a corporation of California
Filed Mar. 7, 1962, Ser. No. 178,158
15 Claims. (Cl. 339—94)



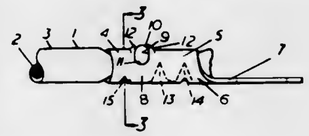
1. In a multi-contact connector assembly for mating with a similar complementary multi-contact connector device, the combination of:
a plurality of contact elements each extending in a first direction;
individual elastomer collars having insulating properties and embracing the individual contact elements and bonded to the elements to form on the elements elastomer enlargements extending in a second direction transverse to the first direction;
a housing shell; and
insulating means mounting the plurality of contact elements and the elastomer collars in the housing shell, said insulating means having a plurality of bores housing the corresponding contact elements, said bores being oversized relative to the contact elements, said bores being formed with enlargements at intermediate points thereof to seat and retain said elastomer enlargements of the corresponding contact elements with the elastomer enlargements having dimensions greater than the enlargements in the bores and resiliently retaining and floatingly supporting the contact elements with freedom for lateral shift of the contact elements within the range permitted by the oversized bores, said insulating means being made in releasably interconnected sections in face-to-face contact for separation at the positions of the enlargements in the bores to make said enlargements of the bores accessible for the mounting of the contact elements with the elastomer enlargements therein.

3,259,873
TERMINALS FOR FLAT ELECTRICAL CONDUCTORS
Paul K. Parkinson, Monterey Park, and Carl H. Hemingway, La Puente, Calif., assignors, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Oct. 21, 1963, Ser. No. 317,683
10 Claims. (Cl. 339—97)
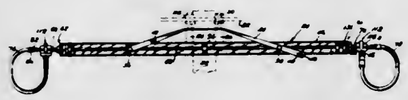


1. A terminal for a flat electrical conductor comprising a forward body having a pair of jaws extending rearwardly therefrom and adapted to receive a flat electrical conductor therebetween, a first pair of opposed internal gripping teeth generally rearwardly disposed on the jaws, and a second pair of opposed internal gripping teeth on the jaws intermediate the first teeth and the body, the jaws having a first relative position wherein they diverge rearwardly from the body toward their free ends for insertion of a flat electrical conductor therebetween, a second relative position wherein the jaws are partially closed and said first teeth are initially engaged against opposite sides of the flat conductor, and a third relative position wherein said jaws are fully closed with both of said pairs of opposed teeth tightly engaged against opposite sides of the flat conductor, at least one of the jaws being bendable at a primary bend region proximate the body to allow partial closing of the jaws from their said first relative position to their said second relative position, said first opposed teeth projecting further toward each other than said second opposed teeth so that in said second relative position of the jaws with said first opposed teeth engaged against opposite sides of the flat conductor there is a clearance between said second opposed teeth that is materially greater than the thickness of the flat conductor, at least one of said jaws being bendable at a secondary bend region intermediate said first teeth and the body, whereby during the final closing movement of the jaws from said second relative position to said third relative position the engagement of said first teeth against the conductor will oppose relative closing movement between the free end portions of the jaws and closure of said second teeth against opposite sides of the conductor will result in generally oppositely directed bending movements in said primary and secondary bend regions and hence generally oppositely directed stress patterns in said primary and secondary bend regions.

3,259,874
INSULATION PIERCING ELECTRICAL CONNECTORS
Wilhelm Cornelis Johannes Esser, Tilburg, Netherlands, assignor to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 6, 1964, Ser. No. 335,763
Claims priority, application Netherlands, Jan. 17, 1963, 287,854
3 Claims. (Cl. 339—97)



3. An electrical connector for an insulated conductor including a terminal ferrule portion having insulation piercing lance means extending substantially in a plane including the axis of the ferrule portion for effecting electrical connection with the conductor core, a support ferrule portion integral with the terminal ferrule portion, the ferrule portions having a slot therebetween, an inwardly directed protuberance on said support ferrule portion having substantially smaller height than the lance means for engaging the conductor insulation, the protuberance being of square-based pyramid form open at its apex to define four points about a cruciform aperture, the pyramid having a pair of base edges substantially parallel with the longitudinal axis of the connector.

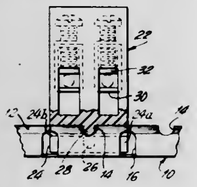
3,259,875
HIGH VOLTAGE UNSHIELDED INSULATED ELECTRICAL JUMPER
Robert S. Ewers, Decatur, Ill., assignor to Bodendieck Tool Company, Taylorville, Ill., a corporation of Illinois
Filed Oct. 16, 1963, Ser. No. 316,596
3 Claims. (Cl. 339—117)



1. A high-voltage fluid-insulated jumper, comprising an elongated rigid plastic tube extending beyond reach of any lineman when supported on a power line, two pair of headed lugs, shaped at their ends to fit the side wall of the tube, and each pair cemented to the opposite sides of the tube, the two pairs being spaced longitudinally and symmetrically on said tube, a pair of insulating straps, each strap having a plurality of slits and holes to secure the straps to the tube in position to support the tube on the line, a plastic plug fitting in each end of the tube and having an enlargement engaging the end of the tube, each plug having a cylindrical through bore, an electrically conducting rod fitting in each plug and extending all the way through the tube and spaced from the walls thereof, each plug having a fluid-tight engagement with the tube and the rod, and said rod being fixedly secured at each end to the conductor of an insulated flexible cable, and a standard tap clamp in electrical connection to the end of each cable for use in connecting the jumper assembly to the line on both sides of electrical equipment to be jumped, a pressure gauge having a fluid connection through one of said plugs for indicating the pressure condition inside said tube, a pair of standard gas valves, one of each of the valves being mounted in each plug to permit the filling of the tube with an insulating fluid, one valve being used to a fluid container under pressure and

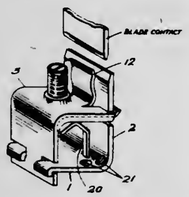
the other valve being used to purge the tube of air to secure a complete filling of the tube, and an inert insulating fluid filling said tube surrounding the rod and insulating the jumper without need for shielding, up to 69 kv. or more.

3,259,876
ELECTRICAL TERMINAL BLOCKS AND MOUNTING RAILS
Alexander R. Norden, 350 Central Park W., New York 25, N.Y.
Filed Sept. 11, 1963, Ser. No. 308,126
8 Claims. (Cl. 339—198)



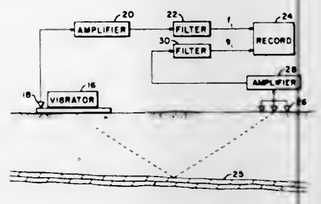
5. In combination, a mounting channel for modular electrical terminal blocks and a side-by-side series of modular electrical terminal blocks thereon, said channel having an elongated bottom portion and elongated side walls extending upward from said bottom portion, said side walls having formed therein a series of openings formed therein at modular intervals along the channel and extending to the bottom of the channel, said openings being arranged in pairs transverse to the channel and at least one opening of each pair having the top thereof closed by an integral bridging portion of the side wall, said side walls and said terminal blocks having interengaging formations for retaining the terminal blocks on the channel against removal therefrom and against displacement along the channel out of the modular positions defined by said pairs of openings.

3,259,877
COMBINED ELECTRICAL CONNECTOR AND CLIP
Alexander R. Norden, New York, N.Y., assignor to Murray Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed Dec. 23, 1963, Ser. No. 332,403
7 Claims. (Cl. 339—258)



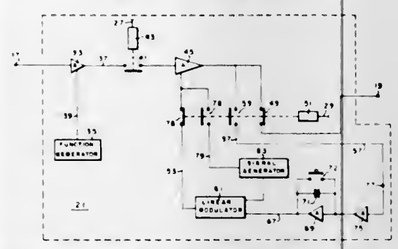
1. A combined lay-in connector and clip, comprising a body portion for accommodating a conductor having base and side parts, the conductor being located on said base, a bridge member coupled at one end to said base and at the opposite end to an intermediate portion of said side part and shaped to define with said body portion an enclosed space for said conductor, a clip contact integral with said bridge member and located adjacent said side member to form a clip therewith for engagement with a blade type contact member, and means attached to said bridge member for pressing the conductor against said base.

3,259,878
METHOD OF CONTROLLING THE SEISMIC SIGNAL IN EXPLORATION
Joseph F. Mifsud, Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Dec. 2, 1960, Ser. No. 73,253
7 Claims. (Cl. 340—15.5)



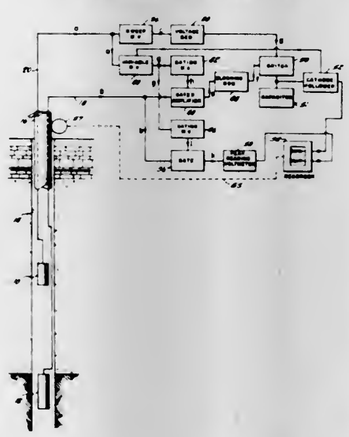
1. A method for obtaining a composite reflected seismic signal having a preselected frequency spectrum which comprises: generating narrow bandwith seismic waveforms at a point near the earth's surface, each of said waveforms having a different center frequency within the desired spectrum; detecting and recording independently reflections of each seismic waveform; and thereafter combining the recorded reflected signals of each frequency component thereby forming in effect a composite reflected seismic signal having a selected frequency spectrum.

3,259,879
APPARATUS FOR SEISMIC EXPLORATION
John D. Ball and Harry R. Espey, Houston, Tex., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 326,037
2 Claims. (Cl. 340—15.5)



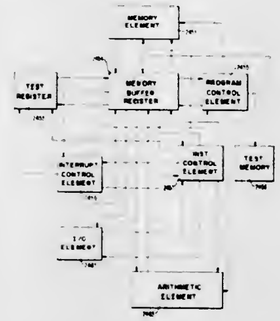
1. Apparatus for removing from a data trace of a reproducible seismogram the effects of variable seismic impulse parameters and variable detecting parameters, comprising:
reproducing means having output terminal means, for reproducing said data trace as an electrical output signal of said output terminal means;
recording means having input terminal means for recording electrical signals applied to said input terminal means in data trace form;
signal channel means individually connecting said output terminal means to said input terminal means including variable gain amplifier means connected between said input terminal means and said output terminal means;
an absolute value amplifier having an input terminal, for linearly amplifying an electrical signal applied thereto;
an electrical integrator connected to said absolute value amplifier for integrating the output signal of said absolute amplifier;
a constant frequency signal generator;
a linear modulator having an output circuit, connected to said signal generator and to said electrical integrator to produce an output signal in said output circuit thereof having the frequency of the signal produced by the signal generator and having an amplitude proportional to the output signal of said electrical integrator;
said variable gain amplifier means being adapted to produce an output signal inversely proportional to the amplitude of the output signal of said linear modulator; and
switching means connected to said reproducing means for connecting said reproducing means to said variable gain amplifier means during a portion of first and second reproduction cycles of said reproducing means after first arrival signals have been reproduced, connecting the output of said signal generator to said variable gain amplifier means on first alternate reproduction cycles to control the gain thereof, connecting the output of said linear modulator to said variable gain amplifier on said second alternate reproduction cycles to control the gain thereof, connecting the output of said variable gain amplifier means to said absolute value amplifier means only during first alternate reproduction cycles, and connecting the output of said variable gain amplifier means to the input terminal of said recording means only on second alternate reproduction cycles.

3,259,880
TIME VARIABLE GATING FOR ACOUSTIC LOGGING
Joseph Zemanek, Jr., Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Sept. 5, 1962, Ser. No. 221,504
6 Claims. (Cl. 340—18)



1. A system for measuring the acoustic velocity of formations adjacent a well bore that comprises an acoustic pulse transmitter movably positioned in said well bore for periodically generating and transmitting to said formation an acoustic pulse, means for generating a control pulse in time coincidence with the generation of said acoustic pulse, a voltage generator for generating a voltage that increases monotonically as a function of time, said last-named means being connected to said voltage generator so that said voltage is produced responsive to said control pulse, a capacitor, a normally open switch connecting said capacitor to said voltage generator, an acoustic receiver movably positioned in said well bore in predetermined, spaced apart relationship with said acoustic transmitter for producing an electrical signal responsive to the appearance of said acoustic pulse, control circuit means for momentarily closing said switch responsive to said electrical signal, a normally closed gating amplifier connecting said acoustic receiver to said control circuit means, means responsive to the presence of said control pulse for actuating said voltage generator, said last-named means being connected to said normally closed gating amplifier for opening said normally closed gating amplifier, and means biased by the potential to which said capacitor is charged for generating a signal effective to disable said normally closed gating amplifier for a time less than the time interval required for the last preceding acoustic pulse to travel from said acoustic pulse transmitter to said acoustic transducer by an amount substantially equal to the maximum expected change in the time interval of successive pulses due to change in the characteristics of the formations to be logged.

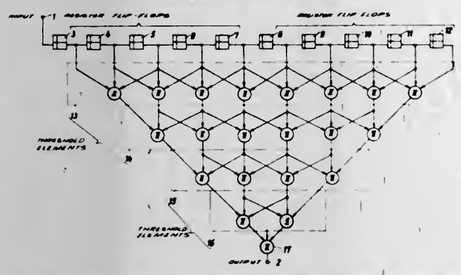
3,259,881
COMPUTER INCLUDING ERROR OR ABNORMAL CONDITION CONTROLLED IMMEDIATE PROGRAM INTERRUPTION
Richard H. Doyle, West Acton, Mass., and John F. Williams, Omaha, Nebr., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 863,363, Dec. 31, 1959. This application May 15, 1962, Ser. No. 198,693
10 Claims. (Cl. 340—146.1)



5. In a data processing machine having memory, arithmetic, instruction control, program control and input-output elements, wherein said elements are cooperative to execute programs including a data processing program wherein the programs are comprised of various pluralities of instructions, the programs and data being registered as manifestations within said memory and are transferred to others of said elements during the execution of such programs, the combination comprising: apparatus coupled to said machine elements and operative in response to error and other abnormal signals occurring within said elements to produce signals indicating specific types of errors and abnormal conditions occurring within said elements, means responsive to signals from said error responsive apparatus for selectably storing manifestations in said elements relative to the instruction being executed when an error or abnormal condition occurs, interrupt control apparatus having inputs coupled to said error responsive apparatus and outputs coupled to said machine elements, said interrupt control apparatus being selectively operative in response to a signal received from said indicating apparatus to cause the immediate interruption of a data processing instruction being executed by said machine and to cause said machine to branch to a test program, and additional means responsive to particular manifestations generated in the course of executing the data processing program for suppressing the operation of said interrupt control apparatus.

3,259,882
CIRCUIT ARRANGEMENT FOR MODIFYING BIT SEQUENCES IN ACCORDANCE WITH CERTAIN CHARACTERISTIC PROPERTIES THEREOF

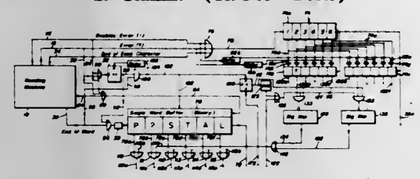
Günter Hotz, Konstanz, Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Sept. 10, 1962, Ser. No. 222,462
Claims priority, application Germany, Sept. 8, 1961, T 20,727
14 Claims. (Cl. 340—146.1)



1. A circuit arrangement for modifying a series or sequence of bits of information so as to free said sequence from possible errors, the information content of which is contained in blocks including several successive symbols of binary digits comprising in combination: a shift register having an input and including a chain of bistable elements to which the sequence of binary digits is fed; and a logical network including at least one threshold element connected with the outputs of at least two consecutive bistable elements and for exciting its output when a predetermined number of its inputs, which is less than the total number of inputs, is excited, said logical network having a single output for delivering an output sequence of bits of information which corresponds essentially to the sequence initially applied to the register input and dependent upon the possible errors contained therein.

3,259,883
READING SYSTEM WITH DICTIONARY LOOK-UP

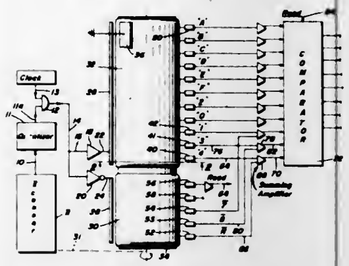
Jacob Rabinow, Takoma Park, and Arthur W. Holt, Silver Spring, Md., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 18, 1961, Ser. No. 138,776
19 Claims. (Cl. 340—146.3)



7. In combination, a reading machine providing outputs identifying each characters of a word in the order of reading, means for producing a failure signal in place of an unknown character of the word when the reading machine fails to identify a character of the word, means to ascertain the position of the reading failure in the word, a register fed by signals corresponding to the read characters of the word, means to insert a succession of trial characters into said register and in a position corresponding to the position occupied by the unknown character, a dictionary, means operative when each trial character is inserted in the register to interrogate the dictionary and determine if the trial character combined with the known characters produces a word found in the dictionary, and output means associated with said interrogation means to signify the word identified in the dictionary.

3,259,884
READING MACHINE WITH SERIAL STORAGE AND PARALLEL READOUT

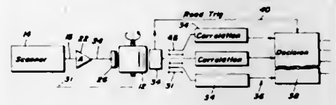
Arthur W. Holt, Silver Spring, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 25, 1963, Ser. No. 311,349
10 Claims. (Cl. 340—146.3)



9. In an optical character reading machine, scanning means to examine a character and its background area and provide outputs corresponding to said character and area, movable means including a recording medium synchronized with said scanning means for recording said outputs in a manner such that the recorded information corresponds to said character and background area, a plurality of logic members associated with said recording medium, said logic members having elements spacially arranged to represent a particular character of a set of characters capable of being identified by the reading machine, said logic members concurrently examining said recorded information as said medium moves, said elements of said logic members being combined by their members to combine the recorded information detected by each element for its member, each member providing an output signal which corresponds to the combined information, and means to compare all of said output signals to identify the examined character.

3,259,885
READING MACHINE WITH SERIAL SYNCHRONIZED STORAGE

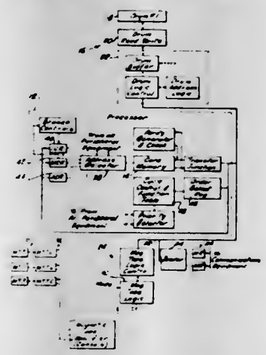
Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 25, 1963, Ser. No. 311,350
4 Claims. (Cl. 340—146.3)



1. In a character reading machine to identify the characters of a set, scanning means to scan an unknown character of the set by a succession of adjacent scans covering the area of the unknown character, said scanning means including a rotary member on which the image of a character is adapted to be projected, and a photocell providing analog outputs corresponding to the optical density of the area covered by said scans, a mechanical storage device rigidly fixed to said rotary member thereby being rigidly synchronized with said scanning means, means responsive to said outputs for conducting signals corresponding to said outputs to said storage device for serial storage in a manner such that the stored signals are arranged as colinear representations of said scans as the character image is being scanned by said rotary member, a plurality of reading means colinearly positioned in confronting relationship with the surface of said storage device for concurrently reading said stored signals and providing new signals on a plurality of conductors, there being a number of reading means sufficient to provide new signals on separate conductors to identify all of the characters of said set, interpreter means for each character of said set, and preselected conductors connecting said reading means with said interpreter means in a manner such that said interpreter means respond to the stored signals of said storage device corresponding to the individual characters of the set.

3,259,886
DATA TRANSFER APPARATUS

Edwin Singer, Stamford, Conn., and Philip Rosenblatt, Mount Vernon, and Evelyn Berezin Wilenitz, New York, N.Y., assignors to The Bunker-Ramo Corporation, a corporation of Delaware
Filed July 7, 1961, Ser. No. 122,490
4 Claims. (Cl. 340—172.5)



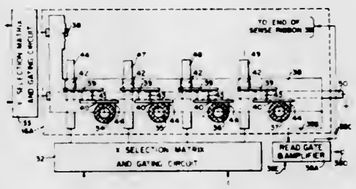
2. Apparatus for synchronously transferring data between a central processor unit operating at a first fixed speed and a peripheral unit operating at a second fixed speed independent of the operating speed of said processor unit, said apparatus comprising a plurality of register stages each capable of storing one decimal digit, a plurality of control devices each associated with one of said register stages to indicate whether the corresponding stage is conditioned to receive or transfer a digit of data, first gate circuit means synchronized with the operation of one of said units for sequentially coupling the inputs of said register stages to said one unit to receive the data therefrom, first control circuit means responsive to the state of said control devices for activating said gate circuit means only when the next register stage in sequence is conditioned to receive a digit of data, second gate circuit means synchronized with the operation of the other one of said units for sequentially coupling the outputs of said register stages to said other unit to transfer the stored data to said other unit, and second control circuit means responsive to the state of said control devices for activating said second gate circuit means only when at least one of said register stages is conditioned to transfer a digit of data to said other unit.

3,259,887
SUPERCONDUCTIVE PERSISTENT CURRENT APPARATUS

Richard L. Garwin, Scarsdale, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 15, 1956, Ser. No. 615,814
37 Claims. (Cl. 340—173.1)

17. Apparatus for storing persistent currents, each circulating within a loop of superconductive material, comprising the combination of: a plurality of superconductive loops arranged in a matrix; a first plurality of elements coupled to predetermined ones of said loops for selecting a first coordinate of said matrix; a second plurality of elements coupled to predetermined ones of said loops for selecting a second coordinate of said matrix; and means for selectively applying currents to selected ones of said first and second elements whereby a current is established in the selected loop which persists therein without the further application of current when said currents are removed.

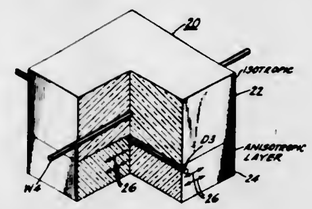
30. A superconductive circuit comprising: first and second parallel paths forming a closed superconductive



loop; said superconductive loop being capable of assuming first and second different stable states and being completely superconductive when in either of said states; means for selectively causing said loop to assume said stable states; and output means for said loop including a superconductive output conductor; said loop including a control conductor arranged adjacent said superconductive output conductor; said control conductor carrying sufficient current to control said superconductive output conductor between superconductive and resistive states only when said loop is in said first stable state.

3,259,888
MAGNETIC MEMORY EMPLOYING ANISOTROPY

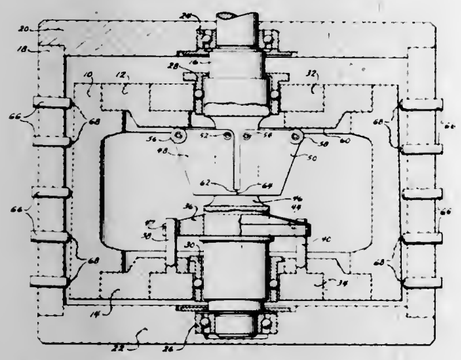
Roy H. Cornely, Monmouth Junction, and Walter F. Kosonocky, Iselin, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 25, 1963, Ser. No. 275,680
15 Claims. (Cl. 340—174)



3. A magnetic element comprising
two crossed conductors, and
a body of magnetic material surrounding said conductors and providing closed loop magnetic flux paths surrounding the conductors,
said body of magnetic material being characterized in having at least a part which is anisotropic and which is located so that it is common to a closed loop magnetic flux path which surrounds one conductor and a closed loop magnetic flux path which surrounds the other conductor,
said part which is anisotropic being oriented so that it has a relatively easy direction of magnetization in the direction of a flux due to current in one of said conductors and so that it has relatively hard direction of magnetization in the direction of a flux due to current in the other one of said conductors.

3,259,889
MAGNETIC DATA STORAGE DRUM POSITIONED BY CENTRIFUGAL MEANS

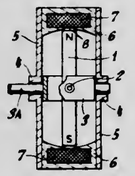
George D. Cheney, Orchard Lake, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.
Filed June 1, 1962, Ser. No. 199,422
16 Claims. (Cl. 340—174.1)



1. A magnetic data storage apparatus comprising:
a stationary housing with a vertical axis;
a plurality of magnetic transducers mounted on said housing with their flux emitting pole pieces substantially in an imaginary conical surface having a common axis with said housing;
a vertical rotatable shaft member disposed in said housing coaxially therewith;
a vertical tapered drum member disposed around said shaft member, said drum member having a recordable layer of magnetizable material on the peripheral surface thereof and having a diameter decreasing from bottom to top;
means driving said drum from said shaft member;
means mounting said drum for rotation within said housing and permitting said drum to be longitudinally movable along the axis thereof;
and automatic means actuated by centrifugal force operatively connected to said drum for elevating said drum by longitudinal displacement from a first position where the recordable layer on the drum member is substantially spaced from the transducer pole pieces during static condition to a second position whereby the recordable layer on the drum member is in close proximity to the transducer pole pieces during dynamic condition.

3,259,890
INDICATING INSTRUMENTS

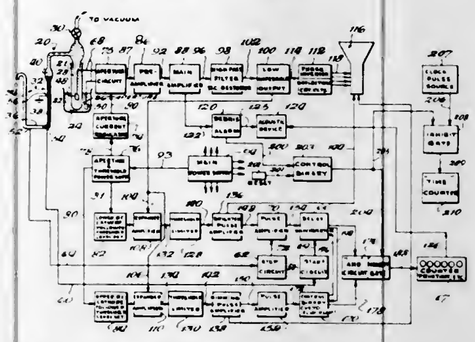
Francis Harold Wood, Watford, England, assignor of one-half to Elliott Brothers (London) Limited, London, England, a British company
Filed Dec. 12, 1962, Ser. No. 244,063
Claims priority, application Great Britain, Dec. 14, 1961, 44,869/61
15 Claims. (Cl. 340—195)



1. Indicating instrument comprising a bar of magnetic material, a gimbal member, means pivotally rockably interattaching the bar and gimbal member on a first axis, means for spinning said gimbal member on a second axis normal to the first axis, and magnetically inductive means co-operative with said bar to yield electrical signals corresponding to rocking oscillations of the bar whilst spinning.

3,259,891
DEBRIS ALARM

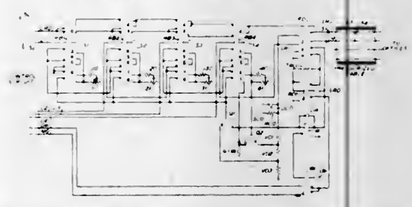
Wallace H. Coulter and Walter R. Hogg, Miami Springs, Fla., assignors to Coulter Electronics, Inc., Hialeah, Fla., a corporation of Illinois
Filed May 1, 1964, Ser. No. 364,070
48 Claims. (Cl. 340—222)



1. In a particle studying device having an aperture through which particles to be studied pass and means for generating electric pulses in response to the presence of a particle or piece of debris at the aperture, the duration of each pulse being a function of the length of time its respective particle or piece of debris is present at the aperture, a debris alarm comprising:
(a) means for determining whether the duration of an electric pulse received from the generating means exceeds a predetermined time interval and for transmitting an output signal indicative of a determination that a pulse has a duration in excess of the predetermined time interval; and
(b) warning means for issuing an alarm in response to the receipt of an output signal from the determining means indicating that a pulse has been determined to have a duration in excess of the predetermined time interval
whereby a warning of the presence of a large particle or piece of debris at the aperture is generated.

3,259,892
SELF-CONTAINED CABLE PRESSURE INDICATING SYSTEM

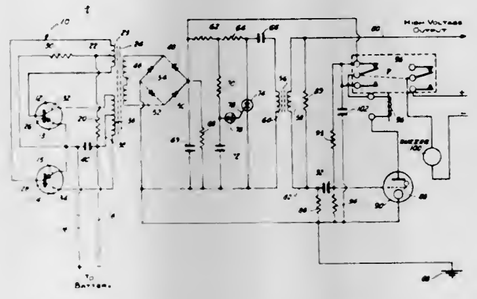
William A. Winckelmann, Lincroft, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed July 30, 1963, Ser. No. 298,770
8 Claims. (Cl. 340—242)



2. An impedance testing circuit for determining the values of impedance elements in a plurality of ranges comprising a control circuit, a control relay for each of said ranges operative in response to signals from said control circuit, a potential source for developing a voltage drop across said elements, a first detecting device adapted to be energized if one of said impedance values in a first group of said ranges falls below a predetermined minimum for each of said ranges in said first group, a second detecting device adapted to be energized to cause said first detecting device to amplify said voltage drop if one of said impedance values in a second group of said ranges rises above a predetermined maximum for each of said ranges in said second group, and an alarm circuit responsive to the energization of said first detecting device to deliver an alarm signal to said control circuit.

3,259,893
HOLIDAY DETECTOR

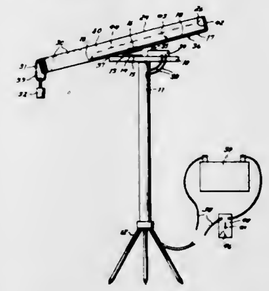
William D. Parker, Tulsa, Okla., assignor of one-half to Rayburn M. Ramsey, Broken Arrow, Okla.
Filed July 24, 1962, Ser. No. 211,994
2 Claims. (Cl. 340—248)



1. In a holiday detector, a low voltage D.C. source, multi-vibrator means for converting the voltage from said low voltage D.C. source to an intermediate A.C. voltage, means for rectifying the intermediate A.C. voltage into an intermediate D.C. voltage, a step-up transformer having a secondary winding for generating a high voltage output and a low voltage primary winding, a charging capacitor, said primary winding being connected between one side of the rectifying means for said intermediate D.C. voltage and one side of said charging capacitor, a first low value resistor having one terminal connected to the other side of said charging capacitor, a second low value resistor having one terminal connected to the other terminal of said first resistor and having its other terminal connected to the other side of the rectifying means for said intermediate D.C. voltage, a control rectifier connected between said other side of said charging capacitor and said one side of the rectifying means for said D.C. voltage, said control rectifier having a gate for placing a bias on said control rectifier, said control rectifier being non-conductive in either direction when the bias on said gate is less than a predetermined value, said control rectifier being conductive in one direction only when the bias on said gate equals said predetermined value, a third intermediate value resistor having one terminal connected between the junction of said first and second resistors, a second capacitor having one terminal connected to the other terminal of said third resistor and having its other terminal connected to said one side of the rectifying means for said intermediate D.C. voltage, and a trigger device having one terminal connected between said third resistor and said second capacitor and having another terminal connected to said gate, said trigger device being conductive only when the voltage on said second capacitor builds up to a certain amount, placing said predetermined bias upon said control rectifier to cause said first capacitor to discharge through said control rectifier and said primary winding thereby creating a high voltage pulse in the secondary winding of said output transformer.

3,259,894
SNOW ALARMS

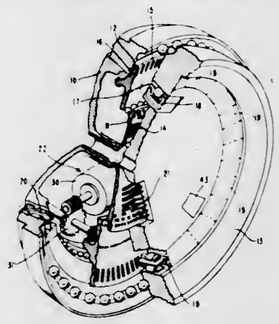
Anthony E. Ciccarone, 1656 Sheridan Lane, Jeffersonville, Pa.
Filed Feb. 19, 1962, Ser. No. 176,850
10 Claims. (Cl. 340—272)



1. A snow alarm comprising a platform having an edge portion; a microswitch mounted on said platform; a pivot disposed on said platform between said microswitch and said edge portion; a selective retaining device tiltably mounted on said pivot, and comprising a plate, said selective retaining device being adapted to be swung about said pivot between a position in which said selective retaining device rests against said edge portion, and a position in which said selective retaining device rests upon said microswitch in a manner to actuate the same; said plate being adapted to accumulate frozen deposits directly from the atmosphere, and comprising a run-off edge and a perimeter portion; an electrically operable signal device in electrical communication with said microswitch; means selectively and alternately to connect and disconnect said signal device; and means selectively to control the tilt which operates said signal device by means of said microswitch.

3,259,895
ANALOG-TO-DIGITAL CONVERTER

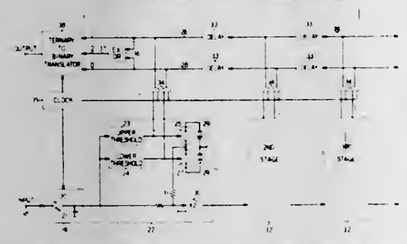
Lewis A. Knox, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 23, 1961, Ser. No. 133,735
15 Claims. (Cl. 340—347)



10. A shaft angle digitizer, comprising:
(a) an input member related to the shaft for rotation therewith;

(b) a first disc axially secured to said input member;
(c) a plurality of electrically conductive spaced indicia on a surface of said first disc;
(d) means mounted adjacent said first disc for sensing said indicia as they move past during rotation and providing electrical signals in response thereto;
(e) a second disc mounted for axial rotation;
(f) at least three sets of indicia, each of said sets having a plurality of areas of magnetic linking material arranged on the surface of said second disc in closed paths about the axis of rotation, two of said sets having respective different predetermined numbers of said areas;
(g) rotative drive means operatively related to said second disc;
(h) control means responsive to the indicia of said two sets and relating said first disc and said drive means whereby rotation of said second disc is provided at a fixed rate greater than that of the speed of rotation of said first disc; and
(i) means for sensing the passage of the areas of said second disc past a given reference point and providing separate discrete electrical signals in response thereto whereby coded digital electrical signals are obtained representive of the angular position of said shaft.

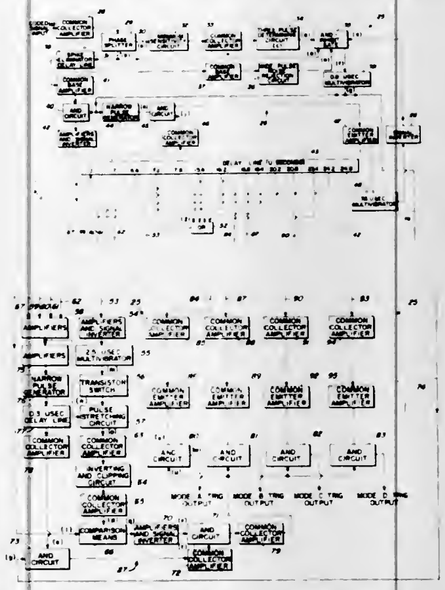
3,259,896
ANALOG-TO-DIGITAL CONVERSION SYSTEM
John W. Pan, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 7, 1963, Ser. No. 322,175
5 Claims. (Cl. 340—347)



1. In combination, a source of an analog message amplitude, a source of first and second reference amplitudes, a first comparator for generating a first digital signal indicative of whether said message amplitude is greater than, less than or between said first and second reference amplitudes, means responsive to said first digital signal for developing a first approximation of said message amplitude, means for developing an error signal having a magnitude related to the difference between said first approximation and said message amplitude, a source of third and fourth reference amplitudes, a second comparator for generating a second digital signal indicative of whether the amplitude of said error signal is greater than, less than or between said third and fourth reference amplitudes, and a translator for converting said first and second digital signals into a binary permutation code.

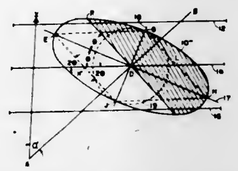
3,259,897
SUPPRESSION NETWORK FOR TRANSPONDER OR SIMILAR APPARATUS
Lyle R. Strathman, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed July 29, 1963, Ser. No. 298,070
9 Claims. (Cl. 343—6.8)

1. A suppression network for receiving a coded signal that includes a plurality of pulses at least one of which originated from a directionally radiating antenna, the first and last pulses of said coded signal being spaced a predetermined time interval, said suppression network comprising: first pulse analyzing means including phase splitting and coincidence gating circuitry for receiving said coded signal and passing only two pulses thereof at least one of which is said pulse originating from said directionally radiating antenna; delay means for receiving said two pulses from said first pulse analyzing means and delaying the same for a preselected period of time; means including amplitude reduction means for receiving the delayed pulses from said delay means and reducing the amplitude of said pulses by a predetermined amount;



and second pulse analyzing means including further coincidence gating means and pulse amplitude comparison means connected with said amplitude reduction means for receiving said delayed pulses therefrom and to said first pulse analyzing means for receiving said two pulses therefrom substantially undelayed, said second pulse analyzing means precluding an output from said network unless said two pulses are timewise spaced said predetermined time interval and unless said pulse originating from said directionally radiating antenna has an amplitude greater than that of said reduced amplitude delayed pulses.

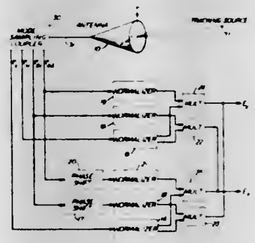
3,259,898
DOPPLER RADAR SYSTEM
Hendrik Tober, Framingham, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Feb. 17, 1964, Ser. No. 345,226
4 Claims. (Cl. 343—8)



1. An airborne Doppler radar system wherein the centroid of the spectrum of frequencies reflected back remains constant regardless of changes in the reflective

characteristics of the terrain beneath an aircraft, comprising:
(a) means for propagating an elliptical beam of electromagnetic energy downwardly from the aircraft to illuminate an area on the terrain, such area:
(1) lying between the ground track of the aircraft and a first line perpendicular thereto;
(2) being symmetric about a second line lying between a third line perpendicular to the horizontal projection of the longitudinal axis of the beam and a fourth line passing through the center of such area and defining points from which returns of a single frequency are reflected; and,
(3) having a length to width ratio, where the length is measured along the second line and the width is measured along a fifth line perpendicular to the second line, between the limits of 2:1 and 10:1; and,
(b) means for processing the electromagnetic energy reflected back to the aircraft from such area to derive a signal indicative of the ground speed of the aircraft.

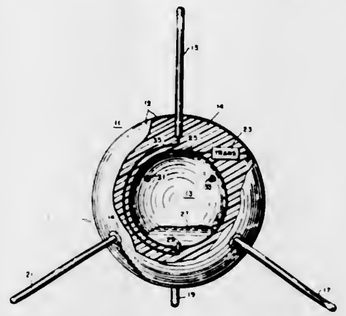
3,259,899
NONDEGENERATE MULTIMODE TRACKING SYSTEM
John S. Cook, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 24, 1963, Ser. No. 333,103
15 Claims. (Cl. 343—113)



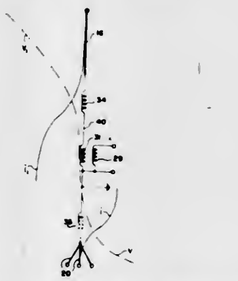
5. A tracking system of the simultaneous lobe comparison type which comprises means for receiving a signal of arbitrary polarization in a waveguide, means for sampling said signal to develop therefrom a pair of quadrature component signals of a dominant waveguide mode and signals excited in at least two higher order waveguide modes, means for respectively comparing each of said higher order mode signals with each of said quadrature signal components to develop product signals, and means for selectively combining said product signals to develop a pair of error signals that represent the direction of reception of said arbitrarily polarized signal with respect to said system.

3,259,900
DROPPABLE ANTENNA
Frank E. Lord, San Carlos, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 4, 1963, Ser. No. 249,543
5 Claims. (Cl. 343—705)

2. An antenna assembly including a housing substantially in the form of a hollow globe having an electrically conductive outer shell, four antenna elements extending from said housing that are mutually substantially equally spaced from each other and a switching means within said housing comprising a hollow sphere having four pairs of electrodes that are mutually equally spaced from each other and wherein each of said pairs of electrodes are opposite to a discrete antenna element, a pool of electrically conductive fluid in said sphere and discrete electrical leads between each of the pairs of electrodes and its discrete opposite antenna element.



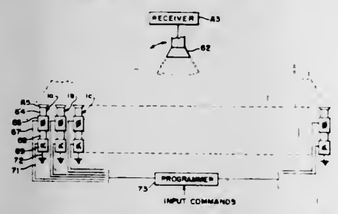
3,259,901
SHORT HALF-WAVE ANTENNA WITH PLURAL LOADING COILS
Ralph O. Bykerk, Wickliffe, Ohio, assignor to The Antenna Specialists Co., Cleveland, Ohio, a corporation of Ohio
Filed Jan. 2, 1962, Ser. No. 163,532
3 Claims. (Cl. 343—749)



2. A physically shortened half-wave antenna element for the frequency F_1 comprising a connector having a shield portion and a central pin connector portion, a primary coil, a secondary coil inductively coupled with said primary coil, one end of each of said primary and said secondary coils being connected to the shield portion of said connector, the other end of the primary coil being removably secured to the central pin connector portion of said connector, a conductor having a first and second end, the other end of the said secondary coil being connected to said first end of the conductor, an antenna whip, a first loading coil, said first loading coil having one end connected to the second end of the conductor and the other end connected to the antenna whip, a second loading coil, said second loading coil being disposed between said secondary coil and said first loading coil but substantially closer to said secondary coil and having one end connected to the shield portion of said connector to form a common antenna base with the similarly connected ends of the primary and secondary coils, at least one radial extending in a direction opposite to that of the antenna whip and connected to the other end of said second loading coil, said primary and secondary inductively coupled coils, said conductor means, said first loading coil and the antenna whip all being relatively dimensioned so as to be electrically equivalent to the natural quarter-wave

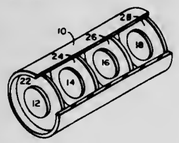
length of the frequency F_1, said second loading coil and said at least one radial being relatively dimensioned to provide a very short tuned counterpoise electrically equivalent to the quarter-wave length of the frequency F_1.

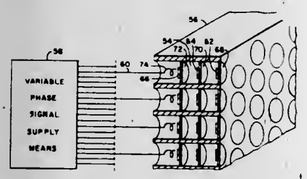
3,259,902
ANTENNA WITH ELECTRICALLY VARIABLE REFLECTOR
Robert G. Malech, Westbury, N.Y., assignor to Dorne and Margolin, Inc., Westbury, N.Y., a corporation of New York
Filed Oct. 4, 1961, Ser. No. 143,276
3 Claims. (Cl. 343—753)



1. A radio frequency antenna system comprising a reflector assembly; a feed element directed toward the center of said assembly and spaced therefrom a distance between approximately one-half and one-quarter the maximum dimension of said assembly; a radio frequency transmission line connected to said feed element and adapted to be connected to antenna utilization apparatus, said assembly comprising a plurality of elemental reflector units each having a rectangular horn antenna, an electrically controllable phase control element connected to said horn antenna by waveguide transmission line to modify a signal received by said horn antenna, and signal reflecting means connected to receive the modified signal from said horn antenna and phase control element and return it for transmission from said horn antenna; and means for transmitting a set of control signals to the respective phase control elements to provide predetermined phase shifts of respective portions of the wave front impinging on said reflector assembly.

3,259,903
MODE-SEPARATION WAVEGUIDE LOADED WITH SPACED METAL DISCS AND ANTENNAS USING SAME
David S. Lerner, Flushing, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed Mar. 20, 1964, Ser. No. 353,509
16 Claims. (Cl. 343—778)

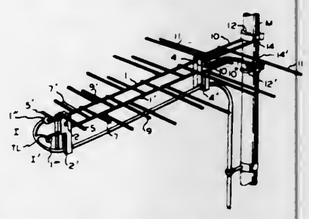




14. A mode-separation circular waveguide for high power applications comprising:
a hollow metallic cylinder of circular internal cross-section;
a plurality of dielectric discs shaped to fit transversely inside said cylinder;
and a metallic circular disc mounted on each side of each dielectric disc with a metallic connection between the pair of metallic discs on each dielectric disc, each metallic disc having a smooth edge of thickness sufficient to prevent arcing at the intended operational power levels;
the waveguide being so constructed and arranged that there is increased separation between the cutoff frequency of the dominant (TE–11) mode and the cutoff frequencies of both the second (TM–01) and third (TE–21) modes, as compared to a circular waveguide completely filled with any homogeneous dielectric.

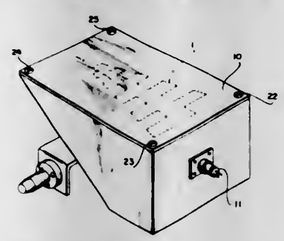
16. A wide-band steerable-beam array antenna comprising:
an array of similar hollow cylindrical members having conductive inner surfaces capable of propagating circularly polarized waves;
means coupled to said cylindrical members for supplying signals of variable relative phase so that the variation of phase of such signals tends to give rise to propagation in an undesired mode;
and a plurality of thin conductive members mounted transversely inside each of said cylindrical members on dielectric support members;
the arrangement and construction being such that there is increased separation between the cutoff frequency of the dominant mode and the cutoff frequencies of both the second and third modes, as compared to a circular waveguide completely filled with any homogeneous dielectric.

3,259,904
ANTENNA HAVING COMBINED SUPPORT AND LEAD-IN
Isaac S. Blonder, West Orange, N.J., and Abraham Schenfeld, New York, N.Y., assignors to Blonder-Tongue Electronics, Newark, N.J., a corporation of New Jersey
Filed Nov. 21, 1963, Ser. No. 325,511
6 Claims. (Cl. 343—792.5)



1. An antenna for ultra-high-frequency operation and the like, having, in combination, a pair of rigid conductors held spaced a predetermined vertical distance apart in a vertical plane, first and second pluralities of horizontal dipole elements lying in corresponding first and second vertically spaced horizontal planes containing the respective conductors, the dipole elements extending from opposite sides of each conductor at successive points therealong with dipole elements connected to one conductor extending in opposite horizontal directions to the corresponding dipole elements of the other conductor, the length of the dipole elements successively increasing from one end of the conductors towards the other end thereof, means for connecting a parallel-wire transmission line to the said one end of the conductors and means for mounting the antenna comprising a further pair of rigid diverging conductive extensions of said conductors mechanically secured in rigid spaced-apart relation at an end thereof, the said diverging conductive extensions being provided at the said other end of the pair of rigid conductors and each comprising a pair of horizontally spaced conductors terminally provided with a vertical loop, and the said mechanical securing means comprising mast-strapping means for strapping the said vertical loops, and the distance of the said mast-strapping loops from the said other end being comparable to the distance between the longest and next-to-longest pairs of dipole elements of the antenna.

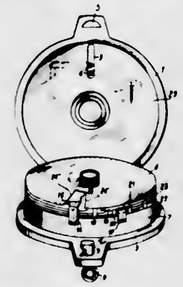
3,259,905
FLUSH-MOUNTED BALANCED LOG-PERIODIC ANTENNA
Paul F. Stang, Arleta, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 15, 1964, Ser. No. 359,857
5 Claims. (Cl. 343—792.5)



1. In an antenna array:
(a) a pair of substantially triangularly shaped log periodic structures passing through the apex of the triangle and the midsection of the base, and antenna elements each having a centerline each comprising a plurality of radial sections having a generally trapezoidal shape;
(b) the centerline of each trapezoidal section being radially aligned with one edge of the adjacent trapezoidal section, the two antenna elements being angularly spaced apart so as to have their apexes extending towards a common vertex;
(c) a resistive cavity enclosing one of said antenna elements and having an open side which is co-planar with the other of said antenna elements; and
(d) transmission line means connected to each of said antenna elements at said apexes.

3,259,906
APPARATUS FOR RECORDING ON A STACK OF RECORD SHEETS
Walter Falk, Villingen, Black Forest, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Aug. 6, 1963, Ser. No. 300,268
Claims priority, application Germany, Sept. 5, 1962, K 47,671
9 Claims. (Cl. 346—24)

1. In an apparatus for continuously recording on successive record sheets of a stack, in combination, a stack of record sheets, each sheet having a cutout, said cutouts being angularly staggered about the periphery of the stack; adhesive means extending between the first sheet and the last sheet of said stack along the entire height of said stack and connecting said peripheral edges of all the sheets of said stack; rotary support means connected to said stack for rotating said stack in a predetermined direction; stationary severing means constructed and positioned to pass through the cutout of the first sheet in an initial position of said stack, said severing means being located during the entire first revolution of said support means with said stack between said first and the following sheet so as to sever said adhesive means about the entire periphery of the rotating stack between said first sheet and the following second sheet whereby said first sheet is separated along its entire periphery from said second



sheet; and stop means constructed and positioned to engage the outer surface of said first sheet during the first revolution and to pass through the cutout in said first sheet onto the surface of said second sheet for stopping said first sheet, said stop means being positioned in said predetermined direction a small angular distance before said severing means so as to stop said first sheet after the same is severed along its entire periphery by said severing means from said second sheet so that during continued rotation of said support means with said stack, said severing means passes through said cutouts of successive sheets to sever each sheet from the following sheet and said stop means passes through said cutout of the sheet being severed to stop each severed sheet so that the cutouts of stopped sheets are superimposed.

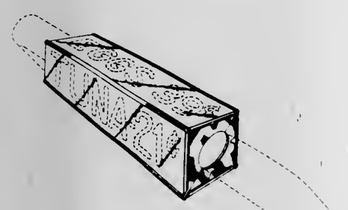
3,259,907
MONO(ALKYLTHIOALKYL) ESTERS OF 3,6-ENDOXOHEXAHYDROPHTHALIC ACID
Herbert Q. Smith, Trenton, N.J., and Thomas E. Deger, Ambler, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 4, 1963, Ser. No. 321,279
6 Claims. (Cl. 260—347.2)

1. A mono(alkylthioalkyl) ester of a 3,6-endoxohexahydrophthalic acid selected from the group consisting of free acid and salts thereof wherein said alkyl groups contain from 1 to 5 carbon atoms.

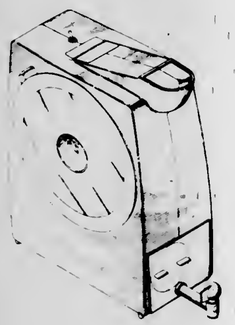
DESIGNS

JULY 5, 1966

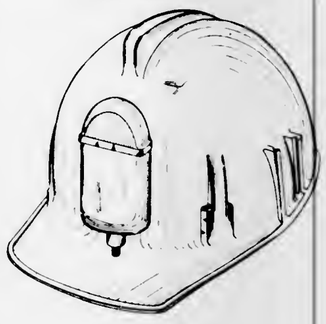
205,177
SIGN HOLDER FOR SHOPPING CART HANDLES OR THE LIKE
Wayne A. Drugan, Valley City, N. Dak., and Murry J. Laub, Edina, Minn., assignors to Drugan-Severson, Inc., Valley City, N. Dak., a corporation of North Dakota
Filed July 16, 1965, Ser. No. 86,182
Term of patent 14 years
(Cl. D1—12)



205,178
FRUIT JUICER
John H. Batchelor, Condado, Puerto Rico, assignor to Roto Rico, Inc., Carolina, Puerto Rico, a corporation of California
Filed Oct. 8, 1965, Ser. No. 87,374
Term of patent 14 years
(Cl. D2—3)



205,179
COMBINED SAFETY HELMET AND LAMP
Duane W. Miller, 246 Westfield St., Rochester, N.Y.
Filed July 21, 1964, Ser. No. 80,953
Term of patent 14 years
(Cl. D3—13)



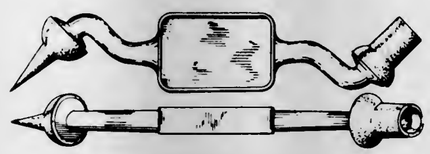
205,180
LADY'S HAT, OR THE LIKE
Alice Davis, Adams, Mass., assignor of fifty percent to Nathan M. Briskin and Kenneth S. Goldfarb, New York, N.Y., a partnership
Filed Sept. 9, 1965, Ser. No. 86,919
Term of patent 14 years
(Cl. D3—13)



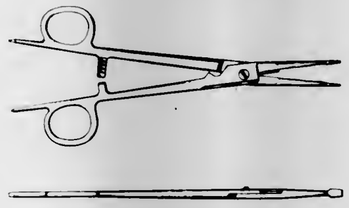
205,181
COWBOY BOOT
Harry Vise, Nashville, Tenn., assignor to Texas Boot Manufacturing Company, Inc., Lebanon, Tenn., a corporation of Tennessee
Filed Mar. 9, 1966, Ser. No. 1,363
Term of patent 14 years
(Cl. D7—7)



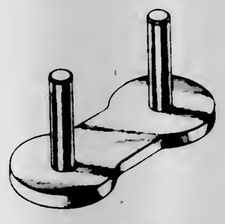
205,182
DENTAL APPLICATOR
Adolph D. Wiseman, 1068 Mission St., San Francisco, Calif.
Continuation of design applications Ser. Nos. 82,429 and 82,431, Nov. 2, 1964. This application Oct. 20, 1965, Ser. No. 87,644
Term of patent 14 years
(Cl. D24—1)



205,183
FISHING TOOL FOR MULTIPLE USES
John C. Micklitsch, 112 S. Johnson St., Bluffton, Ind.
Filed Aug. 2, 1965, Ser. No. 86,401
Term of patent 14 years
(Cl. D31—4)



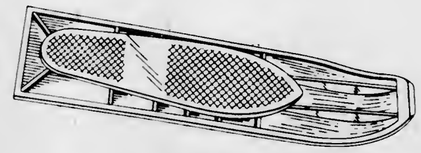
205,184
PHONOGRAPH DISC RECORD HOLDING RACK
Alfred D. Johnson, Box 110-A, R.F.D. 2, Lynchburg, Va.
Filed June 14, 1965, Ser. No. 85,702
Term of patent 14 years
(Cl. D33—3)



205,185
CASING FOR A CHILD'S EDUCATIONAL TOY
John W. Ryan, 688 Nimes Road, Bel Aire, Calif.
Filed Mar. 1, 1965, Ser. No. 84,017
Term of patent 14 years
(Cl. D34—5)



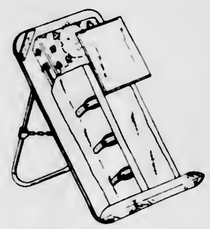
205,186
SNOW SKATE
Martin E. Koskela, Garden City, and James J. Byrne, Birmingham, Mich., assignors to Byrne Plywood Company, Royal Oak, Mich., a corporation of Michigan
Filed May 10, 1965, Ser. No. 85,204
Term of patent 14 years
(Cl. D34—14)



205,187
TOY LOCOMOTIVE
Norman L. Thompson, Erie, Pa., assignor to Louis Marx & Co., Inc., New York, N.Y., a corporation of New York
Filed May 18, 1965, Ser. No. 85,339
Term of patent 7 years
(Cl. D34—15)



205,188
PORTABLE DOLL BED
Charles R. Pedro, Mina, Nev.
Filed June 3, 1965, Ser. No. 85,559
Term of patent 14 years
(Cl. D34—15)



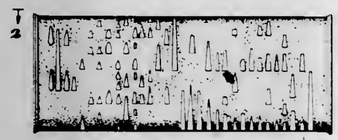
205,189
PUZZLE OR SIMILAR ARTICLE
George Rhoades, 35 Grove St., New York, N.Y., and Herman Kesler, 124 Cedarbrook Hill Apts., Wyncote, Pa.
Filed July 22, 1965, Ser. No. 86,262
Term of patent 14 years
(Cl. D34—15)



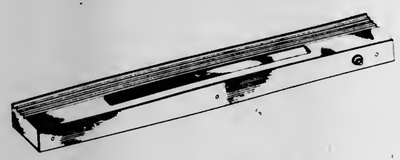
205,190
BARREL LIFTER
Roy S. Trimble, 1021 Capitol, Beacon Hill Station, San Antonio, Tex.
Filed Oct. 14, 1965, Ser. No. 87,489
Term of patent 14 years
(Cl. D41—1)



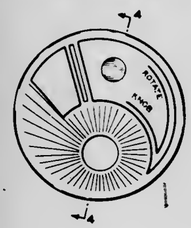
205,191
LIGHT MODULATING CYLINDER
Clyde L. Tichenor, Los Angeles County, Calif., assignor to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed May 26, 1965, Ser. No. 85,469
Term of patent 14 years
(Cl. D48—16)



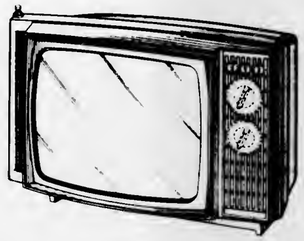
205,192
MUSIC RACK LAMP
Hubert S. Shearin, Cincinnati, Ohio, assignor to Manual Arts Furniture Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 14, 1965, Ser. No. 87,476
Term of patent 14 years
(Cl. D48—20)



205,193
ESCUTCHEON
Jack H. Malek, Parsippany, and Raymond C. Turner, Brooklyn, N.Y., assignors of one-third each to Harry Greenwald and Louis Wolff
Filed July 6, 1965, Ser. No. 86,045
Term of patent 14 years
(Cl. D50—6)



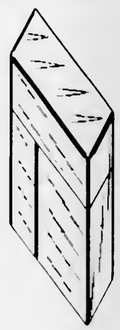
205,194
TELEVISION RECEIVER CABINET
Joseph Horzick, West Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Mar. 22, 1965, Ser. No. 84,385
Term of patent 7 years
(Cl. D56—4)



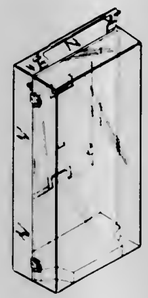
205,195
TELEVISION RECEIVER
Vera E. Hamilton, Palos Verdes Estates, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif., a corporation of California
Filed Nov. 3, 1965, Ser. No. 87,994
Term of patent 14 years
(Cl. D56—4)



205,196
PACKAGE OF BOTTLES
Bendt Wikke, Copenhagen, Denmark, assignor to Aspro-Nicholas Limited, London, England, a British company
Filed Dec. 12, 1963, Ser. No. 77,765
Claims priority, application Great Britain July 22, 1963
Term of patent 14 years
(Cl. D58—2)



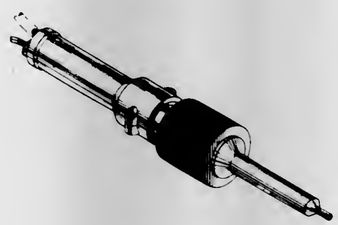
205,197
DISPLAY BOX FOR A DOLL OR THE LIKE
Joseph L. Bonanno, South Orange, N.J., assignor to De Luxe Reading Corp., Elizabeth, N.J., a corporation of New Jersey
Continuation of design application Ser. No. 79,430, Apr. 9, 1964. This application June 21, 1965, Ser. No. 86,297
Term of patent 7 years
(Cl. D58—12.6)



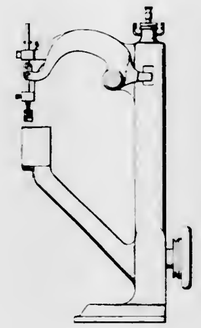
205,198
COMPARTMENTED BOX LINER
James Raymond Loney, Cote St. Luc, Quebec, Canada, assignor to Plastic Packaging Products Limited, Montreal, Quebec, Canada
Filed Nov. 27, 1964, Ser. No. 82,845
Term of patent 14 years
(Cl. D58—13)



205,199
FLAMELESS TORCH FOR HEATING, DRYING AND MELTING PLASTICS AND THE LIKE
Richard W. Henes, Phoenix, and Frithiof F. Nielsen, Tempe, Ariz., assignors to Henes Manufacturing Company, Inc., Phoenix, Ariz.
Filed July 8, 1965, Ser. No. 86,065
Term of patent 14 years
(Cl. D62—2)



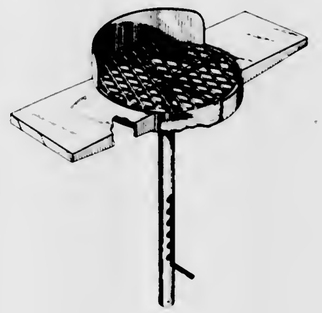
205,200
SEWING MACHINE OR SIMILAR ARTICLE
Richard Korenman, 426 Maine Ave., Staten Island, N.Y., and Richard Rivera, 1111 E. 215th St., and Isidore Kirsch, 808 Adee Ave., both of Bronx, N.Y.
Filed Sept. 30, 1965, Ser. No. 87,240
Term of patent 14 years
(Cl. D70—1)



205,201
BOAT CONTROLLER
Maurice H. Butler, 807 E. Tucker Blvd., Arlington, Tex.
Filed Oct. 20, 1965, Ser. No. 87,612
Term of patent 14 years
(Cl. D71—1)



205,202
OUTDOOR BARBECUE STOVE
Charles C. Clausen, P.O. Box 296, San Ardo, Calif.
Filed June 28, 1965, Ser. No. 85,927
Term of patent 14 years
(Cl. D81—10)



205,203

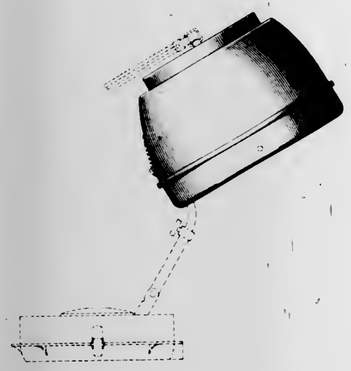
HAIR DRYER

Jerold R. Peterson, Roselle, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed July 16, 1965, Ser. No. 86,179

Term of patent 14 years

(Cl. D86—10)



205,204

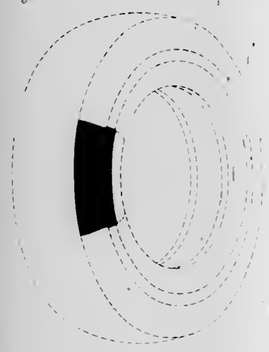
TIRE

Leonard C. Youngblood, Grosse Pointe Park, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed July 12, 1965, Ser. No. 86,112

Term of patent 14 years

(Cl. D90—20)



205,205

TIRE

Leonard C. Youngblood, Grosse Pointe Park, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed July 12, 1965, Ser. No. 86,120

Term of patent 14 years

(Cl. D90—20)



205,206

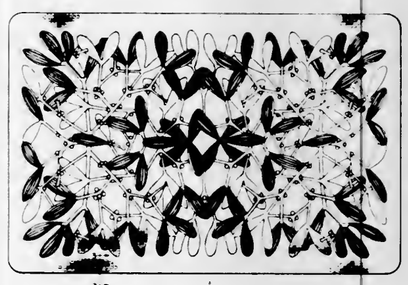
PLACE MAT OR THE LIKE

John E. Stengel, Bon Air, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed July 16, 1965, Ser. No. 86,175

Term of patent 14 years

(Cl. D92—26)



205,207

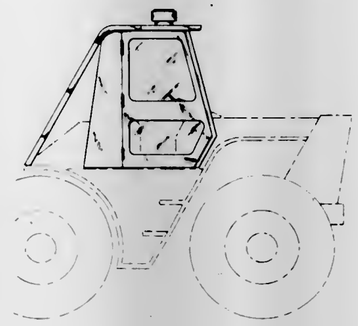
TRACTOR CAB

Ralph C. Lanphere and Bruce L. Renquist, Racine, Wis., assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Jan. 7, 1965, Ser. No. 83,314

Term of patent 14 years

(Cl. D14—3)



205,208

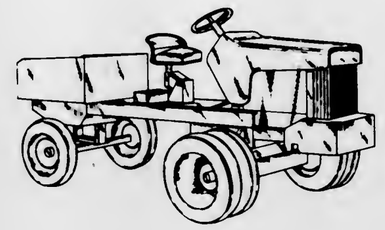
UTILITY TRACTOR

Sherman C. Heth and Evan T. Lewis, Racine, Wis., assignors to Jacobsen Manufacturing Company, Racine, Wis., a corporation of Wisconsin

Filed May 19, 1965, Ser. No. 85,351

Term of patent 14 years

(Cl. D14—3)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 5TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Anthon, Erik W.: *See*—
Baruch, Hans, and Anthon. Re. 26,055.

Applied Physics Corp.: *See*—
Cary, Henry H. Re. 26,053.

Archer, Harold B., to Rochester Institute of Technology. Half-tone screen for color separation. Re. 26,058, 7–5–66, Cl. 96—118.

Baruch, Hans, and E. W. Anthon, to Warner-Lambert Pharmaceutical Co. Automatic sample handling apparatus. Re. 26,055, 7–5–66, Cl. 141—90.

Bush, Vannevar: *See*—
Meyer, Rudolf X., Scherer, and Bush. Re. 26,059.

Cary, Henry H., to Applied Physics Corp. Double folded-Z configuration monochromator. Re. 26,053, 7–5–66, Cl. 88—14.

Hinkley, David F.: *See*—
Humphreys, Thomas W., and Hinkley. Re. 26,054.

Hickman, William P. Combination water dam and gravel stop. Re. 26,056, 7–5–66, Cl. 52—94.

Humphreys, Thomas W., and D. F. Hinkley, to Merck & Co., Inc. Meat curing process and composition therefor. Re. 26,054, 7–5–66, Cl. 99—222.

Maatschappij Van Berkel's Patent N.V.: *See*—
Schierbeek, Berend B. Re. 26,057.

Merck & Co., Inc.: *See*—
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Meyer, Rudolf X., P. A. Scherer, and V. Bush, to P. A. Scherer. Constant lift system for [craft] foils. Re. 26,059, 7–5–66, Cl. 114—66.5.

Nathan, Marvin F., to Pullman Inc. Alkylation of hydrocarbons. Re. 26,060, 7–5–66, Cl. 260—683.62.

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Rochester Institute of Technology: *See*—
Archer, Harold B. Re. 26,058.

Scherer, Paul A.: *See*—
Meyer, Rudolf X., Scherer, and Bush. Re. 26,059.

Schierbeek, Berend B., to Maatschappij Van Berkel's Patent N.V. Electrically operated type wheel setting means. Re. 26,057, 7–5–66, Cl. 101—93.

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Armstrong, David L., and H. C. Swim, to Armstrong Nurseries, Inc. Rose plant. 2,654, 7–5–66, Cl. 18.

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Armstrong, David L., and Swim. 2,654.

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Swim, Herbert C., and O. L. Weeks, to O. L. Weeks, d.b.a. Weeks Wholesale Rose Grower. Rose plant. 2,649, 7–5–66, Cl. 6.

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Armstrong, David L., and Swim. 2,654.

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Batchelor, John H., to Roto Rico, Inc. Fruit juicer. 205,178, 7–5–66, Cl. D2—3.

Bonanno, Joseph L., to De Luxe Reading Corp. Display box for a doll or the like. 205,197, 7–5–66, Cl. D58—12.6.

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Youngblood, Leonard C. 205,205.
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Youngblood, Leonard C., to United States Rubber Co. Tire. 205,205, 7-5-66, Cl. D90—20.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 5TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ABG-Werke Gesellschaft mit beschrankter Haftung, Firma: *See*—
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Agfa Aktiengesellschaft: *See*—
Neudecker, Karl, and Winkler. 3,259,410.
Agie A.G. fur Industrielle Elektronik: *See*—
Strohmeier, Walter, Gonzales, and Ulimann. 3,259,827.
Aguirre, Joaquin, P. P. Noznick, and R. H. Bundus. Method of drying bananas. 3,259,508, 7-5-66, Cl. 99—204.
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Klasson, George A., and Mills. 3,259,274.
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Erdmann, Hans. 3,259,074.
Allen, Harrison, Jr., C. C. Clepluch, and E. A. Fletcher, to United States of America, National Aeronautics and Space Administration. Method of igniting solid propellants. 3,258,912, 7-5-66, Cl. 60—35.6.
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Andorf, Erich, to Beteiligungr-und Patent verwaltungsgesellschaft mit Beschrankter Haftung. Open pit mining excavator. 3,258,865, 7-5-66, Cl. 37—190.
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Anghinetti, Joseph R., to American Cyanamid Co. Process for dissolving highly cyanoethylated cellulose. 3,259,510, 7-5-66, Cl. 106—191.
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Bykerk, Ralph O. 3,259,901.
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Applegate, Barry G.: *See*—
Mason, James A., and Applegate. 3,258,264.
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Arts, Vincent R., to Chemetron Corp. Holding device for gas tanks and the like. 3,259,249, 7-5-66, Cl. 211—75.
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Ashley, Carlyle M., and C. M. Bosworth, to Carrier Corp. Heat exchange system having intermediate fluent material receiving and discharging heat. 3,259,181, 7-5-66, Cl. 165—107.

Aspey, Wayne S., and B. P. Baker, deceased (by Mellon National Bank & Trust Co. executor), to Westinghouse Electric Corp. Fluid-blast circuit interrupter having serially-related pressure-generating and interrupting arcs. 3,259,724, 7-5-66, Cl. 200—148.

Aspinwall, John F. H., to Communications Patents Ltd. Multichannel electric wave signalling apparatus. 3,259,692, 7-5-66, Cl. 179—15.

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Fuhrwerk, Victor C., and Luthman. 3,259,275.
Neff, George J., Jr. 3,259,701.

Avtges, James A., and R. G. Shaver, to W. R. Grace & Co. Process for imparting anti-dusting properties to absorbents and product produced thereby. 3,259,464, 7-5-66, Cl. 23—252

Ayer, Donald R., to Sanders Associates, Inc. Transmission line packaging components. 3,259,860, 7-5-66, Cl. 333—84.

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Ayling, Robert W., to Westinghouse Electric Corp. Hermetic refrigerant compressors. 3,259,307, 7-5-66, Cl. 230—206.

Ayres, Walter D., Jr., to B. H. Bunn Co. Tying machine table. 3,259,057, 7-5-66, Cl. 100—7.

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Back, Frank G. Varifocal lens system for cameras using leaf-type shutters. 3,259,013. 7-5-66, Cl. 88—57.

Baden, Thomas A., and S. J. Lee, to Donaldson Co., Inc. Restriction indicator for air cleaners. 3,258,960, 7-5-66, Cl. 73—118.

Badische Anilin- & Soda-Fabrik Aktiengesellschaft: *See*—
Gaeth, Rudolf, Schmitt, and Breu. 3,259,536.
Konrad, Otto. 3,259,183.
Schenk, Walter, Wallis, and Vogel. 3,259,651.

Baer, Howard C., to Ford Motor Co. Carburetor throttle control. 3,259,376, 7-5-66, Cl. 261—23.

Baird, Leslie L., and C. B. Gehringer, Jr., to General Electric Co. Fusible electric switch equipped with combination fuse holder and arcing contact. 3,259,718, 7-5-66, Cl. 200—114.

Baker, Benjamin F.: *See*—
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Baldwin, Robert R.: *See*—
Tan, Chee T., and Baldwin. 3,259,503.

Ball, Dennis, and P. Ayers, to The British Aluminum Co. Ltd. Methods of breaking up sintered compacted metal bodies. 3,259,324, 7-5-66, Cl. 241—17.

Ball, John D., and H. R. Espey, to Esso Production Research Co. Apparatus for seismic exploration. 3,259,879, 7-5-66, Cl. 340—15.5.

Ballard, Charles U. Hydraulic power transmission. 3,258,923, 7-5-66, Cl. 60—54.5.

Banke, Henry C., to Clarin Mfg. Co. Folding chair and rack. 3,259,429, 7-5-66, Cl. 297—192.

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Banks, Letha E. Fitted bed sheet. 3,258,789, 7-5-66, Cl. 5—334.

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Barber, Jesse and J. R. 3,259,278.

Barber, Jesse and J. R. Fertilizer distribution apparatus. 3,259,278, 7-5-66, Cl. 222—178.

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Barnhart, Charles E., and C. H. Chaney, to The Kentucky Research Foundation. Method for inhibiting anemia in young pigs by feeding the sow an iron agent. 3,259,500, 7-5-66, Cl. 99—2.

Barrett, Arthur L.: *See*—
Wiebe, Donald, and Barrett. 3,258,895.

Barocela, Edward C., to Instruments Corp. of America. Apparatus for continuous feed of motion picture film. 3,259,449, 7-5-66, Cl. 352—119.

Barocela, Edward C., to Instruments Corp. of America. Optical compensator. 3,259,450, 7-5-66, Cl. 352—119.

Bart Safety Equipment Co., Inc.: *See*—
Ulman, Ambrose C. 3,258,875.

Barter, Le Roy D., to Beckman Instruments, Inc. Regulated power supply. 3,259,833, 7-5-66, Cl. 323—4.

Barthelemy, Pierre J. F., to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Closed-cycle thermal machine. 3,258,825, 7-5-66, Cl. 60—59.

Bartlett, William F., K. Ozone, and R. Scott, to Stromberg-Carlson Corp. Triple transfer time division multiplex communication system. 3,259,696, 7-5-66, Cl. 179—15.

Bart Safety Equipment Co., Inc.: *See*—
Ulman, Ambrose C. 3,258,875.

Batcheller, Kent J. Electric connector member. 3,259,869, 7-5-66, Cl. 339—47.

Bates, Emile B. Edge guiding and stentering apparatus. 3,258,866, 7-5-66, Cl. 38—2.

Battista, Joseph, to International Telephone and Telegraph Corp. Electronic circuit breakers. 3,259,803, 7-5-66, Cl. 317—31.

Battista, Orlando A., to FMC Corp. Polymer surfaces having a coating of cellulose crystallite aggregates. 3,259,537, 7-5-66, Cl. 161—267.

Battista, Orlando A., and P. F. Smith, to FMC Corp. Method of making formed products of cellulose crystallite aggregates. 3,259,676, 7-5-66, Cl. 264—123.

Baybick, Solomon, and R. H. Jenkins, to Radio Corp. of America. Tape transport. 3,259,330, 7-5-66, Cl. 242—55.12.

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Bedetti, Bruno, to National Research Corp. Cold cathode gauge for measuring vacuum. 3,259,772, 7-5-66, Cl. 313—7.

Beebe, Donald L., and E. B. Gardow, to United Aircraft Corp. Lubrication pump. 3,259,210, 7-5-66, Cl. 184—6.

Beeman, Everett C., to Monsanto Co. Container closure. 3,259,233, 7-5-66, Cl. 220—27.

Beese, Norman C., to Westinghouse Electric Corp. Efficiency of infrared radiation generation by alkali metal vapor lamps and prolonging their useful lives. 3,259,779, 7-5-66, Cl. 313—221.

Beggs, Donald, to Midland-Ross Corp. Electric heating elements for carburizing atmosphere. 3,259,527, 7-5-66, Cl. 148—16.5.

Beggs, Harold L., to Alcorn Combustion Co. Fired heater arrangement for film temperature control. 3,259,110, 7-5-66, Cl. 122—356.

Behn, William R., to Educational Testing Service. Test response device. 3,258,857, 7-5-66, Cl. 35—48.

Behr, Hugo, to Beteiligungs- und Patentverwaltungsgesellschaft mit beschrankter Haftung. Apparatus for lining of metallurgical furnaces, particularly converters. 3,259,208, 7-5-66, Cl. 182—128.

Belgay, Jack M. Simulated golf club ball projector. 3,259,887, 7-5-66, Cl. 273—67.

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Bell, George R.: *See*—
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Bell & Howell Co.: *See*—
MacMillin, David M., and Arnason. 3,259,044.

Bello-Bridick, Jack D. Apparatus for rotating a barbecue spit. 3,259,005, 7-5-66, Cl. 84—94.

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Cook, John S. 3,259,899.
Drugan, Walter T., Hagen, Smith, and Trautman. 3,259,807.
Hawkins, Walter L., and Winslow. 3,259,608.
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Kliever, Johan W. 3,259,789.
Marcatili, Enrique A. J. 3,259,015.
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Bennett, Raymur B., M. E. Cushman, and T. W. Khiralla, to Curtiss-Wright Corp. Compound planetary speed reducer. 3,258,995, 7-5-66, Cl. 74—801.

Bennett, Royston H., and W. Hopkin, to The National Smelting Co. Ltd. Dehalogenation of organic compounds. 3,259,663, 7-5-66, Cl. 260—650.

Bensinger, Wolf-Dieter, H.-O. Derndinger, R. Schick, and H. Dobler, to Daimler-Benz Aktiengesellschaft. Rotary-piston internal combustion engine. 3,259,115, 7-5-66, Cl. 123—8.

Beranger, Antoine. Tubular container made of flexible material. 3,259,296, 7-5-66, Cl. 229—5.5.

Bergwerksgesellschaft Hibernia Aktiengesellschaft: *See*—
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Biber, Albert, O. A. Davis, and B. R. Walsh, to Gulf Research & Development Co. Aspirating swirl-type nozzle. 3,259,322, 7-5-66, Cl. 239—403.

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Biringer, Paul P., to Ajax Magnethermic Corp. Static frequency multiplying system. 3,259,828, 7-5-66, Cl. 321—7.

Birkmeye, Clement S., Sr. Compensative bridge score computer. 3,259,312, 7-5-66, Cl. 235—78.

Bishop, Geoffrey S., and R. W. Howard, to Elliott Bros. (London) Ltd. Group thrust compensator. 3,258,914, 7-5-66, Cl. 60—35.6.

Black and Decker Mfg. Co., The: *See*—
Elson, Donald E., and Elmore. 3,259,232.
Romanowski, Henry J., Ashauer, and Pittinger. 3,259,231.

Blair, Calvin B. Bale handling apparatus. 3,259,260, 7-5-66, Cl. 214—147.

Blair, Clair L. Figure simulating attachment for bicycles. 3,259,395, 7-5-66, Cl. 280—1.203.

Blanchard, Harry S., H. L. Pinkbeiner, to General Electric Co. Copper catalyst and process of making. 3,259,629, 7-5-66, Cl. 260—270.

Blondell, Thomas F. Chance contest cards and method of using same. 3,259,389, 7-5-66, Cl. 273—138.

Blonder, Isaac S., and A. Schenfeld, to Blonder-Tongue Electronics. Antenna having combined support and lead-in. 3,259,904, 7-5-66, Cl. 343—792.5.

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Blonder, Isaac S., and Schenfeld. 3,259,904.

Blow-Knox Co.: *See*—
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Blunt, Julian A., to The American Tobacco Co. Apparatus for automatically weighing and totalizing the production time intervals of a plurality of different weight categories of cigarettes during manufacture. 3,259,746, 7-5-66, Cl. 250—83.3.

Boche, Heinz, H. Kling, and G. Mies, to Ford Motor Co. Ventilating system for the passenger compartment of motor vehicles. 3,259,051, 7-5-66, Cl. 98—2.

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Ewers, Robert S. 3,259,875.

Boehl, Helmut: *See*—
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Schmidlt, Theodore W. 3,259,338.
Steidl, Robert H. 3,259,341.

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Boghosian, Harry, to Morgan Construction Co. Roll neck bearing seal. 3,259,442, 7-5-66, Cl. 308—187.1.

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Bomax, Inc.: *See*—
Marzolf, Robert G., and Lautner. 3,259 864.

Bonhoff, Willi, to Beteiligungs- und Patent verwaltungsgesellschaft mit Beschrankter Haftung. Flexible drive connection for spindle heads. 3,258,936, 7-5-66, Cl. 64—7.

Boone, Salomon, and H. Voeten, to North American Philips Co. Inc. Method of producing a solid electrolytic capacitor having a semi-conductive electrolyte. 3,258,826, 7-5-66, Cl. 29—25.31.

Boren, Ben E. Portable exercising device. 3,259,385, 7-5-66, Cl. 272—73.

Borg-Warner Corp.: *See*—
Hallberg, Robert W., Detweiler, and Danforth. 3,259,076.

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Bostitch, Inc.: *See*—
Maynard, George A. 3,259,292.

Bosworth, Cyrus M.: *See*—
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Bott, Adolf H., to Radio Corp. of America. Phase inverter and automatic frequency control stabilizer for a frequency modulator system. 3,259,856, 7-5-66, Cl. 332—19.

Bouquet, Francis L., Jr., and S. J. Smyth, to Lockheed Aircraft Corp. Radionuclide propulsion device. 3,258,911, 7-5-66, Cl. 60—35.6.

Bouniot, Albert: *See*—
Mercier, Jules, and Bouniot. 3,259 658.

Bowers, William E., to Schlumberger Well Surveying Corp. Methods for manufacturing armored cables. 3,259,675, 7-5-66, Cl. 264—103.

Bowles Engineering Corp.: *See*—
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Bowles, Ronald E., to Bowles Engineering Corp. Thruster apparatus for craft. 3,259,096, 7-5-66, Cl. 114—151.

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Soderquist, Frederick J., Amos, and Boyce. 3,259,666.

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Boyd Keith A., to Eaton Mfg. Co. Viscous coupling. 3,259,219, 7-5-66, Cl. 192—58.

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Klinger, Guy G., Hoffmaster, Boyer, and Simpson. 3,259,127.

Boyer, Frederick E.: *See*—
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Bozek, John S., and L. F. Irland, to Continental Can Co. Shock absorbing formation in scored can ends. 3,259,267, 7-5-66, Cl. 220—54.

Bradbury, James W. Nail drier. 3,258,853, 7-5-66, Cl. 34—202.

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Bradfute, John H.: *See*—
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Bradley, Richard D., E. C. Hoelscher, R. A. Homeier, M. L. Quinn, and I. J. Scheveling, to Emerson Electric Co. Combined lighting and air handling apparatus. 3,259,052, 7-5-66, Cl. 98—40.

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Scheffler, Gerhard W., and Brand. 3,263,301.

Brandes, Eric A., and J. A. Whittaker, to National Research Development Corp. Process for the electrolytic production of chromium of a high degree of purity. 3,259,560, 7-5-66, Cl. 204—105.

Bratz, Otto J., to American Chain & Cable Co. Push-pull cable. 3,258,990, 7-5-66, Cl. 74—501.

Brauer, Frank M., to Avco Corp. Digital system for stabilizing the operation of a variable frequency oscillator. 3,259,851, 7-5-66, Cl. 331—14.

Braun, Kenneth V., to Armour and Co. Animal electrical stunning apparatus. 3,258,811, 7-5-66, Cl. 17—1.

Braun, Paul E., and A. A. Pruchno, to Ford Motor Co. Automatic choke mechanism. 3,259,377, 7-5-66, Cl. 261—39.

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British Aluminium Co. Ltd., The: *See*—
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British Iron and Steel Research Association, The: *See*—
Salt, Frederick W., and Lewis. 3,259,562.

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Vernet, Charles, and Laine. 3,259,549.

Bricout, Constant, to Les Applications Techniques Industrielles L.A.T.I. Internal combustion engines. 3,259,116, 7-5-66, Cl. 123—32.

Broadway, Edgar R., and R. B. McLeod, to Brown & Root, Inc. Riser installation. 3,258 928, 7-5-66, Cl. 61—72.3.

Brojo, German, and W. Schabacher, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of alkali metal borohydrides. 3,259,474, 7-5-66, Cl. 23—361.

Brooks, Burton J.: *See*—
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Brooks, Richard J. and B. J., to The Chemithon Corp. Continuous sulfonation process. 3,259,645, 7-5-66, Cl. 260—459.

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Brown, Boveri & Cie. Aktiengesellschaft: *See*—
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Brown, Charles C., to Gulf Oil Corp. Ladder. 3,259,209, 7-5-66, Cl. 182—189.

Brown, Charles S., to The United States Stoneware Co. Total redistributor. 3,259,380, 7-5-66, Cl. 261—97.

Brown, Edwin C., G. Woolman, and R. D. Brownell, to Baldwin-Lima-Hamilton Corp. Multiple-purpose fork lift truck. 3,259,257, 7-5-66, Cl. 214—75.

Brown, Gordon R., R. W. Kearns, and K. J. Law, to Tann Corp. Magnetically actuated control device. 3,259,706, 7–5–66, Cl. 200—61.46.

Brown Lenox & Co. Ltd.: *See*—
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Brown, Noel J. Prosthetic hand with overload release means and means for adjusting relative finger and thumb positions. 3,258,784, 7–5–66, Cl. 3—12.7.

Brown & Root, Inc.: *See*—
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Brownell, Roy D.: *See*—
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Brumfield, Grayson E., C. E. Morse, and J. P. Smith, to Bell Telephone Laboratories, Inc. Telephone signaling system. 3,259,697, 7–5–66, Cl. 179—16.

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Bryant, Harvey L., and M. M. White, to Esso Production Research Co. Borehole measurements. 3,258,963, 7–5–66, Cl. 73—155.

Buck, Russell E., to Buck Tool Co. Radially adjustable chuck. 3,259,394, 7–5–66, Cl. 279—6.

Buck Tool Co.: *See*—
Buck, Russell E. 3,259,394.

Buck, Willard E. Oscilloscope trace-copy attachment. 3,259,008, 7–5–66, Cl. 88—24.

Budd, Alfred N., to Bremer Mfg. Co. Fluteless swaging tap. 3,258,797, 7–5–66, Cl. 10—152.

Bueler, Richard C., to Wagner Electric Corp. Control valve and system. 3,259,439, 7–5–66, Cl. 303—40.

Buell Mfg. Co.: *See*—
Buell, Roy D., Jr., and Peterson. 3,259,103.

Buell, Roy D., Jr., and B. B. Peterson, to Buell Mfg. Co. Ultrasonic interrupter. 3,259,103, 7–5–66, Cl. 116—137.

Bull, Thomas H., and A. M. G. Kinnear, to Imperial Chemical Industries Ltd. Polyester filaments. 3,259,681, 7–5–66, Cl. 264—290.

Bump, Edward L., to Industrial Research and Development Corp. Dispenser for flat articles having at least one flap. 3,259,271, 7–5–66, Cl. 221—36.

Bunch, Wilbur L.: *See*—
Garlick, George F., and Bunch. 3,259,745.

Bundus, Robert H.: *See*—
Noznick, Peter P., and Bundus. 3,259,504.
Aguirre, Joaquin, Noznick, and Bundus. 3,259,508.

Bunge, Wilhelm: *See*—
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Bunker-Ramo Corp., The: *See*—
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Bunn, B. H., Co.: *See*—
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Burdick, Glen A., and G. R. Kautz, to Sylvania Electric Products, Inc. Light attenuator. 3,259,038, 7–5–66, Cl. 95—1.

Burger, Charles A., to Carlisle Chemical Works, Inc. Compositions comprising a vinyl chloride resin, a solvent and an anti-gelling agent. 3,259,597, 7–5–66, Cl. 260—23.

Burgin, Kermit H. Adjustable tent roof support. 3,259,140, 7–5–66, Cl. 135—1.

Burlington Industries, Inc.: *See*—
Atwell, Everett C. 3,259,517.

Burmeister, William W., and R. K. Radtke, to Sperry Rand Corp. Gimbal error corrected gyroscopic system. 3,259,822, 7–5–66, Cl. 318—30.

Burnbaum, Jack. Illuminating ornament having a lens member. 3,259,740, 7–5–66, Cl. 240—106.

Burnham, Benjamin K.: *See*—
Shaw, Harold F., Sarasin, and Burnham. 3,259,426.

Burnham, John. Etched metal valve surfaces of tantalum or niobium or titanium. 3,259,475, 7–5–66, Cl. 29—183.

Burroughs Corp.: *See*—
Parstorfer, John. 3,259,804.

Burr, Robert P., to Printed Motors, Inc. Dynamoelectric machine and method of making armature. 3,259,768, 7–5–66, Cl. 310—13.

Burtis, Wilson A., to Mobil Oil Corp. Planetary gear pump. 3,259,073, 7–5–66, Cl. 103—126.

Burton, Lawrence A., and G. W. Doos, to Allis-Chalmers Mfg. Co. Multiple contact switch with removable cover. 3,259,702, 7–5–66, Cl. 200—16.

Bush, George W., to Philadelphia Handle Co., Inc. Combined shoulder strap and handgrip. 3,259,285, 7–5–66, Cl. 224—46.

Butcher, Richard A., to The Upson Co. Prefabricated stud panel with foam insulation connector. 3,258,889, 7–5–66, Cl. 52—309.

Button, Aaron R. Tiltable vehicle shelter. 3,258,886, 7–5–66, Cl. 52—64.

Butz, James N., to Carroll Container Corp. High end box. 3,259,295, 7–5–66, Cl. 229—23.

Buzzi, Gunter: *See*—
Luder, Ernst, and Buzzi. 3,259,350.

Bykerk, Ralph O., to The Antenna Specialists Co. Short half-wave antenna with plural loading coils. 3,259,901, 7–5–66, Cl. 343—749.

Byles, Theodore A., to Motorola, Inc. Speaker control system with reverberation. 3,259,691, 7–5–66, Cl. 179—1.

CSF- Compagnie General de Telegraphie: *See*—
Shroff, Arvind M. 3,259,782.

Caldwell, John R.: *See*—
Hill, Edward H., and Caldwell. 3,259,608.

Callery Chemical Co.: *See*—
Shepherd, James W. 3,259,591.

Camloc Fastener Corp.: *See*—
Griffiths, Edward G. 3,259,411.
Wheeler, Frank. 3,259,412.

Campanaro, Louis, N. J. Goldstone, and C. C. Shepherd, to North American Aviation, Inc. Rigidized evacuated structure. 3,258,883, 7–5–66, Cl. 52—2.

Campbell, Andrew H., to American Light Gage Drum Corp. Method of producing a rolling hoop formation in the shell of a sheet metal drum. 3,259,091, 7–5–66, Cl. 113—120.

Campbell, George L. Pool cleaning device. 3,258,801, 7–5–66, Cl. 15—1/7.

Campbell, Orville E. Trash burner. 3,259,085, 7–5–66, Cl. 110—18.

Canadian Patents and Development Ltd.: *See*—
Polley, John R. 3,259,546.

Canon, Rush L. Sleeper unit for station wagons and the like. 3,259,422, 7–5–66, Cl. 296—23.

Cantu, Antonio C. Ocean wave energy generator. 3,259,361, 7–5–66, Cl. 253—11.

Cariffe, Louis J., Jr. Articles of wearing apparel for training. 3,258,858, 7–5–66, Cl. 36—1.

Carlisle Chemical Works, Inc.: *See*—
Burger, Charles A. 3,259,597.

Carlon, Hugh R., to The United States of America. Low-frequency switching with thermostatic delay relays. 3,259,809, 7–5–66, Cl. 317—132.

Carlsen, Kurt M., to Jones & Laughlin Steel Corp. High strength stainless steels. 3,259,528, 7–5–66, Cl. 148—37.

Carlson, John I., Sr., to General Electric Co. Sheet metal forming apparatus. 3,258,948, 7–5–66, Cl. 72—57.

Carpenter, Keith H., to General Motors Corp. Rotary fuel pump. 3,259,072, 7–5–66, Cl. 103—87.

Carrier Corp.: *See*—
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Osborne, William T. 3,258,933.
Wellman, Donald C. 3,259,172.

Carroll Container Corp.: *See*—
Butz, James N. 3,259,295.

Carter, B. & F., & Co. Ltd.: *See*—
Carter, Ben R. 3,258,905.

Carter, Ben R., to B. & F. Carter & Co. Ltd. Tubular stranding machines. 3,258,905, 7–5–66, Cl. 57—58.34.

Casimir, Hendrik B. G., to North American Philips Co., Inc. Superconductor amplitude discriminator having a plurality of superconducting loops differentially arranged to detect a signal by being responsive to respond to the magnetic field produced by the signal. 3,259,844, 7–5–66, Cl. 324—103.

Casler, William A. Low-resistance connector. 3,259,727, 7–5–66, Cl. 200—155.

Casper, Ray K.: *See*—
Bell, Raymond F., Casper, and MacDowell. 3,259,139.

Cassaday, Howard L., O. F. House, and J. F. Ryley, to Owens-Illinois Inc. Method of strengthening delivery points and stems of laboratory glassware. 3,258,972, 7–5–66, Cl. 73—425.4.

Casselia Farbwerke Mainkur Aktiengesellschaft: *See*—
Ritter, Heinrich, Beyerle, and Nitz. 3,259,635.

Castoe, John H. Caster and camber determining tool. 3,259,366, 7–5–66, Cl. 234—100.

Castro, Charles E., to Shell Oil Co. Halo-substituted ether production. 3,259,641, 7–5–66, Cl. 260—408.

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Beyers, Marvin E. 3,258,864.
Junck, John A., Kokaly, and Stahl. 3,258,926.
Klaus, Frederick C., and Medley. 3,259,216.
Kranc, Stanley J., Miller, and Tegg. 3,258,937.
Peterson, Robert A., and Grant. 3,259,036.

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Anderson, Gerald R., and Chamberlin. 3,259,159.

Chandler, Walter, to Plessey (U.K.) Ltd. Plug-and-socket type connector. 3,259,871, 7–5–66, Cl. 339—63.

Chaney, Charles H.: *See*—
Barnhart, Charles E., and Chaney. 3,259,500.

Chaney, Paul W. Aircraft with non-combustion, air reaction engine. 3,259,195, 7–5–66, Cl. 170—135.4.

Chapman, Martha W.: *See*—
Pearcem, Edward S. 3,259,156.

Chapman, Ralph, to Oregon Wood Processes, Ltd. Suction head for transporting veneer sheets. 3,259,417, 7–5–66, Cl. 294—64.

Chappell, Edward R., and R. C. Lessner, to Thomas Industries Inc. Corner construction. 3,259,409, 7–5–66, Cl. 287—189.36.

Chase, Harry H. Holder-dispensing device for flexible and/or collapsible tubes. 3,259,276, 7–5–66, Cl. 222—100.

Cheesman, Harry: *See*—
Phillipson, Alan, Spiller, Smith, and Cheesman. 3,259,027.

Chemetron Corp.: *See*—
Arts, Vincent R. 3,259,249.

Chemithon Corp., The: *See*—
Brooks, Richard J. and B. J. 3,259,645.

Cheney, George D., to Ex-Cell-O Corp. Magnetic data storage drum positioned by centrifugal means. 3,259,889, 7–5–66, Cl. 340—174.1.

Cherdron, Harald H. O., H. H. Ohse, and F. W. A. G. K. Korte, to Shell Oil Co. Preparation of high molecular weight polyesters. 3,259,607, 7–5–66, Cl. 260—78.3.

Cherry-Burrell Corp.: *See*—
Nellis, Charles N., and Mercuriali. 3,259,071.

Chevron Research Co.: *See*—
Harvey, Phillip D., and Unverferth. 3,259,588.
Klaver, Rudolf F., and Gardiner. 3,259,733.
Parsons, Richard L. 3,259,190.

Chiarugi, Anthony L., to Illinois Tool Works Inc. Method and apparatus for forming twisted tooth lock washers. 3,258,796, 7–5–66, Cl. 10—85.

Chicago Lock Co.: *See*—
Kerr, William J. 3,258,944.
Kerr, William J. 3,258,945.

Chleger, George: *See*—
Tantlinger, Keith W., Flagan, and Chleger. 3,259,400.

Chisholm, Douglas S., to The Dow Chemical Co. Band saw employing a copper blade. 3,259,004, 7–5–66, Cl. 83—171.

Chitwood, Ralph. Child's highchair insert. 3,259,425, 7–5–66, Cl. 297—148.

Christensen, Dan A.: *See*—
Pelckil, Vasalie L., Christensen, and Bradfute. 3,259,392.

Christensen, Paul B. Box car unloader. 3,259,256, 7–5–66, Cl. 214—44.

Ciba Corp.: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Riniker. 3,259,616.

Ciba, Ltd.: *See*—
Anderau, Walter, and Boehl. 3,259,498.
Duennenberger, Max, and Luethi. 3,259,627.
Siegrist, Adolf E., Liechti, and Maeder. 3,259,619.
Streiff, Henri. 3,259,630.
Von Wartburg, Rene. 3,259,497.

Ciccarone, Anthony E. Snow alarms. 3,259,894, 7–5–66, Cl. 340—272.

Ciepluch, Carl C.: *See*—
Allen, Harrison, Jr., Ciepluch, and Fletcher. 3,258,912.

Cimera, Richard F.: *See*—
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Cincinnati Milling Machine Co., The: *See*—
Walker, Robert O. 3,259,020.

Cisney, Merle E., to Crown Zellerbach Corp. Process for preparing sulfonium compounds. 3,259,660, 7–5–66, Cl. 260—607.

Claps, William A.: *See*—
Coulter, Wallace H., Hogg, Moran, and Claps. 3,259,842.

Clarin Mfg. Co.: *See*—
Banke, Henry C. 3,259,429.

Clark, Kenneth R., to John Oster Mfg. Co. Knife and scissors sharpener improvements. 3,258,878, 7–5–66, Cl. 51—80.

Clarke, Frank W., and W. J. Koyder, to Talon, Inc. Feeding and pay-off device for filamentary material. 3,259,290, 7–5–66, Cl. 226—190.

Claiborne, Jefferson L., to Dixie Yarns, Inc. Apparatus for the liquid treatment of yarn. 3,258,943, 7–5–66, Cl. 68—20.

Clayton Corp., The: *See*—
Hug, Richard C. 3,259,360.

Cleveland Technical Center, Inc.: *See*—
Engle, Thomas H. 3,259,145.

Clevite Corp.: *See*—
Vall, Herman L., Jr., and Williams. 3,259,703.

Closmann, Philip J.: *See*—
Prats, Michael, and Closmann. 3,259,187.

Clover, Henriette, to Van Raalte Co., Inc. Double layer foundation garment. 3,259,133, 7–5–66, Cl. 128—552.

Cluett, Peabody & Co., Inc.: *See*—
Brittingham, Lawrence A. 3,259,229.

Clutter, Raymond J.: *See*—
Jungermann, Eric, and Clutter. 3,259,671.

Coal Industry (Patents) Ltd.: *See*—
Kibble, John D., and Penn. 3,259,024.

Coant, Pierre M., and F. G. A. de Monterey, to Socony Mobil Oil Co., Inc. Lubricant and additives therefor. 3,259,577, 7–5–66, Cl. 252—33.3.

Coffin, Thomas E., to Puregas Equipment Corp. Apparatus for fractionating gaseous mixtures. 3,258,899, 7–5–66, Cl. 55—162.

Cohen, Herbert. High impedance direct current voltmeter and amplifier circuits. 3,259,845, 7–5–66, Cl. 324—123.

Cohen, Richard L. Valve seat resurfacing tool. 3,258,882, 7–5–66, Cl. 51—378.

Cohodas, Alvin M.: *See*—
Kelly, Edward J., and Cohodas. 3,258,931.

Cole, George C., to E. R. Squibb & Sons, Inc. Process for preparing interfering virus. 3,259,547, 7–5–66, Cl. 167—78.

Cole, Nathaniel B. Flower packaging. 3,259,236, 7–5–66, Cl. 206—79.

Coleman, Edward, and W. H. Thompson, to J. A. Crabtree & Co. Ltd. Electric circuit breakers. 3,259,839, 7–5–66, Cl. 324—28.

Colgate-Palmolive Co.: *See*—
Grimm, John E., III. 3,259,050.

Colin-Smith, Eric, to Combustion Research Corp. Air oil pump. 3,259,068, 7–5–66, Cl. 103—9.

Collins Radio Co.: *See*—
Glynn, Leon A. 3,259,793.
Meier, Don E., and Oppedahl. 3,259,756.
Strathman, Lyle R. 3,259,897.

Colton, Ervin: *See*—
Matkovich, Vlado I., Colton, and Peret. 3,259,509.

Combustion Research Corp.: *See*—
Colin-Smith, Eric. 3,259,068.

Communications Patents Ltd.: *See*—
Aspinwall, John F. H. 3,259,692.
Flower, Maurice S., and Gasson. 3,258,855.

Conco Engineering Works, Inc.: *See*—
Olsen, Robert A. 3,259,351.
Olsen, Robert A. 3,259,352.

Congoleum-Nairn Inc.: *See*—
Pecker, Calman. 3,259,515.

Conner, Eben L., Jr.: *See*—
Hopkins, Horace H., Jr., Kingsley, and Conner. 3,259,473.

Constantikes, George J., to Phillips Petroleum Co. Fractionation control method. 3,259,554, 7–5–66, Cl. 203—3.

Continental Baking Co.: *See*—
Tan, Chee T., and Baldwin. 3,259,503.

Continental Can Co.: *See*—
Bozek, John S., and Irland. 3,259,267.

Continental Machines, Inc.: *See*—
Kawabata, James S. 3,259,155.

Control Data Corp.: *See*—
Holt, Arthur W. 3,259,884.
Rabinow, Jacob, and Holt. 3,259,883.
Rabinow, Jacob. 3,259,885.

Coogan, George J.: *See*—
Marshall, William C., Bell, and Coogan. 3,259,571.

Cook, John S., to Bell Telephone Laboratories, Inc. Nondegenerate multimode tracking system. 3,259,899, 7–5–66, Cl. 343—113.

Coon, Boyd W.: *See*—
Hillier, Douglas R., Faigh, and Coon. 3,259,124.

Cornely, Roy H., and W. F. Kosonocky, to Radio Corp. of America. Magnetic memory employing anisotropy. 3,259,888, 7–5–66, Cl. 340—174.

Corner, Howard E.: *See*—
Williams, Robert L., Corner, and Norris. 3,259,066.

Cortessis, Peter G., and F. E. Boyer, to Stauffer Chemical Co. Producing sodium sesquicarbonate using diatomaceous earth as a filter aid. 3,259,471, 7–5–66, Cl. 23—302.

Coscia, Anthony T., and L. L. Williams, to American Cyanamid Co. Stable aqueous solutions of metal coordination complexes of cationic thermosetting polyamido-polyamine-epichlorohydrin wet strength resins. 3,259,600, 7–5–66, Cl. 260—29.2.

Coulter Electronics, Inc.: *See*—
Coulter, Wallace H., and Hogg. 3,259,891.
Coulter, Wallace H., Hogg, Moran, and Claps. 3,259,842.

Coulter, Wallace H., and W. R. Hogg, to Coulter Electronics, Inc. Debris alarm. 3,259,891, 7–5–66, Cl. 340—222.

Coulter, Wallace H., W. R. Hogg, J. P. Moran, and W. A. Claps, to Coulter Electronics, Inc. Particle analyzing device. 3,259,842, 7–5–66, Cl. 324—71.

Coy, Truman: *See*—
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Crabtree, J. A., & Co. Ltd.: *See*—
Coleman, Edward, and Thompson. 3,259,839.

Craig, Sam N., and P. B. Seasholtz, to Orr & Sembower, Inc. Boilers. 3,259,108, 7–5–66, Cl. 122—140.

Crail, Donald H. Filter system and method for pressure cooker. 3,259,521, 7–5–66, Cl. 134—22.

Crathern, Charles F. H., III, and F. D. Roberts, to FMC Corp. Fabrication of box parts from plastic material. 3,259,030, 7–5–66, Cl. 93—49.

Cresci, Paul A. Tilting body for motor vehicles. 3,259,253, 7–5–66, Cl. 214—1.

Crown Cork & Seal Co., Inc.: *See*—
Stuart, Edward P. 3,259,265.

Crown Zellerbach Corp.: *See*—
Cisney, Merle E. 3,259,660.
Smith, James E. 3,259,507.

Csillag, Istvan, to Associated Electrical Industries Ltd. Inlet glands for liquid supply to rotors. 3,259,391, 7–5–66, Cl. 277—13.

Cumberland Packing Co.: *See*—
Eisenstadt, Benjamin. 3,259,506.

Cunningham, Jasper N.: *See*—
Peters, William Y. 3,259,118.

Cunningham, Richard G.: *See*—
Sprague, Stanley R., and Cunningham. 3,259,583.

Curran, Michael G. Double grip safety clamp. 3,258,821, 7–5–66, Cl. 24—243.

Curtis, Myron C., and E. G. Straw, to Walker Mfg. Co. Sheet metal tubular exhaust gas element deformed to provide elbow. 3,259,149, 7–5–66, Cl. 138—178.

Curtis, S., and Son, Inc.: *See*—
Gorton, Robert T. 3,259,298.

Curtiss-Wright Corp.: *See*—
Bennett, Raymur B., Cushman, and Khiralla. 3,258,995.

Cushman, Maurice E.: *See*—
Bennett, Raymur B., Cushman, and Khiralla. 3,258,995.

Cyanede Plastics, Inc.: *See*—
Yates, Cyril J. 3,259,347.

Dahle, Orvar, to Allmanna Svenska Elektriska Aktiebolaget. Magneto-elastic force measuring device. 3,258,962, 7–5–66, Cl. 73—141.

Dahlgren, Harold P. Process for applying a water-soluble organic dampening fluid. 3,259,062, 7–5–66, Cl. 101—149.2.

Daimler-Benz Aktiengesellschaft: *See*—
Bensinger, Wolf-Dieter, Derndinger, Schick, and Dobler. 3,259,115.
Gassmann, Johannes. 3,259,114.

Diamond, Herbert B., to Sperry Rand Corp. Three axis free surface accelerometer. 3,258,974, 7–5–66, Cl. 73—516.

Dainippon Screen Seizo Kabushiki Kaisha (Dainippon Screen Mfg. Co., Ltd.): *See*—
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Dale Electronics, Inc.: *See*—
Person, Herman R. 3,259,781.

Dalin, David. Steam and hot water boiler. 3,259,107, 7–5–66, Cl. 122—136.

Dall, Beatrice L.: *See*—
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Dall, Edward D., deceased; B. L. Dall, administratrix. Seat track. 3,259,354, 7–5–66, Cl. 248—429.

Danforth, Renee W.: *See*—
Halberg, Robert W., Detweiler, and Danforth. 3,259,076.

Daniels, Charles J., H. S. Green, and M. C. Wardle. Friction and hydraulic brake for arresting gear means. 3,259,213, 7–5–66, Cl. 188—86.

Dann, Virgil L. Eyeglasses holder. 3,259,248, 7–5–66, Cl. 248—205.

Darley, Henry C. H., to Shell Oil Co. Air drilling shale control. 3,259,189, 7–5–66, Cl. 166—29.

Datamark, Inc.: *See*—
Wassermann, Carl I. 3,259,288.

Davin, Donald R., to Blaw-Knox Co. Reference plane for paving machines. 3,259,034, 7–5–66, Cl. 94—46.

Davis, Charles W., and W. B. Brooks, to Thiokol Chemical Corp. Hoisting grapple. 3,259,421, 7–5–66, Cl. 294—93.

Davis, Jack W., and W. O. Gaffin, to United Aircraft Corp. Direct heating contact ionization propulsion system. 3,258,909, 7–5–66, Cl. 60—35.5.

Davis, Jesse B. Method for manufacturing electrical components and the like. 3,259,678, 7–5–66, Cl. 264—132.

Davis, Orvis A., Sr.: *See*—
Biber, Albert, Davis, and Walsh. 3,259,322.

Davis, Ralph A., and D. A. Rausch, to The Dow Chemical Co. Preparation of nitryl fluoride. 3,259,460, 7–5–66, Cl. 23—203.

Davis, Russell S., to I-T-E Circuit Breaker Co. Electric switch head. 3,259,723, 7–5–66, Cl. 200—144.

Davis, Walter W.: *See*—
Madland, Rolf A., and Davis. 3,259,026.

Davison, William R.: *See*—
Rice, Ned C., Davison, and Biancardi. 3,259,176.

Day Co.: *See*—
Schneble, Frederick W., Jr., McCormack, Zeblisky, Williamson, and Polichette. 3,259,559.

De Castelet, Gaetan de C., to Regie National des Usines Renault. Gear-cutting worm hobs. 3,258,827, 7–5–66, Cl. 29—103.

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Decker, Dalton L., and R. McMurtrie, to The Dow Chemical Co. Oxidation of carbonaceous materials in the presence of a non-alkaline medium to produce coal acids. 3,259,650, 7–5–66, Cl. 260—515.

Deegan, Richard C., to Bell Aerospace Corp. Thrust measuring systems. 3,258,959, 7–5–66, Cl. 73—116.

Deering Milliken Research Corp.: *See*—
Pittman, Edgar H. 3,259,452.

Dega, Robert L., to General Motors Corp. Lip seal for rotary shaft with patterned grooves. 3,259,393, 7–5–66, Cl. 277—134.

Deger, Thomas E.: *See*—
Smith, Herbert Q., and Deger. 3,259,907.

DeHavilland Aircraft of Canada, Ltd., The: *See*—
Whittley, Donald C., and King. 3,259,340.

Deisenroth, Robert J., and C. E. Sigsbee, to Excel Corp. Window sash plastic weatherstrip. 3,258,876, 7–5–66, Cl. 49—441.

Del Monica, Peter P. Electroplating rack unit. 3,259,563, 7–5–66, Cl. 204—297.

Delta Industries, Inc.: *See*—
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Demby, Sanford J., to General Time Corp. Solid state clock. 3,258,906, 7–5–66, Cl. 58—50.

De Monterey, Francis G. A.: *See*—
Coant, Pierre M., and de Monterey. 3,259,577.

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De Nault, Harry J., to General Dynamics Corp. Ribbon electroplating method. 3,259,556, 7–5–66, Cl. 204—27.

Deniseal, Inc.: *See*—
Dennis, Stanley W. 3,258,954.

Dennis, Stanley W., to Deniseal, Inc. Container closure forming apparatus and method. 3,258,954, 7–5–66, Cl. 72—294.

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DeRuig, Jan R., to American Enka Corp. Yarn package and winding method. 3,259,337, 7–5–66, Cl. 242—178.

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Fosse, Jacques, and Desprez. 3,259,741.

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Detweiler, Abraham L.: *See*—
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Deutsche Edelstahlwerke Aktiengesellschaft: *See*—
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Deutsch, Fritz A., to Addressograph-Multigraph Corp. Drawer stop. 3,259,447, 7–5–66, Cl. 312—348.

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Graff, Roderich W. 3,259,535.

Dezzani, John. Arrangement for removing and applying solder. 3,259,293, 7–5–66, Cl. 228—20.

Diassi, Patrick A., to E. R. Squibb & Sons, Inc. 17Δ⁴-pregnene-12a-acylate-3,20-dione and process for the production thereof. 3,259,640, 7–5–66, Cl. 260—397.45.

Diatemp, Inc.: *See*—
Durst, Henry J. 3,259,722.

Dickerman, John J.: *See*—
Lehde, Henry C., and Dickerman. 3,259,225.

Dickson, Woodrow J., and F. W. Jenkins, to Petrolite Corp. Asphalt additives. 3,259,512, 7–5–66, Cl. 106—273.

Dickson, Woodrow J., and F. W. Jenkins, to Petrolite Corp. Anti-stripping agents. 3,259,513, 7–5–66, Cl. 106—273.

Dickson, Woodrow J., and F. W. Jenkins, to Petrolite Corp. Drilling fluid. 3,259,572, 7–5–66, Cl. 252—8.5.

Dickson, Woodrow J., and F. W. Jenkins, to Petrolite Corp. Lubricating compositions. 3,259,578, 7–5–66, Cl. 252—34.

Dickson, Woodrow J., and F. W. Jenkins, to Petrolite Corp. Foam inhibitor. 3,259,586, 7–5–66, Cl. 252—321.

Dickson, Woodrow J., and F. W. Jenkins, to Petrolite Corp. Demulsification. 3,259,587, 7–5–66, Cl. 252—344.

Dietz, Daniel N., to Shell Oil Co. Secondary recovery process. 3,259,186, 7–5–66, Cl. 166—11.

Dirkse, Donald J., to The Dow Chemical Co. Framed wall construction with blowout panel. 3,258,890, 7–5–66, Cl. 52—309.

Ditsch, Le Roy T.: *See*—
Jordan, Wesley A., Dunning, and Ditsch. 3,259,568.

Dixie Yarns, Inc.: *See*—
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Dobler, Helmut: *See*—
Bensinger, Wolf-Dieter, Derndinger, Schick, and Dobler. 3,259,115.

Doebl, Hans, K. Bohrmann, and W. Ruhl, to Henschel-Werke A.G. Process and apparatus for the continuous treatment of plastic materials. 3,259,374, 7–5–66, Cl. 259—10.

Doennecke, Henry C., to Unit Rig & Equipment Co. Wheel suspension mounting. 3,259,397, 7–5–66, Cl. 280—96.2.

Doersam, Charles H., Jr., to Potter Instrument Co., Inc. High-speed printer-type drum. 3,259,059, 7–5–66, Cl. 101—93.

Donaldson Co., Inc.: *See*—
Baden, Thomas A., and Lee. 3,258,960.

Donleavy, John J.: *See*—
Gilbert, Everett E., Otto, and Donleavy. 3,259,542.

Doos, Gustav W.: *See*—
Burton, Lawrence A., and Doos. 3,259,702.

Dorne and Morgolin, Inc.: *See*—
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Dorr-Oliver Inc.: *See*—
Kaljo, Gvido, Stavenger, and Elsken. 3,259,244.
Stavenger, Paul L. 3,259,246.

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Fuller, Robert A., Dorsey, and Kulig. 3,259,481.

Dortort, Isadore K., to I-T-E Circuit Breaker Co. Balancing circuit for electrically interconnected semiconductor devices. 3,259,831, 7–5–66, Cl. 321—16.

Dow Chemical Co., The: *See*—
Best, John S., and Palfey. 3,259,264.
Chisholm, Douglas S 3,259,004.
Davis, Ralph A., and Rausch. 3,259,460.
Decker, Dalton L., and McMurtrie. 3,259,650.
Dirkse, Donald J. 3,258,890.
Eichhorn, Jacob. 3,259,595.
Hennis, Henry E. 3,259,647.
Hennis, Henry E. 3,259,648.
Moyer, John R. 3,259,584.
Priesing, Charles P., and Mogelnicki. 3,259,570.
Repko, John P. 3,259,303.
Soderquist, Frederick J., Amos, and Boyce. 3,259,666.
Wiley, Ralph M., and Ray. 3,259,077.

Downer, John M., D. G. Hobbs, and D. B. Wootton, to Imperial Chemical Industries Ltd. Paper coating composition comprising pigment starch, butadiene copolymer and styrene maleic anhydride copolymer. 3,259,596, 7–5–66, Cl. 260—17.4.

Doyle, Richard H., and J. F. Williams, to International Business Machines Corp. Computer including error or abnormal condition controlled immediate program interruption. 3,259,881, 7–5–66, Cl. 340—146.1.

Dresser Industries, Inc.: *See*—
Kish, George D. 3,259,406.
Oshry, Howard I. 3,259,836.
Oshry, Howard I. 3,259,837.
Thomsen, Harry S. 3,259,838.

Drugan, Walter T., J. S. Hagen, Jr., G. J. Smith, and J. G. Trautman; said Drugan, Smith, and Trautman assors. to Bell Telephone Laboratories, Inc., and said Hagen assor. to Western Electric Co., Inc. Electronic circuit package utilizing cams for circuit connections. 3,259,807, 7–5–66, Cl. 317—101.

Dubow, Irvine L. Mechanical device for improving hearing. 3,259,205, 7–5–66, Cl. 181—23.

Duennenberger, Max, and C. Luethi, to Ciba Ltd. Furyl and thienyl hydroxyaryl-1,3,5-triazines. 3,259,627, 7–5–66, Cl. 260—248.

Dukatz, Eugene H., and E. J. Marklow, to Ford Motor Co. Retaining clip. 3,259,006, 7–5–66, Cl. 85—8.8.

Duke, James B., and E. W. Greene, to Minerals & Chemicals Philipp Corp. Method of slime beneficiation. 3,259,326, 7–5–66, Cl. 241—20.

Dunn, William R., to Honeywell Inc. Electromagnetic safety device having a non-rotatable armature. 3,259,811, 7–5–66, Cl. 317—191.

Dunning, Herbert N., and J. S. Gulenchyn, to General Mills, Inc. Method and apparatus for treatment of detergent-laden wastes. 3,259,567, 7–5–66, Cl. 210—21.

Dunning, Herbert N.: *See*—
Jordan, Wesley A., Dunning, and Ditsch. 3,259,568.

Du Pont de Nemours, E. I., and Co.: *See*—
Katz, Manfred, and Makans. 3,259,539.
Lankton, Ralph W., and Wesel. 3,259,555.
Popoff, Alexis A. 3,258,841.
Scott, Paul T. 3,259,674.
Stiles, Alvin B. 3,259 453.
Thommes, Glen A. 3,259,499.

Dupras, Louis, to The First National Bank of Waukegan. Self-locking differential. 3,258,993, 7–5–66, Cl. 74—711.

Dura Corp.: *See*—
Schutt, Lester E. 3,258,922.

Dura-Bond Bearing Co.: *See*—
Fowle, John M. 3,258,804.

Durant, Lyndon A., to United Mfg. Co. Simulated pool game. 3,259,388, 7–5–66, Cl. 273—126.

Durnwirth, Roy: *See*—
Lederhandler, Saul R., and Durnwirth. 3,259,865.

Durr, Helmut E., to Western Electric Co., Inc. Apparatus for sheathing cable cores. 3,258,950, 7–5–66, Cl. 72—176.

Durst, Henry J., to Diatemp, Inc. Compensating thermostat. 3,259,722, 7–5–66, Cl. 200—140.

Du Temple de Rougemont, M. G. Christian, and M. Stapfer; said Stapfer assor. to said du Temple de Rougemont. Assembly mounting and interlocking means for plural pushbutton switches. 3,259,699, 7–5–66, Cl. 200—5.

Du Temple de Rougemont, M. G. Christian, and M. Stapfer; said Stapfer assor. to said du Temple de Rougemount. Electrical switch with contact elements serving as external terminals and as assembly fasteners. 3,259,728, 7–5–66, Cl. 200—166.

Dworkin, Robert D.: *See*—
Milks, John E., and Dworkin. 3,259,615.

Dyke, Walter P., and F. J. Grundhauser, to Field Emission Corp. Vacuum arc X-ray tube. 3,259,773, 7–5–66, Cl. 313—57.

Dykem Co., The: *See*—
Adler, Leon, Ponath, and Kerber. 3,259,266.

Dynamics Corp. of America: *See*—
Groth, Fred A., and Meisner. 3,258,813.

Earle, Murdock M., to Surface Separator Systems, Inc. Fluid separation method. 3,259,245, 7–5–66, Cl. 210—73.

Easton, Rufus: *See*—
Powell, Russell A., and Easton. 3,259,143.

Eaton Mfg. Co.: *See*—
Boyd, Keith A. 3,259,219.
Godfrey, Ward L. 3,259,221.
Roper, Daniel W. 3,259,220.

Eastman Kodak Co: *See*—
Agett, Albert H., and Aspy. 3,258,825.
Hill, Edward H., and Caldwell. 3,259,608.
Pagel, Armin B. 3,259,043.
Painter, Edwin S., Petrey, and Jensen. 3,259,469.
Stevens, Joel B., and Yantz. 3,258,823.
Wicker, Thomas H., Jr., and Shearer. 3,259,534.
Wilkinson, Giles A., Jr. 3,259,037.

Eberhart, Ray. Combination mobile home and heating system. 3,259,318, 7–5–66, Cl. 237—31.

Eckles, William J. Combined mounter and dispenser for photo mounting corners. 3,259,270, 7–5–66, Cl. 221—1.

Eclipse Fuel Engineering Co.: *See*—
Sharp, Karl F. 3,259 357.

Edelstein, Caryle A. Apparatus for grinding contact lenses. 3,258,879, 7–5–66, Cl. 51—124.

Educational Testing Service: *See*—
Behn, William R. 3,258,857.

Egbom, Clarence W.: *See*—
Schoeld, Edmund A., and Egbom. 3,259,237.

Ehrlich, Robert, and A. R. Young, II, to Thiokol Chemical Corp. Alcohol generating device and method. 3,259,502, 7–5–66, Cl. 99—30.

Eichhorn, Jacob, to The Dow Chemical Co. Self-extinguishing urethane polymer compositions. 3,259,595, 7–5–66, Cl. 260—2.5.

Eickhoff, Henry, III. Electrical door signal. 3,259,707, 7–5–66 Cl. 200—61.67.

Eisenstadt, Benjamin, to Cumberland Packing Co. Sweetening composition. 3,259,506, 7–5–66, Cl. 99—141.

Electric Engineering Co. of California: *See*—
Proctor, Donald R., and Sweet. 3,259,841.

Electric Storage Battery Co., The: *See*—
Klinger, Guy G., Hoffmaster, Boyer, and Simpson. 3,259,127.

Electronic Associates Inc.: *See*—
Marr, George R., Jr. 3,259,734.

Electronic Specialty Co.: *See*—
Swearingen, Judson S. 3,259,162.

Electro-Organics, Inc.: *See*—
Adany, Leon. 3,259,817.

Electro-Voice, Inc.: *See*—
Tomcik, Daniel J. 3,259,683.

Elliott Brothers (London) Ltd.: *See*—
Bishop, Geoffrey S., and Howard. 3,258,914.
Wood, Francis H. 3,259,890.

Elliott, Richard M., R. E. Hobbs, Jr., W. B. Mercaldi, and R. C. Simmonds, Jr., to Kimball Systems, Inc. Sheet feeding devices. 3,259,239, 7–5–66, Cl. 209—73.

Elmi, Stello J.: *See*—
Kanbar, Maurice S., Van, and Elmi. 3,259,131.

Elmore, Claudius C., Jr.: *See*—
Elson, Donald E., and Elmore. 3,259,232.

Elsken, James C.: *See*—
Kaljo, Gvido, Stavenger, and Elsken. 3,259 244.

Elson, Donald E., and C. C. Elmore, Jr., to The Black and Decker Mfg., Co. Kit box with improved means for retaining a portable power-operated saw or other tool. 3,259,232, 7–5–66, Cl. 206—16.

Emerson Electric Co.: *See*—
Bradley, Richard D., Hoelscher, Homeier, Quinn, and Scheveling. 3,259,052.

Emhart Corp.: *See*—
Havourd, Richard S., and Winton. 3,259,007.

Emmons, Laurence B., and G. H. Tomlinson; said Tomlinson asso., to said Emmons. Sofa bed. 3,258,787, 7–5–66, Cl. 5—43.

Engelhard Hanovia, Inc.: *See*—
Schneider, Irving. 3,258,847.

Engle, Thomas H., to Cleveland Technical Center, Inc. Vortex tube manifold assembly. 3,259,145, 7–5–66, Cl. 137—608.

Englehard Industries Inc.: *See*—
Heine, Hans G., and Lienhard. 3,259,797.

Enomoto, Hajime: *See*—
Oshima, Shintaro, Enomoto, and Amano. 3,259,690.

Equipment Development Corp.: *See*—
Tilton, McLane, Jr. 3,258,838.

Erdmann Hans, to Alfred Teves Maschinen-und Armaturenfabrik Kommandit-Gesellschaft. Radial-piston machines. 3,259,074. 7–5–66. Cl. 103—174.

Ericson, Lloyd K., to Sheller Mfg. Corp. Method of molding a composite foamed plastic article utilizing airless spraying of an outer film formed from heat curable materials. 3,259,673, 7–5–66, Cl. 264—45.

Ernstberger, Alfred F.: *See*—
Wolter, Gilbert R., and Ernstberger. 3,258,803.

Espey, Harry R.: *See*—
Ball, John D., and Espey. 3,259,879.

Esser, Wilhelm C. J., to AMP Inc. Insulation piercing electrical connectors. 3,259,874, 7–5–66, Cl. 339—97.

Esso Production Research Co.: *See*—
Ball, John D., and Espey. 3,259,879.
Bryant, Harvey L., and White. 3,258,963.
Kellner, Jackson M. 3,259,193.
Mifsud, Joseph F. 3,259,878.
Miley, William D. 3,258,817.

Esso Research and Engineering Co.: *See*—
Kimberlin, Charles N., Jr. 3,259,564.
Kimberlin, Charles N., Jr. 3,259,565.
Munley, William J., Jr. 3,259,662.
Rogers, Dilworth T., and Rice. 3,259,579.

Ester, Wilhelm, and A. Sommer, to Bergwerksgesellschaft Hibernia Aktiengesellschaft. Production of terpene hydrocarbon hydroperoxides. 3,259,661, 7–5–66, Cl. 260—610.

Etani, Kenzi: *See*—
Sama, Dominick A., and Etani. 3,259,311.

Ethyl Corp.: *See*—
Grammer, George N., and Hornbaker. 3,259,610.
Hornbaker, Edwin D., and Grammer. 3,259,611.

Etronic Corp.: *See*—
Iannce, John U. 3,259,382.

Evans, John F. O., to S. Smith & Sons (England) Ltd. Electric signal generating apparatus. 3,259,800, 7–5–66, Cl. 317—5.

Evans, Trevor E. Incinerator with afterburner. 3,259,083, 7–5–66, Cl. 110—8.

Ewers, Robert S., to Bodendieck Tool Co. High voltage unshielded insulated electrical jumper. 3,259,875, 7–5–66, Cl. 339—117.

Excel Corp.: *See*—
Deisenroth, Robert J., and Sigsbee. 3,258,876.

Ex-Cell-O Corp.: *See*—
Cheney, George D. 3,259,889.

FMC Corp.: *See*—
Anderson, Gerald R., and Chamberlin. 3,259,159.
Battista, Orlando A. 3,259,537.
Battista, Orlando A., and Smith. 3,259,676.
Crathern, Charles F. H., III, and Roberts. 3,259,030.
Grotewold, Hans W. 3,259,253.

Faigh, Henry: *See*—
Hillier, Douglas R., Faigh, and Coon. 3,259,124.

Fairbanks, Henry N., and D. H. Robbins, to Itek Corp. Film gate. 3,259,451, 7–5–66, Cl. 352—225.

Falk, Walter, to Kienzle Apparate G.m.b.H. Apparatus for recording on a stack of record sheets. 3,259,906, 7–5–66, Cl. 346—24.

Farbenfabriken Bayer Aktiengesellschaft: *See*—
Broja, German, and Schabacher. 3,259,474.
Halbritter, Gustav. 3,259,553.
Krimm, Heinrich, and Schnell. 3,259,605.
Moller, Wilhelm. 3,259,459.
Muller, Gerhard, Merten, and Bunge. 3,259,626.
Ugi, Ivar, Wiegand, Muller, and Walz. 3,259,625.

Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning: *See*—
Sievers, Theodor. 3,259,561.
Weissermel, Klaus, Fischer, Kullmar, and Reiber. 3,259,590.

Farina, Mario: *See*—
Natta, Giulio, Peraldo, and Farina. 3,259,612.

Faris, Robert B., Jr., and R. A. Rightmire, to The Standard Oil Co. Fuel cell including means for converting hydrocarbons and separating hydrogen. 3,259,523, 7–5–66, Cl. 136—86.

Farquhar, Joseph W., to I-T-E Circuit Breaker Co. Terminal construction and method of manufacture thereof. 3,259,686, 7–5–66, Cl. 174—75.

Faulhaber, Tillo. Dimming rear-view mirror containing light absorbing liquid and having pump means. 3,259,017, 7–5–66, Cl. 88—77.

Faulkner, George D., to Trak Microwave Corp. Microwave oscillator with variable bimetallic frequency stabilizer. 3,259,853, 7–5–66, Cl. 331—98.

Fay, Philip S., and R. A. Rightmire, to The Standard Oil Co. Electrochemical reaction apparatus. 3,259,524, 7–5–66, Cl. 136—86.

Feasley, Charles F., and F. A. Pellicciotti, to Socony Mobil Oil Co., Inc. Method for estimating quickly the neutralization number of automatic transmission fluid. 3,259,463, 7–5–66 Cl. 23—230.

Federal-Mogul Corp.: *See*—
Peichil, Vasalle L., Christensen, and Bradfute. 3,259,392.

Fellows, Paul J.: *See*—
Beckjord, Eric S., Fellows, and Hobson. 3,259,766.

Fenton, Richard L., and S. Schwartz, to Varian Associates. Focusing and cooling apparatus for electron beam tubes. 3,259,787, 7–5–66, Cl. 315—3.5.

Fernholz, Helmut, to Werner Battenfeld. Automatic control circuit for the working cycle of a machine. 3,259,765, 7–5–66, Cl. 307—141.4.

Feth, George C., to General Electric Co. Resonant charging circuit capable of producing an output voltage which is higher than the input voltage. 3,259,829, 7–5–66, Cl. 321—15.

Field Emission Corp.: *See*—
Dyke, Walter P., and Grundhauser. 3,259,773.

Finch, Earl A. Data tabulating device. 3,259,401, 7–5–66, Cl. 281—8.

Finkbeiner, Herman L.: *See*—
Blanchard, Harry S., and Finkbeiner. 3,259,629.

Firearms International Corp.: *See*—
Boggild, Birger K., Gidoni, and Gyorik. 3,258,885.

First National Bank of Waukegan, The: *See*—
Dupras, Louis. 3,258,993.

Fischer, Edgar: *See*—
Weissermel, Klaus, Fischer, Kullmar, and Reiher. 3,259,590.

Fischer, Norman A. Tape cartridge timer. 3,258,908, 7–5–66. Cl. 58—145.

Fisher, Charles E. Loader mechanism for material-handling vehicles. 3,259,258, 7–5–66, Cl. 214—130.

Fitch, Frederick T., and J. G. Smith, to W. R. Grace & Co. Process for preparing stabilized zirconia sols. 3,259,585, 7–5–66, Cl. 252—313.
Tantlinger, Keith W., Flagan, and Chieger. 3,259,400.

Flagan, Robert G.: *See*—

Flament, Roger L. C. E. Drive mechanism for gearn drills and the like. 3,259,277, 7–5–66, Cl. 222—177.

Flaschen, Steward S., and M. A. Hall, to Motorola, Inc. Gettering in semiconductor devices. 3,259,490, 7–5–66, Cl. 75—134.

Fleming, William: *See*—
Noble, Jack D., and Fleming. 3,259,199.

Flesher, Keith A.: *See*—
Johnson, William R., and Flesher. 3,259,383.

Fletcher, Edward A.: *See*—
Allen, Harrison, Jr., Ciepluch, and Fletcher. 3,258,912.

Flexnit Co., Inc.: *See*—
Martin, Joseph R. 3,258,783.

Florida Plastics, Inc.: *See*—
Offenhauer, Glenn A. 3,258,870.

Flower, Maurice S.; and R. A. G. Gasson, to Communications Patents Ltd. Flight-training apparatus. 3,258,855, 7–5–66, Cl. 35—12.

Fog-Aire, Inc.: *See*—
Ritchie, Jess M. 3,259,117.

Folberth, Otto G., to Siemens-Schuckertwerke Aktiengesellschaft. Mix-crystal semiconductor devices. 3,259,582, 7–5–66, Cl. 252—62.3.

Foos, Raymond A.: *See*—
Maddox, Robert L., and Foos. 3,259,456.

Ford Motor Co.: *See*—
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Baer, Howard C. 3,259,376.
Boche, Heinz, Kling, and Mies. 3,259,051.
Braun, Paul E., and Pruchno. 3,259,377.
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General, Norman T. 3,258,981.
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Nilssen, Ole K. 3,259,716.
Nilssen, Ole K. 3,259,799.
Phillips, Victor N., and Smith. 3,258,986.
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Fosse, Jacques, and L. Desprez, to North American Philips Co., Inc. Device for indicating the passage of a train. 3,259,741, 7–5–66, Cl. 246—250.

Fournol, Jacques, to North American Philips Co., Inc. Low-frequency correcting circuit for wide-band amplifiers. 3,259,850, 7–5–66, Cl. 330—164.

Fowle, John M., to Dura-Bond Bearing Co. Centerless finishing machine. 3,258,804, 7–5–66, Cl. 15—88.

Fox, Daniel W., and P. Shenian, to General Electric Co. Sulfonated polyphenylene ether cation exchange resin. 3,259,592, 7–5–66, Cl. 260—2.2.

Fox, John L., to National Research Corp. High vacuum. 3,259,305, 7–5–66, Cl. 230—101.

Foxboro Co., The: *See*—
Hatch, Richard W., Jr. 3,259,314.

Francis, John H., to Technicolor Corp. of America. Endless strip-winding device. 3,259,332, 7–5–66, Cl. 242—55.19.

Franco, Walter R. "Handy pak" baby bottle. 3,258,873, 7–5–66, Cl. 46—11.

Freeman, Paul E., to Lok Trim Corp. Adjustable shelving for knock-down furniture. 3,259,079, 7–5–66, Cl. 108—59.

Freese, Gerald J., and W. W. Hamilton, Jr., to Westinghouse Electric Corp. Operating mechanism for enclosed circuit interrupters. 3,259,705, 7–5–66, Cl. 200—50.

Fremery, Maximilian I., to Shell Oil Co. Pyrroline production. 3,259,632, 7–5–66, Cl. 260—313.1.

Frese, Clarence A., and W. J. Gilmore, to American Chain & Cable Co. Boat steering device. 3,258,989, 7–5–66, Cl. 74—501.

Frey, Christian M., to United Aircraft Corp. Secondary injection thrust vector control system. 3,259,320, 7–5–66, Cl. 239—265.23.

Frey, Stuart M., to Ford Motor Co. Seat belt locater. 3,259,434, 7–5–66, Cl. 297—385.

Fridrich, Elmer G., to General Electric Co. Metal halide vapor discharge lamp with near molten tip electrodes. 3,259,777, 7–5–66, Cl. 313—184.

Fridrich, Elmer G., to General Electric Co. Starting of high temperature electrode lamps. 3,259,778, 7–5–66, Cl. 313—217.

Friebel, Jens P.: *See*—
Kessler, Leo, and Friebel. 3,259,025.

Friend, Irvin. Locking device for cabinet with two or more drawers. 3,259,444, 7–5–66, Cl. 312—221.

Frosst, Charles E., & Co.: *See*—
Wasson, Burton K., and Parker. 3,259,637.

Fruehauf Corp.: *See*—
Tantlinger, Keith W., Flagan, and Chieger. 3,259,400.
Hulverson, Adrian F., and Tozer. 3,259,364.

Fuchs, Ekkehard, to Siemens & Halske Aktiengesellschaft. Arrangement for magnetically affecting objects under investigation in electron microscopes. 3,259,742, 7–5–66. Cl. 250—49.5

Fuhrwerk, Victor C., and P. A. Luthman, to Avco Corp. Mechanical recycle interval timer. 3,259,275, 7–5–66, Cl. 222—70.

Fuller, Robert A., F. E. Dorsey, and C. W. Kulig, to Emhart Corp. Glassware annealing lehr. 3,259,481, 7–5–66, Cl. 65—350.

Furukawa Chemical Industries Co., Ltd., The: *See*—
Satake, Shozo, and Tatebayashi. 3,259,609.

GEA Luftkuhlergesellschaft Happel G.m.b.H. & Co. KG.: *See*—
Niemann, Johann C. 3,259,177.

Gaeth, Rudolf, B. Schmitt, and R. Breu, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of fireproofing sheets. 3,259,536, 7–5–66, Cl. 161—206.

Gaffin, William O.: *See*—
Davis, Jack W., and Gaffin. 3,258,909.

Gale, John, Co.: *See*—
Gale, John A. 3,259,431.

Gale, John A., to John Gale Co. Seating device. 3,259,431, 7–5–66. Cl. 297—303.

Gallon, Jeffrey, Mfg. Co.: *See*—
Stauffer, Robert E. 3,259,251.
Steinmetz, Walter C. 3,259,227.

Gallagher, Edward L.: *See*—
Wright, John W., Gallagher, and Thienes. 3,259,316.

Gallagher, Gerard J. Means for discharging concrete and the like from transport vehicles. 3,259,261, 7–5–66, Cl. 214—503.

Garamy, Frank, to Vermont American Corp. Adjustable keyhole saw. 3,259,158, 7–5–66, Cl. 145—108.

Gardiner, Kenneth W.: *See*—
Klaver, Rudolf F. and Gardiner. 3,259,733.

Gardisette G.m.b.H.: *See*—
Schmitz, Rudolf. 3,259,151.

Gardow, Ernest B.: *See*—
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Garibotti, Domenick J., to United Aircraft Corp. Electronic subassembly. 3 258 898, 7–5–66, Cl. 29—155.5.

Garin, Maurice. Sharpening machine for tool-carrying heads. 3,258,880, 7–5–66, Cl. 51—125.5.

Garlick, George F., and W. L. Bunch, to United States of America, Atomic Energy Commission. Boron-12 beta decay neutron detector. 3,259,745, 7–5–66, Cl. 250—83.1.

Garrett, William S., Jr.: *See*—
Grossman, Robert M., and Garrett. 3,259,262.

Garstang, William W., to Globe-Union Inc. Conductor having distributed capacitance. 3,259,857, 7–5–66, Cl. 333—29.

Garstang, William W., R. L. Wolff, and W. S. Parsons, to Globe-Union Inc. Capacitors employing NiO as a dielectric. 3,259,818, 7–5–66, Cl. 317—258.

Garty, John, Jr.: *See*—
Parker, Leslie R., and Garty. 3,259,250.

Garwin, Richard L., to International Business Machines Corp. Superconductive persistent current apparatus. 3,259,887, 7–5–66, Cl. 340—173.1.

Gassino, Teresio, and L. Rattin, to Olivetti, Ing. C. & C., S.P.A. Printing device for adding or like machine. 3,259,058, 7–5–66, Cl. 101—79.

Garsmann, Johannes, to Daimler-Benz Aktiengesellschaft. Rotary piston internal combustion engine construction. 3,259,114. 7–5–66, Cl. 123—8.

Gasson, Roy A. G.: *See*—
Flower, Maurice S., and Gasson. 3,258 855.

Gates, Charles F., to Mobil Oil Corp. Method of prolonging the usefulness of production wells in thermal-recovery procedures. 3,259,185, 7–5–66, Cl. 166—11.

Geering, Emil J.: *See*—
Weil, Edward D., Geering, and Smith. 3,259,653.

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Baird, Leslie L., and Gehringer. 3,259,718.

General Dynamics Corp.: *See*—
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General Electric Co.: *See*—
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Baird, Leslie L., and Gehringer. 3,259,718.
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General Electric Co. Ltd.: *See*—
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General Mills, Inc.: *See*—
Dunning, Herbert N., and Gulenchyn. 3,259,567.
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General Motors Corp.: *See*—
Carpenter, Keith H. 3,259,072.
Dega, Robert L. 3,259,393.
Gerstung, George W. 3,258,832.
Herridge, William G., Jr., and Taylor. 3,259,713.
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King, Jack B. 3,259,056.
McEwen, John C. 3,259,440.
Priebe, Edward T. 3,259,438.
Rogakos, Deno J. 3,259,069.
Sandor, Bela. 3,259,708.
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Zeigler, Philip B., and Wight. 3,258,987.

General, Norman T., to Ford Motor Co. Infinitely variable speed friction drive. 3,258,981, 7–5–66, Cl. 74—198.

General Precision Inc.: *See*—
Hoffman, Jay. 3,258,977.
Krupick, Walter J., Cimera, and O'Brien. 3,258,976.
Parrilli, Ralph E. 3,259,685.

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Gerber, Milton L. Apparatus for manufacturing a product. 3,259,104, 7–5–66, Cl. 118—8.

Germann, George J. Anti-glare device for automotive headlights. 3,259,737, 7–5–66, Cl. 240—46.57.

Gerstung, George W., to General Motors Corp. Method of making sheet metal heat exchangers. 3,258,832, 7–5–66, Cl. 29—157.3.

Gerwick, James A. Sound reflecting device. 3,259,204, 7–5–66, Cl. 181—20.

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Jakob, Fritz. 3,258,930.

Glaever, Ivar, to General Electric Co. Laminated electronic devices in which a tunneling electron-permeable film separates opposed electrodes. 3,259,759, 7–5–66, Cl. 307—88.5.

Gibson, Christian D., to The Raymond Corp. Rack and pinion load manipulator. 3,259,365, 7–5–66, Cl. 254—95.

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Gilbert, Everett E., and P. Lombardo, to Allied Chemical Corp. Pesticidal ketone adducts. 3,259,543, 7–5–66, Cl. 167—30.

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Globe-Union Inc.: *See*—
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Garstang, William W. 3,259,857.

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Godman, Warren L. Dividing device. 3,258,844, 7–5–66, Cl. 33—110.

Goeldner, Richard W., to Aqua-Chem, Inc. Flash evaporator with distillate deaerator. 3,259,552, 7–5–66, Cl. 203—3.

Goepfert, Benjamin L., and H. L. Shatto, Jr., to Shell Oil Co. Wave cancellation system for a floating drilling vessel. 3,259,371, 7–5–66, Cl. 254—173.

Goldberg, Lloyd W., to Thiokol Chemical Corp. Control system. 3,258,915, 7–5–66, Cl. 60—35.54.

Goldfinger, Arthur A., to Varian Associated. Beam tube and magnetic circuit therefor. 3,259,790, 7–5–66, Cl. 315—5.

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Goodwin, Carl L. and C. H., to Automotive Development Co. Swimming aid. 3,258,794, 7–5–66, Cl. 9—307.

Gorecki, John A., and S. F. Skala, to Western Electric Co., Inc. Signal stabilized radiation measuring and discriminating apparatus using a scintillation detector. 3,259,744, 7–5–66, Cl. 250—71.5.

Gorfin, Alex M. Speed changing device. 3,258,994, 7–5–66, Cl. 74—800.

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Graff, Roderich W., to Deutsche Tafelglas Aktiengesellschaft. Method and apparatus for treating mats of a loose fibrous or filamentary structure. 3,259,535, 7–5–66, Cl. 156—324.

Gramlich, Paul F., to McGraw-Edison Co. Ground level distribution transformer. 3,259,808, 7–5–66, Cl. 317—103.

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Griffiths, Edward G., to Camloc Fastener Corp. Drawhook toggle latch. 3,259,411, 7–5–66, Cl. 292—113.

Grimm, John E., III, to Colgate-Palmolive Co. Air modifying system for vehicles. 3,259,050, 7–5–66, Cl. 98—2.

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Grossman, Robert M., and W. S. Garrett, Jr., to McGaw Laboratories, Inc. Bail band for parenteral solution bottles. 3,259,262, 7–5–66, Cl. 215—100.

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Groth, Fred A., and P. Meisner, to Dynamics Corp. of America. Pressure forming of plastic film. 3,258,813, 7–5–66, Cl. 18—19.

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Hofmann, Ulrich. 3,258,938.

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Hager, Robert R., to The Bendix Corp. Fluid control means. 3,259,146, 7–5–66, Cl. 137—627.5.

Hagiwara, Hiroshi, A. Yamashita, and A. Matsuda, to Matsushita Electric Industrial Co., Ltd. Method of producing a metal oxide coating. 3,259,538, 7–5–66, Cl. 204—38.

Hair, Dugald L. Slide fastener. 3,259,476, 7–5–66, Cl. 29—193.5.

Halberg, Robert W., A. L. Detweiler, and R. W. Danforth, to Borg-Warner Corp. Variable capacity fuel pump. 3,259,076, 7–5–66, Cl. 103—205.

Halbritter, Gustav, to Farbenfabriken Bayer Aktiengesellschaft. Parallel distillation of liquid-organic-water mixtures. 3,259,553, 7–5–66, Cl. 203—14.

Hall, Floyd V., and T. P. Sutton, to Liggett & Myers Tobacco Co. Apparatus and process for making filter tips for cigarettes. 3,259,029, 7–5–66, Cl. 93—1.

Hall, Walter J., to Sawyers Research Development Corp. Photographic slide magazine. 3,258,867, 7–5–66, Cl. 40—79.

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Hall, Marie A.: *See*—
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Hamaker, John C., Jr., J. R. Handyside, and D. H. Yates, to Vasco Metals Corp. Ultra hard high speed steel. 3,259,-489, 7–5–66, Cl. 75—126.

Hamblin, Lualn W., to Hamilton Watch Co. Calendar timepiece. 3,258,907, 7–5–66, Cl. 58—58.

Hamilton, Joseph C., to Owens-Illinois Glass Co. Method and mechanism for handling granular materials. 3,259,325, 7–5–66, Cl. 214—18.

Hamilton Watch Co.: *See*—
Hamblin, Lualn W. 3,258,907.

Hamilton, William W., Jr.: *See*—
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Hamaker, John C., Jr., Handyside, and Yates. 3,259,489.

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Hansen, Louis I., to Archer-Daniels-Midland Co. Slow release fertilizer with a plurality of epoxy/polyester resin coatings. 3,259,482, 7–5–66, Cl. 71—64.

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Harms, John D., to American Air Filter Co., Inc. Unit filter assembly. 3,258,900, 7–5–66, Cl. 55—485.

Harper, Jack P. Multiple duty wrench. 3,258,998, 7–5–66, Cl. 81—2.

Harper, William E., to Allis-Chalmers Mfg. Co. Electric circuit breaker having a modular arrangement of interrupting assemblies. 3,259,725, 7–5–66, Cl. 200—150.

Harris, Howard E., and H. L. Herzog, to Schering Corp. Process for the preparation of p-hydroxybenzonitrile. 3,259,646, 7–5–66, Cl. 260—465.

Harrison, John W., to W. R. Grace & Co. Apparatus for making elastic film caps. 3,258,814, 7–5–66, Cl. 18—19.

Hartmann, Erik L., to Skandinavisk Emballage Aktieselskab. Moulded pulp packing and method for producing same. 3,259,294, 7–5–66, Cl. 229—2.5.

Harvey, Harmond S. Sponge mop. 3,258,809, 7–5–66, Cl. 15—321.

Harvey, Phillip D., and J. W. Unverferth, to Chevron Research Co. Reactivation of thermactivated catalyst. 3,259,-588, 7–5–66, Cl. 252—411.

Hatch, Richard W., Jr., to The Foxboro Co. Turbulence fluid logic binary counter device. 3,259,314, 7–5–66, Cl. 235—201.

Hattan, Mark, ¼ to W. P. Green. Bicycle drive. 3,259,398, 7–5–66, Cl. 280—236.

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Mettler, Hermann, and Hauri. 3,259,328.

Havourd, Richard S., and W. S. Winton, to Embart Corp. Cartridge reloading tool with improved primer insertion and extractor means. 3,259,007, 7–5–66, Cl. 86—36.

Hawkes, Richard B. and T. B., to T. W. & C. B. Sheridan Co. Book back rounding and backing. 3,258,798, 7–5–66, Cl. 11—5.

Hawkes, Thomas B.: *See*—
Hawkes, Richard B., and T. B. 3,258,798.

Hawkins, Walter L., and F. H. Winslow, to Bell Telephone Laboratories, Inc. Stabilized polymeric compositions. 3,259,603, 7–5–66, Cl. 260—41.

Hawkins, Walter L., and M. A. Worthington, to Bell Telephone Laboratories, Inc. Stabilized long-chain polymers. 3,259,604, 7–5–66, Cl. 260—45.9.

Hawthorne, Herbert J. Rotary Kelly hammer. 3,259,196, 7–5–66, Cl. 173—78.

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Heatherington, Robert J., M. Ward, and G. Wright, to Prince Edward Island Frosted Foods Ltd. Harvesting apparatus. 3,259,135, 7–5–66, Cl. 130—30.

Hedgewick, Peter, and W. A. Stanley. Method of making a core for molding reflectors. 3,258,840, 7–5–66, Cl. 29—471.1.

Hehl, Karl, to Arburg Maschinenfabrik Hehl & Sohne. Injection molding device. 3,259,356, 7–5–66, Cl. 249—161.

Heidt, William A., and N. D. Walton, to International Business Machines Corp. Impression control apparatus employing two sets of stops. 3,259,223, 7–5–66, Cl. 197—17.

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Heinicke, Kurt J., to Heinicke Instruments Co. Washing apparatus for motor vehicles. 3,259,138, 7–5–66, Cl. 134—45.

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Heller, Chester M. Lateral offset pipe expansion joint. 3,259,-405, 7–5–66, Cl. 285—226.

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Hennis, Henry E., to The Dow Chemical Co. Cyclohexylmethyl cinnamate. 3,259,648, 7–5–66, Cl. 260—476.

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Hermanson, Harry M., to Honeywell Inc. Fuel gauge circuitry for drop tanks. 3,258,967, 7–5–66, Cl. 73—305.

Hermes, Robert J., and J. W. Rodnick, to Morgan Construction Co. Stripper guides for rolling mill stands. 3,258,-953, 7–5–66, Cl. 72—250.

Hernadi, Paul, to VSI Corp. Gang nut strip. 3,259,164, 7–5–66, Cl. 151—41.76.

Hernadi, Paul, to VSI Corp. Fastener strip. 3,259,166, 7–5–66, Cl. 151—41.76.

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Tobian, Alberto J., and Hernadi. 3,259,165.

Herridge, William G., Jr., and R. G. Taylor, to General Motors Corp. Vehicle light control with shut-off time delay. 3,259,713, 7–5–66, Cl. 200—83.

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Hill, Edward H., and J. R. Caldwell, to Eastman Kodak Co. Cyclododecyl acrylamide and methacrylamide, and polymers thereof. 3,259,608, 7–5–66, Cl. 260—82.1.

Hillier, Douglas R., H. Faigh, and B. W. Coon, to Beckman Instrument, Inc. Catheter transducer for in vivo measurements. 3,259,124, 7–5–66, Cl. 128—2.1.

Hills, Bert A., to Walker Mfg. Co. Control system for pipe bending apparatus. 3,258,946, 7–5–66, Cl. 72—20.

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Hittenberger, William H., to Kliklok Corp. Blank magazines comprising agitated blank supporting rods. 3,259,384, 7–5–66, Cl. 271—62.

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Hoaglin, Steven W., to J. V. Le Laurin, Jr. Saddle. 3,258,-894, 7–5–66, Cl. 54—44.

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Elliott, Richard M., Hobbs, Mercaldi, and Simmonds. 3,259,239.

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Hogg, Walter R.: *See*—
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Coulter, Wallace H., Hogg, Moran, and Claps. 3,259,842.

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Holden, John Jr.: *See*—
Radey, Charles R., and Holden. 3,259,078.

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Holzer, Walter. Multiple push-button switch. 3,259,700, 7–5–66, Cl. 200—5.

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Walker, Joseph L., and Wohlers. 3,259,526.

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Hopkins, Horace H., Jr., R. S. Kingsley, and E. L. M. Conner, Jr., to United States of America, Atomic Energy Commission. Dissolution of plutonium. 3,259,473, 7–5–66, Cl. 23—316.

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Stacey, Maurice, Barker, Pardoe, and Hopton. 3,259,550.

Hornbaker, Edwin D.: *See*—
Grammer, George N., and Hornbaker. 3,259,610.

Hornbaker, Edwin D., and G. N. Grammer, to Ethyl Corp. Polymerization process for vinylidene chloride polymers. 3,259,611, 7–5–66, Cl. 260—86.3.

Horton, Donelson B. Fertilizer applicator blade. 3,259,087, 7–5–66, Cl. 111—7.

Hott, Ion V. K., D. M. Goldzwig, W. E. Sebster, II, and R. J. Haddix, to The Joyce-Cridland Co. Lift installation. 3,258,920, 7–5–66, Cl. 60—52.

Hotz, Gunter, to Telefunken Patentverwertungs-G.m.b.H. Circuit arrangement for modifying bit sequences in accordance with certain characteristic properties thereof. 3,259,-882, 7–5–66, Cl. 340—146.1.

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Hughes Co., Inc.: *See*—
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Hull, R. Dell. Line pick-up means for closed face spinning reel. 3,259,333, 7–5–66, Cl. 242—84.2.

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Hurst, Robert N., to Radio Corp. of America. Frequency insensitive phase measuring by averaging the imbalance of a Wheatstone bridge. 3,259,843, 7–5–66, Cl. 324—83.

Hurst, Thomas L.: *See*—
Koerner, Ernest L., Hurst, and Saunders. 3,259,455.

Husqvarna Vapenfabriks Aktiebolag: *See*—
Ojelid, Goran A. R. 3,259,830.

Hutto, Frank C., to Ford Motor Co. Piston. 3,259,028, 7–5–66, Cl. 92—228.

Hyde, Walter E., to Halliburton Co. Method and apparatus for injecting fluid. 3,259,192, 7–5–66, Cl. 166—150.

Hyde Windloss Co. division of Bath Iron Works Corp.: *See*—
Gilmore, Frederic D. 3,259,095.

I-T-E Circuit Breaker (Canada) Ltd.: *See*—
Turgeon, Joseph A. 3,259,704.

I-T-E Circuit Breaker Co.: *See*—
Davis, Russell S. 3,259,723.
Dortort, Isadore K. 3,259,831.
Farquhar, Joseph W. 3,259,086.
Jensen, Otto. 3,259,792.

Iannce, John U., to Etronic Corp. Ring-type ball grip means. 3,259,382, 7–5–66, Cl. 267—1.

Ikeda, Shingo: *See*—
Kaneko, Takeo, Toi, and Ikeda. 3,259,505.

Illinois Tool Works Inc.: *See*—
Ch'arugi, Anthony L. 3,258,796.

Imperial Camera Corp.: *See*—
Irwin, George. 3,259,868.

Imperial Chemical Industries Ltd.: *See*—
Andrew, Herbert F. 3,259,618.
Bull, Thomas H., and Kinnear. 3,259,681.
Downer, John M., Hobbs, and Wootton. 3,259,596.
Wilkinson, Donald G. 3,259,514.

Indianland Enterprises, Inc.: *See*—
Greiert, Walter A. 3,259,126.

Innis, Robert T., and G. A. Rusnak, to Westinghouse Electric Corp. Current limiting-indicating fuse having shearing forces on the strain element. 3,259,719, 7–5–66, Cl. 200—120.

Industrial Research and Development Corp.: *See*—
Bump, Edward L. 3,259,271.

Institut de Recherches de la Siderwrigie Francaise: *See*—
Rist, Andre. 3,258,856.

Instruments Corp. of America: *See*—
Barocela, Edward C. 3,259,449.
Barocela, Edward C. 3,259,450.

International Business Machines Corp.: *See*—
Doyle, Richard H., and Williams. 3,259,881.
Garwin, Richard L. 3,259,887.
Heidt, William A., and Walton. 3,259,223.
Knox, Lewis A. 3,259,895.
Vietorisz, Thomas. 3,259,022.

International Minerals & Chemical Corp.: *See*—
Snow, Robert E. 3,259,242.

International Standard Electric Corp.: *See*—
Amann, Max. 3,259,717.

International Telephone and Telegraph Corp.: *See*—
Battista, Joseph. 3,259,803.
Korda, Paul, and Rea. 3,259,698.
Parkinson, Paul K., and Hemingway. 3,259,873.

Inventions Finance Corp.: *See*—
Locquin, Marcel. 3,259,012.

Irland, Lewis F.: *See*—
Bozek, John S., and Irland. 3,259,267.

Irwin, George, to Imperial Camera Corp. Flash bulb holding means. 3,259,868, 7–5–66, Cl. 339—33.

Ishikawajima-Harima Jukogyo Kabushiki Kaisha: *See*—
Nakamura, Hajime. 3,259,488.

Iselin, Beat: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Riniker. 3,259,616.

Itek Corp.: *See*—
Berman, Elliot, and Loeb. 3,259,047.
Fairbanks, Henry N., and Robbins. 3,259,451.
Hobrough, Gilbert L. 3,259,758.
Schlein, Herbert N. 3,259,495.
Schlein, Herbert N., and Sullivan. 3,259,494.

Ito, Teiji: *See*—
Morita, Sadayoshi, Ito, Nishi, and Kikuno. 3,258,842.

Jacks, John A., Jr., to General Motors Corp. Corrosive vapor test chamber. 3,259,466, 7–5–66, Cl. 23—253.

Jackson, Arthur R., ¼ to Planomatic Ltd. Planning boards or indicators. 3,259,102, 7–5–66, Cl. 116—133.

Jackson, Fred H., to Wood Conversion Co. Tiltable furniture for rolling and caster means therefor. 3,259,432, 7–5–66, Cl. 297—354.

Jaeger, Louis F. Tool box. 3,259,230, 7–5–66, Cl. 206—16.

Jakob, Fritz, to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Process and apparatus for separating gaseous mixtures by low-temperature rectification. 3,258,-930, 7–5–66, Cl. 62—29.

James, Robert L., to The Bendix Corp. Control circuit for a low-noise silicon controlled rectifier servo drive. 3,259,825, 7–5–66, Cl. 318—341.

Jameson, James J.: *See*—
Black, Jame B., Jameson, and Snoy. 3,259,218.

Jania, Zbigniew J., to Ford Motor Co. Friction clutch with vibration damper. 3,259,222, 7–5–66, Cl. 192—68.

Jansson, Ragnar, to Arenco Aktiebolag. Device for manufacturing tobacco webs and sheets. 3,259,136, 7–5–66, Cl. 131—133.

Japhet, Richard E.: *See*—
Aronson, David, and Japhet. 3,259,317.

Jellesen, Poul. Tube closure device. 3,259,282, 7–5–66, Cl. 222—521.

Jenkins, Fred W.: *See*—
Dickson, Woodrow J., and Jenkins. 3,259,512.
Dickson, Woodrow J., and Jenkins. 3,259,513.
Dickson, Woodrow J., and Jenkins. 3,259,572.
Dickson, Woodrow J., and Jenkins. 3,259,578.
Dickson, Woodrow J., and Jenkins. 3,259,586.
Dickson, Woodrow J., and Jenkins. 3,259,587.

Jenkins, Robert H.: *See*—
Baybick, Solomon, and Jenkins. 3,259,330.

Jensen, Arthur S., and M. P. Siedband, to Westinghouse Electric Corp. Stored signal enhancement electron discharge device. 3,259,791, 7–5–66, Cl. 315—12.

Jensen, Otto, to I-T-E Circuit Breaker Co. High voltage spark gap. 3,259,792, 7–5–66, Cl. 315—36.

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Jepson, Ivar, to Sunbeam Corp. Waterproof terminal constructions and electrical heating elements including same. 3,259,732, 7–5–66, Cl. 219—436.

Jerchel, Dietrich: *See*—
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Jeske, Bernard G. Buffing wheel adapted to utilize reused cloth. 3,258,807, 7–5–66, Cl. 15—230.13.

Jessen, Phillip L., to Kaman Aircraft Corp. Power divider and attenuator. 3,259,859, 7–5–66, Cl. 333—81.

Jobson, Donald A.: *See*—
Thorn, James D., Rodwell, and Jobson. 3,259,548.

Johansson, Carl E., to Youngstown Steel Door Co. Pallet container. 3,259,309, 7–5–66, Cl. 232—43.1.

Johns-Manville Corp.: *See*—
Marshall, William C., Bell, and Coogan. 3,259,571.
Rairdon, Charles T., and Hanson. 3,259,511.

Johnson, Irving A., and S. Stasenko, to A. O. Smith Corp. Petroleum pumping system and header structure. 3,259,-280, 7–5–66, Cl. 222—333.

Johnson, Leo F., and D. Kahng, to Bell Telephone Laboratories, Inc. Light modulator using a variable spacing diffraction grating. 3,259,014, 7–5–66, Cl. 88—61.

Johnson, Robert H.: *See*—
Antonsen, Donald H., and Johnson. 3,259,667.

Johnson, Rowland E., and E. C. Wurst, Jr., to Texas Instruments Inc. Gallium arsenide body containing copper. 3,259,815, 7–5–66, Cl. 317—237.

Johnson, William R., and K. A. Flesher, to Associated Spring Corp. Slotted Belleville spring. 3,259,383, 7–5–66, Cl. 267—1.

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Resnick, Wallace. 3,258,839.

Jones, R. A., and Co., Inc.: *See*—
Jones, Wickliffe. 3,258,893.

Jones, Wallace, to Nuclear Materials and Equipment Corp. Computer apparatus. 3,259,820, 7–5–66, Cl. 318—28.

Jones, Wickliffe, to R. A. Jones and Co., Inc. Intermittent motion cartoning machine. 3,258,893, 7–5–66, Cl. 53—186.

Jordan, Charles E., to Jordon Controls, Inc. Control apparatus for valve actuator. 3,258,985, 7–5–66, Cl. 74—472.

Jordan Controls, Inc.: *See*—
Jordan, Charles E. 3,258,985.

Jordan, Paulinus, Jr., to United States Steel Corp. Spring module. 3,259,435, 7-5-66, Cl. 297—455.

Jordan, Wesley A., H. N. Dunning, and L. T. Ditsch, to General Mills, Inc. Treatment of aqueous waste solutions. 3,259,568, 7-5-66, Cl. 210—28.

Joy Mfg. Co.: *See*—
Wiebe, Donald, and Barrett. 3,258,895.

Joyce-Cridland, Co., The: *See*—
Hott, Ion V. K., Goldzwig, Sebster, and Haddix. 3,258,920.

Junck, John A., J. Kokaly, and S. K. Stahl, to Caterpillar Tractor Co. Hydraulic control circuit for self-loading scrapers. 3,258,926, 7-5-66, Cl. 60—97.

Jungermann, Eric, and R. J. Clutter, to Armour and Co. Process for preparing organic phosphinic acids and esters from olefins and products produced thereby. 3,259,671, 7-5-66, Cl. 260—961.

Kabushiki Kaisha Honda Gijutsu Kankirsho: *See*—
Honda, Soichiro. 3,259,752.

Kabushiki Kaisha Morita Seisakusho: *See*—
Beach, Daryl R. 3,259,430.

Kagan, Sholly, to Polaroid Corp. Remote-controlled flash photography system. 3,259,042, 7-5-66, Cl. 95—11.5.

Kahng, Dawon: *See*—
Johnson, Leo F., and Kahng. 3,259,014.

Kaiser Industries Corp.: *See*—
Austin, Chester R. 3,259,483.

Kalajian, Edward A. Liquid carton and straw combination. 3,259,297, 7-5-66, Cl. 229—7.

Kaljo, Gvido, P. L. Stavenger, and J. C. Elsken, to Dorr-Oliver Inc. Screen with open conduit feed. 3,259,244, 7-5-66, Cl. 209—240.

Kalnins, William V.: *See*—
Mattson, Charles A., and Kalnins. 3,259,770.

Kaman Aircraft Corp.: *See*—
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Kanbar, Maurice S., O. F. Van Brocklin, and S. J. Elmi, to A. Schrader's Son, Division of Scovill Mfg. Co. Cryogenic probes for surgical use. 3,259,131, 7-5-66, Cl. 128—303.1.

Kaneko, Takeo, B. Toi, and S. Ikeda, to Ajinomoto Kabushiki Kaisha. Seasoning foods with monosodium L-homocysteinate and product. 3,259,505, 7-5-66, Cl. 99—140.

Kaplan, Sidney J. Mattress pad. 3,258,791, 7-5-66, Cl. 5—347.

Kappeler, Heini: *See*—
Schwyzer, Robert, Iselin, Kappeler, Rittel, and Riniker. 3,259,616.

Kara, Joseph J., Jr. Boat hulls. 3,259,092, 7-5-66, Cl. 114—66.5.

Katchman, Arthur, to General Electric Co. Electrical capacitor with a plastic dielectric. 3,259,816, 7-5-66, Cl. 317—247.

Katter, Gene S. Air-activated utensil. 3,259,132, 7-5-66, Cl. 128—344.

Katz, Manfred, and M. Makansi, to E. I. du Pont de Nemours and Co. Preparation of a conformable nonwoven web. 3,259,539, 7-5-66, Cl. 162—146.

Kautz, George R.: *See*—
Burdick, Glen A., and Kautz. 3,259,038.

Kawabata, James S., to Continental Machines, Inc. Automatic band saw and method. 3,259,155, 7-5-66, Cl. 143—26.

Kearney-National Inc.: *See*—
Rueffer, Raymond L. 3,259,726.

Kearns, Robert W.: *See*—
Brown, Gordon R., Kearns, and Law. 3,259,706.

Keating, Richard T. Pie-baking facility. 3,259,120, 7-5-66, Cl. 126—21.

Keiper, Fritz: *See*—
Werner, Heinz. 3,259,433.

Kelley, Herschell W. Blade assembly for a troweling machine. 3,259,033, 7-5-66, Cl. 94—45.

Kellner, Jackson M., to Esso Production Research Co. Retractable drill collar stabilizer. 3,259,193, 7-5-66, Cl. 166—237.

Kelly, Edward J., and A. M. Cohodas, to Air Products and Chemicals, Inc. Method and apparatus for cooling a compartment. 3,258,931, 7-5-66, Cl. 62—64.

Kelsey-Hayes Co.: *See*—
Malthaner, Sylvester A. 3,259,437.
Stelzer, William. 3,258,924.

Kendt, Norman L., to General Electric Co. Dishwasher control means. 3,259,764, 7-5-66, Cl. 307—141.

Kennecott Copper Corp.: *See*—
Pick, Hans H., and Bingham. 3,259,743.

Kennedy, Daniel M.: *See*—
Wilson, Armin G., Weintraub, and Kennedy. 3,259,624.

Kentucky Research Foundation, The: *See*—
Carnhart, Charles E., and Chaney. 3,259,500.

Kerber, Karl K.: *See*—
Adler, Leon, Ponath, and Kerber. 3,259,206.

Kern, Joseph F., to Puregas Equipment Corp. Refrigeration air dryer. 3,258,932, 7-5-66, Cl. 62—93.

Kerr, William J., to Chicago Lock Co. Assembly jig for facilitating lock tumbler change-over operations. 3,258,944, 7-5-66, Cl. 70—372.

Kerr, William J., to Chicago Lock Co. Tumbler pin assembly jig and coding device therefor. 3,258,945, 7-5-66, Cl. 70—372.

Kessery, Peter P. Airplanes. 3,259,342, 7-5-66, Cl. 244—45.

Kessler, Leland L.: *See*—
Osipchak, Edward A., and Kessler. 3,259,805.

Kessler, Leo, and J. P. Friebel. Rotary impact tool. 3,259,025, 7-5-66, Cl. 91—1.

Ketley, Arthur D., to W. R. Grace & Co. Process for the polymerization of spiro compounds. 3,259,665, 7-5-66, Cl. 260—666.

Khiralla, Tofa W.: *See*—
Bennett, Raymur B., Cushman, and Khiralla. 3,258,995.

Kibble, John D., and R. G. Penn, to Coal Industry (Patents) Ltd. Mine roof support remote-control systems. 3,259,024, 7-5-66, Cl. 91—1.

Kiekhaefer Corp.: *See*—
Kiekhaefer, Elmer C. 3,259,099.
Kiekhaefer, Elmer C. 3,259,100.

Kiekhaefer, Elmer C., to Kiekhaefer Corp. Aligned inboard engine suspension for inboard-outboard drives. 3,259,099, 7-5-66, Cl. 115—34.

Kiekhaefer, Elmer C., to Kiekhaefer Corp. Dual drive for outboard propulsion unit. 3,259,100, 7-5-66, Cl. 115—34.

Kienzle Apparate G.m.b.H.: *See*—
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Kikuno, Tsuguro: *See*—
Morita, Sadayoshi, Ito, Nishi, and Kikuno. 3,258,842.

Kimball Systems, Inc.: *See*—
Elliott, Richard M., Hobbs, Mercaldi, and Simmonds. 3,259,239.

Kimberlin, Charles N., Jr., to Esso Research and Engineering Co. Hydrocracking conversion catalyst comprising a hydrogenation component deposited on a crystalline synthetic mordenite zeolite and its use in hydrocracking. 3,259,564, 7-5-66, Cl. 208—111.

Kimberlin, Charles N., Jr., to Esso Research and Engineering Co. Fluidized bed coking process. 3,259,565, 7-5-66, Cl. 208—127.

King, Ian A.: *See*—
Whittley, Donald C., and King. 3,259,340.

King, Jack B., to General Motors Corp. Automatic oven heat control by weight and type of roast. 3,259,056, 7-5-66, Cl. 99—325.

Kingsley, Richard S.: *See*—
Hopkins, Horace H., Jr., Kingsley, and Conner. 3,259,473.

Kinnear, Arthur M. G.: *See*—
Bull, Thomas H., and Kinnear. 3,259,681.

Kinnicutt, Roger, Jr., and D. Sieurin, to Morgan Construction Co. Rod switching apparatus. 3,258,951, 7-5-66, Cl. 72—203.

Kish, George D., to Dresser Industries, Inc. Pipe coupling having gasket with sectional end. 3,259,406, 7-5-66, Cl. 285—341.

Kivela, Stanley E. Primer attachment for intake manifold. 3,259,119, 7-5-66, Cl. 123—187.5.

Klasson, George A., and J. W. Mills, to Air Products and Chemical, Inc. Regulator and dispensing system. 3,259,274, 7-5-66, Cl. 222—48.

Klaus, Frederick C., and J. C. Medley, to Caterpillar Tractor Co. Brake cooling system. 3,259,216, 7-5-66, Cl. 188—264.

Klaver, Rudolf F., and K. W. Gardiner, to Chevron Research Co. Automatic integrator for chromatograph records. 3,259,733, 7-5-66, Cl. 235—61.6.

Klein, Anne. Rain cape. 3,258,781, 7-5-66, Cl. 2—88.

Klein, Hans-Christof, to Alfred Teves KG. Aerodynamic valves and apparatus incorporating same. 3,258,919, 7-5-66, Cl. 60—39.77.

Klemm, Richard W. Self-unloading hook. 3,259,420, 7-5-66, Cl. 294—83.

Kliklok Corp.: *See*—
Hittenberger, William H. 3,259,384.

Kling, Hans: *See*—
Boche Heinz, Kling, and Mies. 3,259,051.

Klinger, Guy G., G. R. Hoffmaster, C. J. Boyer, and J. N. Simpson, to The Electric Storage Battery Co. Lens clamping assembly for gas masks. 3,259,127, 7-5-66, Cl. 128—141.

Kloth, Erwin: *See*—
Kootz, Theodor, Kloth, and Wagner. 3,259,485.

Kluge, Hazel E.: *See*—
Petersen, James M., Kluge, and Reed. 3,259,580.

Kluge, Herman D.: *See*—
Petersen, James M., Kluge, and Reed. 3,259,580.

Klüver, Johan W., to Bell Telephone Laboratories, Inc. Electron gun for reducing trochoidal motion of electrons. 3,259,789, 7-5-66, Cl. 315—3.5.

Knaver, Luis G. Propulsion device. 3,259,098, 7-5-66, Cl. 115—23.

Knox, Lewis A., to International Business Machines Corp. Analog-to-digital converter. 3,259,895, 7-5-66, Cl. 340—347.

Knudsen, Knud J., to Lewis Engineering Co. Electric temperature control. 3,258,970, 7-5-66, Cl. 73—362.

Kober, Ehrenfried H., and R. F. W. Ratz, to Olin Mathieson Chemical Corp. Process for preparing 2-(secondary amino)-halogenopyrimidines. 3,259,623, 7-5-66, Cl. 260—247.5.

Koch, Paul H., to The Babcock & Wilcox Co. Start-up system for forced flow vapor generator. 3,259,111, 7-5-66, Cl. 122—406.

Koehrer, Henry L., to McQuay-Norris Mfg. Co. Gas burner. 3,259,170, 7-5-66, Cl. 158—118.

Koenig, Alexander: *See*—
Voss, Ernst, and Koenig. 3,259,522.

Koerner, Ernest L., T. L. Hurst, and E. Saunders, to Monsanto Co. Process for recovery of V-values from ferrophosphorus. 3,259,455, 7-5-66, Cl. 23—15.

Koerner von Gustorf, Ernst: *See*—
Schenck, Günther O., and Koerner von Gustorf. 3,259,642.

Kokaly, Joseph: *See*—
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Kokusai Denshin Denwa Kabushiki Kaisha: *See*—
Oshima, Shintaro, Enomoto, and Amano. 3,259,690.

Konrad, Otto, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Plate-type heat exchanger utilizing movable plate. 3,259,183, 7-5-66, Cl. 165—166.

Kootz, Theodor, E. Kloth, and W. Wagner, to Stora Kopparbergs Bergslags Aktiebolag. Process for imparting an intermixing motion to a liquid mass of iron and slag. 3,259,485, 7-5-66, Cl. 75—60.

Kootz, Theodor, H. Maas, and E. A. Bengtsson, to Stora Kopparbergs Bergslags Aktiebolag. Method of refining pig iron. 3,259,486, 7-5-66, Cl. 75—60.

Koppers Co., Inc.: *See*—
Powell, Russell A., and Easton. 3,259,143.
Protzek, William L., and Gleason. 3,259,601.
Reinfeld, Kurt, and Rokop. 3,258,815.
Wright, Harold A. 3,259,594.
Wright, Harold A. 3,259,595.

Korad Corp.: *See*—
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Korda, Paul, and S. P. Rea, to International Telephone and Telegraph Corp. Solid state intercommunication system. 3,259,698, 7-5-66, Cl. 179—41.

Korte, Friedrich W. A. G. K.: *See*—
Cherdron, Harald H. O., Ohse, and Korte. 3,259,607.

Kosonocky, Walter F.: *See*—
Cornely, Roy H., and Kosonocky. 3,259,888.

Koster, Roland, to Studiengesellschaft Kohle m.b.H. Process for the production of boron alkyls containing methyl groups. 3,259,659, 7-5-66, Cl. 260—606.5.

Koyder, Walter J.: *See*—
Clarke, Frank W., and Koyder. 3,259,290.

Kranc, Stanley J., R. H. Miller, and R. Tegg, Jr., to Caterpillar Tractor Co. Automatic hydraulic engine timing device. 3,258,937, 7-5-66, Cl. 64—25.

Kraus, Edmund J.: *See*—
Kraus, Robert A. and E. J. 3,259,175.

Kraus, Robert A. and E. J. Heating and cooling system for molds. 3,259,175, 7-5-66, Cl. 165—12.

Krause, George D., to American Air Filter Co., Inc. Air filter construction. 3,259,329, 7-5-66, Cl. 242—55.1.

Krauthamer, Martin, to Universal Brass Turning Co., Inc. Hypodermic syringe. 3,259,130, 7-5-66, Cl. 128—218.

Krawitz, Max, to Sylvania Electric Products, Inc. Electroluminescent-photoconductive triggering device. 3,259,794, 7-5-66, Cl. 315—151.

Krengel, Theodore H., and E. Wilk, to Allied Tube & Conduit Corp. Galvanized steel tubing. 3,259,148, 7-5-66, Cl. 138—145.

Krimm, Heinrich, and H. Schnell, to Farbenfabriken Bayer Aktiengesellschaft. Copolymerizates of P-isopropenylphenyl esters. 3,259,605, 7-5-66, Cl. 260—47.

Krisovitch, William M. Drilling device for lathe tailstock. 3,258,997, 7-5-66, Cl. 77—60.

Kromer, Wallace R. Method of and apparatus for carbonating, cooling, storing, distributing and dispensing beverages. 3,259,273, 7-5-66, Cl. 222—1.

Kronprinz Aktiengesellschaft: *See*—
Schuttler, Artur. 3,258,833.

Krupick, Walter J., R. F. Cimera, and W. F. O'Brien, Jr., to General Precision Inc. Azimuth alignment sensor. 3,258,976, 7-5-66, Cl. 74—5.6.

Kuhnle, Harold B. Baptismal apparatus. 3,258,785, 7-5-66, Cl. 4—185.

Kulig, Constantine W.: *See*—
Fuller, Robert A., Dorsey, and Kulig. 3,259,481.

Kullmar, Klaus: *See*—
Weissermel, Klaus, Fischer, Kullmar, and Reiher. 3,259,590.

Kumagai, Takashi. Camera apparatus having a temporary memory mechanism. 3,259,040, 7-5-66, Cl. 95—11.

Kyle, James C., to Physical Sciences Corp. Sealed multicontact connector. 3,259,872, 7-5-66, Cl. 339—94.

Laboratory for Electronics, Inc.: *See*—
Tober, Hendrik. 3,259,898.

Labos, Carlos B. Container assembly for aging whiskey. 3,259,055, 7-5-66, Cl. 99—277.1.

Laboratory for Electronics, Inc.: *See*—
Zessoules, Nicholas A. 3,258,964.
Vilcans, Janis. 3,259,846.

Lacy, John E., and F. F. Martin, to Shell Oil Co. Well drilling apparatus. 3,259,197, 7-5-66, Cl. 175—5.

La Fleur Corp., The: *See*—
La Fleur, James K. 3,258,929.

La Fleur, James K., to The La Fleur Corp. Liquefaction and separation of air components. 3,258,929, 7-5-66, Cl. 62—22.

Laine, Bernard M.: *See*—
Vernet, Charles, and Laine. 3,259,549.

Lambert, Inc.: *See*—
Wilgus, Barton M. 3,258,806.

Lambirt Engineering Co.: *See*—
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Lammers, C. Jay, deceased, by L. M. Lammers, administratrix. Isotope storage device. 3,259,748, 7-5-66, Cl. 250—106.

Lammers, Lola M.: *See*—
Lammers, C. Jay. 3,259,748.

Lamont, James F., and T. P. Gormley; said Gormley assor. to said Lamont. Golf shoe accessory. 3,258,859, 7-5-66, Cl. 36—2.5.

Lampe, Friedrich W., to Lapeer Mfg. Co. Toggle device. 3,259,001, 7-5-66, Cl. 81—351.

Landwehr, Francis J.: *See*—
Pinkerton, Carl W., and Landwehr. 3,258,956.

Lankton, Ralph W., and J. R. Wessel, to E. I. du Pont de Nemours and Co. Stripping monomers from solutions of polymers. 3,259,555, 7-5-66, Cl. 203—63.

Lapeer Mfg. Co.: *See*—
Lampe, Friedrich W. 3,259,001.

Laroche, Andre. Collapsible spring stand. 3,259,080, 7-5-66, Cl. 108—131.

Larsen, Elmer J.: *See*—
Whitley, Ernest M., Boyd, and Larsen. 3,259,448.

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Lasch, Cecil A., Sr. Lawn sprinkler head wrench. 3,259,000, 7-5-66, Cl. 81—90.

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Mostoller, George, to Elwin G. Smith Co., Inc. Wall assembly including explosion bolts. 3,258,887, 7–5–66, Cl. 52—98.

Motorola, Inc.: *See*—
Byles, Theodore A. 3,259,691.
Flaschen, Steward S., and Hall. 3,259,490.
Narud, Jan A., and Seelbach. 3,259,761.

Moyer, John R., to The Dow Chemical Co. Bleaching composition. 3 259 584, 7–5–66, Cl. 252—186.

Mueller, Howard E., R. A. Nickola, and G. T. Spare, to United States Steel Corp. High-strength wire rope. 3,259,487, 7–5–66, Cl. 75—123.

Muller, Erwin: *See*—
Ogi, Ivar, Wiegand, Muller, and Waltz. 3,259,625.

Muller, Gerhard, R. Merten, and W. Bunge, to Farbenfabriken Bayer Aktiengesellschaft. Isocyanate process. 3,259,626, 7–5–66, Cl. 260—248.

Muller, Paul, to W. C. Heraeus G.m.b.H. Determination of impurities in pure gases, preferably hydrogen. 3,258,896, 7–5–66, Cl. 55—16.

Munday, William G., and L. J. Huebner, to Brown Lenox & Co. Ltd. Quick release tow hook. 3,259,418, 7–5–66, Cl. 294—83.

Munley, William J., Jr., to Esso Research and Engineering Co. Purification of trimethylolpropane. 3,259,662, 7–5–66, Cl. 260—635.

Murakami, Ryuichi, to Nippon Electric Co., Ltd. Malfunction monitoring of time-division multiplex PCM equipment, 3,259,693, 7–5–66, Cl. 179—15.

Murphy Chemical Co. Ltd., The: *See*—
Planka, Max, and Polton. 3,259,540.

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Norden, Alexander R. 3,259,877.

Murta, Hans-Josef, and E. Jensko, to Brown, Boveri & Cie, Aktiengesellschaft. Method and apparatus for periodically separating chips formed during a machining operation. 3,259,729, 7–5–66, Cl. 219—68.

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Narud, Jan A., and W. C. Seelbach, to Motorola, Inc. Integrated circuit logic. 3,259,761, 7–5–66, Cl. 307—88.5.

Nash, Lawrence H. Unsymmetrical salts of alkylene bis dithiocarbamic acids and process of making the same. 3,259,643, 7–5–66, Cl. 260—429.

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Bedetti, Bruno. 3,259,772.
Fox, John L. 3,259,305.

National Research Development Corp.: *See*—
Brandes, Eric A., and Whittaker. 3,259,560.
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National Smelting Co. Ltd., The: *See*—
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National Steel Corp.: *See*—
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Natta, Giulio, M. Peraldo, and M. Farina, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Polymers having a highly regular structure, obtained from esters containing an inner double bond and process for preparing the same. 3,259,612, 7–5–66, Cl. 260—89.3.

Natta, Giulio, G. Mazzanti, and P. Longi, to Montecatini Societa Generale per l'Industria Montecatini e Chimica. Process for polymerizing unsaturated hydrocarbons with catalysts based on beryllium alkyls. 3,259,613, 7–5–66, Cl. 260—93.7.

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Neff, George J., Jr., to Avco Corp. Lock-type selector switch. 3,259,701, 7–5–66, Cl. 200—11.
Nellis, Charles N., and G. Mercuriali, to Cherry-Burrell Corp. Aseptic pump. 3,259,071, 7–5–66, Cl. 103—87.
Neudecker, Karl, and F. Winkler, to Agfa Aktiengesellschaft. Structure for opening and closing devices such as cameras and the like. 3,259,410, 7–5–66, Cl. 292—67.
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Neville, James J., H. F. Miller, and T. J. Rhodes, to United States Rubber Co. Process of and apparatus for producing seamless annular bodies. 3,259,682, 7–5–66, Cl. 264—312.
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Niemann, Johann C., to GEA Luftkuhlergesellschaft Happel G.m.b.H. & Co. KG. Liquid cooler and control theretore. 3,259,177, 7–5–66, Cl. 165—34.
Nienhuis, Kornelis, and K. van Duuren, to North American Philips Co., Inc. Geiger-Muller counter tube. 3,259,775, 7–5–66, Cl. 313—93.
Nilssen, Ole K., to The Ford Motor Co. Magnetically operated switch. 3,259,716, 7–5–66, Cl. 200—87.
Nilssen, Ole K., to The Ford Motor Co. Ignition system utilizing a rotatable commutator in combination with a saturable capacitor. 3,259,799, 7–5–66, Cl. 315—214.
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Murakami, Ryuichi. 3,259,695.
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Nippon Kogaku K.K.: *See*—
Okajima, Hirokazu. 3,259,039.
Okajima, Hirokazu. 3,259,041.
Nishimura, Saburo, to Dainippon Screen Seizo Kabushiki Kaisha (Dainippon Screen Mfg. Co., Ltd.). Vacuum suction-type film holder. 3,259,046, 7–5–66, Cl. 95—66.
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Nishioka, Kunio, S. Nishimura, S. Hamahata, and S. Sakamoto, to Sumitomo Metal Industries Ltd. Method and apparatus for damping the vibration of poles. 3,259,212, 7–5–66, Cl. 188—1.
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Ritter, Heinrich, Beyerle, and Nitz. 3,259,635.
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Noble, Jack D., and W. Fleming; said Fleming assor. to said Noble. Electronic batch control system. 3,259,199, 7–5–66, Cl. 177—70.
Nojiri, Jack M. Coffee can lid and handle. 3,259,279, 7–5–66, Cl. 222—183.
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Norden, Alexander R., to Murray Mfg. Corp. Combined electrical connector and clip. 3,259,877, 7–5–66, Cl. 339—258.
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Hjalsten, John A., and Nordin. 3,259,403.
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Norris, Carl L.: *See*—
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Martignoni, Anelo P., Hall, McQuilkin, Boetto, Maxwell, Meadows, and Patterson. 3,259,345.
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Casimir, Hendrik B. G. 3,259,844.
Fosse, Jacques, and Desprez. 3,259,741.
Fournol, Jacques. 3,259,850.
Nienhuis, Kornelis, and Van Duuren. 3,259,775.
Northrop Corp.: *See*—
Huff, Joseph F., and Macdonald. 3,259,002.
Nosser, Gordon M. Drawing instrument. 3,258,843, 7–5–66, Cl. 33—77.
Noville, George O., and S. L. Sola, to United States of America, Army. Automatic traversing machine gun unit. 3,259,018, 7–5–66, Cl. 89—41.
Noznick, Peter P., and R. H. Bundus. Process of lowering the viscosity of garlic puree and product obtained thereby. 3,259,504, 7–5–66. Cl. 99—106.
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Aguirre, Joaquin, Noznick, and Bundus. 3,259,508.
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Oatess, Cecil J., and J. R. Taylor, Jr., to Anaconda Wire and Cable Co. Deep oil well electric cable. 3,259,687, 7–5–66, Cl. 174—103.
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Odell, Norman R., to Texaco, Inc. Lubricating greases containing finely divided alkaline earth metal sulfates. 3,259,573, 7–5–66, Cl. 252—18.
Odson, Clifford S., to Therm-O-Disc, Inc. Thermostatic control with manual reset. 3,259,720, 7–5–66, Cl. 200—138.
Offenhauer, Glenn A., to Florido Plastics, Inc. Changeable letter display apparatus. 3,258,870, 7–5–66, Cl. 40—143.
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Ojelid, Goran A. R., to Husqvarna Vapenfabriks Aktiebolag. Plural phase converter voltage multiplication. 3,259,830, 7–5–66, Cl. 321—15.
Okada, Akira, to Agency of Industrial Science and Technology. Copolyamides from caprolactam, piperazine and a dicarboxylic acid. 3,259,606, 7–5–66, Cl. 260—78.
Okajima, Hirokazu, to Nippon Kogaku K.K. Ophthalmoscopic camera. 3,259,039, 7–5–66, Cl. 95—1.1.
Okajima, Hirokazu, to Nippon Kogaku K.K. Optical system for ophthalmoscopic camera free from influx of detrimental light rays. 3,259,041, 7–5–66, Cl. 95—11.
Olevsky, Walter. Signalling device. 3,259,101, 7–5–66, Cl. 116—114.
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Kober, Ehrenfried H., and Ratz. 3,259,623.
Pryor, Michael J. 3,259,491.
Olivetti, Ing. C. & C., S.P.A.: *See*—
Gassino, Teresio, and Rattin. 3,259,058.
Olsen, Robert A., to Conco Engineering Works, Inc. Loading-balancer assembly. 3,259,351, 7–5–66, Cl. 248—325.
Olsen, Robert A., to Conco Engineering Works, Inc. Loading-balancer assembly. 3,259,352, 7–5–66, Cl. 248—325.
Olson, Marvin E. Boot and ski carrier. 3,259,284, 7–5–66, Cl. 224—5.
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Onasch, Paul L., to Arkell Safety Bag Co. Plastic-lined bags and method of making. 3,259,301, 7–5–66, Cl. 229—55.
O'Neil, William M., to Teletype Corp. Non-sticking armature structure for electromagnet. 3,259,812, 7–5–66, Cl. 317—194.
Oppedahl, Charles A.: *See*—
Meier, Don E., and Oppedahl. 3,259,756.
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Craig, Sam N., and Seasholtz. 3,259,108.
Orui, Ryuzo, to Nippon Electric Co., Ltd. Magnetic focussing device for an electron tube. 3,259,788, 7–5–66, Cl. 315—3.5.
Osborne, William T., to Carrier Corp. Refrigeration. 3,258,933, 7–5–66, Cl. 62—98.
Oshima, Shintaro, H. Enomoto, and K. Amano, to Kokusai Denshin Denwa Kabushiki Kaisha. Coding system for television signals. 3,259,690, 7–5–66, Cl. 178—6.
Oshry, Howard I., to Dresser Industries, Inc. Induction logging apparatus having plural receiver coils each forming a mutually balanced system with the transmitter coils. 3,259,836, 7–5–66, Cl. 324—6.
Oshry, Howard I., to Dresser Industries, Inc. Induction logging apparatus utilizing plural frequencies for investigating different zones surrounding a borehole. 3,259,837, 7–5–66, Cl. 324—6.
Osipchak, Edward A., and L. L. Kessler, to Westinghouse Electric Corp. Metallic based printed circuits. 3,259,805, 7–5–66, Cl. 317—100.
Oster, John, Mfg. Co.: *See*—
Clark, Kenneth R. 3,258,878.
Oswald, Raymond C., A. L. Renkey, and D. R. Pflaumer, ½ to Sharon Steel Corp., and ½ to Harbison-Walker Refractories Co. Method of forming and maintaining refractory bottoms of open hearth furnaces for the manufacture of steel. 3,259,672, 7–5–66, Cl. 264—30.
Otto, Ferdinand P., to Socony Mobil Oil Co., Inc. Method for preparing complex metal salts of sulfonic acids. 3,259,576, 7–5–66, Cl. 252—33.
Otto, Julian A.: *See*—
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Smith, Roy E. 3,259,334.
Tiede, Ralph L. 3,259,479.
Owens, Nevyl G., to Schlumberger Well Surveying Corp. Shaped charge devices. 3,259,064, 7–5–66, Cl. 102—24.
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Hamilton, Joseph C. 3,259,325.
Owens-Illinois Inc.: *See*—
Cassaday, Howard L., House, and Ryley. 3,258,972.
Ownbey, Lloyd C. Multi-letter unit sign and molding apparatus therefor. 3,258,869, 7–5–66, Cl. 40—140.
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Bartlett, William F., Ozone, and Scott. 3,259,696.
Padgett, Edward D., to United States of America, Army. Stress-strain gauge. 3,258,971, 7–5–66, Cl. 73—398.
Pagel, Armin B., to Eastman Kodak Co. Flash bulb indicator for photographic camera. 3,259,043, 7–5–66, Cl. 95—11.5.
Paget, Blanche. Safety footwear for bath or shower. 3,258,863, 7–5–66, Cl. 36—62.
Painter, Edwin S., R. C. Petrey, and J. H. Jensen, Jr., to Eastman Kodak Co. Apparatus for manufacturing ketenes. 3,259,469, 7–5–66, Cl. 23—277.
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Best, John S., and Palfey. 3,259,264.
Pan, John W., to Bell Telephone Laboratories, Inc. Analog-to-digital conversion system. 3,259,896, 7–5–66, Cl. 340—347.
Pangborn Corp., The: *See*—
Physioc, Willis J., III. 3,259,519.

Papell, Solomon S., to United States of America, National Aeronautics and Space Administration. Fluid dispensing apparatus and method. 3,258,918, 7–5–66, Cl. 60—39.46.
Papenguth, Richard P., to Parker-Hannifin Corp. Sealed joint and gasket therefor. 3,259,404, 7–5–66, Cl. 285—212.
Paper Converting Machine Co. Inc.: *See*—
Sanders, Charles J. 3,259,323.
Paquette, Leo A., to The Upjohn Co. 2-azabicyclo [3.2.0] heptan-3-ones. 3,259,634, 7–5–66, Cl. 260—326.5.
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Parker, John M.: *See*—
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Parker, Leslie R., and J. Garty, Jr., to Anderston Clyde Engineers Ltd. Climbing gantry crane. 3,259,250, 7–5–66, Cl. 212—13.
Parker, William D., ½ to R. M. Ramsey. Holiday detector. 3,259,893, 7–5–66, Cl. 340—248.
Parker-Hannifin Corp.: *See*—
Madland, Rolf A., and Davis. 3,259,026.
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Parkinson, Paul K., and C. H. Hemingway, to International Telephone and Telegraph Corp. Terminals for flat electrical conductors. 3,259,873, 7–5–66, Cl. 339—97.
Parrilli, Ralph E., to General Precision, Inc. Electrical conductor connections. 3,259,685, 7–5–66, Cl. 174—68.5.
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Smart, Desmond. 3,258,957.
Parsons, Richard L., to Chevron Research Co. Method of improving fluid flow in wells. 3,259,190, 7–5–66, Cl. 166—42.
Parsons, William S.: *See*—
Garstang, William W., Wolff, and Parsons. 3,259,818.
Parstorfer, John, to Burroughs Corp. Electrical module with means for dissipating heat. 3,259,804, 7–5–66, Cl. 317—100.
Paul, Bruce M., to Worthington Corp. Circuit for automatically restarting a compressor motor after a power failure. 3,259,826, 7–5–66, Cl. 318—454.
Paulson, John R., to Paulson Machine Co. Ltd. Tear strip applying machine. 3,259,031, 7–5–66, Cl. 93—61.
Paulson Machine Co. Ltd.: *See*—
Paulson, John R. 3,259,031.
Payne, Edward D., Jr.: *See*—
Ascoli, Ferdinand A., and Payne. 3,258,854.
Pearce, Edward S., ⅛ to W. S. Ward, ⅛ to M. W. Chapman, and ¼ to R. E. Ward, Jr. Sawmill carriage drive. 3,259,156, 7–5–66, Cl. 143—52.
Pecker, Calman, to Congoleum-Nairn Inc. Method for reducing gloss of printed surface coverings, and product thereof. 3,259,515, 7–5–66, Cl. 117—15.
Pelckil, Vasalle L., D. A. Christensen, and J. H. Bradfute, to Federal-Mogul Corp. Seal between two relatively rotating parts for sealing fluid under pressure. 3,259,392, 7–5–66, Cl. 277—59.
Pekosh, Raymond J., to The Rauland Corp. Sensing device for color tube apparatus. 3,259,224, 7–5–66, Cl. 198—19.
Pellicciotti, Fernando A.: *See*—
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Penn Controls, Inc.: *See*—
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Penn, Ronald G.: *See*—
Kibble, John D., and Penn. 3,259,024.
Penna, Anthony G., to Brunswick Corp. Golf bag. 3,259,160, 7–5–66, Cl. 150—1.5.
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Peraldo, Mario: *See*—
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Peras, Lucien, to Regie Nationale des Usines Renault. Construction of panels, notably of doors for automotive vehicles. 3,258,877, 7–5–66, Cl. 49—502.
Peratis, Michael P., to Ampex Corp. Article handling apparatus. 3,259,226, 7–5–66, Cl. 198—33.
Peret, James L.: *See*—
Matkovich, Vlado I., Colton, and Peret. 3,259,509.
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Sachs, Harold L. 3,259,751.
Permag Corp.: *See*—
Leblang, Stanley H. 3,259,530.
Perry, Kenneth E.: *See*—
Morey, Kenneth H., and Perry. 3,259,760.
Person, Herman R., to Dale Electronics, Inc. Method of and means for distributing the electrical field around the bushing of lightning arrestors. 3,259,781, 7–5–66, Cl. 313—243.
Peters, William Y., to J. N. Cunningham. Engine ignition system. 3,259,118, 7–5–66, Cl. 123—148.
Petersen, Alfred W., and W. L. Staker, to Stauffer Chemical Co. Process for preparing wet process phosphoric acid stabilized against iron and aluminum precipitation. 3,259,458, 7–5–66, Cl. 23—165.
Petersen, James M., H. D. Kluge, deceased (by H. E. Kluge, administratrix, and D. D. Reed), to Texaco, Inc. Lubricating oil compositions of mono-(bis)hydrocarbonthiophosphonoxyhydroxyalkyl hydrocarbylamines D# 59,443–4D1. 3,259,580, 7–5–66, Cl. 252—46.7.
Peterson, Ben B.: *See*—
Buell, Roy D., Jr., and Peterson. 3,259,103.
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Peterson, William H., to Pullman Inc. Adjustable cushioning arrangement for railroad cars. 3,259,252, 7–5–66, Cl. 213—43.
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Dickson, Woodrow J., and Jenkins. 3,259,512.
Dickson, Woodrow J., and Jenkins. 3,259,513.
Dickson, Woodrow J., and Jenkins. 3,259,572.
Dickson, Woodrow J., and Jenkins. 3,259,578.
Dickson, Woodrow J., and Jenkins. 3,259,586.
Dickson, Woodrow J., and Jenkins. 3,259,587.
Pflaumer, Dale R.: *See*—
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Pfundt, George M. Hydraulically operated tamper. 3,259,035, 7–5–66, Cl. 94—49.
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Philipson, Philip G., to Aktiebolaget Svenska Metallverken. Method and apparatus for wrapping insulating material around an advancing pipe. 3,259,533, 7–5–66, Cl. 156—201.
Phillips, Charles E. Blending and mixing apparatus. 3,259,372, 7–5–66, Cl. 259—3.
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Constantikes, George J. 3,259,554.
Pollock, Lyle W. 3,259,614.
Ray, Gardner C., and Vives. 3,259,664.
Phillips, Robert M., to General Electric Co. Undulating beam energy interchange device. 3,259,786, 7–5–66, Cl. 315—3.
Phillips, Victor N., and C. E. Smith, to Ford Motor Co. Shift selector mechanism for manually controlled transmission mechanism. 3,258,986, 7–5–66, Cl. 74—476.
Phillipson, Alan, B. H. R. Spiller, R. Smith, and H. Cheesman, to Decca Ltd. Two-stage fluid pressure operated piston and cylinder assemblies. 3,259,027, 7–5–66, Cl. 91—169.
Physical Sciences Corp.: *See*—
Kyle, James C. 3,259,872.
Physioc, Willis J. III, to The Pangborn Corp. Process for applying lubricant coatings. 3,259,519, 7–5–66, Cl. 117—100.
Pianka, Max, and D. J. Polton, to The Murphy Chemical Co. Ltd. Stabilized insecticidal composition containing an O,O-dimethyl S-(N-alkoxymethyl) carbamoylmethyl phosphorothiolothionate. 3,259,540, 7–5–66, Cl. 167—22.
Pick, Hans H., and E. R. Bingham, Jr., to Kennecott Copper Corp. Apparatus for sampling and analyzing a plurality of continuously flowing streams of material through flexible conduits. 3,259,743, 7–5–66, Cl. 250—51.5.
Pidgeon, Luther A. Projection screen. 3,259,174, 7–5–66, Cl. 160—290.
Pietrzak, Aloysius J., and J. C. Webster, to Rohm & Haas Co. Container lid fastener. 3,259,300, 7–5–66, Cl. 229—45.
Pikoske, Herbert, to Walker Mfg. Co. Adjustable metering device. 3,259,281, 7–5–66, Cl. 222—335.
Pinkerton, Carl W., and F. J. Landwehr, to Boeing Airplane Co. Tube bending mandrel. 3,258,956, 7–5–66, Cl. 72—466.
Pittinger, Charles B.: *See*—
Romanowski, Henry J., Ashauer, and Pittinger. 3,259,231.
Pittman, Cecil E. Trading stamp dispensing machine. 3,259,289, 7–5–66, Cl. 226—135.
Pittman, Edgar H., to Deering Milliken Research Corp. Fabric formed from yarns which have a chemically induced configurational memory. 3,259,452, 7–5–66, Cl. 8—116.
Pittsburgh Plate Glass Co.: *See*—
Michalik, Edmund R., and Misson. 3,259,480.
Pityo, Albert F. Method of producing an electrical contact assembly. 3,258,830, 7–5–66, Cl. 29—155.55.
Planomatic Ltd.: *See*—
Jackson, Arthur R. 3,259,102.
Platt Luggage, Inc.: *See*—
Platt, Sidney. 3,259,217.
Platt, Sidney, to Platt Luggage, Inc. Carrying case. 3,259,217, 7–5–66, Cl. 190—48.
Plessey (U.K.) Ltd.: *See*—
Chandler, Walter. 3,259,871.
Hemmens, Cecil G. 3,259,709.
Poirier, Albert, to Societe Anonyme: C. Jacobsen, & Cie. Differential temperature measuring apparatus. 3,258,969, 7–5–66, Cl. 73—361.
Polaroid Corp.: *See*—
Kagan, Sholly. 3,259,042.
Polichette, Joseph: *See*—
Schneble, Frederick W., Jr., McCormack, Zebilsky, Williamson, and Polichette. 3,259,559.
Pollak, Heinz, to S. Smith & Sons (England) Ltd. Navigational apparatus. 3,258,978, 7–5–66, Cl. 74—5.47.
Polley, John R., to Canadian Patents and Development Ltd. Treatment of viruses. 3,259,546, 7–5–66, Cl. 167—78.
Pollock, Latham: *See*—
Appleton, Joseph S., and Pollock. 3,259,021.
Pollock, Lyle W., to Phillips Petroleum Co. Polymerization process and control system. 3,259,614, 7–5–656, Cl. 260—93.7.
Polton, Donald J.: *See*—
Pianka, Max, and Polton. 3,259,540.
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Priesing, Charles P., and S. Mogelnicki, to The Dow Chemical Co. Dewatering aqueous suspensions of organic solids. 3,259,570, 7–5–66, Cl. 210—53.

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Protzek, William L., and E. H. Gleason, to Koppers Co., Inc. Baked metal primers of ternary butadiene polymer and phosphoric acid. 3,259,601, 7–5–66, Cl. 260—29.7.

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Rieger, Richard F., T. W. Schafer, and I. D. Wells, to Applied Machine Research Inc. Metal working machine and machining process. 3,259,023, 7–5–66, Cl. 90—13.5.

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Rienacker, William O., and E. Rienacker. Hand cultivator or rake. 3,258,903, 7–5–66, Cl. 56—400.18.

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Robinsky, Eli I. Continuously extensible and roll-up structure. 3,258,800, 7–5–66, Cl. 14—27.

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Rockholt, John T. Tufting machine. 3,259,089, 7–5–66, Cl. 112—79.

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Ross, Don H., and E. S. Rubin, to Massachusetts Institute of Technology. Shock wave inducing means for supersonic vehicles. 3,259,065, 7–5–66, Cl. 102—50.

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Rush, John S. Method of and system for staging productions. 3,259,386, 7–5–66, Cl. 272—10.

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St. Coeur, Edward J., 24% each to W. B. Snyder, Sr., and W. B. Snyder, Jr. Depth pressure gauge. 3,258,966, 7–5–66, Cl. 73—300.

St. Coeur, Edward J., 24% each to W. B. Snyder, Sr., and W. B. Snyder, Jr. Liquid-level switch having lanyard rotating means. 3,259,714, 7–5–66, Cl. 200—84.

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Sanford, Charles G., deceased, by D. L. Sanford, executrix, to D. L. Sanford. Hydraulic balanced self-aligning shaft seal. 3,259,390, 7–5–66, Cl. 277—3.

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Sargent, William H., and J. R. MacPherson, to Atlantic Research Corp. Process and apparatus for gas generation from semi-solids. 3,258,917, 7–5–66, Cl. 60—39.06.

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Schlein, Herbert N., and P. T. Sullivan, to Itek Corp. Exposure, heat development and fixing of photosensitive mercurous oxalate and silver oxalate compositions. 3,259,494, 7–5–66, Cl. 96—27.

Schlein, Herbert N., to Itek Corp. Photothermographic data processing composition, method and article. 3,259,495, 7–5–66, Cl. 96—29.

Schlichte, Max, to Siemens & Halske Aktiengesellschaft. Resonant transfer switch circuit for time multiplex communication systems. 3,259,694, 7–5–66, Cl. 179—15.

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Schneider, Irving, to Engelhard Hanovia, Inc. Dry cleaning machine. 3,258,847, 7-5-66, Cl. 34—45.
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Telefonbau- und Normalzeit G.m.b.H.: *See*—
Volkmann, Richard. 3,259,750.

Telefunken Patenverwertunge-G.m.b.H.: *See*—
Hotz, Gunter. 3,259,882.

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Teller, W. Kedzie, to Wallace & Tiernan, Inc. Stable aluminum hydroxide gel or aluminum hydroxide-sodium zirconium lactate antiperspirant stick. 3,259,545, 7–5–66, Cl. 167—90.

Ten Bosch, Maurits, and D. S. Bayley, to M. Ten Bosch, Inc. Thrustmeter system. 3,258,938, 7–5–66, Cl. 73—116.

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Sauls, Thomas W., and Winter. 3,259,457.

Tepper, Harry W. Apparatus for correcting tongue trust problems. 3,259,129, 7–5–66, Cl. 128—172.1.

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Klein, Hans-Christof. 3,258,919.

Texaco, Inc.: *See*—
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Texas Industries, Inc.: *See*—
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Texas Instruments Inc.: *See*—
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Thompson, Ernest, Jr., to Allied Chemical Corp. Regenerative coke oven batteries. 3,259,551, 7–5–66, Cl. 202—267.

Thompson, Raymond E.: *See*—
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Coleman, Edward, and Thompson. 3,259,839.

Thomsen, Harry S., to Dresser Industries, Inc. Borehole induction logging system utilizing the quadrature signal component as an indication of formation conductivity. 3,259,838, 7–5–66, Cl. 324—6.

Thorn, James D., W. Rodwell, and D. A. Jobson, to United Kingdom Atomic Energy Authority. Moderator structures for nuclear reactors. 3,259,548, 7–5–66, Cl. 176—84.

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Thorp, James T., to Lambirt Engineering Co. Aircraft seat ejection. 3,259,344, 7–5–66, Cl. 244—122.

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Tiede, Ralph L., to Owens-Corning Fiberglas Corp. Method of making curly composite fibers. 3,259,479, 7–5–66, Cl. 65—3.

Tietz, La Vern R., to Walker Mfg. Co. Filter. 3,259,247, 7–5–66, Cl. 210—444.

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Tober, Hendrik, to Laboratory for Electronics, Inc. Doppler radar system. 3,259,898, 7–5–66, Cl. 343—8.

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Torpey, Wilbur N. Method of anaerobic digestion of sewage sludge. 3,259,566, 7–5–66, Cl. 210—10.

Towne, Allen N., and R. A. Ward, to General Electric Co. High voltage insulated electrical cable with layer of irradiated semiconductive ethylene copolymer. 3,259,688, 7–5–66, Cl. 174—107.

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Tripoli, Joseph V. Flow control member having a radially biased seal. 3,259,338, 7–5–66, Cl. 251—214.

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Tucker, William F.: *See*—
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Turgeon, Joseph A., to I-T-E Circuit Breaker (Canada) Ltd. Hinged contact mechanism for disconnect switches. 3,259,704, 7–5–66, Cl. 200—48.

Turner, Douglas F. Knee pad. 3,258,779, 7–5–66, Cl. 2—24.

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Ugi, Ivar, C. Wiegand, E. Muller, and H. Walz, to Farbenfabriken Bayer Aktiengesellschaft. Polymerization of isocyanates. 3,259,625, 7–5–66, Cl. 260—248.

Uithoven, Christian. Gas agitating device. 3,259,049, 7–5–66, Cl. 95—100.

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Ulman, Ambrose C., to Bart Safety Equipment Co., Inc. Electromagnetic door holder and releaser. 3,258,875, 7–5–66, Cl. 49—379.

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Union Carbide Canada Ltd.: *See*—
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Union Carbide Corp.: *See*—
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Union Oil Co. of California: *See*—
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Scheithauer, Arthur C., and Simmons. 3,258,999.
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United States Steel Corp.: *See*—
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Mueller, Howard E., Nickola, and Spare. 3,259,487.
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Universal Brass Truning Co., Inc.: *See*—
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Universal Business Machines, Inc.: *See*—
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Usines de Melle (Societe Anonyme), Les: *See*—
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Valenti, Peter, to Sargent Engineering Corp. Preloaded ball screw and nut assembly. 3,258,983, 7–5–66, Cl. 74—409.

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Van der Lely, Cornelis, to Texas Industries, Inc. Agricultural machines. 3,258,902, 7–5–66, Cl. 56—23.

Van der Lely, Cornelis, and L. van Wingerden, to C. van der Lely, N.V. Combine harvesters. 3,258,901, 7–5–66, Cl. 56—20.

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Van Veldhuizen, John and E. M. Air-propelled boat. 3,259,-097, 7–5–66, Cl. 115—15.

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Van der Lely, Cornelis, and van Wingerden. 3,258,901.

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Vapor Corp.: *See*—
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Goldfinger, Arthur A. 3,259,790.
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Vernet, Charles, and B. M. Laine, to The British Petroleum Co. Ltd. Process for improving cloud point of petroleum gas oil by caustic washing thereof from hydrocarbon mixtures. 3,259,549, 7–5–66, Cl. 195—3.

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Vasco Metals Corp.: *See*—
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Vermont American Corp.: *See*—
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Vietorisz, Thomas, to International Business Machines Corp. Object scanning techniques. 3,259,022, 7–5–66, Cl. 90—13.5.

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Mindell, Marvin I. 3,259,010.

Vilcans, Janis, to Laboratory for Electronics, Inc. Multiidler parametric amplifier with lower frequency pump. 3,259,847, 7–5–66, Cl. 330—4.9.

Vitolo, Marguerite M. Maternity garment. 3,258,780, 7–5–66, Cl. 2—74.

Vives, Van C.: *See*—
Ray, Gardner C., and Vives. 3,259,664.

Voeten, Hendrik: *See*—
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Schenk, Walter, Wallis, and Vogel. 3,259,651.

Vogel, Siegfried F., to Varian Associates. Non-inductive wire configurations. 3,259,784, 7–5–66, Cl. 313—342.

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Von Meister, Frederick W., to Azoplate Corp. Diazo presensitized lithographic printing plate comprising intermediate layer of hydrophillic metal ferrocyanide and process for making. 3,259,496, 7–5–66, Cl. 96—33.

Von Wartburg, Rene, to Ciba Ltd. Photographic color reversal process. 3,259,497, 7–5–66, Cl. 96—53.

Vonderau, Raymond C., to Beloit Corp. Dryer construction. 3,258,851, 7–5–66, Cl. 34—124

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Walker, James H., to Aladdin Industries, Inc. Adjustable inductors. 3,259,861, 7–5–66, Cl. 336—136.

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Curtis, Myron C., and Straw. 3,259,149.
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McKenzie, William G. 3,259,070.
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Walker, William R., to Boeing Airplane Co. Non-press curing of polyether-type polyurethanes with butadiene acrylonitrile copolymer. 3,259,599, 7-5-66, Cl. 260—23.7.

Wallace, David A. Ambulant irrigating device. 3,259,319, 7-5-66, Cl. 239—177.

Wallace, George A. Sealed beam headlamp with plural optical devices. 3,259,776, 7-5-66, Cl. 313—111.

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Ward, William S.: *See*—
Pearce, Edward S. 3,259,156.

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Warnke, Helmuth, to Gutehoffnungshutte Sterkrade Aktiengesellschaft. Apparatus for effecting relative vertical displacement between a movable platform and vertically oriented supports therefor. 3,259,368, 7-5-66, Cl. 254—110.

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Watanabe, Hitoshi, to Nippon Electric Co., Ltd. Frequency division multiplex communication system. 3,259,693, 7-5-66, Cl. 179—15.

Watlington, Lee S. Neck support for the hood of a hair drying apparatus. 3,258,848, 7-5-66, Cl. 34—99.

Watson, Arthur. Hernial supporter. 3,259,125, 7-5-66, Cl. 128—96

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Wehmeyer, Werner, to Schloemann Aktiengesellschaft. Processes for protecting products and tools during physical deformation of heavy metals and products so produced. 3,258,947, 7-5-66, Cl. 72—42.

Wei, Tohchung. Twin lock for multi-food containers. 3,259,263, 7-5-66 Cl. 220—4.

Weil, Edward D., E. J. Geering, and K. J. Smith, to Hooker Chemical Corp. Pentachloroethanesulfenyl chloride and chlorination process for producing same. 3,259,653, 7-5-66, Cl. 260—543.

Weinschenk, Albert, to E. G. Henkel. Lasting machine. 3,258,799, 7-5-66, Cl. 12—12.

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Weltman, William C., and N. E. Martello, to Westinghouse Electric Corp. Resinous composition comprising the reaction product of a polyamide and a phenol-aldehyde condensate. 3,259,670, 7-5-66, Cl. 260—841.

Wenger, Harry J.: *See*—
Wenger, Jerry A., Urch, and Nordman. 3,259,428.

Wenger, Harry J. Wide angle portable stage and shell. 3,258,884, 7-5-66, Cl. 52—6.

Wenger, Jerry A., H. M. Urch, and L. W. Nordman, to H. J. Wenger. Tuba chair. 3,259,428, 7-5-66, Cl. 297—186.

Werner Battenfeld: *See*—
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Werner, Heinz, to F. Keiper. Hinge fitting for adjustable back rests, especially for motor vehicles. 3,259,433, 7-5-66, Cl. 297—367.

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Westinghouse Electric Corp.: *See*—
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Freese, Gerald J., and Hamilton. 3,259,705.
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Jensen, Arthur S., and Siedband. 3,259,791.
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Osipchak, Edward A., and Kessler. 3,259,805.
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Weltman, William C., and Martello. 3,259,670.

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73	3,259,201	211– 75	3,259,249	158	3,259,336		3,259,621	38	3,259,753	235	3,259,814
82	3,259,202	212– 13	3,259,250	178	3,259,337	247.5	3,259,622	292– 67	3,259,410	237	3,259,815
	3,259,203	55	3,259,251	244– 12	3,259,338		3,259,623	113	3,259,411	247	3,259,816
181– 20	3,259,204	213– 43	3,259,252	17.19:	3,259,339	247.7	3,259,624		3,259,412	258	3,259,817
23	3,259,205	214– 1	3,259,253	42	3,259,340	248	3,259,625	132	3,259,413		3,259,818
59	3,259,206		3,259,254		3,259,341		3,259,626	256.67:	3,259,414	318– 19	3,259,819
182– 96	3,259,207		3,259,255	45	3,259,342		3,259,627	294– 16	3,259,415	28	3,259,820
128	3,259,208	18	3,259,325	53	3,259,343	262	3,259,628	29	3,259,416		3,259,821
189	3,259,209	44	3,259,256	122	3,259,344	270	3,259,629	64	3,259,417	30	3,259,822
184– 6	3,259,210	75	3,259,257	129	3,259,345	279	3,259,630	83	3,259,418	32	3,259,823
187– 9	3,259,211	130	3,259,258	246–250	3,259,741	295	3,259,631		3,259,419	207	3,259,824
188– 1	3,259,212	138	3,259,259	248– 42	3,259,346	313.1	3,259,632		3,259,420	341	3,259,825
86	3,259,213	147	3,259,260	73	3,259,347	326.16:	3,259,633	93	3,259,421	454	3,259,826
152	3,259,214	503	3,259,261	205	3,259,348	326.5	3,259,634	296– 23	3,259,422	321– 4	3,259,827
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264	3,259,216	219– 68	3,259,729	251	3,259,350	347.2	3,259,907	97	3,259,424	15	3,259,829
190– 48	3,259,217	69	3,259,730	325	3,259,351	347.5	3,259,636	297–148	3,259,425		3,259,830
192– 3.5	3,259,218	82	3,259,731		3,259,352	347.8	3,259,637	159	3,259,426	16	3,259,831
58	3,259,219	436	3,259,732	361	3,259,353	348.5	3,259,638	183	3,259,427	323– 4	3,259,832
	3,259,220	220– 4	3,259,263	429	3,259,354	396	3,259,639	186	3,259,428		3,259,833
	3,259,221		3,259,264	430	3,259,355	397.45:	3,259,640	192	3,259,429	22	3,259,834
68	3,259,222	24	3,259,265	249–161	3,259,356	408	3,259,641	194	3,259,430		3,259,835
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66	3,259,550	39	3,259,266	51.5	3,259,743		3,259,643	354	3,259,432		3,259,837
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200– 5	3,259,699		3,259,273	211	3,259,750	515	3,259,650	303– 40	3,259,439	103	3,259,844
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19	3,259,703	177	3,259,277	263	3,259,359		3,259,654		3,259,757	14	3,259,848
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65	3,259,709	224– 4	3,259,283	33	3,259,576	607	3,259,660	117	3,259,763	111	3,259,854
67	3,259,710	5	3,259,284	33.3	3,259,577	610	3,259,661	141	3,259,764	332– 7	3,259,855
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83	3,259,713	34	3,259,287	46.7	3,259,580	652	3,259,664	160	3,259,441	30	3,259,858
84	3,259,714	226– 60	3,259,288	62.1	3,259,581	666	3,259,665	187.1	3,259,442	81	3,259,859
87	3,259,715	135	3,259,289	62.3	3,259,582	669	3,259,666	310– 4	3,259,766	84	3,259,860
	3,259,716	190	3,259,290	75	3,259,583	683.15:	3,259,667	11	3,259,767	336–136	3,259,861
104	3,259,717	196	3,259,291	186	3,259,584		3,259,668	13	3,259,768		3,259,862
114	3,259,718	227– 8	3,259,292	313	3,259,585	683.43:	3,259,669	14	3,259,769	182	3,259,863
120	3,259,719	228– 20	3,259,293	321	3,259,586	683.62:	RE.26,060	50	3,259,770	192	3,259,864
138	3,259,720	229– 2.5	3,259,294	344	3,259,587	841	3,259,670	164	3,259,771	338– 18	3,259,865
	3,259,721	5.5	3,259,296	411	3,259,588	961	3,259,671	312–126	3,259,443	32	3,259,866
140	3,259,722	7	3,259,297	466	3,259,589	261– 23	3,259,376	221	3,259,444	222	3,259,867
144	3,259,723	23	3,259,295	253– 11	3,259,361	39	3,259,377	234.5	3,259,445	339– 33	3,259,868
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151	3,259,726	45	3,259,300	86	3,259,364	97	3,259,380	313– 7	3,259,772	63	3,259,871
155	3,259,727	55	3,259,301	95	3,259,365	263– 6	3,259,381	57	3,259,773	94	3,259,872
166	3,259,728	62	3,259,302	100	3,259,366	264– 30	3,259,672	67	3,259,774	97	3,259,873
202–267	3,259,551	66	3,259,303	101	3,259,367	45	3,259,673	93	3,259,775		3,259,874
203– 3	3,259,552	92.8	3,259,304	110	3,259,368	53	3,259,674	111	3,259,776	117	3,259,875
14	3,259,553	230–101	3,259,305	122	3,259,369	103	3,259,675	184	3,259,777	198	3,259,876
40	3,259,554	147	3,259,306	134.3	3,259,370	123	3,259,676	217	3,259,778	258	3,259,877
63	3,259,555	206	3,259,307	173	3,259,371	126	3,259,677	221	3,259,779	340– 15.5	3,259,878
204– 27	3,259,556		3,259,308	259– 3	3,259,372	132	3,259,678	231	3,259,780		3,259,879
28	3,259,557	232– 43.1	3,259,309	4	3,259,373	242	3,259,679	243	3,259,781	18	3,259,880
38	3,259,558	235– 61	3,259,310	10	3,259,374	275	3,259,680	336	3,259,782	146.1	3,259,881
	3,259,559	61.6	3,259,733	180	3,259,375	290	3,259,681	337	3,259,783		3,259,882
105	3,259,560	78	3,259,311	260– 2	3,259,590	312	3,259,682	342	3,259,784	146.3	3,259,883
163	3,259,561		3,259,312		3,259,591	267– 1	3,259,382	314– 1	3,259,785		3,259,884
181	3,259,562	101	3,259,313	2.2	3,259,592		3,259,383	315– 3	3,259,786		3,259,885
297	3,259,563	151	3,259,735	2.5	3,259,593	271– 62	3,259,384	3.5	3,259,787	172.5	3,259,886
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16	3,259,230	197	3,259,736		3,259,595	73	3,259,385		3,259,789	174	3,259,888
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45.14:	3,259,234	92	3,259,316		3,259,598	138	3,259,389	36	3,259,792	222	3,259,891
46	3,259,235	237– 12.1	3,259,317	23.7	3,259,599	277– 3	3,259,390	86	3,259,793	242	3,259,892
79	3,259,236	31	3,259,318	29.2	3,259,600	13	3,259,391	151	3,259,794	248	3,259,893
208–111	3,259,564	239–177	3,259,319	29.7	3,259,601	59	3,259,392	173	3,259,795	272	3,259,894
127	3,259,565	265.23:	3,259,320	33.6	3,259,602	134	3,259,393	174	3,259,796	347	3,259,895
209– 9	3,259,237	310	3,259,321	41	3,259,603	279– 6	3,259,394		3,259,797		3,259,896
72	3,259,238	403	3,259,322	45.9	3,259,604	280– 1.203	3,259,395	209	3,259,798	343– 6.8	3,259,897
73	3,259,239	585	3,259,323	47	3,259,605	5.22:	3,259,396	214	3,259,799	8	3,259,898
74	3,259,240	240– 46.57:	3,259,737	78	3,259,606	96.2	3,259,397	317– 5	3,259,800	113	3,259,899
78	3,259,241	61.9	3,259,738	78.3	3,259,607	236	3,259,398	12	3,259,801	705	3,259,900
166	3,259,242	103	3,259,739	82.1	3,259,608	287	3,259,399	18	3,259,802	749	3,259,901
	3,259,243	106	3,259,740	85.5	3,259,610	423	3,259,400	31	3,259,803	753	3,259,902
240	3,259,244	241– 17	3,259,324	86.3	3,259,611	281– 8	3,259,401	100	3,259,804	778	3,259,903
210– 10	3,259,566	20	3,259,326	88.2	3,259,609	285–133	3,259,402		3,259,805	792.5	3,259,904
21	3,259,567	186	3,259,327	89.3	3,259,612	134	3,259,403	101	3,259,806		3,259,905
28	3,259,568	242– 39	3,259,328	93.7	3,259,613	212	3,259,404		3,259,807	346– 24	3,259,906
46	3,259,569	55.1	3,259,329		3,259,614	226	3,259,405	103	3,259,808	352– 84	3,259,448
53	3,259,570	55.12:	3,259,330	102	3,259,615	341	3,259,406	132	3,259,809	119	3,259,449
59	3,259,571	55.13:	3,259,331	112.5	3,259,616	287– 58	3,259,407	172	3,259,810		3,259,450
73	3,259,245	55.19:	3,259,332		3,259,617	87	3,259,408	191	3,259,811	225	3,259,451
195	3,259,246	84.2	3,259,333	146	3,259,618						

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Design Patents

2	205,199	4	205,202	21	205,186	29	205,197	34	205,192	45	205,184
4	205,182	12	205,194		205,204	31	205,179	37	205,187		205,206
	205,185		205,203		205,205		205,189	41	205,181	48	205,207
	205,191	13	205,183	27	205,188		205,200	42	205,190		205,208
	205,195	20	205,180	29	205,193	33	205,177		205,201	51	205,178

Plant Patents

4	2,648	4	2,653	4	2,655	31	2,652	31	2,656	46	2,650
	2,649		2,654								

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 5, 1966 Volume 828 Number 1

TRADEMARKS

NOTICES

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Express Abandonment of Patent Application

The following amended § 1.138 is adopted to take effect upon publication in the Federal Register.

The purpose of the amendment is to make possible the elimination of the delay and difficulty incident to obtaining specific written authorization to abandon the application from the inventor and assignee, if any. Such delay frequently results in inconvenience and sometimes in the loss of material rights.

The text of the proposed amendment was published in the Federal Register of March 31, 1966 (31 F.R. 5202). A hearing was held on April 26, 1966, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations, or suggestions which were considered in connection with the adoption of the amendment. The rule is being adopted as published with a further amendment to the sentence proposed to be added to the rule. The clause "Except as provided in § 1.262" is added to the sentence as previously published so that the sentence reads: "Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record."

The full text of the amended rule is as follows:

§ 1.138 *Express abandonment.*

An application may be expressly abandoned by filing in the Patent Office a written declaration of abandonment signed by the applicant himself and the assignee of record, if any, and identifying the application. Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 10, 1966.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5550; Filed, May 20, 1966; 8:45 a.m.]

Published in 31 F.R. 7391, May 21, 1966

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,121
Date of oldest new application	June 1, 1965
Date of oldest amended application (filing date)	November 6, 1962

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6-1-65	8-9-63
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-15-65	11-6-62
Renewals (All Classes)	5-6-66	----------
Sec. 12(c) Publications (All Classes)	5-6-66	----------

Applications filed during the month of May—2,495

Registrations Issued ---------- 218—No. 810,678 to No. 810,895
Renewals Issued ---------- 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Kosaburo Nakayama, Osaka, Japan, Reg. No. 78,895, Canc. No. 8464.

Capitol Crafts, Carlisle, Pa., Reg. No. 594,556, Canc. No. 8674.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 123,606 (ANACIN), Wm. M. Knight, doing business as Anacin Chemical Company, Medicinal preparation used internally for certain named ailments; **Reg. No. 418,790**, same, Whitehall Pharmacal Company, Medicinal preparation for internal use, acting as an analgesic to relieve pain, **filed** Apr. 6, 1966, D.C., N.D.N.Y. (Utica), Doc. 66–CV–112, *American Home Products Corporation* v. *Hall's Drug Corp.*

Reg. No. 268,551 (SUPREME SILVER PLATE), International Silver Company, Silver plated flat tableware, **filed** Mar. 1, 1966, D.C., S.D.N.Y., Doc. 66/945, *The International Silver Co.* v. *Supreme Cutlery Corp. et al.*

Reg. No. 299,170 (ARTURO), Francis H. Leggett & Company, Sauce consisting of a combination of tomatoes, mushrooms, peppers, onions, condiments, and spices; **Reg. No. 424,610** (PREMIER SAUCE ARTURO AND DESIGN), same, Sauce for meat products, **filed** Nov. 12, 1964, D.C., S.D.N.Y., Doc. 64/3432, *Naas Foods, Inc.* v. *Eldeen Wine Vinegar Co. et ano.* Stipulation and order of discontinuance Jan. 27, 1965.

Reg. No. 378,528 (GELUSIL), William R. Warner & Co., Inc., Medicinal preparations for the rational control of gastro-intestinal hyperacidity, **filed** June 23, 1964, D.C., S.D.N.Y., Doc. 64/1929, *Warner-Lambert Pharmaceutical Company* v. *Falk Surgical Corporation.* Consent judgment—defendant enjoined Oct. 21, 1964.

Reg. No. 378,930 (GREEN VALLEY), M. Goldenberg & Sons, Inc., Neckties, mufflers, men's outer shirts, men's pants, etc., **filed** Apr. 3, 1964, D.C., S.D.N.Y., Doc. 64/1037, *M. Goldenberg & Sons, Inc.* v. *Colonial Corporation of America et ano.* Stipulation and order dismissing action with prejudice Sept. 20, 1965.

Reg. No. 418,790. (See Reg. No. 123,606.)

Reg. No. 424,610. (See Reg. No. 299,170).

Reg. No. 523,578 (ONE A DAY AND DESIGN), Miles Laboratories, Inc., Vitamin tablets; **Reg. No. 525,085** (BACTINE), same, Topical germicide; **Reg. No. 634,318** (ONE A DAY), same, Vitamin tablets; **Reg. No. 687,826** (CHOCKS), same, Multiple vitamins; **Reg. No. 766,605** (BACTINE 4 IN 1), same, Topical germicide, mouthwash and gargle, **filed** Apr. 12, 1966, D.C., N.D.N.Y. (Utica), Doc. 66–CV–119, *Miles Laboratories, Inc.* v. *Approved Pharmaceutical Corp. et al.*

Reg. No. 525,085. (See Reg. No. 523,578.)

Reg. No. 548,625 ("SPLASH"), Evelyn Westall, Perfume essence, **filed** Dec. 15, 1964, D.C., S.D.N.Y., Doc. 64/3845, *Evyan Perfumes, Inc.* v. *Hazel Bishop, Inc.* Stipulation and order of dismissal Mar. 5, 1965.

Reg. No. 634,318. (See Reg. No. 523,578.)

Reg. No. 635,111 (B-T LABS AND DESIGN), Blonder-Tongue Laboratories, Inc., Electrical apparatus—namely, audio and radio-frequency generators, oscillators, detectors, amplifiers, etc.; **Reg. No. 635,112** (B-T), same, **filed** Sept. 24, 1964, D.C., S.D.N.Y., Doc. 64/2928, *Blonder-Tongue Laboratories, Inc.* v. *Bell Television, Inc.* Stipulation and order dismissing complaint Oct. 27, 1964.

Reg. No. 635,112. (See Reg. No. 635,111.)

Reg. No. 648,159 (CERAMAGNET), Stackpole Carbon Company, Magnets made from ceramic permanent magnet material, **filed** Apr. 13, 1966, D.C.N.J. (Newark), Doc. 372–66, *Stackpole Carbon Company* v. *Ceramagnetics, Inc.*

Reg. No. 687,826. (See Reg. No. 523,578.)

Reg. No. 694,054 (BEAUTIFUL EYES), Beautiful Eyes, Ltd., Compacts containing mascara, eye shadow, mascara brush, and eyebrow pencil, **filed** Oct. 2, 1964, D.C., S.D.N.Y., Doc. 64/3009, *Marian Bialac, Inc.* v. *Harriet Hubbard Ayer, Inc.* Stipulation and order of discontinuance Sept. 24, 1965.

Reg. No. 711,387 (VYCRON in script), North American Rayon Corporation, Polyester fiber and tow; **Reg. No. 711,594**, same, Polyester yarn; **Reg. No. 712,193**, same, Woven fabrics containing polyester fiber—namely, batiste, broadcloth, and lingerie nightwear fabric, **filed** Apr. 6, 1966, D.C., S.D.N.Y., Doc. 66/990, *Beaunit Corp.* v. *Gimbel Brothers, Inc.* Cause dismissed June 3, 1966.

Reg. No. 711,594. (See Reg. No. 711,387.)

Reg. No. 712,193. (See Reg. No. 711,387.)

Reg. No. 735,479 (MANHATTAN), Manhattan Auto, Inc., Inspecting, repairing, and maintaining automobiles for others, inspecting, servicing, and installing automobile accessories for others, **filed** July 10, 1964, D.C., S.D.N.Y., Doc. 64/2148, *Manhattan Auto, Inc.* v. *Manhattan Imported Cars, Inc.* Stipulation and order of dismissal with prejudice Dec. 3, 1965.

Reg. No. 739,744 (BABY LIFT AND DESIGN), Baby Lift, Inc., Portable baby beds, **filed** Apr. 14, 1964, D.C., S.D.N.Y., Doc. 64/1123, *Baby Lift, Inc.* v. *Nordic Trading Co. et al.* Final consent judgment; defendants enjoined Apr. 18, 1966.

Reg. No. 750,614 (LOCK-LINED), Lock-Lined, Inc., Laminated fabric for use in conjunction with the fabrication of clothing such as dresses, suits, etc., **filed** July 23, 1964, D.C., S.D.N.Y., Doc. 64/2280, *Lock-Lined, Inc.* v. *Linden Gibbs, Ltd.* Stipulation and order of discontinuance Dec. 9, 1965.

Reg. No. 756,580 (SHIRTMAKER DIVISION ETC. AND DESIGN), Pantsmaker, Inc., Ladies' and girls' shirts and blouses, **filed** June 29, 1964, D.C., S.D.N.Y., Doc. 64/2002, *Pantsmaker, Inc.* v. *Briar Hall Classics, Inc.* Stipulation and order of dismissal with prejudice Nov. 19, 1965.

Reg. No. 763,700 (ENGINEERING OPPORTUNITIES), Press-Tech, Inc., Magazine, **filed** Apr. 15, 1966, D.C.N.J. (Trenton), Doc. 392–66, *Press-Tech, Inc.* v. *Resource Publications, Inc.*

Reg. No. 764,912 (BELLEMAIRE), Forum Industries, Inc., Imitation marble, **filed** June 22, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1047, *Forum Industries, Inc.* v. *Bertol Industries, Inc. et al.* On plaintiff's motion and by agreement, order dismissing cause with prejudice Apr. 15, 1966.

Reg. No. 766,605. (See Reg. No. 523,578.)

Reg. No. 769,549 (SCHWANK), Hupp Corporation, Combustion type infra-red radiant heating equipment, **filed** Apr. 1, 1966, D.C., W.D. Pa. (Pittsburgh), Doc. 66–405, *Hupp Corporation* v. *American Schwank Infra-Red Distributors, Inc.*

Reg. No. 769,910 (SEGAL AND DESIGN), Marshall Tool Co., Keys and locks, **filed** Sept. 25, 1964, D.C., S.D.N.Y., Doc. 64/2943, *Marshall Tool Company* v. *Nulock Supply Co.* Consent judgment; defendant enjoined Oct. 23, 1964.

Reg. No. 771,995 (CIRCUS), Southern Fruit Distributors, Inc., Citrus juices in containers, more particularly orange juice, **filed** Apr. 4, 1966, D.C., N.D. Tex. (Dallas), Doc. 3–1349, *Southern Fruit Distributors, Inc.* v. *Hunt Oil Company.*

Reg. No. 784,934 (JADE EAST), Swank, Inc., Cologne, after-shave lotion, and deodorant, **filed** Feb. 10, 1966, D.C., S.D.N.Y., Doc. 66/407, *Swank, Inc.* v. *Ravel Perfume Corp.* Consent judgment; defendant enjoined Apr. 6, 1966.

Reg. No. 803,256 ("SIMON SAYS" in script), Simon Says Enterprises, Inc., Furnishing professional entertainers and recreational directors to hotels, resorts and similar clientele, **filed** Apr. 15, 1966, D.C., S.D.N.Y., Doc. 66/1079, *Simon Says Enterprises, Inc.* v. *Lee Berman et ano.*

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 16[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle.*

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acidum hydroxytoluinicum hydroxytoluinic acid	2-hydroxy-3-methylbenzoic acid $C_8H_8O_3$
acidum nafcaproicum nafcaproic acid	α,α-diethyl-1-naphthaleneacetic acid $C_{18}H_{18}O_2$
acidum sulfaloxicum sulfaloxic acid	4′[[(hydroxymethyl)carbamoyl]sulfamoyl]phthalanilic acid $C_{16}H_{15}N_3O_7S$
acidum tranexamicum tranexamic acid	*trans*-4-(aminomethyl)cyclohexanecarboxylic acid $C_8H_{15}NO_2$
alloclamidum alloclamide	2-(allyloxy)-4-chloro-*N*-[2-(diethylamino)ethyl]benzamide $C_{16}H_{23}ClN_2O_2$
alverinum alverine	*N*-ethyl-3,3′-diphenyldipropylamine $C_{20}H_{27}N$
amfepentorexum amfepentorex	*N*,α-dimethyl-*p*-pentylphenethylamine $C_{15}H_{25}N$
amicarbalidum amicarbalide	3,3-diamidinocarbanilide $C_{15}H_{16}N_6O$
aminophenazoni cyclamas aminophenazone cyclamate	*N*-methyl-*N*-(2,3-dimethyl-5-oxo-1-phenylpyrazolin-4-yl)amine cyclohexylsulfamate $C_{13}H_{17}N_3O \cdot C_6H_{13}NO_3S$
amiodaronum amiodarone	2-butyl-3-benzofuranyl *p*-[2-(diethylamino)ethoxy]-*m*,*m*-diiodophenyl ketone $C_{25}H_{29}I_2NO_3$
amprolii chloridum amprolium chloride	1-[(4-amino-2-propyl-5-pyrimidinyl)methyl]-2-picolinium chloride $C_{14}H_{19}ClN_4$
anagestonum anagestone	17-hydroxy-6α-methylpregn-4-en-20-one $C_{22}H_{34}O_2$
azabonum azabon	3-sulfanilyl-3-azabicyclo[3.2.2]nonane $C_{14}H_{20}N_2O_2S$
azacosterolum azacosterol	17β-[[3-(dimethylamino)propyl]methylamino]androst-5-en-3β-ol $C_{25}H_{44}N_2O$
azintamidum azintamide	2-[(6-chloro-3-pyridazinyl)thio]-*N*,*N*-diethylacetamide $C_{10}H_{14}ClN_3OS$
barbexaclonum barbexaclone	(−)-*N*,α-dimethylcyclohexaneethylamine compound with 5-ethyl-5-phenylbarbituric acid $C_{12}H_{12}N_2O_3 \cdot C_{10}H_{21}N$
bencyclanum bencyclane	3-[(1-benzylcycloheptyl)oxy]-*N*,*N*-dimethylpropylamine $C_{19}H_{31}NO$
benfurodili hemisuccinas benfurodil hemisuccinate	2-(1-hydroxyethyl)-β-(hydroxymethyl)-3-methyl-5-benzofuranacrylic acid γ-lactone hydrogen succinate $C_{19}H_{18}O_7$
biclotymolum biclotymol	2,2′-methylenebis[6-chlorothymol] $C_{21}H_{26}Cl_2O_2$
bolandioli dipropionas bolandiol dipropionate	estr-4-ene-3β,17β-diol dipropionate $C_{24}H_{36}O_4$
bolmantalatum bolmantalate	17β-hydroxyestr-4-en-3-one 1-adamantanecarboxylate $C_{29}H_{40}O_3$
buclosamidum buclosamide	*N*-butyl-4-chlorosalicylamide $C_{11}H_{14}ClNO_2$
bunamidinum bunamidine	*N*,*N*-dibutyl-4-hexyloxy-1-naphthamidine $C_{25}H_{39}N_3O$
buquinolatum buquinolate	ethyl 4-hydroxy-6,7-diisobutoxy-3-quinolinecarboxylate $C_{20}H_{27}NO_5$
butanilicainum butanilicaine	2-(butylamino)-6′-chloro-*o*-acetotoluidide $C_{13}H_{19}ClN_2O$
butaxaminum butaxamine	α-[1-(*tert*-butylamino)ethyl]-2,5-dimethoxybenzyl alcohol $C_{15}H_{25}NO_3$
butidrinum butidrine	α-[(*sec*-butylamino)methyl]-5,6,7,8-tetrahydro-2-naphthalene-methanol $C_{15}H_{23}NO$
butriptylinum butriptyline	10,11-dihydro-*N*,*N*,β-trimethyl-5*H*-dibenzo[*a*,*d*]cycloheptene-5-propylamine $C_{21}H_{27}N$
candicidinum candicidin	an antibiotic substance obtained from cultures of *Streptomyces griseus*, or the same substance produced by any other means
carbazocinum carbazocine	14-(cyclopropylmethyl)-1,2,3,4,4a,5,6,11-octahydro-5,11b-iminoethano-11h*H*-benzo[*a*]carbazole $C_{22}H_{28}N_2$
carpipraminum carpipramine	1′-[3-(10,11-dihydro-5*H*-dibenz[*b*,*f*]azepin-5-yl)propyl]-[1,4′-bipiperidine]-4′-carboxamide $C_{28}H_{38}N_4O$
cefaloglycinum cefaloglycin	7-(2-amino-2-phenylacetamido)-3-(hydroxymethyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, acetate ester, inner salt $C_{18}H_{21}N_3O_6S$
clamoxyquinum clamoxyquine	5-chloro-7-[[[3-diethylamino)propyl]amino]methyl]-8-quinolinol $C_{17}H_{24}ClN_3O$

[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446.
Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249.

[2] *Off Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
clioquinolum clioquinol	5-chloro-7-iodo-8-quinolinol C_9H_5ClINO
clocortolonum clocortolone	9-chloro-6α-fluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione $C_{22}H_{28}ClFO_3$
cloforexum cloforex	ethyl (*p*-chloro-α,α-dimethylphenethyl)carbamate $C_{13}H_{18}ClNO_2$
clomocyclinum clomocycline	7-chloro-4 (dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-(hydroxymethyl)-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{23}H_{27}ClN_2O_9$
cloracetadolum cloracetadol	β,β,β-trichloro-α-hydroxy-*p*-acetophenetidide $C_{10}H_{10}Cl_3NO_2$
clorofenum clorofene	4-chloro-α-phenyl-*o*-cresol $C_{13}H_{11}ClO$
clotiapinum clotiapine	2-chloro-11-(4-methyl-1-piperazinyl)dibenzo[*b,f*][1,4]thiazepine $C_{18}H_{18}ClN_3S$
colestyraminum colestyramine	a styrenedivinyl-benzene copolymer (about 2 percent divinyl-benzene) containing quaternary ammonium groups
coumafosum coumafos	*O,O*-diethyl phosphorothioate *O*-3-chloro-7-hydroxy-4-methylcoumarin ester $C_{14}H_{16}ClO_6PS$
crufomatum crufomate	4-*tert*-butyl-2-chlorophenyl methyl *N*-methylphosphoramidate $C_{12}H_{19}ClNO_3P$
cyacetacidum cyacetacide	cyanoacetic acid hydrazide $C_3H_5N_3O$
cyprazepamum cyprazepam	7-chloro-2-[(cyclopropylmethyl)amino]-5-phenyl-3*H*-1,4-benzodiazepine, 4-oxide $C_{19}H_{18}ClN_3O$
cyprolidolum cyprolidol	diphenyl[2-(4-pyridyl)cyclopropyl]methanol $C_{21}H_{19}NO$
cyproteronum cyproterone	6-chloro-17-hydroxy-1α,2α-methylenepregna-4,6-diene-3,20-dione $C_{22}H_{27}ClO_3$
dextranum 40 dextran 40	a polyanhydroglucose of weight average molecular weight about 40,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 45 dextran 45	a polyanhydroglucose of weight average molecular weight about 45,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 75 dextran 75	a polyanhydroglucose of weight average molecular weight about 75,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 110 dextran 110	a polyanhydroglucose of weight average molecular weight about 110,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 150 dextran 150	a polyanhydroglucose of weight average molecular weight about 150,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextrofeminum dextrofemine	(+)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{18}H_{23}NO$
diaveradinum diaveradine	2,4-diamino-5(3′,4′-dimethoxybenzyl)pyrimidine $C_{13}H_{18}N_4O_2$
dicloxacillinum dicloxacillin	6-[3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolecarboxamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{19}H_{17}Cl_2N_3O_5S$
difebarbamatum difebarbamate	1,3-bis(3-butoxy-2-hydroxypropyl)-5-ethyl-5-phenylbarbituric acid dicarbamate ester $C_{28}H_{42}N_4O_9$
difluanazinum difluanazine	1-(2-anilinoethyl)-4-[4,4-bis(*p*-fluorophenyl)butyl]piperazine $C_{28}H_{33}F_2N_3$
dihydroergotaminum dihydroergotamine	dihydroergotamine $C_{33}H_{37}N_5O_5$
dimethyli sulfoxidum dimethyl sulfoxide	dimethyl sulfoxide C_2H_6OS
diminazenum diminazene	3,3′-(diazoamino)benzamidine $C_{14}H_{15}N_7$
dimpylatum dimpylate	*O,O*-diethyl 2-isopropyl-6-methyl-4-pyrimidinylphosphonothioate $C_{12}H_{21}N_2O_3PS$
dioxationum dioxation	a mixture consisting essentially of *cis*- and *trans*-*p*-dioxane-2,3-diyl ethyl phosphorodithioate $C_{12}H_{26}O_6P_2S_4$
dioxybenzonum dioxybenzone	2,2′-dihydroxy-4-methoxybenzophenone $C_{14}H_{12}O_4$
diatigmini bromidum diatigmine bromide	3-hydroxy-1-methylpyridinium bromide hexamethylenebis(*N*-methylcarbamate) $C_{28}H_{38}Br_2N_4O_4$
dodecionii bromidum dodecionium bromide	[2-(*p*-chlorophenoxy)ethyl]dodecyldimethylammonium bromide $C_{28}H_{50}BrClNO$
doxycyclinum doxycycline	4-(dimethylamino)-1,4-4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{22}H_{24}N_2O_8$
embutramidum embutramide	*N*-(β,β-diethyl-*m*-methoxyphenethyl)-4-hydroxybutyramide $C_{17}H_{27}NO_3$
epinephrinum epinephrine	(−)-α-3,4-dihydroxyphenyl-β-methylaminoethanol (synonym: adrenaline; in certain countries the name Adrenalin is a trademark) $C_9H_{13}NO_3$
estradioli undecylas estradiol undecylate	estradiol 17-undecanoate $C_{29}H_{44}O_3$
estrazinolum estrazinol	3-methoxy-8-aza-19-nor-17α-pregna-1,3,5-trien-20-yn-17-ol $C_{20}H_{25}NO_2$
etymidum etymide	2-ethoxy-*N*-methyl-*N*-[2-(methylphenethylamino)ethyl]-2,2-diphenylacetamide $C_{28}H_{34}N_2O_2$
fenamifurilum fenamifuril	tetrahydrofurfuryl (2-carbamoylphenoxy)acetate $C_{14}H_{17}NO_4$
fenamolum fenamole	5-amino-1-phenyl-1*H*-tetrazole $C_7H_7N_5$
fenimidum fenimide	3-ethyl-2-methyl-2-phenylsuccinimide $C_{13}H_{15}NO_2$
fenpentadiolum fenpentadiol	2-(*p*-chlorophenyl)-4-methyl-2,4-pentanediol $C_{12}H_{17}ClO_2$
flopropionum flopropione	2′,4′,6′-tribydroxypropiophenone $C_9H_{10}O_4$
floxuridinum floxuridine	2′-deoxy-5-fluorouridine $C_9H_{11}FN_2O_5$
flubanilatum flubanilate	ethyl *N*-[2-(dimethylamino)ethyl]-*m*-(trifluoromethyl)carbanilate $C_{14}H_{19}F_3N_2O_2$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
flugestonum flugestone	9-fluoro-11β,17-dihydroxypregn-4-ene-3,20-dione, 17 acetate $C_{23}H_{29}FO_5$
fluindarolum fluindarol	2-(α,α,α-trifluoro-*p*-tolyl)indan-1,3-dione $C_{16}H_9F_3O_2$
flumedroxonum flumedroxone	17-hydroxy-6α-(trifluoromethyl)pregn-4-ene-3,20-dione $C_{22}H_{29}F_3O_3$
flusalanum flusalan	3,5-dibromo-α,α,α-trifluoro-*m*-salicylotoluidide $C_{14}H_8Br_2F_3NO_2$
folescutolum folescutol	6,7-dihydroxy-4-(morpholinomethyl)coumarin $C_{14}H_{15}NO_5$
furazabolum furazabol	17-methyl-5α-androstano[2,3-*c*]furazan-17β-ol $C_{20}H_{30}N_2O_2$
furfenorexum furfenorex	(+)-*N*-methyl-*N*-(α-methylphenethyl)furfurylamine $C_{16}H_{21}NO$
gestonoroni caproas gestonorone caproate	17-hydroxy-19-norpregn-4-ene-3,20-dione hexanoate $C_{28}H_{40}O_4$
guaiactaminum guaiactamine	2-(*o*-methoxyphenoxy)triethylamine $C_{12}H_{19}NO_2$
guaiapatum guaiapate	1-[2-[2-[2-(*o*-methoxyphenoxy)ethoxy]ethoxy]ethyl]piperidine $C_{18}H_{29}NO_4$
guaifyllinum guaifylline	3-(*o*-methoxyphenoxy)-1,2-propanediol compound with theophylline $C_7H_8N_4O_2 \cdot C_{10}H_{14}O_4$
guanaclinum guanacline	[2-(3,6-dihydro-4-methyl-1(2*H*)-pyridyl]guanidine $C_8H_{12}N_4$
guanoctinum guanoctine	(1,1,3,3-tetramethylbutyl)guanidine
guanoxyfenum guanoxyfen	(3-phenoxypropyl)guanidine $C_{10}H_{15}N_3O$
halocarbanum halocarban	4,4′-dichloro-3-(trifluoromethyl)carbanilide $C_{14}H_9Cl_2F_3N_2O$
haloxonum haloxon	3-chloro-7-hydroxy-4-methylcoumarin bis(2-chloroethyl)phosphate $C_{14}H_{14}Cl_3O_6P$
hamycinum hamycin	an antibiotic substance obtained from cultures of *Streptomyces pimprina*, or the same substance produced by any other means
heptaverinum heptaverine	*N,N*-dimethyl-γ-phenyl-Δ²,γ-norbornanepropylamine $C_{18}H_{25}N$
hydroxycarbamidum hydroxycarbamide	hydroxyurea $CH_4N_2O_2$
ibuprofenum ibuprofen	α-*p*-isobutylphenylpropionic acid $C_{13}H_{18}O_2$
imidolinum imidoline	1-(*m*-chlorophenyl)3-[2-(dimethylamino)ethyl]-2-imidazolidinone $C_{13}H_{17}ClN_3O$
imolaminum imolamine	4-[2-(diethylamino)ethyl]-5-imino-3-phenyl-Δ²-1,2,4-oxadiazoline $C_{14}H_{20}N_4O$
insulini injectio biphasica biphasic insulin injection	a sterile suspension of beef insulin crystals in a neutral solution of pork insulin
ketaminum ketamine	2-(*o*-chlorophenyl)-2-(methylamino)cyclohexanone $C_{13}H_{16}ClNO$
lactulosum lactulose	4-*O*-β-D-galactopyranosyl-*D*-fructose $C_{12}H_{22}O_{11}$
mebezonii iodidum mebezonium iodide	(methylenedi-1,4-cyclohexylene)bis[trimethylammonium iodide] $C_{19}H_{40}I_2N_2$
medibazinum medibazine	1-(diphenylmethyl)-4-piperonylpiperazine $C_{25}H_{26}N_2O_2$
medrysonum medrysone	11β-hydroxy-6α-methylpregn-4-ene-3,20-dione $C_{22}H_{32}O_3$
mefrusidum mefruside	4-chloro-N^1methyl-N^1-(2-methyltetrahydrofurfuryl)-*m*-benzenedisulfonamide $C_{13}H_{19}ClN_2O_5S_2$
mesoridazinum mesoridazine	10-[2-1-methyl-2-piperidyl)ethyl]-2-(methylsulfinyl)phenothiazine $C_{21}H_{26}N_2OS_2$
metabromsalanum metabromsalan	3,5-dibromosalicyl anilide $C_{13}H_9Br_2NO_2$
metalliburum metallibure	1-methyl-6-(1-methylallyl)-2,5-dithiobiurea $C_7H_{14}N_4S_2$
metazamidum metazamide	1-(*p*-methoxyphenyl)-5-methyl-4-imidazolin-2-one $C_{11}H_{12}N_2O_2$
meticranum meticrane	6-methylthiochroman-7-sulfonamide 1,1-dioxide $C_{10}H_{13}NO_4S_2$
metindizatum metindizate	2-(hexahydro-1-methyl-3-indolinyl)ethyl benzilate $C_{25}H_{31}NO_3$
metofenazatum metofenazate	2-[4-[3-(2-chlorophenothiazin-lo-yl)propyl]-1-piperazinyl]ethyl 3,4,5-trimethoxybenzoate ester $C_{31}H_{36}ClN_3O_5S$
metrifonatum metrifonate	dimethyl (2,2,2-trichloro-1-hydroxyethyl)phosphonate $C_4H_8O_4PCl_3$
metylperonum metylperone	4′-fluoro-4-(4-methylpiperidino)butyrophenone $C_{16}H_{22}FNO$
metyridinum metyridine	2-(2-methoxyethyl)pyridine $C_8H_{11}NO$
mithramycinum mithramycin	an antibiotic substance obtained from cultures of *Streptomyces tanashiensis*, or the same substance produced by any other means
nafiverinum nafiverine	1,4-piperazinediethanol α-methyl-1-naphthaleneacetate ester $C_{34}H_{38}N_2O_4$
nafoxidinum nafoxidine	1-[2-[p-(3,4-dihydro-6-methoxy-2-phenyl-1-naphthyl)phenoxy]ethyl]pyrrolidine $C_{28}H_{31}NO_3$
naftalofosum naftalofos	*N*-hydroxynaphthylimide diethyl phosphate $C_{16}H_{18}NO_6P$
naftazonum naftazone	1,2-naphthaquinone 2-semicarbazone $C_{11}H_9N_3O_2$
naftypramidum naftypramide	α-isopropyl-α-[2-(dimethylamino)ethyl]-1-naphthaleneacetamide $C_{19}H_{26}N_2O$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
nifuradenum nifuradene	1[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_8H_9N_4O_4$
nifurdazilum nifurdazil	1-(2-hydroxyethyl)-3-[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_{10}H_{12}N_4O_5$
nifurmeronum nifurmerone	chloromethyl 5-nitro-2-furyl ketone $C_6H_4ClNO_4$
nifurprazinum nifurprazine	3-amino-6-[2-(5-nitro-2-furyl)vinyl]pyridazine $C_{10}H_8N_4O_3$
nifursemizonum nifursemizone	5-nitro-2-furaldehyde 2-ethylsemicarbazone $C_8H_{10}N_4O_4$
nitrazepamum nitrazepam	1,3-dihydro-7-nitro-5-phenyl-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{10}N_3O_3$
nogalamycinum nogalamycin	an antibiotic substance obtained from cultures of *Streptomyces nogalater*, or the same substance produced by any other means
norfenefrinum norfenefrine	β-aminomethyl-α-3-hydroxyphenylethanol $C_9H_{13}NO_2$
obidoximi chloridum obidoxime chloride	1,1′-(oxydimethylene)bis[4-formylpyridinium chloride]dioxime $C_{14}H_{16}Cl_2N_4O_3$
octafonii chloridum octafonium chloride	benzyldiethyl[2-[4-(2,2,4-trimethylpentyl)phenoxy]ethyl]ammonium chloride $C_{27}H_{42}ClNO$
oleum radio-ethiodatum (^{131}I) radio-ethiodized oil (^{131}I)	an iodine addition product of the ethyl ester of the fatty acid of poppyseed oil, containing 475 mg./ml. (37 percent by weight) of iodine. A portion of this iodine is the radioactive isotope ^{131}I.
oxybenzonum oxybenzone	2-hydroxy-4-methoxybenzophenone $C_{14}H_{12}O_3$
oxyclozanidum oxyclozanide	3,5,6,3′,5′-pentachloro-2,2′-dihydroxybenzanilide $C_{13}H_5Cl_5NO_2$
oxyfedrinum oxyfedrine	L-3[(β-hydroxy-α-methylphenethyl)amino]-3′-methoxypropiophenone $C_{19}H_{23}NO_3$
pancreozyminum pancreozymin	a hormone obtained from duodenal mucosa
paraflutizidum paraflutizide	6-chloro-3,4-dihydro-3-(*p*-fluorobenzyl)-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide $C_{14}H_{13}ClFN_3O_4S_2$
pecilocinum pecilocin	an antibiotic substance obtained from cultures of *Paecilomyces varioti bainer*, or the same substance produced by any other means
penamecillinum penamecillin	acetate ester of the hydroxymethyl ester of Penicillin G $C_{19}H_{22}N_2O_6S$
penimepicyclinum penimepicycline	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-[[4-(2-hydroxyethyl)-1-piperazinyl]methyl]-6-methyl-1,11-dioxo-2-naphthacenecarboxamide salt with Penicillin V $C_{45}H_{56}N_6O_{14}S$
pentorexum pentorex	α,α,β-trimethylphenethylamine $C_{11}H_{17}N$
pifenatum pifenate	ethyl α,α-diphenyl-2-piperidinepropionate $C_{24}H_{27}NO_2$
piperonyli butoxidum piperonyl butoxide	α-[2-(2-butoxyethoxy)ethoxy]-4,5-(methylenedioxy)-2-propyltoluene $C_{19}H_{30}O_5$
pipobromanum pipobroman	1,4-bis(3-bromopropionyl)piperazine $C_{10}H_{14}Br_2N_2O_2$
prednazatum prednazate	11β,17,21-trihydroxypregna-1,4-diene-3,20-dione, 21-(hydrogen succinate), compound with 4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazineethanol $C_6H_{32}O_8 \cdot C_{21}H_{26}ClN_3OS$
prednisoloni steaglas prednisolone steaglate	the stearate ester of 11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-glycolate $C_{41}H_{64}O_8$
procarbazinum procarbazine	*N*-isopropyl-α-(2-methylhydrazino)-*p*-toluamide $C_{12}H_{19}N_3O$
proglumidum proglumide	D,L-4-benzamido-*N*,*N*-dipropylglutaramic acid $C_{18}H_{26}N_2O_4$
prolintanum prolintane	1-phenyl-2-*N*-pyrrolidinopentane $C_{15}H_{23}N$
propipocainum propipocaine	3-piperidino-4′-propoxypropiophenone $C_{17}H_{25}NO_2$
propiramum propiram	*N*-(1-methyl-2-piperidinoethyl)-*N*-2-pyridylpropionamide $C_{16}H_{25}N_3O$
propyperonum propyperone	4′-fluoro-4-(4-piperidino-4-propionylpiperidino)butyrophenone $C_{28}H_{35}FN_2O_2$
protionamidum protionamide	2-propylthioisonicotinamide $C_9H_{12}N_2S$
pyridaronum pyridarone	2-(4-pyridyl)-benzofuran $C_{13}H_9NO$
pyrimitatum pyrimitate	*O*,*O*-diethyl *O*-[2-dimethylamino-6-methyl-4-pyrimidinyl]phosphorothioate $C_{11}H_{20}N_3O_3PS$
pyritidii bromidum pyritidium bromide	3-amino-8-[(2-amino-6-methyl-4-pyrimidinyl)amino]-6-(*p*-aminophenyl)-5-methylphenanthridinium bromide methobromide $C_{26}H_{27}Br_2N_7$
pyrrolifenum pyrrolifene	α-benzyl-β-methyl-α-phenyl-1-pyrrolidinepropanol acetate $C_{23}H_{29}NO_2$
quinetalatum quinetalate	6-(diethylcarbamoyl)-3-cyclohexene-1-carboxylic acid compound with 4-[[2-(dimethylamino)ethyl]amino]-6-methoxyquinoline (2:1) $C_{14}H_{19}N_3O \cdot 2C_{13}H_{19}NO_3$
racefeminum racefemine	(±)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{18}H_{23}NO$
racemelfalanum racemelfalan	(±)-3-[*p*-[bis(2-chloroethyl)amino]phenyl]alanine $C_{13}H_{18}Cl_2N_2O_2$
radiomerisoprolum (^{197}Hg) radiomerisoprol (^{197}Hg)	1-(hydroxymercuri-^{197}*Hg*)-2-propanol $C_3H_8HgO_2$
sulfacetenum sulfacetene	N^1-acetyl-N^1-(3-methoxypyrazinyl)sulfanilamide $C_{13}H_{14}O_4N_4S$
sulformetoxinum sulformetoxine	N^1-(5,6-dimethoxy-4-pyrimidinyl)sulfanilamide $C_{12}H_{14}N_4O_4S$
sulisobenzonum sulisobenzone	5-benzoyl-4-hydroxy-2-methoxybenzenesulfonic acid $C_{14}H_{12}O_6S$
terodilinum terodiline	*N*-*tert*-butyl-1-methyl-3,3-diphenylpropylamine $C_{20}H_{27}N$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
testosteroni ketolauras testosterone ketolaurate	testosterone 3-oxododecanoate $C_{31}H_{48}O_4$
tetramisolum tetramisole	(±)-2,3,5,6-tetrahydro-6-phenylimidazo[2,1-*b*]thiazole $C_{11}H_{12}N_2S$
tiamizidum tiamizide	4-chloro-*N*-methyl-3-(methylsulfamoyl)benzamide $C_9H_{11}ClN_3O_3S$
tioguaninum tioguanine	2-aminopurine-6-thiol $C_5H_5N_5S$
tiotixenum tiotixene	*N*,*N*-dimethyl-9-[3-(4-methyl-1-piperazinyl)propylidene]thioxanthene-2-sulfonamide $C_{23}H_{30}N_4O_2S_2$
tioxolonum tioxolone	4-hydroxy-1,3-benzoxathiol-2-one $C_7H_4O_3S$
tolycainum tolycaine	methyl 2-[2-(diethylamino)acetamido]-*m*-toluate $C_{15}H_{24}N_2O_3$
triclacetamolum triclacetamol	2,2,2-trichloro-4′-hydroxyacetanilide $C_8H_6Cl_3NO_2$
triclocarbanum triclocarban	3,4,4′-trichlorocarbanilide $C_{13}H_9Cl_3N_2O$
triclodazolum triclodazol	3-(2,2,2-trichloro-1-hydroxyethyl)-5,5-diphenyl-4-imidazolidinone $C_{17}H_{15}Cl_3N_2O_2$
trifluperidolum trifluperidol	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{23}F_4NO_2$
trioxysalenum trioxysalen	6-hydroxy-β,2,7-trimethyl-5-benzofuranacrylic acid, α-lactone $C_{14}H_{12}O_3$
tylosinum tylosin	an antibiotic substance obtained from cultures of *Streptomyces fradiae*, or the same substance produced by any other means.
urokinasum urokinase	a plasminogen activator isolated from human urine
vasopressini injectio vasopressin injection	a sterile aqueous solution containing the pressor principle of the posterior lobe of the pituitary body
verapamilum verapamil	5-[(3,4-dimethoxyphenethyl)methylamino]-2-(3,4-dimethoxyphenyl)-2-isopropylvaleronitrile $C_{27}H_{38}N_2O_4$
vinglycinatum vinglycinate	deacetylvincaleukoblastine 4-ester with *N*,*N*-dimethylglycine $C_{48}H_{62}N_6O_9$
vintiamolum vintiamol	*N*[(4-amino-2-methyl-5-pyrimidinyl)methyl]-*N*-[2-[(2-benzoylvinyl)thio]-4-hydroxy-1-methyl-1-butenyl]formamide $C_{21}H_{24}N_4O_3S$
viridofulvinum viridofulvin	an antibiotic substance obtained from cultures of *Streptomyces viridogriseus*, or the same substance produced by any other means
xantinoli nicotinas xantinol nicotinate	7-[2-hydroxy-3-[(2-hydroxyethyl)methylamino]propyl]theophylline nicotinate $C_{14}H_{21}N_5O_4 \cdot C_6H_5NO_2$

NOTE.—Proposed International Non-Proprietary Names List 15, WHO/Pharm/Nom/41.65, delete

flumoperonum flumoperone	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{23}F_4NO_2$

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 186,479. Sort-Rite Sales Corporation, Harlingen, Tex. Filed Feb. 11, 1964.

SORT-RITE

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Boat Unloading Machinery, Shrimp Peeling Equipment, Fish and Shrimp Separators, Vegetable Separators, and Seafood and Vegetable Conveyors, Washers, Mechanical Graders, and Special Equipment Made to Order for Handling Seafood and Vegetables.

Class 31—Filters and Refrigerators

For Freezer and Storage Vaults.

First use Oct. 6, 1952.

SN 188,917. Raven Industries, Inc., Sioux Falls, S. Dak. Filed Mar. 17, 1964.

RAVEN

Class 2—Receptacles

For Tanks; Plastic Sheet Liners for Ice Rinks; and Fabricated Plastic Containers.

First use September 1958.

Class 12—Construction Materials

For Shelters Made of Plastic Material for Personnel and Equipment.

First use Sept. 17, 1959.

Class 19—Vehicles

For Balloons; Blimps; Captive Balloons; Balloon Inflation Equipment; Balloon Launching Equipment for Holding and Releasing Balloons; and Parachutes.

First use in 1957.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Resistors.

First use in 1957.

Class 26—Measuring and Scientific Appliances

For Telemeters; Balloon Flight Control Equipment for Controlling Balloon Altitude and Flight Conditions; and Balloon Signal Equipment for Sending or Receiving Signals Between Balloons in Other Locations.

First use in 1957.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Air Flow Conduits; and Fabricated Plastic Ducts.

First use Mar. 6, 1961.

Class 50—Merchandise Not Otherwise Classified

For Tarps; Concrete Curing Blankets; and Throw-Over Covers.

First use Sept. 17, 1959.

SN 196,708. Patterson Equipment Company, Carnegie, Pa. Filed June 29, 1964.



Class 101—Advertising and Business

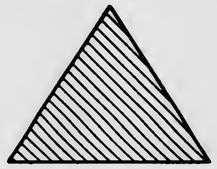
For Manufacturers' Representative Services in the Field of Road Building and Road Maintenance Equipment.

Class 103—Construction and Repair

For Service, Repair, Leasing, and Rental of Road Building and Road Maintenance Equipment.

First use April 1964.

SN 205,221. The Youngstown Sheet and Tube Company, Youngstown, Ohio. Filed Oct. 30, 1964.



The mark consists of an isosceles triangle colored green. Owner of Reg. Nos. 418,302, 729,614, and others.

Class 12—Construction Materials

For Electric Power Transmission Towers; Radio, Television, and Microwave Towers; Floodlight Towers; Utility Houses; and Parts for These Goods.

First use at least as early as Sept. 4, 1959.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Swivel Fittings; Level Control Valves; Pressure Control Valves; Plastic Pipe and Fittings; and Parts for These Goods.

First use at least as early as Dec. 1, 1958.

Class 15—Oils and Greases

For Tool Joint Lubricant.

First use at least as early as July 1959.

Class 16—Protective and Decorative Coatings

For Enamel Paint.

First use at least as early as January 1945.

Class 19—Vehicles

For Mobile Trailers and Parts Therefor.
First use at least as early as July 1, 1960.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors for Pumps and Controls Therefor; Electric Valve Actuators; and Parts for These Goods.
First use at least as early as July 1957.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Drawworks; Gear and Chain-Powered Transmissions; Catheads; Rotary Tables; Rotary Swivels; Travelling Blocks; Crown Blocks; Slush Pumps; Water Pumps; Portable Drilling Masts; Erectible Derricks and Substructures Therefor; Pumping Engines; Polish Rod Stuffing Boxes; Polish Rod Clamps; Subsurface Pumps; Mud Tanks; Loading Arms; Spinning Chains; and Parts for These Goods.
First use at least as early as May 18, 1945.

Class 26—Measuring and Scientific Appliances

For Well Production Testers and Parts Therefor.
First use at least as early as Aug. 18, 1960.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Slush Pump Discharge and Suction Hose; V-Belts; Piston Rod Packing; and Wash Pipe Packing.
First use at least as early as October 1938.

SN 210,419. The Cincinnati Time Recorder Company, Cincinnati, Ohio. Filed Jan. 22, 1965.



Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Bells, Including Program Bells and Fire Alarm Bells.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Actuated Fire Alarms.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Ticket Printers for Issuing Tickets With Time Imprints, for Use in Parking Lots, Rapid Transit Systems, and the Like.

Class 26—Measuring and Scientific Appliances

For Horological Devices and Related Equipment—Namely, Time Recorders, Such as Job Clocks, In and Out Time Recorder Clocks, Cost Recorder Clocks, Master Clocks, Slave Clocks, Program Clocks, and Automatic Parking Equipment, Including Vehicle Gates, Token and Money Receiving Devices for Operating the Gates, and Ticket Issuing Devices Operative in Conjunction With Vehicle Gates.

Class 27—Horological Instruments

For Clocks.

First use May 20, 1964.

SN 211,229. Commercial Solvents Corporation, New York, N.Y. Filed Feb. 3, 1965.



Class 1—Raw or Partly Prepared Materials

For Resin Solutions and Plasticizing Resin Solutions.
First use Aug. 18, 1958.

Class 6—Chemicals and Chemical Compositions

For Synthetic Drying Oils.
First use Nov. 11, 1960.

Class 16—Protective and Decorative Coatings

For Synthetic Drying Oils, Resin Solutions, and Plasticizing Resin Solutions for Use in Paints and Varnishes and Synthetic Resin Solutions for Use in Paints for Producing Hammer Finishes.
First use Aug. 8, 1957.

SN 212,175. Merriman Bros., Inc., Boston, Mass. Filed Feb. 17, 1965.



Owner of Reg. Nos. 598,078 and 755,368.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Marine and Yacht Hardware—Namely, Deck Fittings and Rigging Fittings.
First use 1949.

Class 14—Metals and Metal Castings and Forgings

For Boat Anchors.
First use June 1964.

Class 21—Electrical Apparatus, Machines, and Supplies

For Pole Pieces for Electrical Apparatus.
First use June 1964.

Class 22—Games, Toys, and Sporting Goods

For Magaphones.
First use June 1964.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Blocks, Winches, and Davits for Yachting Use, and Machine Bearings, Machine Bushings, Machine Gears, Machine Cams, Bearing Plates, and Spinning and Twisting Textile Rings.
First use 1949.

SN 213,011. Haydon Switch & Instrument, Inc., Waterbury, Conn. Filed Mar. 1, 1965.



Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Motors and Electric Switches.
First use Dec. 17, 1964.

Class 26—Measuring and Scientific Appliances

For Unit Counters.
First use Feb. 23, 1965.

Class 27—Horological Instruments

For Electric Clocks.
First use Feb. 23, 1965.

SN 214,578. Sterling Plastics Company, Mountainside, N.J. Filed Mar. 19, 1965.



Owner of Reg. Nos. 421,514 and 571,199.

Class 26—Measuring and Scientific Appliances

For Calculating and Drafting Implements—Namely, Compasses, Dividers, Protractors, Rulers, Drafting Scales, T-Squares, Adding Devices and Slide Rules.

Class 37—Paper and Stationery

For School and Stationery Implements and Novelties—Namely, Cases, Sharpeners, Kits and Pouches for Writing and Drawing Implements, Writing and Drawing Implements Such as Pen Holders and Pencils, Calendars, Envelope Sealers and Openers, File Boxes, Moisteners, and Spring Clips.

First use January 1956.

SN 221,562. Axiom Products Co., Inc., Kew Gardens, N.Y. Filed June 21, 1965.

AXIOM

Class 2—Receptacles

For Cargo Containers and Housings for In-Process and Completed Manufactured Items.

Class 19—Vehicles

For Dollies and Push Trucks.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Conveyors and Pallet Jacks.

Class 32—Furniture and Upholstery

For Shelf and Pallet Racks.

Class 50—Merchandise Not Otherwise Classified

For Pallets, Skids, and Dockboards.

First use June 11, 1959.

SN 224,143. Lehn & Fink Products Corporation, New York, N.Y. Filed July 26, 1965.



Owner of Reg. No. 415,084.

Class 4—Abrasives and Polishing Materials

For Floor Wax.
First use at least as early as June 26, 1965.

Class 52—Detergents and Soaps

For Bowl Cleanser, and All Purpose Cleaner.
First use May 10, 1965.

SN 224,680. National Work Clothes Rental, Elizabeth, N.J. Filed July 30, 1965.



Class 29—Brooms, Brushes, and Dusters

For Dust Mops.

Class 39—Clothing

For Work Uniforms or Coveralls.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Towels.

First use July 23, 1965.

SN 225,520. Superior Products Company, d.b.a. House of Lisa Mornay, Dallas, Tex. Filed Aug. 11, 1965.

LISA MORNAY

The mark "Lisa Mornay" is not the name of any individual known to applicant.

Class 51—Cosmetics and Toilet Preparations

For Toiletries and Cosmetics—Namely, Bath Oil, Milk Bath Concentrate, Hair Rinse, and Hand and Body Lotion.

Class 52—Detergents and Soaps

For Hair Shampoo.

First use July 14, 1965.

SN 227,372. Wedgewood-Holly Appliance Co., Culver City, Calif. Filed Sept. 7, 1965.

WESTERN-HOLLY

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Ranges for Cooking Purposes.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Gas Ranges for Cooking Purposes.

First use July 16, 1932.

SN 230,021. Mills-Pearson Corp., St. Petersburg, Fla. Filed Oct. 18, 1965.

DIANOL

Owner of Reg. Nos. 422,591 and 563,802.

Class 6—Chemicals and Chemical Compositions

For Fungicidal Ingredient for Paint and Surface Coatings.
First use Sept. 15, 1959.

Class 15—Oils and Greases

For Silicone Lubricant.
First use Nov. 6, 1964.

SN 231,712. Avallone Corporation, Cedar Grove, N.J. Filed Oct. 28, 1965.

LUBEN

Class 5—Adhesives

For Synthetic Rubber Adhesives Having Heat Resistant and Fire Retarding Qualities.
First use Sept. 27, 1963.

Class 12—Construction Materials

For Moisture and Vapor Barrier Sheets of Aluminum Foil, and Polyester Films, Adhesively Bonded to Glass Fiber Screening With a Bonding Material Having Heat Resistant and Fire Retarding Qualities.
First use Dec. 9, 1964.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 208,289. John H. Todd, d.b.a. Todd Hybrid Corn Company, Burlington, Ind. Filed Dec. 16, 1964.

TODD QUALITY HYBRID

The words "Quality Hybrid" and the representation of the sorghum-sudangrass are disclaimed apart from the mark as shown.
For Sorghum-Sudangrass Seed.
First use Oct. 1, 1964; 1939 as to "Todd Quality Hybrid."

SN 223,999. Oscar Kern, d.b.a. Kern Enterprises, Stillwater, Minn. Filed July 22, 1965.

LABELAWN

For Lawn Sod in Roll Form.
First use July 2, 1965.

SN 224,000. Oscar Kern, d.b.a. Kern Enterprises, Stillwater, Minn. Filed July 22, 1965.

GUSTOGRASS

For Lawn Sod in Roll Form.
First use July 2, 1965.

SN 224,001. Oscar Kern, d.b.a. Kern Enterprises, Stillwater, Minn. Filed July 22, 1965.

SPLENDITURF

For Lawn Sod in Roll Form.
First use July 2, 1965.

SN 224,998. American Renolit Corporation, Bartlesville, Okla. Filed Aug. 5, 1965.

RENATA

For Expanded Plastic.
First use June 11, 1965.

SN 224,999. American Renolit Corporation, Bartlesville, Okla. Filed Aug. 5, 1965.

RENEER

For Calendered Plastic Sheet and Film, Either Decorated or Plain, Used Primarily for Laminating Purposes.
First use May 27, 1965.

SN 228,896. E. I. Du Pont de Nemours and Company, Wilmington, Del. Filed Sept. 29, 1965.

ELVAMIDE

Owner of Reg. Nos. 506,548, 507,021, and 718,404.
For Synthetic Resins in Liquid or Solid Form.
First use Sept. 3, 1965.

SN 229,285. Gary Edwards Pogue, d.b.a. G. E. Pogue Seed Co., Kennedy, Tex. Filed Oct. 4, 1965.

TIGER CHOW

For Sorghum-Sudan Grass Hybrid Seed.
First use Aug. 21, 1965.

SN 230,707. S.p.A. Alfredo Motta, Bettola di Cinisello, Balsamo, Italy. Filed Oct. 20, 1965.

HORSYLUX HX

Priority claimed under Sec. 44(d) on Italian application filed Apr. 22, 1965; Reg. No. 173,820, dated Dec. 11, 1965.
For Leather for Clothing.

SN 232,182. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Nov. 5, 1965.

STYROPOR

For Expandable Styrene Polymers.
First use Jan. 5, 1951; in commerce Mar. 2, 1955.

SN 232,659. Bees Limited, Sealand, Chester, England. Filed Nov. 15, 1965.



Owner of British Reg. No. 843,262, dated Dec. 28, 1962.
For Seeds for Agricultural and Horticultural Purposes.

SN 235,150. Allied Chemical Corporation, New York, N.Y. Filed Dec. 23, 1965.

CAPELLA

For Continuous Synthetic Filament and Synthetic Staple Fiber.
First use Sept. 30, 1965.

SN 236,083. Freeport Sulphur Company, New York, N.Y. Filed Jan. 10, 1966.

SP 33

For Clay.
First use in or before June 1963.

SN 238,386. Beaunit Corporation, New York, N.Y. Filed Feb. 9, 1966.

QUTRON

For Nylon Fiber for Use in Outerwear.
First use on or about Nov. 5, 1965.

Class 2—Receptacles

SN 213,320. House of Coins, Elizabeth, N.J. Filed Mar. 4, 1965.

HC

The mark consists of the letters "HC."
For Coin Tubes.
First use on or about Feb. 15, 1965.

SN 214,562. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Mar. 19, 1965.

TUPPER WARE

Applicant disclaims the word "Ware" apart from the mark as shown.
For Plastic Household Containers, and Covers Therefor.
First use 1954.

SN 218,476. Princess Products, Inc., Fitchburg, Mass. Filed May 10, 1965.

LEONARDO

For Plastic Receptacles—Namely, Wash Tubs, Dish Pans, Pails, Utility Cans, Colanders, and Trays.
First use on or about Sept. 28, 1964.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 218,430. Ernest Hazel Jr., Inc., Washington, Mo. Filed May 10, 1965.

IDENT-A-POUCH

For Travel Goods—Namely, Suit Bags, Portfolios, and Overnight Cases.
First use Apr. 23, 1965.

SN 223,511. Barnes-Daugherty and Associates, Sausalito, Calif. Filed July 16, 1965.



For Animal Sleeping Container.
First use June 7, 1965.

SN 225,302. Everglades Trading Company, Inc., Hialeah, Fla. Filed Aug. 9, 1965.

ETCO

For Handbags, Wallets, Key Cases, and Coin Purses.
First use Jan. 1, 1965.

Class 6—Chemicals and Chemical Compositions

SN 221,441. H. W. Andersen Products, Inc., Oyster Bay, N.Y. Filed June 18, 1965.

ANPROLENE

For Sterilising Gas.
First use Apr. 30, 1965.

SN 224,834. Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany. Filed Aug. 3, 1965.

LIPAMIN

For Chemicals Used as Auxiliaries for the Leather and Fur Industry, Especially in Dyeing, as Stabilizers for Cationic Fatliquors and as Cation-Active Fatliquors for Leather and Fur Skins.
First use Dec. 10, 1952; in commerce June 25, 1963.

SN 227,735. Tenneco Chemicals, Inc., New York, N.Y. Filed Sept. 14, 1965.

NUOSYN

For Metal Salts of Organic Acids for Use as Driers To Promote Oxidation and/or Polymerization To Effect Drying of Air-Curing Systems, Including Paints, Enamels, Lacquers, and Coating Compositions.
First use on or about Aug. 20, 1965.

SN 227,892. Thiokol Chemical Corporation, Bristol, Pa. Filed Sept. 15, 1965.

VA 90

Owner of Reg. No. 631,559.
For Vulcanizing Agents.
First use July 1965.

Class 8—Smokers' Artides, Not Including Tobacco Products

SN 242,016. Japan Gas Lighter Corp., New York, N.Y. Filed Mar. 28, 1966.

J2

For Cigarette Lighters.
First use Feb. 15, 1966; Aug. 5, 1965, in a different form.

Class 10—Fertilizers

SN 229,192. The Borden Company, New York, N.Y. Filed Oct. 4, 1965.

WINTER SURVIVAL

The word "Winter" is disclaimed apart from the mark as shown.
For Fertilizer.
First use July 23, 1965.

SN 240,594. Diamond Alkali Company, Cleveland, Ohio. Filed Mar. 10, 1966.

DACTHAL PLUS THREE

Owner of Reg. No. 705,402.
For Combination Lawn Fertilizer-Herbicide-Insecticide.
First use Jan. 28, 1966.

Class 12—Construction Materials

SN 206,277. Lone Star Roofing Co., Houston, Tex. Filed Nov. 16, 1964.



Disclaimer is made of the word portion of the mark, "Don't Monkey With Cheap Roofs."
For Roofing Materials—Namely, Asphalt, Asphalt Composition Rolls, Felts, and Shingles, Coal Tar Pitch, Tar, and Asbestos Shingles and Siding and Plastic Compositions Thereof.
First use January 1932.

SN 206,573. Silver Line, Kenilworth, N.J. Filed Nov. 19, 1964.

SWING SASH

No rights are claimed to registration of the word "Sash" apart from the mark as shown. Owner of Reg. No. 597,212.
For Aluminum Windows Having Hinged Sashes.
First use June 1, 1964.

SN 213,670. Hardwood Corporation of America, Asheville, N.C. Filed Mar. 9, 1965.

HARCO

For Lumber and Wood Parts—Namely, Rough Lumber, Surfaced and Resawn Lumber, Strip Flooring, Laminated Flooring, Stair Treads and Risers, Paneling, Plywood, Flakeboard, Molding and Trim, and Wood Parts Made According to Customer Specifications.
First use during 1946.

SN 213,672. Hardwood Corporation of America, Asheville, N.C. Filed Mar. 9, 1965.



The wording "Hardwood Corporation of America" is disclaimed apart from the mark as shown. The stippling in the drawing represents the use of red or orange color.
For Lumber and Wood Parts—Namely, Rough Lumber, Surfaced and Resawn Lumber, Strip Flooring, Laminated Flooring, Stair Treads and Risers, Paneling, Plywood, Flakeboard, Molding and Trim, and Wood Parts Made According to Customer Specifications.
First use during early 1964.

SN 214,247. Coastal Research Corporation, Glen Burnie, Md. Filed Mar. 16, 1965.

LOK-GARD

For Interlocking Concrete Blocks.
First use Jan. 20, 1965.

SN 215,396. Evans Products Company, Portland, Oreg. Filed Mar. 31, 1965.

evans

For Plywood, Finished and Unfinished; Hardboard, Finished and Unfinished; Prefinished Paneling Siding; Doors; Windows; Moldings and Wood Structural Components.
First use March 1964; at least as early as May 1951, in a different form, on plywood.

SN 216,491. Electric Utilities Corporation, Kansas City, Mo. Filed Apr. 14, 1965.



The drawing is lined for red. The words "Milk" and "Shops" are disclaimed apart from the mark as shown.
For Equipment, Sold as a Package, for Establishing a Small Food Store—Namely, a Prefabricated Store Building, Refrigerated Cabinets, Display Racks, and Refrigerated Chests.
First use Feb. 16, 1965.

SN 216,785. Wm. W. Brockway, Burbank, Calif. Filed Apr. 19, 1965.

DYNAFAB

For Prefabricated Portable School Classrooms and School Buildings.
First use Feb. 25, 1965.

SN 217,220. Supradur Manufacturing Corporation, Wind Gap, Pa. Filed Apr. 23, 1965.

FIBER-SHAKE

Owner of Reg. No. 600,506.
For Asbestos-Cement Siding Shingles.
First use Mar. 24, 1952.

SN 217,838. The Burns & Russell Company of Baltimore City, Baltimore, Md. Filed May 3, 1965.

Spectra-Lite

Owner of Reg. Nos. 584,145, 795,876, and others.
For Glazing Compounds for Masonry Surfaces and Glazed Structural Masonry Units.
First use Nov. 30, 1964.

SN 219,386. Acorn Chemical Company, Cleveland, Ohio. Filed May 21, 1965.

TEX-O-KOTE

For Construction Material Comprising Coatings To Provide a Textured, Stucco-Like Appearance on Porous Masonry Surfaces Such as Cinder Block, Cement Block, Stucco, Masonry and the Like.
First use at least as early as July 7, 1955.

SN 220,314. National Paint Distributors, Inc., Chicago, Ill. Filed June 3, 1965.

NPD

For Construction Materials—Namely, Plaster, Caulking, Glazing, Patching, Spackling, Grout, Spackling Paste, Putty, Joint Cement, Topping Cement, and Cement Patch Compounds and Caulking Cartridges.
First use Febuary 1961.

SN 221,521. Reynolds Metals Company, Richmond, Va. Filed June 18, 1965.

TUBED SHEET

For Composite Aluminous Metal Sheet Inflated so as to Have Passages Between Adjacent Layers.
First use on or about Mar. 7, 1955.

SN 223,259. Republic Powdered Metals, Inc., Cleveland, Ohio. Filed July 13, 1965.



For Asphalt Base, Asbestos Fibred Aluminum Roof Composition.
First use July 1, 1958.

SN 226,809. Weather-Tite Mfg. Corp., Baltimore, Md. Filed Aug. 30, 1965.



The mark consists of a fanciful design of the letters "WT."
For Metallic Doors, Windows, Screens, and Accessory Hardware.
First use Jan. 19, 1963.

SN 227,502. Interoceanic Commodities Corporation, St. Paul, Minn. Filed Sept. 9, 1965.

Stockline

For Metal Doors and Frames.
First use July 29, 1965.

SN 229,456. Scientific Insulation Co., Inc., Pitcairn, Pa. Filed Oct. 6, 1965.

THERM-SULATION

For Thermal Insulation in Sheets, Batts, or Other Forms.
First use May 1963.

SN 229,537. Anthony Marino, Avon, Mass. Filed Oct. 7, 1965.



Applicant disclaims the term "Block" and the representation of the block, insofar as it represents a conventional cement block, apart from the mark as shown.
For Concrete Building Blocks.
First use July 29, 1965.

SN 230,414. The Mosaic Tile Company, Cleveland, Ohio. Filed Oct. 18, 1965.

MOONSTONE

For Ceramic Tile.
First use June 22, 1964.

SN 230,847. Laminated Glass Corporation, Detroit, Mich. Filed Oct. 21, 1965.

HUSHLITE

For Laminated Sound Controlling Glass Plate, Panels, Sheets, and Windows.
First use Aug. 31, 1965.

SN 230,848. Laminated Glass Corporation, Detroit, Mich. Filed Oct. 21, 1965.

SOLARGARD

For Laminated Heat-Reflecting Glass Plates, Panels, Sheets, and Windows.
First use Oct. 19, 1965.

SN 230,849. Laminated Glass Corporation, Detroit, Mich. Filed Oct. 21, 1965.

SUBDOO

For Laminated Glare-Reducing Glass Plate, Panels, Sheets, and Windows.
First use Aug. 30, 1965.

SN 230,850. Laminated Glass Corporation, Detroit, Mich. Filed Oct. 21, 1965.

ARTISTOLITE

For Laminated Decorative Glass Plates, Sheets, and Panels.
First use Oct. 19, 1965.

SN 230,851. Laminated Glass Corporation, Detroit, Mich. Filed Oct. 21, 1965.

VISTA-SAFE

For Laminated Bullet Resisting Glass Sheets, Panels, Plates, and Windows.
First use Sept. 21, 1965.

SN 232,484. Taylor-Piedmont Co., Spartanburg, S.C. Filed Nov. 10, 1965.

T·P

Owner of Reg. No. 787,414.
For Lumber, Railroad Ties, Wooden Piles, and Telephone, Telegraph, and Power Transmission Poles.
First use Oct. 4, 1965.

SN 234,037. Johns-Manville Corporation, New York, N.Y. Filed Dec. 6, 1965.

DYNA-QUARTZ

For Fibrous, High Temperature Thermal Insulation.
First use Aug. 8, 1963.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 204,181. Mink-Dayton, Inc., Dayton, Ohio. Filed Oct. 16, 1964.



For Towel Racks, Purse Holders, Dental Shelves, Door Closers and Latches, Toilet Hoppers, Water Closets, Lavatories, Toilet Paper Holders, Door Locking Bars, Door Push Plates, and Door Pull Plates.
First use Oct. 1, 1961.

SN 223,195. Stephen A. Young Corporation, Flora, Ind. Filed July 12, 1965.



The drawing is lined for the color red.
For Plumbing Fixtures—Namely, Tub Fillers Including Valve Body Units, Handles, Escutcheons, Spouts, Diverter Bath and Shower Valves, Diverter Tub and Shower Spouts, Shower Heads, Over Rim Spouts, Plain Shower Valves, Sink Faucets, Lavatory Drains, Lavatory Faucets, Bath Faucets, Trip Lever Drains, Bibbs and Stops; and Parts Therefor—Namely, Handles, Flanges, Stems, Bonnets, Renewable Seats, Nipples, Lift Rods, Waste T's, Slip Nuts, Canoples, Shower Arms, and Sink Faucet Spouts.
First use in or about April 1965.

SN 225,726. Challenge Marine Hardware Company, Brea, Calif. Filed Aug. 16, 1965.



For Cleats, Snap Shackles and Blocks To Be Used on Boats.
First use Jan. 6, 1965.

SN 228,527. Hinde Engineering Company, Highland Park, Ill. Filed Sept. 24, 1965.

AIR-AQUA

For Equipment for Introducing Air Into Bodies of Water—Namely, Plastic Tubing, Header Tubing or Pipe, Fittings for Connecting Tubing, Air Compressors, Blowers, and Automatic Controls.
First use March 1959.

SN 232,555. Hi-Shear Corporation, Torrance, Calif. Filed Nov. 12, 1965.

SIX-WING

For Fastening Systems, Including Threaded-Shank Members, Nuts and Tooling for Setting the Fastening System.
First use Aug. 24, 1965.

SN 232,556. Hi-Shear Corporation, Torrance, Calif. Filed Nov. 12, 1965.

SIXCES

For Fastening Systems, Including Threaded-Shank Members, Nuts and Tooling for Setting the Fastening System.
First use Feb. 4, 1965.

Class 14—Metals and Metal Castings and Forgings

SN 227,893. Toho Aen Kabushi Kaisha, d.b.a. Toho Zinc Co. Ltd., Chuo-ku, Tokyo-to, Japan. Filed Sept. 15, 1965.

MAIRON

For Iron, Zinc, Lead, Copper, Tin, Bismuth, Antimony, Nickel, Stainless Steel, Cadmium, Indium, Terullium, and Alloys.
First use Dec. 16, 1961; in commerce Sept. 15, 1963.

Class 15—Oils and Greases

SN 207,953. Energy Oil Company, Inc., Baltimore, Md. Filed Dec. 11, 1964.

Peoples

Owner of Reg. No. 790,604.
For Gasoline and Motor Oils.
First use Jan. 1, 1958.

SN 240,369. UFO Lubricants Inc., Danvers, Mass. Filed Mar. 7, 1966.

UFO

For Motor Oil Additive.
First use Jan. 24, 1966.

Class 16—Protective and Decorative Coatings

SN 175,288. Jones-Blair Company, Dallas, Tex., by change of name from Jones-Blair Paint Company, Inc., Dallas, Tex. Filed Aug. 19, 1963.

PEDA-GARD

For Glass Fiber Reinforced Elastomeric Traffic-Bearing Area Coating Systems.
First use on or about June 1, 1962.

SN 188,180. Chemical Concentrates Corporation, Fort Washington, Pa., assignee of Baker Industries, Inc., Newark, N.J. Filed Mar. 9, 1964.

Guardseal

For Fibred Aluminum Roof Coating in the Nature of a Paint.
First use Aug. 27, 1959.

SN 214,134. Charles E. MacMillin, Sepulveda, Calif. Filed Mar. 15, 1965.

Koba COAT

The word "Coat" is disclaimed apart from the mark as shown.
For Mastic Coating—Namely, Viscous Material in the Nature of a Paint Used as a Primer, Filler, Base, and/or Finish Coat With or Without Color Added.
First use Aug. 30, 1961.

SN 214,251. C. DeSantis Paint Manufacturing Co., Cleveland, Ohio. Filed Mar. 16, 1965.

POLY-LOCK

For Paints and Varnishes.
First use Jan. 12, 1964.

SN 220,045. West Paint & Varnish Company, Everett, Mass. Filed May 28, 1965.

Silky

For Interior Latex Base Paints for Walls, Ceilings, and Woodwork.
First use May 24, 1965.

SN 221,042. W. R. Grace & Co., Cambridge, Mass. Filed June 14, 1965.

DYNACREX

For Clear Polyurethane Coating for Wood Surfaces, Including Gymnasium Floors, Bowling Alleys, Cabinets, Outdoor Furniture, and Other Concrete and Metal Surfaces.
First use Apr. 27, 1965.

SN 221,203. Quaker State Oil Refining Corporation, Oil City, Pa. Filed June 15, 1965.

QUAKER STATE METAL-GARD UNDERCOATING

Applicant disclaims the word "Undercoating" apart from the mark as shown. Owner of Reg. Nos. 145,778, 774,392, and others.
For Automotive Undercoating.
First use May 7, 1965.

SN 221,408. Rinshed-Mason Company, Detroit, Mich. Filed June 17, 1965.

THERMOFLEX

For Acrylic Based Enamel for Metal.
First use Dec. 7, 1964.

SN 221,456. J. Bibby & Sons Limited, Liverpool, England. Filed June 18, 1965.

MERGINAMIDE

Owner of British Reg. No. 865,570, dated June 15, 1964.
For Paints, Enamels, and Anti-Corrosives.

SN 222,106. Scientific Advances, Incorporated, Columbus, Ohio, assignee of The Battelle Development Corporation, Columbus, Ohio. Filed June 28, 1965.

MACROGUARD

For Protective, Decorative, Corrosion-Resistant and Skid-Resistant Paints for Exposed Surfaces, Particularly Metal and Concrete Surfaces.
First use Apr. 14, 1965.

SN 222,952. Luminall Paints, Inc., North Bergen, N.J. Filed July 8, 1965.



The drawing is lined for red and gold, but no claim is made to color. The mark consists of the letter "L."
For Paints, Varnishes, Lacquers, Enamels, Stains, Primers, Paint Thinners, Including Paints of Both the Latex and Oil Types Used for Exteriors and Interiors, Paint Primers, Flat Paints Particularly for Wall Coverings and Paint Sprays Adapted for Coloring, Tinting and the Like.
First use in or about February 1965.

SN 223,043. Pur-O-Zone Chemical Co., Inc., Lawrence, Kans. Filed July 9, 1965.

LUST-R-SEAL

For Liquid Floor Finish in the Nature of a Protective and Decorative Coating.
First use Aug. 30, 1944.

SN 225,135. Flo-Paint, Inc., Long Island City, N.Y. Filed Aug. 6, 1965.

BoatLIFE

Applicant disclaims "Boat" apart from the mark as shown.
For Clear and Pigmented Plastic Boat Finishes in the Nature of Varnishes.
First use Nov. 21, 1949.

SN 225,538. M. Buten & Sons, Inc., Philadelphia, Pa. Filed Aug. 12, 1965.

AQUA-PRIME

For Rust-Inhibiting Latex Primer Coating for Metals.
First use June 22, 1965.

SN 225,555. The Glidden Company, Cleveland, Ohio. Filed Aug. 12, 1965.

SUPER SPRED LUSTRE

Owner of Reg. Nos. 614,182, 644,058, and others.
For Semi-Gloss Enamel and the Like.
First use June 4, 1965.

SN 225,950. Emcor, Inc., Des Plaines, Ill. Filed Aug. 18, 1965.

PREFIX

For Scientifically Formulated Floor Preconditioning Compound or Primer Seal for Use on All Kinds of Tile Floors, Ceramics, Linoleum, Quarry Tile, Slate, Stone, Terrazzo, and Other Similar Surfaces.
First use Feb. 18, 1965.

SN 228,427. J. G. Yahnke Co., Chicago, Ill. Filed Sept. 22, 1965.



Applicant disclaims the trade name and address, to wit "J. G. Yahnke Co., Chicago, Ill., 60634" apart from the mark as shown.
For Coating Materials—Namely, Wax and Surface Treating Powder Materials for Protective and Decorative Coatings of Graphic Art and Packaging Matter.
First use at least as early as July 1965.

SN 229,336. Cook & Dunn Paint Corp., Newark, N.J. Filed Oct. 5, 1965.

LOCKS IN

For Latex Exterior House Paint With Zinc Chromate Seal, for Asbestos and Wood Shakes and Shingles, Masonry, Cinder Blocks, Bricks, and the Like.
First use Mar. 29, 1965.

SN 231,034. The Borden Company, New York, N.Y. Filed Oct. 22, 1965.

KOROX

Owner of Reg. No. 790,242.
For Chemically-Resistant Protective Coating With Epoxy Ester Base for Indoor Use.
First use Jan. 27, 1961.

SN 231,136. International Paint Company, Inc. New York, N.Y. Filed Oct. 22, 1965.

VINUX

For Paint Primers, Mixed Paint, and Paint Enamels.
First use Sept. 30, 1965.

SN 232,365. Texas Refinery Corp., Fort Worth, Tex. Filed Nov. 8, 1965.

PENCAPSULA

For Preservative Reactive Resin Coating for Porous Substrate Materials.
First use Oct. 25, 1965.

SN 232,548. The Glidden Company, Cleveland, Ohio. Filed Nov. 12, 1965.

JAPALAC

Owner of Reg. No. 48,401.
For Protective Surface Covering Materials, Such as Varnish Stains, Paint Enamels, and Tint Bases.
First use about Jan. 1, 1898.

SN 232,628. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Nov. 12, 1965.

PERMANOX

For Paint Products, Particularly Rust Inhibitive Paints.
First use May 1, 1946.

SN 233,845. The Valspar Corporation, Rockford, Ill. Filed Dec. 2, 1965.

FIL-SEAL

For Combination Wood Stain, Sealer, and Filler.
First use at least as early as October 1959.

SN 233,998. Continental Oil Company, Ponca City, Okla. Filed Dec. 6, 1965.

SUPERCOTE

Owner of Reg. No. 654,344.
For Hot Melts, Being Blends of Waxes and Copolymers, for Application to Paper, Cardboard and Other Substrates.
First use Oct. 7, 1964.

SN 233,999. Continental Oil Company, Ponca City, Okla. Filed Dec. 6, 1965.

HISEAL

For Hot Melts, Being Blends of Waxes and Copolymers, for Application to Paper, Cardboard and Other Substrates.
First use Oct. 7, 1964.

Class 17—Tobacco Products

SN 191,247. British-American Tobacco Company, Limited, London, England. Filed Apr. 16, 1964.



Owner of British Reg. No. B849,840, dated May 30, 1963.
For Tobacco and Cigarettes.

SN 220,317. Ontario Tobacco Company Limited, Toronto, Ontario, Canada. Filed June 3, 1965.

WEDGEWOOD

For Pipe Smoking Tobacco.
First use Nov. 16, 1964; in commerce Nov. 16, 1964.

Class 18—Medicines and Pharmaceutical Preparations

SN 145,943. Key Minerals Corporation, Salt Lake City, Utah, by change of name from Jensen-Sandberg, Inc., Salt Lake City, Utah. Filed June 1, 1962.



No claim is made to the wording "Minerals" or "Milk Formula" apart from the mark. The drawing is lined for the color red.
For Mineral Feed Supplement for Livestock and Poultry.
First use Sept. 5, 1961.

SN 215,980. Luitpold-Werk, Munich, Germany. Filed Apr. 7, 1965.

HIRUDAL

Owner of German Reg. No. 546,542, dated Aug. 5, 1941; and U.S. Reg. No. 696,995.
For Pharmaceutical Preparation for Dusting Upon Wounds.

SN 224,307. Harry Goldberg, d.b.a. The Right Arc Co., Plainfield, N.J. Filed July 27, 1965.

EXS

For Lubricant for Medicinal Use.
First use May 3, 1965.

SN 224,711. Bristol-Myers Company, New York, N.Y. Filed Aug. 2, 1965.

LETTERMAN

For Medicinal and Pharmaceutical Preparation for the Relief of Cold Distress and Cold Discomfort.
First use June 1, 1964.

SN 226,663. Lynn C. Osincup, d.b.a. Adhesi-Kote Company, Waverly, Iowa. Filed Aug. 27, 1965.

Adhesi-Kote

For Protective Coating for the Skin, Used for Anchorage of Both Adhesive and Non-Adhesive Dressings.
First use on or about July 31, 1965.

SN 227,963. Segrest Feed & Seed Company, Inc., Slocomb, Ala. Filed Sept. 16, 1965.

ALA-FLO

For Mineral Supplement for Cattle, Swine, and Other Animals.
First use not later than on June 21, 1963.

SN 230,177. Majestic Drug Co., Inc., Bronx, N.Y. Filed Oct. 14, 1965.

EPSO - PINE SPA

Owner of Reg. Nos. 439,274 and 681,384.
For Mineral Bath Preparation for the Relief of Rheumatic and Arthritic-Like Muscular Aches and Pains Caused by Bruises and Sprains.
First use Apr. 20, 1965.

SN 231,137. Janssen Pharmaceutica NV, Beerse, Belgium. Filed Oct. 22, 1965.

FRENACTIL

Owner of Belgian Reg. No. 2,111, dated Sept. 27, 1964.
For Pharmaceutical Preparation for Use as a Neuroleptic, Tranquilizer and Analgesic.

SN 232,725. Wayne J. Saari, d.b.a. Charm Pederma Company, Chicago, Ill. Filed Nov. 15, 1965.



For Foot Powder for the Treatment of Sore, Perspiring Feet, for Corns, Callouses, Process Accumulation, Bunions, and Athlete's Foot.
First use 1917.

SN 234,299. The Purdue Frederick Company, Yonkers, N.Y. Filed Dec. 9, 1965.

SULFAZOBID

Owner of Reg. No. 723,506.
For Antibacterial Preparation.
First use Dec. 2, 1965.

SN 237,258. Societe Boulonnaise de Recherches et de Diffusion Pharmaceutiques "SOBORE," Boulogne-sur-Seine (Seine), France. Filed Jan. 25, 1966.

GELSADOL

Owner of French Reg. No. 503,422, dated Mar. 15, 1962 (Seine); Natl. Inst. No. 181,414.
For Analgesic Preparation.

SN 237,384. Richardson-Merrell, Inc., Cincinnati, Ohio. Filed Jan. 26, 1966.

PYLAN

Owner of Reg. No. 322,104.
For Analgesic Preparations.
First use Dec. 10, 1965.

SN 237,385. Richardson-Merrell, Inc., Cincinnati, Ohio. Filed Jan. 26, 1966.

ASCOMIN

For Ascorbic Acid Preparations.
First use Dec. 10, 1965.

SN 237,493. Spray Lin, Inc., Shaker Heights, Ohio. Filed Jan. 27, 1966.



For Antiseptic Foam Cleansing Mixture and Surgical Scrub for Preoperative Surgical Skin Preparation, and as an Aid in the Prevention of Impetigo, Acne, or for Foot Care.
First use Jan. 21, 1966.

SN 237,954. Geigy Chemical Corporation, Ardsley, N.Y. Filed Feb. 3, 1966.

DESONIT

Owner of Reg. No. 412,646.
For Preparation to Relieve Symptoms of the Common Cold.
First use Jan. 20, 1966.

SN 237,956. Geigy Chemical Corporation, Ardsley, N.Y. Filed Feb. 3, 1966.

MOTOPOR

For Hematinic Preparation.
First use Jan. 20, 1966.

SN 237,957. Geigy Chemical Corporation, Ardsley, N.Y. Filed Feb. 3, 1966.

MADERAN

Owner of Reg. No. 718,488.
For Anti-Hypertensive Preparation.
First use Jan. 20, 1966.

SN 238,153. Barnes-Hind Laboratories, Sunnyvale, Calif. Filed Feb. 7, 1966.

ENZOTIC

For Lotion for Treatment of Atopic Dermatitis and Other Dermatologic Disorders.
First use July 23, 1965.

SN 238,453. G. D. Searle & Co., Skokie, Ill. Filed Feb. 9, 1966.

SYNCRO-PAR

Owner of Reg. No. 792,849.
For Products Used for the Treatment and Conditioning of Domestic Animals—Namely, Progestinated Pessaries.
First use Feb. 7, 1966.

SN 238,539. The Kendall Company, Walpole, Mass. Filed Feb. 10, 1966.

DAVOXIN

For Medicinal Preparation for Use in the Treatment of Cardiac Disease.
First use Sept. 27, 1965.

SN 238,669. Richardson-Merrell Inc., Cincinnati, Ohio. Filed Feb. 11, 1966.

NETHAPRIN

Owner of Reg. Nos. 338,858 and 410,623.
For Anti-Asthmatic Medicine.
First use June 30, 1949.

SN 238,721. The Denver Chemical Manufacturing Company, d.b.a. Wampole Laboratories, Stamford, Conn. Filed Feb. 14, 1966.

URISPAS

For Antispasmodic Preparation.
First use Feb. 4, 1966.

SN 238,757. Mead Johnson & Company, Evansville, Ind. Filed Feb. 14, 1966.

DUOSTIM

Owner of Reg. No. 662,134.
For Laxative Preparation.
First use on or prior to Jan. 27, 1966.

SN 238,792. Schering Corporation, Bloomfield, N.J. Filed Feb. 14, 1966.

SEFACIN

For Antibiotic Preparation.
First use on or about Oct. 7, 1965.

SN 238,921. Bristol-Myers Company, New York, N.Y. Filed Feb. 16, 1966.

COOL MOVE

For Medicines and Pharmaceutical Preparations for the Relief of Cold Distress, and Cold Discomfort.
First use Jan. 26, 1966.

SN 239,308. Philips Roxane, Inc., New York, N.Y. Filed Feb. 21, 1966.

SOMATO-STAPH

For Veterinary Preparation for Use in Prevention of Mastitis.
First use Dec. 16, 1965.

SN 239,777. Dr. Le Gear, Inc., St. Louis, Mo. Filed Feb. 28, 1966.

NEO CORTA CLEAR

Owner of Reg. No. 674,088.
For Medicinal Preparation, for Veterinary Use Only, for the Treatment of Mastitis.
First use Jan. 13, 1966.

Class 19—Vehides

SN 213,560. Hains Industries, Inc., Winter Haven, Fla. Filed Mar. 8, 1965.

CYPRESS GARDENS FLIVVER

Without waiver of common law rights, applicant disclaims the words "Cypress Gardens" apart from the mark as shown.
For Boats.
First use on or before Feb. 15, 1965.

SN 216,885. Suntemp Industries, Inc., Blackwood, N.J. Filed Apr. 19, 1965.

Suburban

For Utility Carts.
First use Nov. 3, 1964.

SN 222,531. Yellowstone, Inc., Elkhart, Ind. Filed July 1, 1965.

YELLOWSTONE CAVALIER

For Travel Trailers.
First use Aug. 1, 1964.
Subj. to Intf. with SN 239,681.

SN 223,774. Cary Enterprises Inc., Huntington Station, N.Y. Filed July 20, 1965.

ELEPHANT EAR

For Boat Propellers.
First use in or about September 1961.

SN 239,681. Trade Winds Campers, Inc., Manawa, Wis. Filed Feb. 25, 1966.

CAVALIER

For Camping Trailers.
First use Nov. 9, 1964.
Subj. to Intf. with SN 222,531.

Class 20—Linoleum and Oiled Cloth

SN 219,888. La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer & Ses Fils), Paris (Seine), France. Filed May 27, 1965.

TEXTISOM

Priority claimed under Sec. 44(d) on French Reg. No. 525,878, dated Nov. 27, 1964 (Seine); Natl. Inst. No. 235,977.
For Synthetic Fibre Felt Used for Floor Covering.

SN 219,890. La Manufacture de Feutres de Mouzon (Anciens Etablissements Roger Sommer & Ses Fils), Paris (Seine), France. Filed May 27, 1965.

TEXTIFLEX

Priority claimed under Sec. 44(d) on French Reg. No. 525,879, dated Nov. 27, 1964 (Seine); Natl. Inst. No. 235,978.
For Synthetic Fibre Felt Used for Floor Covering.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 181,884. Globe-Union Inc., Milwaukee, Wis. Filed Nov. 26, 1963.



The shading on the drawing is to indicate contrast.
Owner of Reg. Nos. 271,944, 387,665, and 758,043.
For Batteries.
First use 1952.

SN 193,425. Ultronic Systems Corp., Pennsauken, N.J. Filed May 13, 1964.

TRENDICATOR

For Devices for Visually Displaying Information Concerning Changes in Security Market Prices and Stock Market Averages.
First use Jan. 23, 1964.

SN 204,182. Mink-Dayton, Inc., Dayton, Ohio. Filed Oct. 16, 1964.



For Electric Lighting Fixtures and Illuminated Display Frames and Signs, for Use on Ships, Boats, and Railroad Rolling Stock.
First use Oct. 1, 1961.

SN 213,073. The Valtronic Corporation, New York, N.Y. Filed Mar. 1, 1965.

VALTRONIC

Owner of Reg. No. 784,832.
For Lighting Fixtures.
First use Oct. 7, 1964.

SN 213,480. Sage Laboratories, Inc., Natick, Mass. Filed Mar. 5, 1965.

WIRELINE

For Microwave Components—Namely, Mixers and the Like.
First use Feb. 1, 1965.

SN 215,746. International Telephone and Telegraph Corporation, New York, N.Y. Filed Apr. 5, 1965.

"LITTLE CAESAR"

For Electrical Contact Assemblies.
First use July 20, 1962.

SN 220,030. Scott Aviation Corporation, Lancaster, N.Y. Filed May 28, 1965.

VOICE-PAK

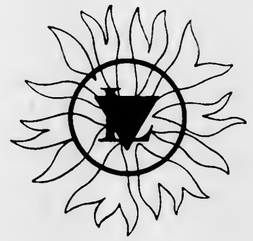
For Voice Amplifier Attachments for Breathing Masks.
First use about Jan. 1, 1961.

SN 220,303. Keltec Industries, Inc., Alexandria, Va. Filed June 3, 1965.

AERO GEO ASTRO

For Radio Equipment and Parts Thereof.
First use at least as early as Dec. 22, 1964.

SN 220,434. John E. Lindberg, Inc., Berkeley, Calif. Filed June 7, 1965.



The mark consists of a flame burst over which is superimposed a circle containing the letter "L" and a triangle.
For Fire and Overheat Detecting Devices and Fire and Overheat Warning Devices.
First use at least as early as Mar. 14, 1961.

SN 221,215. Sprague Electric Company, North Adams, Mass. Filed June 15, 1965.

SKYBORNE

For Electronic Components—Namely, Electrical Delay Lines, Eelectrical Wave Filters, and Radio Interference Filters.
First use at least as early at December 1958.

SN 222,835. Dittmore-Freimuth Corp., Milwaukee, Wis. Filed July 7, 1965.

"ELECTRA"

For Electric Insecticide Fogger.
First use on or about Sept. 15, 1964.

SN 224,484. Hugh R. Wahlin, San Dimas, Calif. Filed July 28, 1965.

ROADRUNNER

For Power Supply Units for Toys, Toy Trains, and the Like.
First use June 14, 1965.

SN 224,853. Embassy Industries, Inc., Farmingdale, N.Y. Filed Aug. 3, 1965.

HIDE-A-VECTOR

For Electric Hot Water Heater.
First use July 28, 1965.

SN 225,069. Repco, Inc., Ivoryton, Conn. Filed Aug. 5, 1965.

ISO-GRAD

For Isolation Columns—Namely, Plastic Encapsulated Tubing Used for Electronic Tube Cooling.
First use in or about May 1965.

SN 226,353. Globe-Union Inc., Milwaukee, Wis. Filed Aug. 24, 1965.

MOTIVATOR

For Storage Batteries.
First use on or about July 14, 1965.

SN 226,354. Globe-Union Inc., Milwaukee, Wis. Filed Aug. 24, 1965.

MOTOROTOR

For Storage Batteries.
First use on or about July 14, 1965.

SN 226,355. Globe-Union Inc., Milwaukee, Wis. Filed Aug. 24, 1965.

ROTOROTOR

For Storage Batteries.
First use on or about July 14, 1965.

SN 226,723. Cable Electric Products Inc., Providence, R.I. Filed Aug. 30, 1965.

THERMO-COOL

For Reflector for a Trouble Light.
First use July 1, 1965.

SN 229,329. Aquariums Incorporated, Maywood, N.J. Filed Oct. 5, 1965.

UNISTAT

For Aquarium Heater.
First use in or about September 1960.

SN 229,460. Spencer-Kennedy Laboratories, Inc., Boston, Mass. Filed Oct. 6, 1965.

INFORM-A-VISION

For Television Camera Unit.
First use July 18, 1965.

SN 229,510. Flo-Tronics, Inc., d.b.a. Northern Signal Co., Minneapolis, Minn. Filed Oct. 7, 1965.

SCORPION

For Electric Fence Controllers.
First use Aug. 25, 1965.

SN 229,683. Sealectro Corporation, Mamaroneck, N.Y. Filed Oct. 8, 1965.

SSRM

For Miniature Coaxial Cable Connectors.
First use May 3, 1965.

SN 229,685. Sealectro Corporation, Mamaroneck, N.Y. Filed Oct. 8, 1965.

SRM

For Miniature Coaxial Cable Connectors.
First use May 3, 1965.

SN 229,698. Union Carbide Corporation, New York, N.Y. Filed Oct. 8, 1965.

EVEREADY ENERGIZER

For Dry Cell Batteries.
First use since 1955.

SN 229,796. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Oct. 11, 1965.

SUN-GLO

For Electric Radiant Heating Systems.
First use June 17, 1965.

SN 229,824. Lafayette Radio Electronics Corporation, Syosset, N.Y. Filed Oct. 11, 1965.

LRE

For Radio Tubes and Radio Batteries.
First use on or about Sept. 17, 1965.

SN 229,889. Thomas Manufacturing Corporation, Parkton, Md. Filed Oct. 11, 1965.

TUFF-SKIN

For Battery Hold Down Frames.
First use on or about May 21, 1957.

SN 232,361. The Tappan Company, Mansfield, Ohio. Filed Nov. 8, 1965.

PROFILE

For Electric Cooking Ranges.
First use August 1965.

Class 22 — Games, Toys, and Sporting Goods

SN 209,976. American Hardware Supply Company, East Butler, Pa. Filed Dec. 28, 1964.

AMERICAN RACER

Applicant disclaims any exclusive rights in the word "Racer" apart from the mark as shown.
For Sleds.
First use September 1960.

SN 213,332. Lindberg Products, Incorporated, Skokie, Ill. Filed Mar. 4, 1965.

LINDY LOONY REPULSIVE

For Toy Plastic Assembly Kits.
First use Jan. 12, 1965.

SN 218,472. Nathan Polsky, Rockville Centre, N.Y. Filed May 10, 1965.

TIME-TELLER

For Educational Teaching Toy, Said Toy Comprising Rotating Discs With Transparent Sections Through Which Words and Numbers Can Be Seen and Which by Proper Alignment Effected by a Child He Can Be Taught Both to Read Time and to Spell the Numbers in Words.
First use Feb. 16, 1965.

SN 219,664. Billiard Research and Development, Inc., St. Clair Shores, Mich. Filed May 25, 1965.

BRAD

For Billiard Cue Tips.
First use Feb. 5, 1965.

SN 223,280. Milton Bradley Company, Springfield, Mass. Filed July 14, 1965.

FLIP YOUR WIG

For Equipment Sold as a Unit for Playing a Board-Type Parlor Game.
First use Apr. 15, 1964.

SN 223,281. Milton Bradley Company, Springfield, Mass. Filed July 14, 1965.

BASH!

For Equipment Sold as a Unit for Playing a Parlor Game of Skill.
First use Jan. 5, 1965.

SN 223,282. Milton Bradley Company, Springfield, Mass. Filed July 14, 1965.

HIT THE BEACH

For Equipment Sold as a Unit for Playing a Board-Type Parlor Game.
First use Jan. 2, 1965.

SN 223,283. Milton Bradley Company, Springfield, Mass. Filed July 14, 1965.

Mystery Date

For Equipment Sold as a Unit for Playing a Board-Type Parlor Game.
First use Jan. 5, 1965.

SN 223,683. Kiddie Brush & Toy Co., Jonesville, Mich. Filed July 19, 1965.

PATSY

For Toy Elephant.
First use Mar. 1, 1965.

SN 223,684. Kiddie Brush & Toy Co., Jonesville, Mich. Filed July 19, 1965.

VIOLET

For Toy Cow.
First use Mar. 1, 1965.

SN 223,973. Richard H. Coffman, Elgin, Ill. Filed July 22, 1965.

TOOBER

For Endless Inflatable Tube for Use as a Child's Action and Exercising Toy on Snow or Land or in Water.
First use June 15, 1965.

SN 224,554. Rich-Mar Sco-Dar Inc., Middletown, Ind. Filed July 29, 1965.

ROLLACOLOR

For Apparatus Sold as a Unit for Playing a Board-Type Game.
First use June 19, 1965.

SN 224,938. Durham Industries, Inc., New York, N.Y. Filed Aug. 4, 1965.



For Billiard Cues, and Table Tennis Sets Including Rackets, Balls, and Nets.
First use Apr. 22, 1965.

SN 226,193. Les Davis Fishing Tackle Co., Tacoma, Wash. Filed Aug. 19, 1965.

HERRING DODGER

Applicant disclaims the word "Herring" apart from the mark as shown.
For Artificial Fishing Lures.
First use Feb. 17, 1932.

SN 226,195. Wilson Sporting Goods Co., River Grove, Ill. Filed Aug. 19, 1965.

EPOLOC FACE

Applicant disclaims the exclusive right to the use of the word "Face" apart from the mark as shown.
For Golf Clubs.
First use June 29, 1965.

SN 229,805. Hassenfeld Bros., Inc., Pawtucket, R.I. Filed Oct. 11, 1965.

TOP·A·GO·GO

For Spinning Tops.
First use on or about Sept. 11, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 206,959. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed Nov. 25, 1964.

UNIAC

For Machines for Separating by Centrifugal Force, and Parts Therefor.
First use Nov. 9, 1964.

SN 210,589. Plattsburg Foundry & Machine Co., Inc., Plattsburgh, N.Y. Filed Jan. 25, 1965.

PLATTALLOY

For Snow Plow Shoes.
First use November 1960.

SN 214,726. Unarco Industries, Inc., Chicago, Ill. Filed Mar. 22, 1965.

EHS

For System Including Suction Lift Apparatus for Handling Products in Tier Quantities.
First use Feb. 1, 1963.

SN 215,074. Hamac-Hansella Aktiengesellschaft, Viersen, Rhineland, Germany, assignee of Hamac-Hansella Maschinen GmbH, Dusseldorf, Germany. Filed Mar. 26, 1965.

TRANSVACUMAT

Owner of German Reg. No. 794,628, dated July 4, 1964; and U.S. Reg. No. 782,038.
For Packaging Machines; and Machines for the Confectionery Industry, viz, Candy Cooking Machines and Evaporators.

SN 215,204. R. H. Forschner Co., Inc., New York, N.Y. Filed Mar. 29, 1965.



For Cutlery, Including Slicer Blades, Knives, Stompers, Chopper Heads, Food Cutters, Meat Grinders, and Pocket Knives.
First use Mar. 10, 1965.

SN 216,959. Madison Industries, Inc., Pawtucket, R.I. Filed Apr. 20, 1965.

BOREAMER

For Machine Tools—Namely, Boring Bars With Multiple Cutting Members.
First use May 1964.

SN 216,961. Madison Industries, Inc., Pawtucket, R.I. Filed Apr. 26, 1965.

TRUBORE

For Tools for Internal Cutting of Work Pieces—Namely, Reamers and Roughing Cutters.
First use Dec. 5, 1963.

SN 216,962. Maysteel Products Corp., Mayville, Wis. Filed Apr. 20, 1965.

SAFETYCHANGE

For Spring Wound Reels for Cables, Cards, Ropes, Hose, and Belting.
First use at least as early as Feb. 1, 1965.

SN 217,114. Robert Grisley, d.b.a. J. M. Grisley Machine Tools, Salt Lake City, Utah. Filed Apr. 22, 1965.

OMNI-LIFT

For Material Transporting Belt-Type Conveyors and Belt-Type Elevators.
First use on or about Dec. 9, 1964.

SN 217,434. Escher Wyss G.m.b.H., 798 Ravensburg, Wurttemberg, Germany. Filed Feb. 18, 1965.

FLOTINK

Priority claimed under Sec. 44(d) on German application filed Aug. 27, 1964; Reg. No. 798,811, dated Dec. 28, 1964.
For Machinery for Preparing and Cleaning Fibre Stuff Suspensions for Paper, Board, and Cardboard Production.

SN 217,511. McDowell Tire Co., Kansas City, Mo. Filed Apr. 26, 1965.

PORTA-AIR "150"

For Portable Combined Engines and Air Compressors.
First use September 1959.

SN 217,682. Walker Manufacturing Company, Racine, Wis. Filed Apr. 29, 1965.

VISCOUNT

For Exhaust System Parts—Namely, Mufflers, Tail Pipes, Exhaust Pipes, Tail Pipe Spouts, Exhaust Elbows, Extensions, Deflectors, Clamps, Brackets, Hangers, Bushings, Grommets, and Insulators; and Cold Chisels and Wrenches.
First use Feb. 22, 1965.

SN 217,702. The Best Fertilizers Co., Lathrop, Calif. Filed Apr. 30, 1965.

BEST

Owner of Reg. Nos. 736,988 and 738,099.
For Fertilizer Applicators.
First use in or about 1954.

SN 217,703. Clarence T. Bickner, d.b.a. Bickner Manufacturing Co., El Sobrante, Calif. Filed Apr. 30, 1965.

DIAL-A-BOW

For Apparatus for Use in Making Ornamental Bows and Component Parts Thereof, Including Bow Pins.
First use Mar. 26, 1965.

SN 217,856. Continental/Moss-Gordin Gin Company, Prattville, Ala. Filed May 3, 1965.

C/MG

For Cotton Ginning Equipment.
First use on or about Sept. 26, 1964.

SN 217,889. Gray Manufacturing Company, Inc., St. Joseph, Mo. Filed May 3, 1965.

GRAY

The drawing is lined for the color red.
For Vehicle Lifts.
First use Mar. 8, 1965; as early as 1920 as to the mark "Gray" in a different form.

SN 218,111. Goodman Bros. Manufacturing Co., Philadelphia, Pa. Filed May 5, 1965.

ADJUSTASTROKE

For Adjustable Device for Translating Rotary Motion Into Linear Motion.
First use Mar. 22, 1965.

SN 218,652. The Laidlaw Company, Inc., Indianapolis, Ind. Filed May 12, 1965.

"SLUDGE-KING"

For Vacuum Scavenging Machines.
First use June 19, 1953.

SN 220,079. Comfort Equipment Company, Kansas City, Mo. Filed June 1, 1965.

COMFORT

Owner of Reg. No. 561,530.
For Cabs and Semicabs for Tractors and Other Mobile Farm Machines.
First use on or about Oct. 14, 1944.

SN 220,259. AMP Incorporated, Harrisburg, Pa. Filed June 3, 1965.

COAXICLAMP

Owner of Reg. Nos. 730,017 and 733,395.
For Portable Tools To Apply Electrical Connectors.
First use May 25, 1965.

SN 221,274. Jacuzzi Bros., Incorporated, Little Rock, Ark. Filed June 16, 1965.

HYDROCEL

For Airless Pressure Tanks for Use in Water Pressure and Like Systems.
First use March 1965.

SN 221,932. Hydrotile Machinery Company, Nashua, Iowa. Filed June 24, 1965.

HYDROTILE

For Concrete Pipe Machinery, Apparatus and Equipment—Namely, Concrete Mixers, Cement and Aggregate Feeders, Bins, and Hoppers, Pipe Forms and Pipe Pallets, Pipe Form Jacks, Hoists, Cranes, and Wire Rollers.
First use July 10, 1954.

SN 223,018. Fabric Research Laboratories, Inc., Dedham, Mass. Filed July 9, 1965.

FRL

Owner of Reg. No. 676,118.
For Compressive Shrinkage Machine.
First use Nov. 20, 1961.

SN 224,715. The Bullard Company, Bridgeport, Conn. Filed Aug. 2, 1965.

DYN-AU-TAPE

Owner of Reg. No. 729,137.
For Tape-Controlled Machine Tools.
First use July 27, 1965.

SN 224,875. Otis Elevator Company, New York, N.Y. Filed Aug. 3, 1965.

TIGER

For Industrial, Material Handling Trucks.
First use at least as early as Apr. 8, 1963.

SN 225,293. Cutting Room Appliances Corp., New York, N.Y. Filed Aug. 9, 1965.

CHAMPION

For Cloth Laying Machines for the Garment and Similar Industries.
First use Mar. 24, 1958.

SN 225,502. The Patterson Kelley Co., Inc., East Stroudsburg, Pa. Filed Aug. 11, 1965.

LIQUID-SOLIDS BLENDER

For Materials Mixing Equipment.
First use on or about Dec. 15, 1953.

SN 225,503. The Patterson Kelley Co., Inc., East Stroudsburg, Pa. Filed Aug. 11, 1965.

SOLIDS-FLOW

For Valves for Materials Mixing and Blending Equipment.
First use on or about Sept. 30, 1959.

SN 225,504. The Patterson Kelley Co., Inc., East Stroudsburg, Pa. Filed Aug. 11, 1965.

SOLIDS PROCESSOR

For Materials Mixing and Blending Equipment.
First use on or about May 15, 1959.

SN 229,610. United States Steel Corporation, Pittsburgh, Pa. Filed Oct. 7, 1965.

COBRA LOOP

For Tools for Forming Loops in Round Wire Strapping.
First use June 9, 1965.

SN 230,092. Silver Creek Precision Corporation, Silver Creek, N.Y. Filed Oct. 13, 1965.

VARI-PAK

For Machines for Filling and Sealing Individual Packages With Measured Quantities of Liquids, Pastes, Powders, or Small Particulate Materials.
First use Mar. 6, 1962.

SN 230,155. Harris-Intertype Corporation, Cleveland, Ohio. Filed Oct. 14, 1965.

MACEYMATIC

For Collators.
First use prior to July 1957.

SN 230,368. Dyna Corporation, Dayton, Ohio. Filed Oct. 18, 1965.

MINI—DRIVE

For Variable Speed Transmissions.
First use June 29, 1965.

SN 231,669. Centrifix Corporation, Houston, Tex. Filed Oct. 27, 1965.

PURIFYING EQUIPMENT
Centrifix
FOR STEAM-VAPOR-GAS-AIR

Applicant disclaims the words "Purifying Equipment for Steam—Vapor—Gas—Air" apart from the mark as shown.
Owner of Reg. Nos. 235,267, 628,445, and others.
For Centrifugal Separators of the Fixed Type Without Moving Parts for Purifying Gases, Vapors, Steam and Air; Scrubbers; Separators for Removing Dust and Other Particulate Matter From Gas, Air and Vapors; Separators of the Fixed Type for Separating Fluids and/or Entrained Particulate Matter; and Separators for the Removal of Dry Solids.
First use Mar. 1, 1954.

SN 231,966. United States Air Conditioning Corporation, Delaware, Ohio. Filed Oct. 11, 1965.

SKYWORKER

The lines on the drawing are for shading only. Owner of Reg. No. 621,218.
For Aerial Lift.
First use June 30, 1953.

SN 232,672. Clipper Manufacturing Company, Inc., Grandview, Mo. Filed Nov. 15, 1965.

SEG-GUARD

For Blades for Saws Used in Cutting Masonry, Concrete, and the Like.
First use Jan. 7, 1965.

SN 232,673. Clipper Manufacturing Company, Inc., Grandview, Mo. Filed Nov. 15, 1965.

INSERT-A-JOINT

For Machine for Forming a Joint in Concrete or the Like, and Placing of a Joint Member Therein.
First use Apr. 13, 1965.

SN 232,711. Monarch Metal Products, Inc., New Windsor, N.Y. Filed Nov. 15, 1965.

MONOBIND

For Machine for Binding Pages Into Book Form.
First use May 25, 1965.

SN 235,880. Wood Newspaper Machinery Corporation, Plainfield, N.J. Filed Jan. 5, 1966.

METROPOLITAN

For Printing Presses.
First use Nov. 23, 1953.

Class 24—Laundry Appliances and Machines

SN 199,165. Ametek, Inc., New York, N.Y. Filed Aug. 4, 1964.

Hydro-Air

Owner of Reg. No. 598,171.
For Laundry and Garment Pressing Machines.
First use June 5, 1953.

Class 26—Measuring and Scientific Appliances

SN 203,675. McGraw-Edison Company, West Orange, N.J. Filed Oct. 9, 1964.

EDISON

Owner of Reg. Nos. 34,806, 567,703, and others.
For Battery Test Meters.
First use Apr. 14, 1964; July 28, 1927, as to the mark "Edison" on related goods.

SN 203,911. Electro-Autosizing Machine Corporation, Closter, N.J. Filed Oct. 1, 1964.

AUTOGRAMMER

For Automatic Machine Tool Control Systems Based on Continuous Measurement of Workpiece, Plus Programming.
First use Jan. 15, 1962.

SN 205,862. Sigmamotor, Inc., Middleport, N.Y. Filed Nov. 9, 1964.

KINETIC-CLAMP

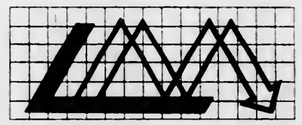
For Peristaltic Metering Pumps.
First use on or about Dec. 18, 1958.

SN 207,232. Rothschild Messinstrumente, Zurich, Switzerland. Filed Dec. 1, 1964.

ROTHSCHILD

For Electronic, Measuring and Control Devices—Namely, Yarn Strain Measuring Equipment, Electronic Tensiometers, Static-Voltmeters, and Friction Coefficient Measuring Equipment.
First use 1954; in comemrce 1958.

SN 214,129. Libbey-Owens-Ford Glass Company, Toledo, Ohio. Filed Mar. 15, 1965.



For Light Filters, Beam Splitters, Camera Windows, Dichroic Mirrors, Reflectors and Solar Cells, and Vacuum Deposited Coatings Applied to Glass, Plastic, and Metal Components of Scientific and Optical Instruments.
First use January 1965.

SN 217,130. Midwest Audio Corporation, Chicago, Ill. Filed Apr. 22, 1965.

MOBILTEMP

For Electronic Temperature Indicators and Components.
First use Feb. 1, 1965.

SN 220,304. Keltec Industries, Inc., Alexandria, Va. Filed June 3, 1965.

AERO GEO ASTRO

For Radar Equipment, Computers, Computer Systems and Data Processing Equipment, and Parts of the Foregoing; Test Equipment for Use With Computers, Computer Systems and Data Processing Equipment, Test Equipment for Use With Radar and Radio Systems (e.g., Digital Testers, Data Acquisition and Analysis Testers, Ranging and Location Testers, Radiation Pattern Testers, Feed System Testers), and Parts of Such Test Equipment.
First use March 1961.

SN 222,882. United States Radium Corporation, Morristown, N.J. Filed July 7, 1965.

IONOSTAT

Owner of Reg. No. 424,518.
For Electrostatic Detection Devices for Measuring Static Electricity.
First use Jan. 6, 1958.

SN 227,672. Fuji Photo Film Co., Ltd., Ashigara-Kamigun, Kanagawa Prefecture, Japan. Filed Sept. 13, 1965.

NEOPAN

Owner of Japanese Reg. No. 545,377, dated Dec. 7, 1959.
For Photographic Film.

SN 229,090. Harvey E. Hanson Company, Paw Paw, Mich. Filed Oct. 1, 1965.

mark 900

For Engine Testing Equipment and Parts Thereof, for Testing, Analyzing, and Synchronizing Internal Combustion Engines, Ignition Systems, Motors, and Generators.
First use Mar. 29, 1965.

SN 235,004. Arthur N. Marshall, Richmond, Va. Filed Dec. 21, 1965.

VASCAR

Speedometer Identifying the Average Speed of a Vehicle.
First use Feb. 21, 1964.

Class 28 — Jewelry and Precious-Metal Ware

SN 226,750. Knight Mfg. Co., Inc., Providence, R.I. Filed Aug. 30, 1965.



For Jewelry.
First use on or about Aug. 6, 1965.

SN 230,395. Salvatore P. Iorio, Jr., d.b.a. Aero Jewelry Company, Providence, R.I. Filed Oct. 18, 1965.

ASTRO-CLAD

For Jewelry.
First use in or about January 1965.

SN 230,870. Najarda Corporation, New York, N.Y. Filed Oct. 21, 1965.

NAJARDA

For Pearls.
First use June 30, 1965.

Class 29 — Brooms, Brushes, and Dusters

SN 202,275. Kai Dyzmann, Hamburg, Germany. Filed Sept. 22, 1964.

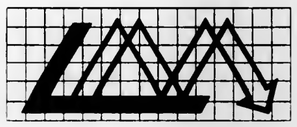
KILROY



For Brushes: Tooth, Nail, Hair, Curling, Massage, Body, Clothes, Rinsing, Bath, Shoe, Eye Brow, Cosmetic, Furniture, Scrubbing, Baby, Dust, Household, Toilet; Shaving Brushes; Natural and Artificial Sponges, and Powder Puffs.
First use May 19, 1957; in commerce May 19, 1957.

Class 32 — Furniture and Upholstery

SN 214,130. Libbey-Owens-Ford Glass Company, Toledo, Ohio. Filed Mar. 15, 1965.



For Opaque and Transparent Mirrors.
First use January 1965.

SN 216,780. Beanstalk Shelving Limited, Chichester, Sussex, England. Filed Apr. 19, 1965.

KING-PIN

Owner of British Reg. No. 867,470, dated July 30, 1964.
For Stands and Shelving Made of Wood or Common Metals.

SN 226,731. Display Workshop, Incorporated, Hartford, Conn. Filed Aug. 30, 1965.

STYLE-PAK

Applicant disclaims the word "Pak" apart from the mark as shown.
For Merchandise Display Cabinets.
First use July 12, 1959.

SN 229,958. Drexel Enterprises, Inc., Drexel, N.C. Filed Oct. 12, 1965.

DE

For Furniture for Offices, Hotels, Motels, Laboratories, Libraries, Churches, Schools, and Dormitories.
First use Sept. 12, 1964.

SN 230,852. Laminated Glass Corporation, Detroit, Mich. Filed Oct. 21, 1965.

BRITE-LITE

For Framed Laminated Safety Mirrors.
First use Oct. 1, 1959.

SN 241,399. Webster Spring Co., Inc., Oxford, Mass. Filed Mar. 18, 1966.

SUSPENSION 24

For Spring Assemblies for Furniture.
First use Feb. 14, 1966.

Class 33 — Glassware

SN 227,634. A & W Root Beer Co., Santa Monica, Calif. Filed Sept. 13, 1965.



The drawing is lined for green, but no claim is made to color.
For Glass Root Beer Mugs.
First use May 1950.

SN 229,779. Faroy, Inc., Houston, Tex. Filed Oct. 11, 1965.

FAROY

For Ornamental Glass Containers.
First use January 1963.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 212,430. M & T Manufacturing Co., Grand Rapids, Mich. Filed Feb. 19, 1965.

M&T

The drawing is lined to indicate a copper color.
For Metal Casting and Associated Equipment—Namely, Cast Iron Spouts, Water Cooled Insulation Units for Containing Molten Metal, Ceramic and Marinite Insulation for Molds and Distribution Pans for Molten Metal, and Spray Rings To Be Used To Cool Molds and Distribution Pans for Molten Metal.
First use on or about June 1, 1964.

SN 215,994. William E. Morrow, d.b.a. Aqua-Mist Co., Winston-Salem, N.C. Filed Apr. 7, 1965.



Applicant disclaims the words "Electronic Humidifier."
For Humidifiers for Forced Warm Air Heating Systems.
First use Mar. 6, 1965.

SN 222,729. Michigan Oven Company, d.b.a. Drying Systems Company, Morton Grove, Ill. Filed July 6, 1965.

DRY-SMOKER

For Smoke Generators for the Food Packing Industry.
First use Sept. 27, 1964.

SN 228,424. Weldotron Corporation, Newark, N.J. Filed Sept. 22, 1965.

RADIANT-FLOW

For Apparatus for Heat Sealing Packaging Material.
First use Mar. 29, 1965.

SN 231,813. Dohrmann Co., Brisbane, Calif. Filed Oct. 29, 1965.

HYDRO-VENT

For Ventilating Equipment for Ranges, Such as Commercial Ranges or Grills.
First use Aug. 24, 1965.

SN 232,085. Orr & Sembower, Inc., Reading, Pa. Filed Nov. 3, 1965.

AQUAFLO

For Boiler Feed Water and Treatment System, and Parts Thereof.
First use Sept. 21, 1964.

SN 232,120. Ebco Manufacturing Company, Columbus, Ohio. Filed Nov. 4, 1965.

HUMIDRUM

Owner of Reg. No. 768,776.
For Rotary, Water-Diffusing Drum Component of a Forced Air Space Humidifier.
First use July 26, 1965.

SN 232,206. Hardwick Stove Company, Cleveland, Tenn. Filed Nov. 5, 1965.

TRI-TEMP

For Burners for Ranges and Stoves.
First use Oct. 22, 1965.

SN 232,245. Standard Oil Company of California, San Francisco, Calif. Filed Nov. 5, 1965.

CHEVRON

For Burners for Oil-Fired Furnaces.
First use Apr. 7, 1965.

SN 232,362. The Tappan Company, Mansfield, Ohio. Filed Nov. 8, 1965.

PROFILE

For Gas Cooking Ranges.
First use July 1965.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 202,599. Johns-Manville Corporation, New York, N.Y. Filed Sept. 24, 1964.

SLIPTITE

For Fluid Seals.
First use on or about Sept. 4, 1964.

SN 234,007. Dayco Corporation, Dayton, Ohio. Filed Dec. 6, 1965.

GPL

For Power Transmission Belts.
First use on or about Oct. 29, 1965.

SN 239,237. Dayco Corporation, Dayton, Ohio. Filed Feb. 21, 1966.

SIMPLIFLEX

For Fluid Conveying Hose.
First use on or about Nov. 5, 1965.

Class 36 — Musical Instruments and Supplies

SN 214,811. The Wurlitzer Company, Chicago, Ill. Filed Mar. 23, 1965.

SIDE MAN

For Tone Generating Electronic Rhythm Instruments.
First use in or about February 1960.

SN 219,045. Monument Record Corp., Hendersonville, Tenn. Filed May 17, 1965.



monument

For Phonograph Records.
First use Mar. 3, 1958.

Class 37 — Paper and Stationery

SN 193,043. Taufek H. Ramsey, d.b.a. West Coast Sales, Campbell, Calif. Filed May 8, 1964.

WESCOSA

For Office Supplies and Accessories, and More Particularly, Chalk Holders, Erasers, Marking Pens, Mechanical Pencils, Letter Openers, Chained Pen Holders, Pencil Holders, Stamp Dispensers, Book Straps, Finger Moisteners, Coin Mats, Book Rings, Ring Binders, Telephone Number Indexes and Paper Pads, Wire Letter Holders, Pencil Wells, Wire Pen and Pencil Holders, Paper Spindles, Wire Book Racks and Stands, Label Holders, Book Ends, File Card Binders, and Pocket Protectors.
First use July 1, 1955.

SN 214,495. Agendas Mignon S.A., Paris, France. Filed Mar. 19, 1965.

AGENDA



RENDEZ-VOUS

Applicant disclaims the word "Agenda" apart from the mark as shown. Owner of French Reg. No. 401,554, dated Mar. 20, 1950 (Paris); Natl. Inst. No. 469,051.
For Notebooks and Pocket or Office Memo Pads With Removable or Fixed Leaves.

SN 214,628. Fort Howard Paper Company, Green Bay, Wis. Filed Mar. 22, 1965.

SPRED

For Paper Table Covers.
First use June 19, 1946.

SN 215,457. Staver Westport Incorporated, Westport, N.Y. Filed Mar. 31, 1965.

COLORLINE

For Bookends, Paperweights, Clip Boards, and Letter Trays.
First use Mar. 10, 1965.

SN 218,459. Information Supplies Corporation, Evanston, Ill., by change of name from Midwest Tabulating Card Producers, Inc., Evanston, Ill. Filed May 10, 1965.



For Supplies for Data Handling Systems—Namely, Data Tabulating Cards and Printed Paper Forms.
First use Mar. 25, 1965.

SN 226,298. Simpson Lee Paper Company, Vicksburg, Mich. Filed Aug. 23, 1965.

Verona

For Book and Similar Papers.
First use June 29, 1965.

SN 227,255. Consolidated Paper Sales Limited, Montreal, Quebec, Canada. Filed Sept. 7, 1965.

SPECTAPRINT

Priority claimed under Sec. 44(d) on Canadian application filed July 22, 1965; Reg. No. 143,994, dated Feb. 11, 1966.
For Newsprint Paper, Shipped From the Mill in Blank to Printers, for Preprinting and Ultimately for Insertion in Newspapers.
First use Oct. 31, 1964; in commerce Oct. 31, 1964.

SN 227,569. The Joseph Dixon Crucible Company, Jersey City, N.J. Filed Sept. 10, 1965.

CRAYONEX

Owner of Reg. No. 280,310.
For Crayons—Namely, Wax Crayons.
First use 1907.

SN 228,852. N.V. Uitgeversmaatschappij Succes, The Hague, Netherlands. Filed Sept. 28, 1965.



Priority claimed under Sec. 44(d) on Dutch application filed June 9, 1965; Reg. No. 156,081, dated July 15, 1965.
Owner of U.S. Reg. No. 658,078.
For Diaries.

SN 239,065. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 17, 1966.

3M

For Gummed Label Paper.
First use at least as early as Dec. 31, 1965.

Class 38 — Prints and Publications

SN 211,312. Howard W. Sams & Co., Inc., Indianapolis, Ind. Filed Feb. 3, 1965.



Applicant disclaims the letters "AM," "FM," and "TV" apart from the mark as shown. The drawing is lined for the colors gray and red.
For Trade Journal Issued Periodically.
First use May 1959.

SN 220,896. Antiques Journal, Inc., Uniontown, Pa. Filed June 11, 1965.

THE ANTIQUES JOURNAL

For Monthly Magazine Containing Articles Relative to Antiques and Collectors' Items.
First use January 1950.

SN 221,204. Reinhold Publishing Corporation, New York, N.Y. Filed June 15, 1965.

AD-REACH

For Market and Sales Information Reports Issued From Time to Time.
First use February 1965.

SN 222,276. Happiness, Inc., Kansas City, Kans. Filed June 29, 1965.

HAPPINESS

Owner of Reg. No. 736,816.
For Greeting Cards.
First use May 14, 1965.

SN 230,600. Auto-X Corp., Newtown Square, Pa. Filed Oct. 20, 1965.

auto-X

For Periodic Newsletter Distributed Upon Subscription to Automobile Dealers, Automobile Leasing Companies, and Financial Institutions, Containing and Exchanging Information Relating to Availability of and Need for Used Automobiles.
First use Sept. 7, 1965.

SN 231,573. Michael & Ginsberg Publishing Co., Wilmette, Ill., assignee of Lake Shore National Bank of Chicago Illinois, trustee of the estate of James S. Haboush, d.b.a. Food Mart News, Chicago, Ill. Filed Oct. 24, 1965.

FOOD MART NEWS

For Semi-Monthly Trade Newspaper for the Food Industry.
First use 1937.

SN 232,575. Mennonite Publishing House, Inc., d.b.a. Herald Press, Scottdale, Pa. Filed Nov. 12, 1965.



For Books and Pamphlets.
First use Oct. 27, 1964.

Class 39 — Clothing

SN 161,217. Troy Shirt Makers Guild, Inc., Glens Falls, N.Y. Filed Jan. 22, 1963.

TROY SHIRT MAKERS GUILD

For Men's Shirts and Sport Shirts.
First use in or about June 1932.

SN 195,005. Mitsubishi International Corp., New York, N.Y. Filed June 5, 1964.

BOX S

For Sheet Material Made Up Into Finished Footwear and Sold as Such.
First use Apr. 21, 1964.

SN 198,051. Ivory System, Inc., Peabody, Mass. Filed July 17, 1964.



Owner of Reg. Nos. 349,911, 355,712, and 644,027.
For Clothing—Namely, Headgear, Pants, Shirts, Shoes, Canvas Shoes, Girdles, Vests, Jackets, Belts, Capes, Socks, Jerseys, Hoods, Trunks, Sweat Suits, Knitwear, and Underwear.
First use at least as early as March 1942.

SN 209,277. L'Aiglon Sociedad de Responsabilidad Limitada, Buenos Aires, Argentina. Filed Jan. 4, 1965.



tiento

Owner of Argentine Reg. No. 521,251, dated Nov. 18, 1963.
For Belts.
First use Nov. 5, 1963; in commerce Nov. 5, 1963.

SN 216,092. Miss Georgia, Inc., Los Angeles, Calif. Filed Apr. 8, 1965.

miss georgia

For Women's Dresses.
First use July 9, 1963.

SN 217,974. Apparel Industries of California, Inc., Los Angeles, Calif. Filed May 4, 1965.

martin
of California

Applicant disclaims the wording "Of California" apart from the mark as shown.
For Men's and Boys' Coats, Jackets, Sweaters, Pants, and Sport Shirts.
First use September 1953.

SN 218,118. Ilaria, Lunata, Lucca, Italy. Filed May 5, 1965.



The drawing is lined to indicate the colors green, red, and silver. Applicant disclaims exclusive rights to the words "Hand-Knit" except when used as a part of the mark as shown.
For Hand-Knit and Hand-Embroidered Ladies' Sweaters, Skirts, Dresses, Coats, and Suits.
First use Mar. 1, 1960; in commerce Mar. 1, 1960.

SN 218,127. The National Dollar Stores, Ltd., San Francisco, Calif. Filed May 5, 1965.

DORCREST

For Women's Hosiery, Lingerie, Blouses, Skirts, Slacks, Robes, Sweaters, Scarves, Hats, Caps, Bonnets, Coats, Dresses, Jackets and Slippers; and Girls' Hosiery, Blouses, Skirts, Slacks, Robes, Sweaters, Coats, Dresses, and Jackets.
First use Feb. 26, 1965.

SN 222,273. Goodimade Manufacturing Company, d.b.a. Les Girls, Philadelphia, Pa. Filed June 29, 1965.

KNITKNOTS

Applicant disclaims the word "Knit" apart from the mark as shown.
For Children's Dresses, Blouses, Shorts, Pants, and Skirts in Knitted Form.
First use Dec. 15, 1964.

SN 222,642. Aldens, Inc., Chicago, Ill. Filed July 6, 1965.

THE HONDA

For Men's and Boys' Shoes and Boots.
First use June 25, 1965.

SN 223,970. Chadbourn Gotham, Inc., Charlotte, N.C. Filed July 22, 1965.

BRAND X

Owner of Reg. No. 734,210.
For Ladies' Hosiery.
First use Oct. 6, 1961.

SN 225,279. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Aug. 9, 1965.

Multi-Knit

Owner of Reg. No. 301,446.
For Ladies' Hosiery.
First use July 1, 1965.

SN 226,097. Arthur P. Stewart (Akubra Hats) Pty. Limited, Roseberry, New South Wales, Australia. Filed Aug. 19, 1965.

AKUBRA

For Men's Hats.
First use Aug. 7, 1912; in commerce Jan. 11, 1965.

SN 226,170. Sears, Roebuck and Co., Chicago, Ill. Filed Aug. 20, 1965.

SEA BAGS

For Men's Swim Trunks.
First use on or about Dec. 10, 1964.

SN 226,410. Byck Bros. & Co., Inc., Louisville, Ky. Filed Aug. 25, 1965.

entre nous

The French words "Entre Nous" mean "between us."
For Shoes.
First use Aug. 6, 1965.

SN 227,449. Sarong, Inc., Dover, Del. Filed Sept. 8, 1965.

FORE 'N' AFT

For Foundation Garments.
First use July 31, 1965.
Subj. to Intf. with SN 227,778.

SN 227,729. Walkon Industries, Inc., Smithville, Tenn. Filed Sept. 13, 1965.

UNISOX

For Socks.
First use Aug. 9, 1965.

SN 227,773. Private Label Inc., Los Angeles, Calif. Filed Sept. 14, 1965.



For Women's Bathing Suits, Jackets, and Shifts.
First use Oct. 25, 1964.

SN 227,778. Stedman Manufacturing Company, Asheboro, N.C. Filed Sept. 14, 1965.

FORE 'N AFT

For Men's and Boys' T-Shirts, Polo Shirts, Gym Shorts, Athletic Pants, Shirts, and Jackets.
First use July 23, 1965.
Subj. to Intf. with SN 227,449.

SN 227,860. G. C. Murphy Company, McKeesport, Pa. Filed Sept. 15, 1965.

BIG MURPH

Owner of Reg. No. 597,428.
For Men's and Boys' Outershirts, Undershirts, Trousers, Slacks, Jeans, Dungarees, Overalls, Coveralls, Shop Aprons, Hosiery, Handkerchiefs, Ties, Gloves, Belts, Suspenders, Hats, Caps, Jackets, Coats; and Women's and Misses' Work Gloves.
First use Aug. 19, 1949.

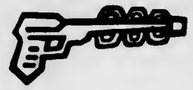
SN 227,890. Teenform, Inc., New York, N.Y. Filed Sept. 15, 1965.

OP-TIQUE

For Brassieres and Girdles.
First use Aug. 6, 1965.

SN 228,047. Lanconia Shoe Company, Inc., Laconia, N.H. Filed Sept. 17, 1965.

SECRET AGENT



For Shoes.
First use July 12, 1965.

SN 228,056. Marlboro Shirt Company, Inc., New York, N.Y. Filed Sept. 17, 1965.

PROTEMPO

For Men's and Boys' Dress Shirts, Sports Shirts, Casual Pants, and Golf Slacks.
First use Aug. 20, 1965.

SN 228,186. Piedmont Shirt Company, Greenville, S.C. Filed Sept. 20, 1965.

LADY WINGS

Owner of Reg. Nos. 667,133, 777,087, and others.
For Women's, Girls', and Misses' Shirts, Blouses, Nightgowns, Pajamas, and Jackets.
First use Sept. 10, 1957.

SN 228,318. The Asher Company, Fitchburg, Mass. Filed Sept. 22, 1965.

UNTOPPABLE SLACKS

The word "Slacks" is disclaimed apart from the mark as shown.
For Men's Wearing Apparel—Namely, Slacks.
First use Mar. 1, 1965.

SN 228,964. Wetzel, Inc., New York, N.Y. Filed Sept. 29, 1965.

Wetzel

For Coats, Overcoats, Raincoates, Waistcoats, Trousers, Uniforms, Breeches, Caps, and Suspenders for Men; Hosiery, Leather Gloves, Sweaters, Knickers, Caps, Leggings, Scarfs and Cravats for Men and Women; and Sport Garments—Namely, Skirts, Coats, Overcoats, Dresses, Breeches, and Waistcoats for Women.
First use October 1895.

SN 229,026. Raleigh Manufacturers, Inc., New York, N.Y. Filed Sept. 30, 1965.

FRAT SLAX

Applicant disclaims the word "Slax" apart from the mark as shown.
For Men's and Boys' Trousers or Pants.
First use July 14, 1965.

SN 229,919. Rob Roy Company, Inc., New York, N.Y. Filed Oct. 7, 1965.

TIGEROO

For Knitted Shirts for Boys and Young Men.
First use June 8, 1965.

SN 230,055. International Shoe Company, St. Louis, Mo. Filed Oct. 13, 1965.

LAZY-JOE

Owner of Reg. No. 417,125.
For Shoes.
First use Dec. 6, 1944.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 226,115. Amway Corporation, Ada, Mich. Filed Aug. 20, 1965.

AMWAY

Owner of Reg. Nos. 707,656, 777,704, and others.
For Iron-On Patches.
First use on or about Feb. 1, 1964.

SN 226,192. Amway Corporation, Ada, Mich. Filed Aug. 19, 1965.



Owner of Reg. Nos. 707,656, 777,704, and others.
For Iron-On Patches.
First use on or about Feb. 1, 1964.

Class 43 — Thread and Yarn

SN 235,148. Allied Chemical Corporation, New York, N.Y. Filed Dec. 23, 1965.

CAPELLA

For Yarn.
First use Sept. 30, 1965.

Class 44 — Dental, Medical, and Surgical Appliances

SN 200,282. Parmac Corporation, Saginaw, Mich. Filed Aug. 20, 1964.

SYNCHRONATOR

For Therapeutic Apparatus in the Nature of a Table Having Movable Members Capable of Imparting Movement to Portions of the Anatomy of a Patient Lying on the Table.
First use Feb. 19, 1963.

SN 202,562. Dittmar and Penn Corporation, Philadelphia, Pa. Filed Sept. 24, 1964.

AIR-LON

Owner of Reg. No. 774,214.
For Surgical Instruments and Medical Diagnostic Instruments, for Use on or in Connection With the Body.
First use Jan. 15, 1953.

SN 207,116. Courtland Laboratories, Los Angeles, Calif. Filed Nov. 30, 1964.

HEMATAINER

Owner of Reg. No. 671,271.
For Flexible Blood Bank Units Used for the Collection, Staging, and Preservation of Human Whole Blood.
First use May 15, 1964.

SN 215,279. Sheridan Corporation, Argyle, N.Y. Filed Mar. 29, 1965.

SALEM SUMP

For Plastic Tubes for Insertion Into the Human Body Prior to, During and After Diagnostic or Operative Procedure.
First use Feb. 19, 1964.

SN 217,225. Unitek Corporation, Monrovia, Calif. Filed Apr. 23, 1965.

ORTHOBITE

For Removable Dental Appliances, Such as Retainers and Mouthguards Formed of Plastic Material.
First use Apr. 5, 1965.

SN 218,349. Vibra-Whirl and Company, Panhandle, Tex. Filed May 7, 1965.

Vibra-Jet

Owner of Reg. No. 616,286.
For Portable Hydrotherapy Unit for Use in a Bathtub.
First use Jan. 7, 1962.

SN 228,969. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. Filed Sept. 30, 1965.

APPLIMATIC

Priority claimed under Sec. 44(d) on Swedish application filed May 25, 1965; Reg. No. 114,230, dated Oct. 15, 1965.
For Syringes, as Well as Accessories Therefor, Such as Sterile Boxes and Cases With Valves, Needle Holders, Vials, and Ampoules.

SN 233,536. Straubel Paper Company, Green Bay, Wis. Filed Nov. 29, 1965.

Instra-mats

For Disposable Protective Paper Mats for Use in the Dental and Medical Field.
First use Jan. 14, 1965.

Class 45 — Soft Drinks and Carbonated Waters

SN 213,401. Canada Dry Corporation, Dover, Del. Filed Mar. 5, 1965.

PURPLE PASSION

For Soft Drink.
First use Jan. 25, 1965.

Class 46 — Foods and Ingredients of Foods

SN 188,008. Gioia Macaroni Company, Inc., Buffalo, N.Y. Filed Mar. 5, 1964.

GIOIA

Owner of Reg. No. 661,447.
For Macaroni, Spaghetti, Egg Noodles, Ravioli, Spaghetti Sauce, Clam Sauce, Bread Crumbs, Canned Soups, Pepperoncini, Rice, Rice Pudding, Canned Vegetables, and Gravies.
First use 1910.

SN 195,064. C. E. Clements & Company Proprietary Limited, Melbourne, Victoria, Australia. Filed June 8, 1964.

SUMMER SUN

Priority claimed under Sec. 44(d) on Australian Reg. No. A186,489, dated Mar. 13, 1964.
For Cereal Breakfast Foods.

SN 198,144. Eclair, Inc., New York, N.Y. Filed July 20, 1964.



For Food Products—Namely, Cakes, Cookies, and Candies.
First use Nov. 13, 1939.

SN 203,655. Fairchester Tomato Packers, Inc., Mamaroneck, N.Y. Filed Oct. 9, 1964.

ARNOLD

Owner of Reg. No. 429,475.
For Fresh Tomatoes.
First use Jan. 15, 1938.

SN 215,241. S. Martinelli & Company, Watsonville, Calif. Filed Mar. 29, 1965.

GOLDEN APPLE

For Bottled Apple Juice and Cider.
First use at least as early as 1935.

SN 216,289. General Mills, Inc., Minneapolis, Minn. Filed Apr. 12, 1965.

CLARINETS

For Cereal Derived Ready-To-Eat Snacks.
First use Feb. 26, 1965.

SN 216,292. General Mills, Inc., Minneapolis, Minn. Filed Apr. 12, 1965.

FLUTES

For Cereal Derived Ready-To-Eat Snacks.
First use Feb. 26, 1965.

SN 216,293. General Mills, Inc., Minneapolis, Minn. Filed Apr. 12, 1965.

IDA-HO-HO

For Fat Fried Potato Snacks in Chip Form.
First use Mar. 3, 1965.

SN 218,866. Joel E. Harrell & Son, Incorporated, Suffolk, Va. Filed May 14, 1965.

"ye ole' Virginny"

For Fresh Cooked and Smoked Hams, Fresh and Smoked Sausage Products, Fresh and Smoked Pork Products, and Lard.
First use 1937.

SN 219,148. Mary Sue Candies, Inc., Baltimore, Md. Filed May 18, 1965.

Mary Sue

For Candies.
First use 1945.

SN 223,079. S. A. Camp Farms Co., d.b.a. S. A. Camp Co., Shafter, Calif. Filed July 12, 1965.

CAMPCO

For Fresh Potatoes.
First use 1945.

SN 223,081. S. A. Camp Farms Co., d.b.a. S. A. Camp Co., Shafter, Calif. Filed July 12, 1965.

SAC

For Fresh Potatoes.
First use 1945.

SN 223,844. Treesweet Products Co., Santa Ana, Calif. Filed July 20, 1965.

Thank you FOR CHOOSING TreeSweet

Applicant disclaims any exclusive right in the words "Thank You for Choosing," apart from the mark as shown. Owner of Reg. Nos. 310,977, 727,565, and others.
For Canned Citrus Juices—Namely, Frozen Concentrated Orange Juices.
First use Apr. 1, 1965.

SN 223,862. Applemasters, Inc., Wenatchee, Wash. Filed July 21, 1965.

applemasters

Applicant disclaims any rights in regard to the representation of the apple apart from the mark as shown.
For Apples.
First use June 28, 1965.

SN 223,977. The Dow Chemical Company, Midland, Mich. Filed July 22, 1965.

STEER-KLEER

Owner of Reg. No. 787,394.
For Feeds for Livestock in Granule and Block Form.
First use Nov. 18, 1963.

SN 223,996. N. K. Hurst Company, Inc., Indianapolis, Ind. Filed July 22, 1965.



The words "Pinto Beans With Chili Flavor" are disclaimed apart from the mark as shown.
For Dried Beans With Chili Flavor.
First use Apr. 29, 1965.

SN 224,152. Balanced Foods, Inc., New York, N.Y. Filed July 26, 1965.

BALANCED

Owner of Reg. Nos. 651,530, 791,925, and others.
For Foods—Namely, Pumpkin Seeds, Sunflower Kernels, and Dried Fruit.
First use 1940 on dried fruit.

SN 224,195. The Hervin Company, Tualatin, Oreg. Filed July 26, 1965.

WHIFF

For Dog and Cat Foods in the Form of Biscuits, in Cans, in a Dry State, or as an Instant Mix.
First use on or about Jan. 15, 1952.

SN 224,204. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a. Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka, Japan. Filed July 26, 1965.

Kanebo

For Chewing Gum, Candies, Cakes, and Crackers.
First use Apr. 26, 1964; in commerce Sept. 12, 1964.

SN 224,414. General Foods Corporation, White Plains, N.Y. Filed July 28, 1965.

C. W. Post

Owner of Reg. Nos. 31,689 and 655,328.
For Cereal Beverage.
First use at least as early as September 1924.

SN 224,440. Arni Olafsson, d.b.a. Icelandic Seafood Company (Islenzkar Sjavarafurdir), Reykjavik, Iceland. Filed July 28, 1965.

HOOK & LINE

For Frozen Fish.
First use January 1964; in commerce February 1964.

SN 224,607. Joseph M. Gidding, d.b.a. J. Gidding Co., New York, N.Y. Filed July 30, 1965.

RAINBOW

For Alimentary Paste Products—Namely, Spaghetti.
First use July 11, 1965.

SN 224,804. Sid Stone Advertising Agency, Inc., Milwaukee, Wis. Filed Aug. 2, 1965.

ROMEOS

For Snack Foods—Namely, Corn Balls and Wheat Chunks.
First use on or about July 30, 1965.

SN 225,353. Quality Shoppe Candies, Inc., Fort Worth, Tex. Filed Aug. 9, 1965.

"there's nuffin' like muffin"

For Candy Bars.
First use June 24, 1965.

SN 225,512. Roberts Packing Company, Kimberton, Pa. Filed Aug. 11, 1965.

BARBA-TREATS

For Frankfurters.
First use Aug. 2, 1965.

SN 225,796. National Biscuit Company, New York, N.Y. Filed Aug. 16, 1965.

OASIS

For Cookies.
First use July 1, 1965.

SN 225,798. National Biscuit Company, New York, N.Y. Filed Aug. 16, 1965.

TRAY MATES

For Crackers.
First use July 1, 1965.

SN 225,902. Sidney's Linwood, Inc., d.b.a. Sidney's, Kansas City, Mo. Filed Aug. 17, 1965.

SIDNEY'S

For Frozen Fruit Pies, Pumpkin Pies, and Cheese Cake.
First use December 1949.

SN 226,030. Armour and Company, Chicago, Ill. Filed Aug. 19, 1965.

PARTI STYLE

For Cooked Ham.
First use Jan. 1, 1964.

SN 226,042. The Eat-All Frozen Food Co., Inc., Philadelphia, Pa. Filed Aug. 19, 1965.

INN-KEEPER

For Stuffed Shrimp (Frozen Whole Shrimp Together With Stuffing of Which Crab Meat is the Principal Ingredient).
First use July 26, 1965.

SN 227,484. The Dietene Company, d.b.a. The Delmark Company, Minneapolis, Minn. Filed Sept. 9, 1965.

DELMARK COUNTRY OVEN

Owner of Reg. Nos. 753,774 and 767,931.
For Powdered Bread Custard Mix.
First use Aug. 13, 1965.

SN 227,806. Allied Supermarkets, Inc., Detroit, Mich. Filed Sept. 15, 1965.

mel-o-crust

For Bread, Rolls, Sweet Rolls, Donuts, Cakes, and Pies.
First use Sept. 1, 1951.

SN 228,712. Mars, Incorporated, d.b.a. M & M's Candies, Chicago, Ill. Filed Sept. 27, 1965.

THE MILK CHOCOLATE MELTS IN YOUR MOUTH—NOT IN YOUR HAND

Applicant disclaims the words "Milk," and "Chocolate," separately and in combination apart from the mark as used.
For Chocolate Candy.
First use Sept. 24, 1956.

Class 47 — Wines

SN 192,668. Benegas Hermanos y Cia. Ltda., S.A.I. y C., Buenos Aires, Argentina. Filed May 5, 1964.

INDIVIDUAL

Owner of Argentine Reg. No. 444,954, dated Oct. 17, 1960.
For Wines.

SN 210,528. The Brotherhood Corporation, Washingtonville, N.Y. Filed Jan. 25, 1965.

BROTHERHOOD

For Wine.
First use 1874.

SN 220,767. Hudson Valley Wine Company, Inc., Highland, N.Y. Filed June 9, 1965.



No claim is made to the word "Wine."
For Wines.
First use Jan. 18, 1934.

SN 227,117. Banfi Products Corp., New York, N.Y. Filed Sept. 3, 1965.

Desirée

For Sparkling Wines.
First use Aug. 11, 1965.

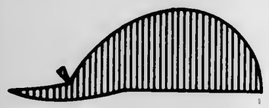
Class 48 — Malt Beverages and Liquors

SN 222,813. Brauerei Dinkelacker GmbH, Stuttgart, Germany. Filed July 7, 1965.

DRINK A DINK

The word "Drink" is disclaimed apart from the mark as shown. Owner of German Reg. No. 796,027, dated Oct. 30, 1964.
For Beer.

SN 229,633. Carling Brewing Company Incorporated, d.b.a. Carling Brewing Company, Cleveland, Ohio. Filed Oct. 8, 1965.



The drawing is lined for the color red. Owner of Reg. Nos. 321,266, 522,129, and 632,823.
For Ale.
First use Aug. 14, 1961.

SN 230,253. Jackson Brewing Company, New Orleans, La. Filed Oct. 15, 1965.



The mark consists of a silhouette representation of an equestrian statue of President Andrew Jackson, deceased. Owner of Reg. No. 321,042.
For Beer.
First use Apr. 26, 1965.

SN 230,254. Jackson Brewing Company, New Orleans, La. Filed Oct. 15, 1965.



The mark consists of a representation of an equestrian statue of President Andrew Jackson, deceased. Owner of Reg. No. 321,042.
For Beer.
First use June 1959.

Class 49 — Distilled Alcoholic Liquors

SN 217,795. Schieffelin & Co., New York, N.Y. Filed Apr. 30, 1965.



Applicant disclaims any exclusive rights in the words "Bottled in Scotland" apart from the mark as shown. Owner of Reg. Nos. 347,764, 605,575, and 777,127.
For Scotch Whisky.
First use Oct. 15, 1964.

SN 218,847. The Drambuie Liqueur Co., Ltd., Edinburgh, Scotland. Filed May 14, 1965.

RUSTY NAIL

For Liqueur Mixed With Scotch Whisky.
First use Jan. 27, 1965; in commerce Jan. 27, 1965.

SN 239,849. Destileria Seralles, Inc., Mercedita, Ponce, Puerto Rico. Filed Feb. 24, 1966.



Owner of Reg. No. 696,861.
For Rum.
First use May 1958.

Class 50 — Merchandise Not Otherwise Classified

SN 197,112. William F. Gariano, d.b.a. Career Enterprises, Newtown Square, Pa. Filed July 6, 1964.



"Signor Chianti"

Applicant disclaims the word "Chianti" apart from the mark as shown. A translation of the name "Signor Chianti" is "Mr. Italian red table wine."
For Wine Making Kit Consisting of a Tank, Air Lock Assembly, Dry Wine Yeast, Yeast Nutrient, and Wine-Making Instructions.
First use May 28, 1964.

SN 225,350. Potters Brothers, Inc., Carlstadt, N.J. Filed Aug. 9, 1965.

Ballotini

For Small Particles of Glass and Plastic Formed by Heating Processes.
First use 1914.

SN 229,468. United States Rubber Company, New York, N.Y. Filed Oct. 6, 1965.

ROYAL-SEAL

For Liquid Impermeable Sheets for Use as Liners for Various Applications Such as Lining Ponds, Pits, and Reservoirs, and Building Foundations To Prevent Passage of Liquid Through the Liner.
First use Sept. 20, 1965.

SN 231,850. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Oct. 29, 1965.

BIRD WATCHER

The drawing is lined for the colors blue and orange, but no claim is made for color.
For Bird House and Feeder.
First use Sept. 17, 1965.

SN 239,063. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Feb. 17, 1966.

BATH-MATE

For Non-Slip Treads for Tub and Shower.
First use Oct. 30, 1964.

Class 51 — Cosmetics and Toilet Preparations

SN 218,017. Maradel Products, Inc., Farmingdale, N.Y. Filed May 4, 1965.

Tip-Eye Wonderful

Owner of Reg. Nos. 649,071, 649,072, and 657,268.
For Lash Lengthener Mascara.
First use Mar. 19, 1965.

SN 223,955. Avon Products, Inc., New York, N.Y. Filed July 22, 1965.

NUAGE BLUE

The term "Nuage" (French) means "cloud" in English.
For Perfume, Perfume Oil, Solid Perfume, Cologne, Cologne Mist, Cream Sachet, Powder Sachet, and Dusting Powder.
First use June 29, 1965.

SN 224,918. Calgon Corporation, Pittsburgh, Pa. Filed Aug. 4, 1965.

CALGON

Owner of Reg. Nos. 358,518, 783,782, and others.
For Hair Rinse.
First use May 27, 1965.

SN 225,016. Tom Fields, Ltd., Northvale, N.J. Filed Aug. 5, 1965.

GIN AND BITTERS

For After-Shave Lotion and Cologne.
First use May 14, 1965.

SN 226,253. Len-Gee Corporation, Detroit, Mich. Filed Aug. 23, 1965.

new Look

For Hair Setting Gel.
First use Aug. 11, 1965.

SN 229,066. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 1, 1965.

AWAY

Owner of Reg. Nos. 694,683, 803,571, and others.
For Personal Deodorant.
First use July 26, 1965.

SN 229,067. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 1, 1965.

HOUR AFTER HOUR

For Personal Deodorant.
First use July 28, 1965.

SN 229,068. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 1, 1965.

RAPID SPRAY

Applicant disclaims the word "Spray" apart from the mark as shown. Owner of Reg. No. 500,243 and others.
For Personal Deodorant.
First use July 28, 1965.

SN 229,069. Colgate-Palmolive Company, New York, N.Y. Filed Oct. 1, 1965.

STRESS

For Personal Deodorant.
First use July 26, 1965.

SN 231,909. The Glessner Company, Inc., Stamford, Conn. Filed Nov. 1, 1965.

TRYCE

For Cream Intended To Be Used on the Skin Surfaces as a Detergent, Softener and Beautifying Preparation.
First use Mar. 1, 1945.

SN 232,841. Maradel Products, Inc., Farmingdale, N.Y. Filed Nov. 17, 1965.

"HI-LO" TONES

The word "Tones" is disclaimed apart from the mark as shown.
For Eye Shadow.
First use Oct. 1, 1965.

SN 235,167. Chesebrough-Pond's Inc., New York, N.Y. Filed Dec. 23, 1965.

TNT

Owner of Reg. No. 414,720.
For Shaving Cream.
First use Nov. 16, 1965.

SN 235,941. Studio Girl-Hollywood Inc., Chicago, Ill. Filed Jan. 6, 1966.

TEMPTATION

For Cologne.
First use on or about Dec. 8, 1965.

SN 235,942. Tanner Products Corporation, Los Angeles, Calif. Filed Jan. 6, 1966.

FAST/TRENGTH

For Product That Is Used To Strengthen Finger Nails.
First use Mar. 1, 1965.

SN 236,142. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics, Los Angeles, Calif. Filed Jan. 10, 1966.

CALL ME PRETTY

For Fragrances.
First use Dec. 28, 1965.

SN 236,716. Cameo, Inc., Toledo, Ohio. Filed Jan. 18, 1966.

"MANHUNT"

For Lipsticks.
First use Nov. 16, 1965.

SN 236,758. Hi-Fashion, Inc., Atlanta, Ga. Filed Jan. 18, 1966.

COLOR-A-MA

For Nail Polish and Nail Polish Sealer.
First use on or about Aug. 9, 1965.

SN 236,891. Antonio Hernandez, d.b.a. Kapoot Industries, Los Angeles, Calif. Filed Jan. 20, 1966.

KAPOOT

For Deodorant Cream.
First use Apr. 25, 1952.

SN 236,906. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Jan. 20, 1966.

G.T.O.

For After-Shave Lotion, Cologne, Hair Dressing, Pre-Electric Shave Lotion, Talc, and Deodorant.
First use Jan. 7, 1966.

SN 237,026. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics, Los Angeles, Calif. Filed Jan. 21, 1966.

SONIQUE

The English meaning of the French word "Sonique" is "sonic."
For Skin Cleanser and Freshener.
First use Jan. 3, 1966.

SN 242,560. Chesebrough-Pond's Inc., New York, N.Y. Filed Apr. 4, 1966.

RENEGADE

For Cologne, and Men's After Shave Lotion.
First use Mar. 2, 1966.

Class 52 — Detergents and Soaps

SN 218,834. American Hardware Supply Co., East Butler, Pa. Filed May 14, 1965.

HERITAGE HOUSE

For Rug Shampoo and Floor Cleaner.
First use January 1963.

SN 224,844. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 3, 1965.

PUNCH

For Laundry Detergent.
First use Nov. 6, 1964.

SN 229,364. Lever Brothers Company, New York, N.Y. Filed Oct. 5, 1965.

TWICE AS NICE

For Hair Shampoo.
First use Aug. 9, 1965.

SN 231,140. Ellen Kaye Laboratories, Inc., St. Paul, Minn. Filed Oct. 22, 1965.

POLY-PLEX

For Shampoo and More Particularly, for a Shampoo for Use Before Permanent Waving.
First use Oct. 18, 1965.

SN 233,180. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Nov. 23, 1965.

IGA

Owner of Reg. No. 671,006.
For Shampoo for the Hair.
First use Oct. 26, 1964.

SERVICE MARKS

Class 100 — Miscellaneous

SN 191,225. 37 Flavors, Inc., St. Paul, Minn. Filed Apr. 15, 1964.



The drawing is lined for the color red.
For Services Performed by Ice Cream and Hamburger Stores or Restaurants.
First use Feb. 16, 1964.

SN 201,713. Marriott Motor Hotels, Inc., Washington, D.C. Filed Sept. 11, 1964.

MARRIOTT MOTOR HOTEL

No registration rights are claimed for the words "Motor Hotel" apart from the mark as shown, but applicant waives none of its common law rights therein or any features thereof.
For Hotel, Motel, and Restaurant Services.
First use July 1956.

SN 218,044. Admiral Benbow Inn, Inc., Memphis, Tenn. Filed May 5, 1965.



For Restaurant and Motel Services.
First use Aug. 16, 1947.

SN 222,468. Church's Fried Chicken, Inc., d.b.a. Church's Drive-In-Restaurant, San Antonio, Tex. Filed July 1, 1965.

Church's

For Food and Restaurant Services.
First use April 1952.

SN 222,629. Telephone Utilities, Inc., Ilwaco, Wash. Filed July 2, 1965.

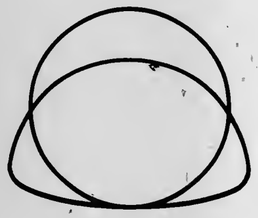


Applicant disclaims the descriptive representation of a telephone handset, separate and apart from the mark as shown.

For Utility Services—Namely, Supplying Telephone Services for Others.

First use on or about Apr. 1, 1964.

SN 229,994. National Corrugated Steel Pipe Association, Chicago, Ill. Filed Oct. 12, 1965.



For Association Services—Namely, Promoting the Growth of the Corrugated Steel Pipe Industry; Promoting the Use of Corrugated Steel Pipe; Research and Engineering Service in the Design of Drainage Products and Systems; and Collecting and Disseminating Pertinent Technical, Statistical and Business Information.

First use as early as May 1, 1958.

Class 101 — Advertising and Business

SN 156,204. Myron G. Welch, Fredericktown, Mo. Filed Oct. 29, 1962.

CS

For Trading Stamps in Connection With Services Involving Giving of the Stamps With the Purchase of Merchandise and Subsequent Redeeming Thereof.

First use Sept. 21, 1962.

SN 156,205. Myron G. Welch, Fredericktown, Mo. Filed Oct. 29, 1962.

UNION

For Trading Stamps in Connection With Services Involving Giving of the Stamps With the Purchase of Merchandise and Subsequent Redeeming Thereof.

First use Sept. 21, 1962.

SN 191,770. Industrial & Scientific Conference Management, Inc., Chicago, Ill. Filed Apr. 22, 1964.

NATIONAL ELECTRONIC PACKAGING & PRODUCTION CONFERENCE

The wording "Electronic Packaging & Production Conferences" is disclaimed apart from the mark as shown.

For Operating a Convention for Engineers and Designers Who Convert Electronic Circuit Diagrams Into Finished Products.

First use at least as early as Aug. 15, 1962.

SN 199,012. Bergen Drug Data Processing Corp., Hackensack, N.J. Filed Aug. 3, 1964.

TIPTOP

For Service to Drug Store Operators—Namely, Processing of Records of Purchases by Individual Customers To Compile Information as to Accounts Receivable and the Age Thereof, and as to Categories of Merchandise Purchased, To Aid Said Operators in Billing and Supplying Said Customers With Proof of Drug, Medical and Surgical Supply Purchases Qualifying for Tax Deductions and Medical Insurance Payments.

First use September 1963.

SN 200,387. Spangler, Inc., d.b.a. Spangler Printers, Inc., Kansas City, Mo. Filed Aug. 21, 1964.

PAGE O'COLOR

For Printing Services.

First use during October 1963.

SN 203,485. C. A. Doolittle, Jr., d.b.a. Contract Surety Consultants, Wichita, Kans. Filed Oct. 7, 1964.



For Services Rendered to Sureties on Bonded Construction Contracts—Namely, Management, Engineering, Estimating, and Accounting Services.

First use January 1962.

SN 204,245. C. A. Doolittle, Jr., d.b.a. Contract Surety Consultants, Wichita, Kans. Filed Oct. 19, 1964.

CSC

For Services Rendered to Sureties on Bonded Construction Contracts—Namely, Management, Engineering, Estimating, and Accounting Services.

First use January 1962.

SN 224,106. The Macke Company, Washington, D.C., by change of name from Macke Vending Company, Washington, D.C. Filed July 23, 1965.

MACKE

Owner of Reg. No. 772,960.

For Vending Machine Services, Including the Supply, Operation, and Service of Vending Machines for Dispensing Consumer Products, and for Cafeteria-Type Food Services.

First use 1926.

SN 224,570. Uniforce Inc., New York, N.Y. Filed July 29, 1965.

Uniforce

For Employment Agency Services.

First use on or about Mar. 5, 1965.

Class 102 — Insurance and Financial

SN 220,509. Industrial Valley Bank and Trust Company, Jenkintown, Pa. Filed June 7, 1965.

SNAP-SAVE

For Banking Services—Namely, Savings Account and Related Services.

First use Dec. 8, 1964.

SN 220,532. Mohawk National Bank, Schenectady, N.Y. Filed June 7, 1965.

THE Mohawk NATIONAL BANK

For Banking and Financial Services—Namely, General Banking Services, Checking Accounts, Savings Accounts, Loans, and Trust Services.

First use August 1954.

SN 220,533. Mohawk National Bank, Schenectady, N.Y. Filed June 7, 1965.

Mohawk

For Banking and Financial Services—Namely, General Banking Services, Checking Accounts, Savings Accounts, Loans, and Trust Services.

First use August 1954.

SN 225,764. Harleysville Mutual Insurance Company, Harleysville, Pa. Filed Aug. 16, 1965.

It helps to have Harleysville

Applicant disclaims the phrase "It Helps To Have" apart from the mark as shown.

For Insurance Underwriting Services.

First use Jan. 22, 1965.

SN 225,765. Harleysville Mutual Insurance Company, Harleysville, Pa. Filed Aug. 16, 1965.

The man from the Big H

For Insurance Underwriting Services.

First use Feb. 6, 1965.

Class 103 — Construction and Repair

SN 174,659. General Dynamics Corporation, Chicago, Ill. Filed Aug. 8, 1963.

MATERIAL SERVICE

For Supplying and Transporting Bulk Construction Materials to Construction Sites, Specifically Sand, Gravel, Aggregate, Crushed Stone, Cement, and Ready-Mixed Concrete.

First use 1919.

SN 198,787. Volkswagenwerk Aktiengesellschaft, Wolfsburg, Germany. Filed July 29, 1964.

VW

Owner of U.S. Reg. No. 653,695.

For Repair, Reconditioning and Replacement of Motors and Accessories and Parts Thereof, and Repair and Reconditioning of Motor Vehicles, Aircraft, and Boats.

First use 1949; in commerce July 1, 1950.

SN 218,908. Revere Custom Builders, Inc., Center Square, Pa. Filed May 14, 1965.

Revere

For Home and Building Construction to the Specification of Others.

First use December 1962.

SN 221,391. J. Ray McDermott & Co., Inc., New Orleans, La. Filed June 17, 1965.



The drawing is lined for red and blue.

For Construction and Repair Services Including the Fabrication of Steel and Aluminum Components for, and the Fabrication and Construction of Ships, Barges, Tow Boats, Fishing Vessels, Dredges, Dry Dock Facilities, Wharves, Bulkheads, Piers, Bridges, Offshore Platforms (Including Platforms for the Exploration and Production of Oil, Lighthouses, and Platforms for Sulfur Mining), Mooring Systems, Loading Docks, Power Plants, and Industrial Plants; the Construction of Pipelines, Drainage Systems, Oil and Gas Production Facilities, Petroleum Processing Facilities, Instrumentation Systems, Lighting Systems, Roads, and Wellheads; the Repair of Vessels; and Dredging and the Stabilization of Rivers.

First use at least as early as Sept. 30, 1962.

SN 223,643. Continental Oil Company, Ponca City, Okla. Filed July 19, 1965.

RUFF-COTE

For Coating the External Surface of Oil Well Casing or Pipe To Increase Bond Strength as a Service for Others.
First use on or about July 7, 1965.

Class 105 — Transportation and Storage

SN 220,854. Inland Express, Inc., Marlborough, Mass. Filed June 10, 1965.

Inland Express Inc.

For Transportation of Commodities by Motor Vehicle.
First use on or about Mar. 1, 1951.

Class 107 — Education and Entertainment

SN 218,309. Pan American World Airways, Inc., New York, N.Y. Filed May 7, 1965.

THEATRE-IN-THE-AIR

For Showing of In-Flight Motion Picture and Television Programs, and the Playing of Taped Music, Entertainment, Informational and Children's Audio Programs.
First use July 14, 1964.

SN 223,238. Indianapolis Motor Speedway Corporation, Speedway, Ind. Filed July 13, 1965.



For Entertainment Service—Namely, an Annual Automobile Race, the Entertainment Being Rendered Through the Medium of Radio and Television.
First use February 1948.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 203,528. Professional Pilot's Assn., Columbus, Ohio. Filed Oct. 7, 1964.



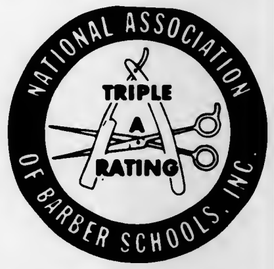
For Indicating Membership in Applicant Association.
First use Feb. 1, 1963.

SN 216,371. Western Wood Products Association, Portland, Oreg. Filed Apr. 12, 1965.



For Indicating Membership in Applicant Association.
First use May 22, 1964.

SN 223,704. National Association of Barber Schools, Inc., Columbus, Ohio. Filed July 19, 1965.



Applicant disclaims exclusive property rights in the term "Triple A Rating," apart from the mark as shown.
For Indicating Membership in the Association.
First use July 1961.

SN 224,057. American Health Alliance, Mays Landing, N.J. Filed July 23, 1965.



For Indicating Membership in Applicant Association.
First use Jan. 1, 1963.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

810,678. SURGRO AND DESIGN. R. C. Young Seed & Grain Company. SN 184,002. Pub. 4-19-66. Filed 1-3-64.

810,679. CON-TONE AND DESIGN. Bychem Corporation. SN 186,057. Pub. 4-19-66. Filed 2-5-64.

810,680. STANSET. Standard Chemical Products, Inc. SN 222,075. Pub. 3-8-66. Filed 6-25-65.

810,681. DESIGN OF A MAN'S HEAD. Comark Corporation. SN 224,517. Pub. 3-15-66. Filed 7-29-65.

810,682. ALA-FLO. Segrest Feed & Seed Company, Inc. SN 227,962. Pub. 4-19-66. Filed 9-16-65.

810,683. HITCO-C. Hitco. SN 231,128. Pub. 4-19-66. Filed 10-22-65.

810,684. HITCO-G. Hitco. SN 231,129. Pub. 4-19-66. Filed 10-22-65.

810,685. NYGEN. The General Tire & Rubber Company. SN 232,071. Pub. 4-19-66. Filed 11-3-65.

810,686. BLACK ANTHRACITE. Emanuel Ravicovich, Inc. SN 232,859. Pub. 4-19-66. Filed 11-17-65.

Class 2 — Receptacles

810,687. TOTE-A-WAY. C-Thru Products, Inc. SN 219,850. Pub. 4-19-66. Filed 5-27-65.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

810,688. SADDLE-PAK. Atlantic Products Corporation. SN 184,021. Pub. 4-19-66. Filed 1-6-64.

810,689. BONNY. Adept Sales and Mfg. Co., Inc. SN 205,648. Pub. 4-19-66. Filed 11-6-64.

810,690. TRAVELGARD. Travelgard Company. SN 222,783. Pub. 4-19-66. Filed 7-6-65.

810,691. QUICK. Ervin Quick. SN 228,838. Pub. 4-19-66. Filed 9-28-65.

Class 6 — Chemicals and Chemical Compositions

810,692. PENTEX. United States Rubber Company. SN 211,948. Pub. 4-19-66. Filed 2-12-65.

810,693. T-H AND DESIGN. Thompson-Hayward Chemical Company. SN 212,607. Pub. 4-19-66. Filed 2-23-65.

810,694. STAYPAR. Private Brands, Inc. SN 212,810. Pub. 4-19-66. Filed 2-25-65.

810,695. GRAY FLASK SYMBOL (DESIGN). E. I. du Pont de Nemours and Company. SN 219,191. Pub. 3-22-66. Filed 5-19-65.

810,696. FLASK SYMBOL (DESIGN). E. I. du Pont de Nemours and Company. SN 219,192. Pub. 3-15-66. Filed 5-19-65.

810,697. MULTI-COLOR FLASK SYMBOL (DESIGN). E. I. du Pont de Nemours and Company. SN 219,193. Pub. 3-22-66. Filed 5-19-65.

810,698. GREEN FLASK SYMBOL (DESIGN). E. I. du Pont de Nemours and Company. SN 219,194. Pub. 3-22-66. Filed 5-19-65.

810,699. BLUE FLASK SYMBOL (DESIGN). E. I. du Pont de Nemours and Company. SN 219,195. Pub. 3-22-66. Filed 5-19-65.

810,700. RED FLASK SYMBOL (DESIGN). E. I. du Pont de Nemours and Company. SN 219,196. Pub. 3-15-66. Filed 5-19-65.

810,701. BROWN FLASK SYMBOL (DESIGN). E. I. du Pont de Nemours and Company. SN 219,197. Pub. 3-15-66. Filed 5-19-65.

810,702. CYANASIZE. American Cyanamid Company. SN 221,142. Pub. 4-19-66. Filed 6-15-65.

810,703. COMMAND. Cutler Packaging Corporation. SN 223,092. Pub. 4-19-66. Filed 7-12-65.

810,704. TRI-X. U.S. Distributing Corp. SN 223,187. Pub. 4-19-66. Filed 7-12-65.

810,705. TRIBUTE. Amway Corporation. SN 223,494. Pub. 3-8-66. Filed 7-16-65.

810,706. SPOT GUARD. Calgon Corporation. SN 224,923. Pub. 4-19-66. Filed 8-4-65.

810,707. HALOFOAM. The Mearl Corporation. SN 227,053. Pub. 4-19-66. Filed 9-2-65.

810,708. FLUOROFOAM. The Mearl Corporation. SN 227,054. Pub. 4-19-66. Filed 9-2-65.

810,709. PARADE. Alco Chemical Co. SN 227,216. Pub. 4-19-66. Filed 9-7-65.

810,710. BENVICIDE. Ben Venue Laboratories, Inc. SN 227,232. Pub. 4-19-66. Filed 9-7-65.

810,711. PELL-MELT. The Chemical Corporation. SN 227,400. Pub. 4-19-66. Filed 9-8-65.

810,712. REXAID. Geigy Chemical Corporation. SN 227,412. Pub. 4-19-66. Filed 9-8-65.

810,713. LOUSE-TOX. Geigy Chemical Corporation. SN 227,414. Pub. 4-19-66. Filed 9-8-65.

810,714. SWEEP. Bristol-Myers Company. SN 229,062. Pub. 4-19-66. Filed 10-1-65.

810,715. EMSORB. Emery Industries, Inc. SN 229,211. Pub. 4-19-66. Filed 10-4-65.

810,716. DITHERM. The Harshaw Chemical Company. SN 229,525. Pub. 4-19-66. Filed 10-7-65.

810,717. SEA MIST. Trager Manufacturing Company. SN 229,892. Pub. 4-19-66. Filed 10-11-65.

Class 10 — Fertilizers

810,718. EASY-GRO. Asgrow Seed Company. SN 204,544. Pub. 4-19-66. Filed 10-22-64.

810,719. A·N·A·M·O ETC. AND DESIGN. Anamo Company. SN 213,517. Pub. 4-19-66. Filed 3-8-65.

810,720. PROFIT-MASTER. Armour and Company, d.b.a. Armour Agricultural Chemical Company. SN 215,162. Pub. 4-19-66. Filed 3-29-65.

Class 12 — Construction Materials

810,721. K. The Babcock & Wilcox Company. SN 188,068. Pub. 4-19-66. Filed 3-6-64.

810,722. VALLE-PATCH. Valley Dolomite Corporation. SN 197,796. Pub. 4-19-66. Filed 7-13-64.

810,723. FLAME-SAFE. Johns-Manville Corporation. SN 210,957. Pub. 3-1-66. Filed 1-29-65.

810,724. STORMS-KIT. Henry K. Davies & Co. Inc. SN 218,743. Pub. 4–19–66. Filed 5–13–65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

810,725. HONEYWELL. Honeywell Inc. MULTIPLE CLASS (Classes 13, 21, 26, and 34). SN 201,531. Pub. 4–19–66. Filed 9–9–64.

810,726. AWWA. The American Water Works Association. SN 208,222. COLLECTIVE MARK. Pub. 4–19–66. Filed 12–16–64.

810,727. FASTENATOR. Since 1868 Crescent Corporation, d.b.a. Crescent Corporation. SN 214,921. Pub. 4–19–66. Filed 3–24–65.

Class 14—Metals and Metal Castings and Forgings

810,728. LISCO. Litho-Strip Corporation. SN 231,153. Pub. 4–19–66. Filed 10–22–65.

Class 16—Protective and Decorative Coatings

810,729. AMWAY AND DESIGN. Amway Corporation. SN 200,891. Pub. 4–19–66. Filed 8–31–64.

810,730. FLUROPON. De Soto Chemical Coatings, Inc. SN 207,373. Pub. 4–19–66. Filed 12–3–64.

Class 17—Tobacco Products

810,731. ORANJE POLDER. N.V. Cigarettes Import Company. SN 223,812. Pub. 4–19–66. Filed 7–20–65.

Class 18—Medicines and Pharmaceutical Preparations

810,732. PANOX. Chas. Pfizer & Co., Inc. SN 212,573. Pub. 4–19–66. Filed 2–23–65.

810,733. DICLOXIN. Bristol-Myers Company. SN 213,398. Pub. 4–19–66. Filed 3–5–65.

810,734. CYTAL. Cutter Laboratories, Inc. SN 216,058. Pub. 1–11–66. Filed 4–8–65.

810,735. ELACORD. Merck & Co., Inc. SN 216,181. Pub. 4–19–66. Filed 4–9–65.

810,736. TYMICOL. Merck & Co., Inc. SN 216,421. Pub. 4–19–66. Filed 4–13–65.

810,737. KX AND DESIGN. Kasar Company, d.b.a. Kasar Laboratories. SN 224,757. Pub. 4–19–66. Filed 8–2–65.

810,738. TERRACYDIN. Chas. Pfizer & Co., Inc. SN 232,086. Pub. 4–19–66. Filed 11–3–65.

810,739. DARVON-S. Eli Lilly and Company. SN 232,571. Pub. 4–19–66. Filed 11–12–65.

810,740. PROCTADE. The Purdue Frederick Company. SN 232,593. Pub. 4–19–66. Filed 11–12–65.

810,741. SENNO-CONFITURE. The Purdue Frederick Company. SN 232,594. Pub. 4–19–66. Filed 11–12–65.

810,742. SENNO-CONFIT. The Purdue Frederick Company. SN 232,595. Pub. 4–19–66. Filed 11–12–65.

Class 21—Electrical Apparatus, Machines, and Supplies

810,725. (See Class 13 for this trademark.)

810,743. DRIVER ERROR. The B Sure Representatives Incorporated. SN 196,094. Pub. 2–22–66. Filed 6–22–64.

810,744. BIG E·W IS MISTER CONNECTOR. Electronic Wholesalers, Inc. SN 209,500. Pub. 4–19–66. Filed 1–7–65.

810,745. MITYMITE. Woodward-Schumacher Electric Corporation. SN 210,834. Pub. 4–19–66. Filed 1–27–65.

810,746. BUCCANEER. Market Tire Company of Maryland Inc. SN 216,715. Pub. 4–19–66. Filed 4–16–65.

810,747. BRITE-START. Fleet Wholesale Supply Co., Inc. SN 221,366. Pub. 4–19–66. Filed 6–17–65.

Class 22—Games, Toys, and Sporting Goods

810,748. SWIMASTER AND DESIGN. W. J. Voit Rubber Corp. SN 199,239. Pub. 4–19–66. Filed 8–4–64.

810,749. HI-Q. Kohner Bros., Inc. SN 212,420. Pub. 4–19–66. Filed 2–19–65.

810,750. BILOFIX. Bilo v. G. K. Kristiansen. SN 218,380. Pub. 4–19–66. Filed 5–10–65.

810,751. LOLLYPOP FACTORY. Emenee Industries, Inc. SN 218,541. Pub. 12–28–65. Filed 5–11–65.

810,752. MAGUMBA. De Luxe Reading Corporation. SN 221,585. Pub. 4–19–66. Filed 6–21–65.

810,753. MISCELLANEOUS DESIGN. Krypto Corporation. SN 222,384. Pub. 4–19–66. Filed 6–30–65.

810,754. FISH BAIT. Ideal Toy Corporation. SN 223,416. Pub. 4–19–66. Filed 7–15–65.

810,755. LUCKY STRIKE. Columbia Industries, Inc. SN 224,585. Pub. 4–19–66. Filed 7–30–65.

810,756. BRUTE STICK. James Heddon's Sons. SN 224,740. Pub. 4–19–66. Filed 8–2–65

810,757. BIZZY BUZZ BUZZ. The Ohio Art Company. SN 224,779. Pub. 4–19–66. Filed 8–2–65.

810,758. KUKUKUKU. The Ohio Art Company. SN 224,780. Pub. 4–19–66. Filed 8–2–65.

810,759. DEER FLITE. Deer Flite, Inc. SN 225,116. Pub. 4–19–66. Filed 8–6–65.

810,760. THE SILENCER. The Hobley Manufacturing Company. SN 225,482. Pub. 4–19–66. Filed 8–11–65.

810,761. SWITCHEROO. Mattel, Inc. SN 225,972. Pub. 4–19–66. Filed 8–18–65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

810,762. SKWEZLOC. Stephens-Adamson Mfg. Co. SN 205,205. Pub. 4–19–66. Filed 10–30–64.

810,763. CINTI AND DESIGN. The Cincinnati Gear Company. SN 207,867. Pub. 4–19–66. Filed 12–10–64.

810,764. PARK AVENUE. Park Industries, Inc. SN 210,040. Pub. 4–19–66. Filed 1–15–65.

810,765. CONFIGURATION OF SAFETY HOOK WITH LATCH COLORED GOLD (DESIGN). E. D. Bullard Company. SN 214,426. Pub. 4–19–66. Filed 3–18–65.

810,766. COOL GRINDING. DoAll Company. SN 215,392. Pub. 4–19–66. Filed 3–31–65.

810,767. SERVORAM. Research, Incorporated. SN 226,788. Pub. 4–19–66. Filed 8–30–65.

810,768. MINI-HARROW. Ronald J. Allison, d.b.a. Allison Engineering Co. SN 227,463. Pub. 4–19–66. Filed 9–9–65.

810,769. ZERO CONCORD SYSTEM. Zero Manufacturing Corporation. SN 228,789. Pub. 4–19–66. Filed 9–27–65.

Class 26—Measuring and Scientific Appliances

810,725. (See Class 13 for this trademark.)

810,770. CAVALIER PERFORMER "500." Willo-Peer Corp. SN 212,367. Pub. 4–19–66. Filed 2–18–65.

810,771. SURE-GUARD. American Optical Company. SN 213,390. Pub. 4–19–66. Filed 3–5–65.

810,772. SCENORAMIC. Morrison B. Paul. SN 222,608. Pub. 4–19–66. Filed 7–2–65.

Class 31—Filters and Refrigerators

810,773. VARIETY STORAGE. American Motors Corporation. SN 216,124. Pub. 4–19–66. Filed 4–9–65.

810,774. KLEEN SEAL. Walker Manufacturing Company. SN 221,662. Pub. 4–19–66. Filed 6–21–65.

Class 32—Furniture and Upholstery

810,775. INSPIRATION. The Stearns & Foster Co. SN 226,478. Pub. 4–19–66. Filed 8–25–65.

Class 34—Heating, Lighting, and Ventilating Apparatus

810,725. (See Class 13 for this trademark.)

810,776. ULTRA THERM. Hydrotherm, Inc. SN 164,625. Pub. 4–19–66. Filed 3–14–63.

810,777. CHATTANOOGA CHOO-CHOO. DeSoto Chemical Coatings, Inc., assignee of Royal Incorporated of Chattanooga. SN 215,546. Pub. 4–19–66. Filed 4–1–65.

810,778. INCREMENTAL. The Singer Company. SN 218,701. Pub. 4–19–66. Filed 5–12–65.

810,779. TRANS ARC AND DESIGN. Square D Company. SN 220,167. Pub. 4–19–66. Filed 6–1–65.

810,780. HOT-VAC. Eldon Industries, Inc. SN 220,286. Pub. 4–19–66. Filed 6–3–65.

810,781. ROYALAIRE. Allied Thermal Corporation, d.b.a. Hart & Cooley Manufacturing Co. SN 226,112. Pub. 4–19–66. Filed 8–20–65.

810,782. ENCOVEN. Asoplate Corporation. SN 226,405. Pub. 4–19–66. Filed 8–25–65.

810,783. CLEVAFLEX. Cleveland Container Corporation. SN 226,418. Pub. 4–19–66. Filed 8–25–65.

810,784. STRIPOMATIC. Arcos Corporation. SN 226,713. Pub. 4–19–66. Filed 8–30–65.

810,785. ESICO. Electric Soldering Iron Co., Inc. SN 226,735. Pub. 4–19–66. Filed 8–30–65.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

810,786. FLEXCO-LOK. Flexible Steel Lacing Company. SN 223,656. Pub. 4–19–66. Filed 7–19–65.

810,787. PT AND DESIGN. Felt Products Mfg. Co. SN 224,405. Pub. 4–19–66. Filed 7–28–65.

810,788. PERMATORQUE AND DESIGN. Felt Products Mfg. Co. SN 224,406. Pub. 4–19–66. Filed 7–28–65.

Class 36—Musical Instruments and Supplies

810,789. TRUETONE. Western Auto Supply Company. SN 207,542. Pub. 4–19–66. Filed 12–4–64.

810,790. ANTENNA. Pamper Music, Inc. SN 218,791. Pub. 4–19–66. Filed 5–13–65.

Class 37—Paper and Stationery

810,791. FLEXOPLAN. Carl Freudenberg Kommanditgesellschaft. SN 195,280. Pub. 4–19–66. Filed 6–10–64.

810,792. CPCO AND DESIGN. The Mead Corporation. SN 198,969. Pub. 4–19–66. Filed 7–31–64.

810,793. ARKCREST. Arkwright Merchandising Corporation. SN 214,499. Pub. 4–19–66. Filed 3–19–65.

810,794. DATA-PLAN. Professional Budget Plan. SN 221,631. Pub. 4–19–66. Filed 6–21–65.

810,795. XEROLITH. Xerox Corporation. SN 225,909. Pub. 4–19–66. Filed 8–17–65.

Class 38—Prints and Publications

810,796. TELCOLUX. Ciba Limited. SN 171,617. Pub. 4–19–66. Filed 6–24–63.

810,797. MAGIC-CLING. The Ullman Company, Inc. SN 225,618. Pub. 4–19–66. Filed 8–12–65.

810,798. SANDORAMA. Sandos Ltd. SN 225,846. Pub. 4–19–66. Filed 8–3–65.

810,799. TIMOTHY THE LEPRECHAUN. Norcross, Inc. SN 231,194. Pub. 4–19–66. Filed 10–22–65.

810,800. PEEK-A-BOO. Norcross, Inc. SN 231,839. Pub. 4–19–66. Filed 10–29–65.

810,801. COLOR BALOO. Norcross, Inc. SN 231,840. Pub. 4–19–66. Filed 10–29–65.

Class 39—Clothing

810,802. PIMELLA. Spun-Lo Elderlon, Inc. SN 169,082. Pub. 4–19–66. Filed 5–16–63.

810,803. QUICK-ON. Ettelbrick Shoe Company. SN 184,800. Pub. 4–19–66. Filed 1–17–64.

810,804. FORMFIT ROGERS. Genesco, Inc. SN 208,735. Pub. 4–19–66. Filed 12–23–64.

810,805. FC FORMAL CRAFT AND DESIGN. Formal Wear Mfg. Corp. SN 212,520. Pub. 4–19–66. Filed 2–23–65.

810,806. COSTUMET. Societe Rhodiaceta. SN 217,410. Pub. 4–19–66. Filed 4–26–65.

810,807. COSTUMET AND DESIGN. Societe Rhodiaceta. SN 217,411. Pub. 4–19–66. Filed 4–26–65.

810,808. DP. Acme Boot Company, Inc. SN 219,497. Pub. 4–19–66. Filed 5–24–65.

810,809. F.ONE AND DESIGN. F.One Kabushiki Kaisha (F.One, Limited). SN 221,291. Pub. 4–19–66. Filed 6–16–65.

810,810. MARIE ANTOINETTE. Factory Outlet Shoe Store of Oklahoma, Inc. SN 222,015. Pub. 4–19–66. Filed 6–25–65.

810,811. BOUNTY. Wetsman and Company. SN 223,607. Pub. 4–19–66. Filed 7–16–65.

810,812. SANSAPRESS. Jaymar-Ruby, Inc. SN 224,099. Pub. 4–19–66. Filed 7–23–65.

Class 40 — Fancy Goods, Furnishings, and Notions

810,813. JOHN JUTTNER. John Juttner. SN 196,527. Pub. 4–19–66. Filed 6–26–64.

810,814. PENI GAY. Carmer-Hall, Inc. SN 210,082. Pub. 4–19–66. Filed 1–18–65.

810,815. GLOW SEW. Automatic Button Company. SN 220,445. Pub. 4–19–66. Filed 6–7–65.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

810,816. GAELTARRA. Gaeltarra Eireann. SN 222,925. Pub. 4–19–66. Filed 7–8–65.

Class 43 — Thread and Yarn

810,817. THERMYLON. The Robinson Thread Company Incorporated. SN 215,655. Pub. 4–19–66. Filed 4–2–65.

Class 44 — Dental, Medical, and Surgical Appliances

810,818. BIRD ETC. AND DESIGN. Bird Corporation. SN 208,156. Pub. 12–14–65. Filed 12–11–64.

810,819. DIASONOSCOPE. S. Smith & Sons (England) Limited. SN 223,462. Pub. 4–19–66. Filed 7–15–65.

Class 46 — Foods and Ingredients of Foods

810,820. GOURMET AND DESIGN. Gourmet Bakers, Inc. SN 104,257. Pub. 6–22–65. Filed 9–12–60.

810,821. FANCIFUL OVAL (DESIGN). The Maryland Baking Company. SN 183,694. Pub. 4–19–66. Filed 12–27–63.

810,822. KNARR'S. George W. Knarr. SN 186,368. Pub. 11–16–65. Filed 2–10–64.

810,823. STOUFFER'S AND DESIGN. Stouffer Foods Corporation. SN 187,536. Pub. 4–19–66. Filed 2–26–64.

810,824. STOUFFER'S. Stouffer Foods Corporation. SN 187,810. Pub. 4–19–66. Filed 3–2–64.

810,825. SCHUYLER'S. Universal Foods Corporation. SN 192,441. Pub. 4–19–66. Filed 4–30–64.

810,826. TORO. Rieber & Son A/S. SN 194,316. Pub. 4–19–66. Filed 5–26–64.

810,827. CRUNCHIES. 8 in 1 Pet Products, Inc. SN 196,125. Pub. 4–19–66. Filed 6–22–64.

810,828. MEDALLION SEAL AND DESIGN. Medallion Dairy Association. SN 198,972. COLLECTIVE MARK. Pub. 4–19–66. Filed 7–31–64.

810,829. PYACO. Pearce-Young-Angel Company. SN 199,309. Pub. 4–19–66. Filed 8–5–64.

810,830. BONANZA. Cottage Bakery, Inc. SN 204,357. Pub. 8–10–65. Filed 10–20–64.

810,831. BEE NUT BUTTER AND DESIGN. Donald S. Hutton. SN 207,392. Pub. 3–8–66. Filed 12–3–64.

810,832. FRANKARONI. American Home Products Corporation. SN 207,694. Pub. 4–19–66. Filed 12–8–64.

810,833. PORKARONI. American Home Products Corporation. SN 208,798. Pub. 4–19–66. Filed 12–24–64.

810,834. SHRIMPARONI. American Home Products Corporation. SN 208,799. Pub. 4–19–66. Filed 12–24–64.

810,835. HUMAN HEAD (DESIGN). Kentucky Fried Chicken Corporation. SN 209,176. Pub. 4–19–66. Filed 12–31–64.

810,836. CHAROIL. Red Arrow Products Corporation. SN 213,159. Pub. 4–19–66. Filed 3–2–65.

810,837. CSC. Commercial Solvents Corporation. SN 213,944. Pub. 4–19–66. Filed 3–12–65.

810,838. WALK-AWAY. The Maryland Baking Company, d.b.a. Maryland Baking Co. SN 214,772. Pub. 4–19–66. Filed 3–23–65.

810,839. ITSA DILLEY. Gibbons Food Products. SN 216,160. Pub. 4–19–66. Filed 4–12–65.

810,840. BLOK-REDI. Sigman Meat Company, Inc. SN 217,407. Pub. 4–19–66. Filed 4–26–65.

810,841. TROPIC TREND. Florida Citrus Canners Cooperative. SN 217,461. Pub. 4–19–66. Filed 4–27–65.

810,842. P-NIPS. George H. Scofield, d.b.a. P-Nips. SN 217,666. Pub. 4–19–66. Filed 4–29–65.

810,843. FIDDLE FLAKES. The Quaker Oats Company. SN 218,026. Pub. 4–19–66. Filed 5–4–65.

810,844. LUCKY JOE'S. Joseph J. Van Dyck, d.b.a. J. J. Van Dyck & Co. SN 218,037. Pub. 4–19–66. Filed 5–4–65.

810,845. WAGNER'S. Wagner Bros. Feed Corp. SN 218,039. Pub. 4–19–66. Filed 5–4–65.

810,846. EL VITO AND DESIGN. Rodriguez Hermanos de Cordoba, S.A. SN 218,325. Pub. 4–19–66. Filed 5–7–65.

810,847. LA BAHIA AND DESIGN. Rodriguez Hermanos de Cordoba, S.A. SN 218,326. Pub. 4–19–66. Filed 5–7–65.

810,848. COOKIE TIME. Euram Foods, Inc. SN 219,976. Pub. 4–19–66. Filed 5–28–65.

810,849. BARNACLE BOB AND DESIGN. Dunham Pacific Corporation. SN 220,481. Pub. 4–19–66. Filed 6–7–65.

810,850. GUEST QUALITY. Hanover Canning Company. SN 223,123. Pub. 4–19–66. Filed 7–12–65.

810,851. GENIE. General Foods Corporation. SN 224,187. Pub. 1–4–66. Filed 7–26–65.

810,852. COW (DESIGN). New Hampshire Dairy Co-Operative, Inc. SN 227,060. Pub. 4–19–66. Filed 9–2–65.

810,853. SAFFOLIVA. Pacific Vegetable Oil Corporation. SN 227,063. Pub. 4–19–66. Filed 9–2–65.

810,854. D AND DESIGN. Delmonico Foods, Inc. SN 227,659. Pub. 4–19–66. Filed 9–13–65.

810,855. SCHMIDT'S. Schmidt Baking Co., Inc. SN 227,877. Pub. 4–19–66. Filed 9–15–65.

810,856. FEMALE (DESIGN). Russell Stover Candies, Inc. SN 228,496. Pub. 4–19–66. Filed 9–23–65.

810,857. BENCO. Benham & Co., Inc. SN 229,186. Pub. 4–19–66. Filed 10–4–65.

810,858. HI DOLLY. Henry P. Garin, d.b.a. H. P. Garin Co. SN 229,972. Pub. 4–19–66. Filed 10–12–65.

810,859. HIGHLIGHT. The Borden Company. SN 231,030. Pub. 4–19–66. Filed 10–22–65.

810,860. "SCOOPIN." The Borden Company. SN 231,033. Pub. 4–19–66. Filed 10–22–65.

810,861. ELSIE. The Borden Company. SN 231,036. Pub. 4–19–66. Filed 10–22–65.

Class 47 — Wines

810,862. LITTLE MERMAID. Schenley Distillers, Inc., d.b.a. Weston Winery. SN 226,680. Pub. 4–19–66. Filed 8–27–65.

Class 49 — Distilled Alcoholic Liquors

810,863. CANADIAN TEN. Canadian Distillers Limited. SN 213,292. Pub. 4–19–66. Filed 3–4–65.

810,864. MISCELLANEOUS DESIGN. Stitzel-Weller Distillery Incorporated, d.b.a. Stitzel-Weller Distillery. SN 221,652. Pub. 4–19–66. Filed 6–21–65.

Class 50 — Merchandise Not Otherwise Classified

810,865. E-Z. Garold E. Apple, d.b.a. E-Z Stand Mfg. Co. SN 212,178. Pub. 4–19–66. Filed 2–17–65.

810,866. IDEAL FUR COVER. Ted Roden Company, Inc. SN 219,912. Pub. 4–19–66. Filed 5–27–65.

810,867. MAGNICAL. Trans-Art, Inc. SN 229,310. Pub. 4–19–66. Filed 10–4–65.

810,868. TUFFY. Precision Dynamics Corporation. SN 232,790. Pub. 4–19–66. Filed 11–16–65.

Class 51 — Cosmetics and Toilet Preparations

810,869. MONITOR SPECIAL. Laboratoires Biologiques Arval S.A. Sion. SN 223,035. Pub. 4–19–66. Filed 7–9–65.

810,870. COUNTER. The Procter & Gamble Company. SN 223,158. Pub. 4–19–66. Filed 7–12–65.

Class 52 — Detergents and Soaps

810,871. TEARDROP DESIGN. Eaton Chemical Corporation. SN 168,719. Pub. 2–15–66. Filed 5–13–63.

810,872. QUALITY HOUSE. Whink Products Company, d.b.a. Quality House Products Co. SN 220,612. Pub. 4–19–66. Filed 6–7–65.

810,873. BRAID-NU. Arlenge Laboratories, Inc. SN 222,070. Pub. 4–19–66. Filed 6–25–65.

810,874. CLEAN-TINT. Clean-Tint Corporation. SN 226,724. Pub. 4–19–66. Filed 8–30–65.

810,875. VANISHING FOAM. The Shetland Company, Inc., d.b.a. Shetland/Lewyt. SN 232,868. Pub. 4–19–66. Filed 11–17–65.

Service Marks

Class 100 — Miscellaneous

810,876. COMPUTAX. Commerce Clearing House, Inc. (New Jersey), assignee of Computer Sciences Corporation. SN 205,774. Pub. 4–19–66. Filed 11–9–64.

810,877. STATLER HILTON. Hilton Hotels Corporation. SN 219,992. Pub. 4–19–66. Filed 5–28–65.

810,878. RED CARPET SERVICE AND DESIGN. School Pictures, Inc. SN 221,212. Pub. 4–19–66. Filed 6–15–65.

810,879. SIS AND DESIGN. William Davis & Associates, Inc. SN 214,620. Pub. 4–19–66. Filed 3–22–65.

Class 101 — Advertising and Business

810,880. TYPOSITOR GRAPHICS. Visual Graphics Corporation. SN 217,810. Pub. 4–19–66. Filed 4–30–65.

810,881. HAND AND REEL (DESIGN). The Halsey Corporation. SN 222,932. Pub. 4–19–66. Filed 7–8–65.

810,882. THREE SQUARES (DESIGN). Decision Systems, Inc. SN 224,608. Pub. 4–19–66. Filed 7–30–65.

Class 103 — Construction and Repair

810,883. PRODUCERS CHEMICAL COMPANY AND DESIGN. Producers Chemical Company. MULTIPLE CLASS (Classes 103 and 106). SN 157,137. Pub. 4–19–66. Filed 11–13–62.

810,884. PENNANT (DESIGN). Wade, Wenger Servicemaster Co. SN 159,633. Pub. 4–19–66. Filed 12–21–62.

810,885. HPS AND DESIGN. High Point Sprinkler Company. SN 223,309. Pub. 4–19–66. Filed 7–14–65.

Class 105 — Transportation and Storage

810,886. SHOP-RITE. Wakefern Food Corp. SN 214,935. Pub. 4–19–66. Filed 3–24–65.

Class 106 — Material Treatment

810,883. (See Class 103 for this trademark.)

810,887. DURABOND. Durallium Products Corp. SN 219,867. Pub. 1–18–66. Filed 5–27–65.

Collective Membership Marks

Class 200

810,888. MOR-LEAN, ETC. AND DESIGN. P–M–R Cooperative. SN 212,570. Pub. 4–19–66. Filed 2–23–65.

810,889. WI AND DESIGN. Wings Club, Inc. SN 214,810. Pub. 4–19–66. Filed 3–23–65.

Certification Marks

Class A — Goods

810,890. MOR-LEAN. P–M–R Cooperative. SN 210,584. Pub. 4–19–66. Filed 1–25–65.

810,891. MOR-LEAN, ETC. AND DESIGN. P–M–R Cooperative. SN 210,585. Pub. 4–19–66. Filed 1–25–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

810,892. Hodges Chemicals Company, Burlingame, Calif. SN 205,289. Filed P.R. 11-2-64; Am. S.R. 4-26-66.

SANSPRAY

For Plywood Panels Coated With Epoxy Resin and Aggregate.
First use prior to 1960.

810,893. Weyerhaeuser Company, Tacoma, Wash. SN 208,416. Filed P.R. 12-17-64; Am. S.R. 11-10-65.

PRIMEWOOD

For Lumber, Plywood, Hardboard Siding and Fiberboard.
First use June 8, 1962.

810,894. Letarte Co., Inc., Smith Creek, Mich. SN 215,516. Filed P.R. 4-1-65; Am. S.R. 5-4-66.

"NEVER SAG"

For Pre-Hung Storm Doors.
First use Feb. 17, 1965.

810,895. Letarte Co., Inc., Smith Creek, Mich. SN 215,517. Filed P.R. 4-1-65; Am. S.R. 5-4-66.

"Non Sag"

For Storm Doors and a Kit of Hardware Therefor.
First use Mar. 22, 1965.

TRADEMARK REGISTRATIONS RENEWED

28,260. STATE BOND. Cl. 37. 5-19-1896.
51,073. BALSAM OF MYRRH. Cl. 18. 4-3-06.
51,934. ENO'S FRUIT SALT AND DESIGN. Cl. 18. 4-24-06.
51,959. PEP-KOLA. Cl. 45. 5-1-06.
52,080. VIOLET SEC. Cl. 52. 5-1-06.
52,160. VIOLET SEC. Cl. 51. 5-1-06.
52,170. SLAWNY BALSAM MACIERZYNSKI AND DESIGN. Cl. 18. 5-1-06.
52,274. BULLDOZER. Cl. 23. 5-8-06.
52,320. EDISWAN. Cl. 21. 5-8-06.
52,383. SHIELD WITH WORD UNION. Cl. 2. 5-8-06.
52,385. SHIELD (DESIGN). Cl. 2. 5-8-06.
52,386. PEERLESS. Cl. 2. 5-8-06.
53,209. ROYAL. Cl. 46. 5-29-06.
53,236. DOUBLE LOCK. Cl. 23. 5-29-06.
53,577. STAR AND DESIGN. Cl. 2. 6-5-06.
55,032. PRIEST'S. Cl. 23. 8-7-06.
209,337. PENN LEATHER CO. AND DESIGN. Cl. 39. 2-23-26.
211,165. CP. Cl. 23. 4-6-26.
211,209. PEPPY AND DESIGN. Cl. 45. 4-6-26.
212,469. TABLE TALK. Cl. 46. 5-4-26.
212,769. F. R. TRIPLER & CO. Cl. 39. 5-11-26.
214,867. PENN OAK AND DESIGN. Cl. 39. 7-6-26.
215,505. FIRST-AID. Cl. 44. 7-20-26.
215,841. MOTOR CITY AND DESIGN. Cl. 29. 7-27-26.
216,358. SHOREWOOD AND DESIGN. Cl. 39. 8-10-26.
216,974. GRAYBAR AND DESIGN. Cl. 24. 8-24-26.
217,014. GRAYBAR. Cl. 24. 8-24-26.
217,015. SHIELD (DESIGN) AND WORD QUALITY. Cl. 24. 8-24-26.
217,377. TRIBUNE. Cl. 37. 8-31-26.
217,518. HAND HOLDING ARCH OF FOOT (DESIGN). Cl. 44. 8-31-26.
217,590. SHIELD (DESIGN) AND WORD QUALITY. Cl. 21. 9-7-26.
217,608. GRAYBAR. Cl. 21. 9-7-26.
217,861. GRAYBAR AND DESIGN. Cl. 21. 9-14-26.
218,526. ANACONDA AND SPEARHEAD DESIGN. Cl. 14. 9-28-26.
218,527. ANACONDA AND SPEARHEAD DESIGN. Cl. 13. 9-28-26.
218,567. CUSTOMAIRE. Cl. 39. 9-28-26.
218,744. LUNA. Cl. 37. 10-5-26.
219,035. KING EDWARD THE SEVENTH AND DESIGN. Cl. 17. 10-12-26.
219,390. OLD FAITHFUL. Cl. 46. 10-19-26.
219,396. AUNT SALLY'S. Cl. 46. 10-19-26.
219,630. LYSOL DISINFECTANT. Cl. 6. 10-19-26.
419,744. LUNA. Cl. 45. 3-5-46.
419,973. SVE. Cl. 26. 3-19-46.
420,248. THREE RINGS. Cl. 38. 4-2-46.
420,728. AVADERMA. Cl. 51. 4-30-46.
420,741. NUOSPERSE. Cl. 6. 4-30-46.
420,802. PETRO. Cl. 13. 5-7-46.
420,852. SNOW WHITE. Cl. 51. 5-7-46.
420,857. NEWS WRITER. Cl. 37. 5-7-46.
420,917. OXWELD. Cl. 26. 5-7-46.
421,141. MARAWELD. Cl. 37. 5-21-46.
421,195. TELEPRENE. Cl. 21. 5-21-46.
421,575. MULTIFEN. Cl. 6. 6-4-46.
421,725. BOULEVARD AND DESIGN. Cl. 46. 6-18-46.
421,790. PRODUCT ECUADOR BELC AND DESIGN. Cl. 12. 6-18-46.
422,028. BOCAGES. Cl. 51. 6-25-46.
422,323. QAC. Cl. 6. 7-16-46.
422,324. QAC AND DESIGN. Cl. 6. 7-16-46.
422,917. RA-BRITE. Cl. 52. 8-20-46.
423,433. R REDMOND AND DESIGN. Cl. 21. 9-3-46.
423,511. TYGON. Cl. 1. 9-3-46.
423,697. BEAU BRUMMEL AND DESIGN. Cl. 51. 9-10-46.
423,711. TRIANGLE AND DESIGN. Cl. 26. 9-10-46.
423,771. LIQUIFLOW AND DESIGN. Cl. 6. 9-10-46.
424,037. SHADY OAK. Cl. 46. 9-17-46.
424,158. ALUMIPREP. Cl. 6. 9-24-46.
424,200. F/F AND DESIGN. Cl. 23. 9-24-46.
424,201. FFS AND DESIGN. Cl. 23. 9-24-46.
424,202. FFX AND DESIGN. Cl. 23. 9-24-46.
424,205. INTERPLAY. Cl. 42. 9-24-46.

424,217. PESTROY. Cl. 6. 9-24-46.
424,297. TWEEN-CRAFT AND DESIGN. Cl. 39. 10-1-46.
424,518. IONOTRON. Cl. 21. 10-8-46.
424,603. HITCH HIKE. Cl. 46. 10-15-46.
424,606. ADLON. Cl. 17. 10-15-46.
424,611. IN THE SILVER DRUM! Cl. 12. 10-15-46.
424,625. RICHKRAFT SCUFPRUF HEAVY DUTY. Cl. 12. 10-15-46.
424,845. DESIGN OF VALVE BULB WITH BLUE TIP. Cl. 13. 10-29-46.
424,875. HYDRO-ARC AND DESIGN. Cl. 21. 10-29-46.
425,008. WHITE ROCK AND DESIGN. Cl. 45. 10-29-46.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

224,525. DUTCHIE AND DESIGN. Cl. 46. 3-1-27.
713,675. SELECTED BY MRS. AMERICA. Cl. A. 4-4-61.
779,230. GOOD TO THE LAST GOLDEN DROP AND DESIGN. Cl. 45. 10-27-64.
799,355. FLUROL. Cl. 6. 11-30-65.

Section 8

697,606. PINE-SOL ETC. AND DESIGN. Cl. 6. 5-10-60.

The following registrations issued May 17, 1960

697,631. SOMMALIZE. Cl. 1.
697,638. D-PEN. Cl. 4.
697,641. RAK-A-TAPE. Cl. 5.
697,644. REE-CEEL. Cl. 5.
697,647. AQUASAVE. Cl. 6.
697,652. VEPO. Cl. 6.
697,655. SENTRY AND DESIGN. Cl. 6.
697,660. PRESCOSE. Cl. 6.
697,664. HARVEY 224 KAY-CHUK. Cl. 9.
697,665. SUPERIOR. Cl. 11
697,678. H HAMMADI AND DESIGN. Cl. 15.
697,683. BEETS-ALL. Cl. 15.
697,690. MISS SWEDEN. Cl. 18.
697,691. THIN-O-TAB. Cl. 18.
697,695. MCMILLAN'S. Cl. 18.
697,697. RAUDAFOR. Cl. 18.
697,706. INDI. Cl. 18.
697,707. REVELEE. Cl. 18.
697,715. TERSAVID. Cl. 18.
697,716. DUOFASE. Cl. 18.
697,717. COLDECADRON. Cl. 18.
697,719. ACID RESISTANT TEXEL ETC. AND DESIGN. Cl. 19.
697,720. KARMASTER. Cl. 19.
697,724. RITTER AND DESIGN. Cl. 21.
697,725. LD AND DESIGN. Cl. 21.
697,726. LIGHTING DYNAMICS. Cl. 21.
697,727. WILSON INDUSTRIES INC. SPILSWITCH ETC. AND DESIGN. Cl. 21.
697,728. VAN ZALE DRIVEWAY SIGNAL AND DESIGN. Cl. 21.
697,734. STARLETTE. Cl. 21.
697,735. MINIDINE. Cl. 21.
697,738. ACCUPAK. Cl. 21.
697,742. RAY-O-HEALTH. Cl. 21.
697,744. INSERTA. Cl. 22.
697,747. JALOPY AND DESIGN. Cl. 22.
697,748. ANTIX. Cl. 22.
697,749. VERVETTE. Cl. 22.
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697,891. SPRAYTIME. Cl. 51.
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55,886. COLGATE & CO. Cl. 4. 8-21-06. Colgate-Palmolive Company, New York, N.Y. Amended to appear:

COLGATE

220,932. GREAT BEAR SPRING ETC. AND DESIGN. Cl. 45. 11-16-26. Great Bear Spring Company, New York, N.Y. Amended to appear:



544,226. CHAIN TREAD. Cl. 35. 6-26-51. United States Rubber Company, New York, N.Y. Amended to appear:

CHAIN

544,406. FRACTURED SPHERE AND TRIANGLE DESIGN. Cl. 13. 6-26-51. American Radiator & Standard Sanitary Corporation, New York, N.Y. Amended to appear:



544,635. FRACTURED SPHERE AND TRIANGLE DESIGN. Cl. 34. 7–3–51. American Radiator & Standard Sanitary Corporation, New York, N.Y. Amended to appear:



690,159. NUMBLES. Cl. 22. 12–22–59. Philip F. Hartung, Jr., New Shrewsbury, N.J. Amended to appear:

NUMBLE

698,988. GENTRED. Cl. 35. 6–7–60. The General Tire & Rubber Company, Akron, Ohio. Amended to appear:

GENTREAD

705,657. NALLEY'S DIET-EZE. Cl. 46. 10–11–60. Nalley's, Inc., Tacoma, Wash. Amended to appear:

Nalley's
DIET-EZE

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 2—Receptades

420,590. Apr. 23, 1946. The Verkamp Corporation, Cincinnati, Ohio. Pub. by registrant.



For Containers for Industrial Gas.

422,818. Aug. 13, 1946. Southern Advance Bag & Paper Co. Inc., Bangor, Maine, and Boston, Mass. Pub. by Continental Can Company, Inc., New York, N.Y.

SACHEM

For Paper Bags.

422,819. Aug. 13, 1946. Southern Advance Bag & Paper Co. Inc., Bangor, Maine, and Boston, Mass. Pub. by Continental Can Company, Inc., New York, N.Y.

TEPEE

For Paper Bags.

Class 6—Chemicals and Chemical Compositions

218,486. Sept. 28, 1926. The Naugatuck Chemical Company, New York, N.Y. Pub. by United States Rubber Company, New York, N.Y.

MONEX

For Accelerators of the Vulcanization of Rubber and Like Materials.

222,402. Jan. 4, 1927. Bell David Brilles, d.b.a. Manhattan Incense Works, New York, N.Y. Pub. by Albert Brauner, d.b.a. Manhattan Incense Works, New York, N.Y.

3-STAR BRAND
★
★ Trade Mark ★

For Assorted Incense.

419,757. Mar. 5, 1946. E. I. Du Pont de Nemours and Company, Wilmington, Del. Pub. by registrant.

DEENOL

For Insecticide.

419,763. Mar. 5, 1946. E. I. Du Pont de Nemours and Company, Wilmington, Del. Pub. by registrant.

DEENATE

For Insecticide.

420,256. Apr. 2, 1946. United States Rubber Company, New York, N.Y. Pub. by registrant.

NAUGATEX

For Chemicals for Use in the Rubber Field.

421,600. June 4, 1946. Du Pont Semesan Company, Wilmington, Del. Pub. by E. I. Du Pont de Nemours and Company, Wilmington, Del.

TERSAN

For Agricultural and Horticultural Fungicides.

Class 12—Construction Materials

210,344. Mar. 16, 1926. The Insulite Co., International Falls and Minneapolis, Minn. Pub. by Boise Cascade Corporation, Boise, Idaho.

INSULITE

For Plaster Base, Wall Boards, and Sheathing.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

211,186. Apr. 6, 1926. The Youngstown Sheet and Tube Company, Boardman, Ohio. Pub. by registrant.

Y

For Steel Pipe and Pipe Couplings.

Class 14—Metals and Metal Castings and Forgings

211,081. Apr. 6, 1926. The Youngstown Sheet and Tube Company, Boardman, Ohio. Pub. by registrant.

Y

For Steel Sheets, Plates, and Bars.

419,971. Mar. 19, 1946. Latrobe Electric Steel Company, Latrobe, Pa. Pub. by Latrobe Steel Company, Latrobe, Pa.

L.P.D.

For Steel Bars, Billets, and Forgings.

Class 17—Tobacco Products

419,926. Mar. 12, 1946. Lane Tobacco, Ltd., New York, N.Y. Pub. by Lane Limited, New York, N.Y.

HOCKEY CLUB

For Smoking Tobacco.

Class 18—Medicines and Pharmaceutical Preparations

101,434. Dec. 8, 1914. United Drug Company, Boston, Mass. Pub. by Rexall Drug and Chemical Company, Los Angeles, Calif.

Orderlies

For Remedy and Corrective for Ailments and Disorders of the Digestive Organs.

378,517. June 11, 1940. United Drug Company, Boston, Mass. Pub. by Rexall Drug and Chemical Company, Los Angeles, Calif.

MONACET

For Analgesic and Antipyretic Tablet.

380,397. Aug. 20, 1940. United Drug Company, Boston, Mass. Pub. by Rexall Drug and Chemical Company, d.b.a. Rexall Drug Company, Los Angeles, Calif.

Plenamins

For Vitamin A B C D E G Capsule With Liver and Iron.

423,784. Sept. 10, 1946. Haack Bros. Manufacturing Pharmacists, Inc., Portland, Oreg. Pub. by Lemmon Pharmacal Company, Sellersville, Pa.

ALUBELAP

For Antispasmodic, Antacid and Sedative Preparation.

Class 22 — Games, Toys, and Sporting Goods

52,014. May 1, 1906. The New York Consolidated Card Company, New York, N.Y. Pub. by The United States Playing Card Company, Cincinnati, Ohio.



For Playing Cards.

52,552. May 15, 1906. The New York Consolidated Card Company, New York, N.Y. Pub. by The United States Playing Card Company, Cincinnati, Ohio.

97

For Playing Cards.

53,089. May 22, 1906. The United States Playing Card Company, Cincinnati, Ohio. Pub. by registrant.

Five Hundred

For Playing Cards.

53,131. May 29, 1906. The New York Consolidated Card Company, New York, N.Y. Pub. by The United States Playing Card Company, Cincinnati, Ohio.

ANGEL BACKS

For Playing Cards.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

53,722. June 12, 1906. George Wostenholm & Son, Limited, Sheffield, England. Pub. by registrant.

WOSTENHOLM

For Pocket-Knives, Butchers' Knives, Bowie-Knives, Farriers' Knives, Hunting-Knives, and Table-Knives, and Razors.

Class 33 — Glassware

210,065. Mar. 9, 1926. Mississippi Wire Glass Company, New York, N.Y. Pub. by Mississippi Glass Company, St. Louis, Mo.



For Wire Glass.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

51,708. Apr. 24, 1906. Eureka Fire Hose Co., Jersey City, N.J. Pub. by United States Rubber Company, New York, N.Y.

VULCAN

For Cotton Rubber Lined Hose.

52,068. May 1, 1906. Gorham Rubber Company, San Francisco, Calif. Pub. by United States Rubber Company, New York, N.Y.

AMAZON

For Rubber Belting.

Class 37 — Paper and Stationery

211,670. Apr. 13, 1926. The Paper Service Company, Arlington Heights, and Lockland, Ohio. Pub. by Cincinnati Industries, Inc., Cincinnati, Ohio.

ELASTIKRAFT

For Creped, Sulphite and Sulphate, Bleached and Unbleached Wrapping Paper.

420,422. Apr. 9, 1946. Eversharp, Inc., Chicago, Ill. Pub. by The Parker Pen Company, Janesville, Wis.

Repeater

For Writing Instruments—Namely, Pens and Pencils.

421,971. June 25, 1946. Edward N. Hutchison, d.b.a. Graph-O-Grid, Baltimore, Md. Pub. by registrant.

Graph-o-Grid

For Football Play-by-Play Charts or Score Cards.

Class 39 — Clothing

28,076. Apr. 7, 1896. Boston Rubber Shoe Company, Boston, and Malden, Mass. Pub. by United States Rubber Company, New York, N.Y.

TEMPEST

For Rubber Shoes.

51,893. Apr. 24, 1906. John B. Stetson Company, Philadelphia, Pa. Pub. by registrant.



For Soft and Stiff Felt Hats and Caps.

421,029. May 14, 1946. Beckwith Manufacturing Company, Dover, N.H. Pub. by Beckwith-Arden Inc., Watertown, Mass.

XP

For Box Toes.

436,471. Feb. 10, 1948. Kickernick, Inc., Minneapolis, Minn. Pub. by Henson-Kickernick, Inc., Minneapolis, Minn.

Kickernick

For Undergarments, for Women, Misses, and Children—Namely, Panties, Bloomers, etc.

Class 40 — Fancy Goods, Furnishings, and Notions

54,142. June 19, 1906. I. B. Kleinert Rubber Company, New York, N.Y. Pub. by registrant.

ONANDOFF

For Dress Shields.

Class 43 — Thread and Yarn

422,581. July 30, 1946. J. & P. Coats (R.I.) Inc., Pawtucket, R.I. Pub. by Coats & Clark Inc., New York, N.Y.



For Thread.

424,187. Sept. 24, 1946. Bernhard Ulmann Co. Inc., New York, N.Y. Pub. by Indian Head Mills, Inc., New York, N.Y.

JIFFY

For Art Needlework Yarns.

Class 44 — Dental, Medical, and Surgical Appliances

45,482. Aug. 22, 1905. The S. S. White Dental Mfg. Co., Philadelphia, Pa., Chicago, Ill., New York, Brooklyn, and Rochester, N.Y., and Boston, Mass. Pub. by S. S. White Company, Philadelphia, Pa.

MOLDINE

For Impression and Molding Compounds.

212,260. Apr. 27, 1926. The S. S. White Dental Manufacturing Company, Philadelphia, Pa. Pub. by S. S. White Company, Philadelphia, Pa.

TARNO

For Dental Instruments.

212,261. Apr. 27, 1926. The S. S. White Dental Manufacturing Company, Philadelphia, Pa. Pub. by S. S. White Company, Philadelphia, Pa.

KRYPTEX

For Dental Cement.

Class 46—Foods and Ingredients of Foods

52,525. May 8, 1906. The Alliance Milling Company, Denton, Tex. Pub. by The Morrison Milling Co., Denton, Tex.

PEACE MAKER

For Wheat Flour.

210,106. Mar. 9, 1926. Weathersby-Brunner Co., Memphis, Tenn. Pub. by Witsell Bros.-Dean Lilly Company, d.b.a. Weathersby Brunner Company, Memphis, Tenn.

SUNNYBROOK

For Coffee.

211,820. Apr. 20, 1926. Kroger Grocery & Baking Co., Cincinnati, Ohio. Pub. by The Kroger Co., Cincinnati, Ohio.

Country Club

For Meats—Namely, Hams, Hams Known as Picnics, Cottage Butts, Breakfast Bacon, Sliced Breakfast Bacon, Bacon Squares, Pork Sausage.

214,567. June 29, 1926. The Kroger Grocery & Baking Co., Cincinnati, Ohio. Pub. by The Kroger Co., Cincinnati, Ohio.

Country Club

For Canned Chile Con Carne.

215,997. Aug. 3, 1926. S. B. Thomas, Inc., Long Island City, N.Y. Pub. by registrant.

THOMAS'

For Bread.

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Acme Boot Co., Inc., Clarksville, Tenn. 810,808, pub. 4–19–66. Cl. 39.
Adept Sales and Mfg. Co., Inc., Flushing, N.Y. 810,689, pub. 4–19–66. Cl. 3.
Adler Industries, Inc., New York, N.Y. 697,774, canc. Cl. 23.
Aerolab Development Co., Inc., Pasadena, Calif. 697,735, canc. Cl. 21.
Alco Chemical Co., Artesia, Calif. 810,709, pub. 4–19–66. Cl. 6.
Alliance Milling Co., The, by The Morrison Milling Co., Denton, Tex. 52,525, 12(c) pub. 7–5–66. Cl. 46.
Allied Thermal Corp., d.b.a. Hart & Cooley Mfg. Co., New Britain, Conn. 810,781, pub. 4–19–66. Cl. 34.
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American Motors Corp., Detroit, Mich. 810,773, pub. 4–19–66. Cl. 31.
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Annis Furs, Inc., Detroit, Mich. 697,854, canc. Cl. 39.
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Arcos Corp., Philadelphia, Pa. 810,784, pub. 4–19–66. Cl. 34.
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Arkwright Merchanding Corp., New York, N.Y. 810,793, pub. 4–19–66. Cl. 37.
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Asgrow Seed Co., New Haven Conn. 810,718, pub. 4–19–66. Cl. 10.
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Azoplate Corp., Murray Hill, N.J. 810,782, pub. 4–19–66. Cl. 34.
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Babcock & Wilcox Co., The, New York, N.Y. 810,721, pub. 4–19–66. Cl. 12.
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Bristol-Myers Co., New York, N.Y. 810,714, pub. 4–19–66. Cl. 6.
Bristol-Myers Co., New York, N.Y. 810,733, pub. 4–19–66. Cl. 18.
Bullard, E. D., Co., Sausalito, Calif. 810,765, pub. 4–19–66. Cl. 23.
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Comark Corp., Syracuse, N.Y. 810,681, pub. 3–15–66. Cl. 1.
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Co-Star Records, Inc., New York, N.Y. 697,826, canc. Cl. 36.
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Cutter Laboratories, Inc., Berkeley, Calif. 810,734, pub. 1–11–66. Cl. 18.
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Decision Systems, Inc., Teaneck, N.J. 810,882, pub. 4–19–66. Cl. 101.
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De Soto Chemical Coatings, Inc., Des Plaines, Ill. 810,730, pub. 4–19–66. Cl. 16.
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DoAll Co., Des Plaines, Ill. 810,766, pub. 4–19–66. Cl. 23.
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Eaton Chemical Corp., Detroit, Mich. 810,871, pub. 2–15–66. Cl. 52.
Edison and Swan United Electric Light Co. Ltd., The, to Associated Electrical Industries Ltd., London, England. 52,320, ren. 7–5–66. Cl. 21.
8 In 1 Pet Products, Inc., Long Island City, N.Y. 810,827, pub. 4–19–66. Cl. 46.
Ekco Products Co.: *See*—
Virden, John C., Co.
Eldon Industries, Inc., Hawthorne, Calif. 810,780, pub. 4–19–66. Cl. 34.
Electric Soldering Iron Co., Inc., Deep River, Conn. 810,785, pub. 4–19–66. Cl. 34.
Electronic Wholesalers, Inc., Washington, D.C. 810,744, pub. 4–19–66. Cl. 21.
Emenee Industries, Inc., New York, N.Y. 810,751, pub. 12–28–65. Cl. 22.
Emery Industries, Inc., Cincinnati, Ohio. 810,715, pub. 4–19–66. Cl. 6.
Eno, J. C., Ltd., London, England, to Beecham Products Inc., Clifton, N.J. 51,934, ren. 7–5–66. Cl. 18.
Esterbrook Pen Co., The, Camden, N.J. 697,827, canc. Cl. 37.
Etterlbrick Shoe Co., Greenup, Ill. 810,803, pub. 4–19–66. Cl. 39.
Euram Foods, Inc., Grand Rapids, Mich. 810,848, pub. 4–19–66. Cl. 46.
Eureka Fire Hose Co., Jersey City, N.J., by United States Rubber Co., New York, N.Y. 51,708, 12(c) pub. 7–5–66. Cl. 35.
Eversharp, Inc., Chicago, Ill., by The Parker Pen Co., Janesville, Wis. 420,422, 12(c) pub. 7–5–66. Cl. 37.
FWD Corp., Clintonville, Wis. 697,775, canc. Cl. 23.
Fabbri, Mario: *See*—
Callegari, John A.
Faber, A. W., Castell Pencil Co., Inc.: *See*—
Faber, A. W., Inc.
Faber, A. W., Inc., to A. W. Faber-Castell Pencil Co., Inc., Newark, N.J. 420,857, ren. 7–5–66. Cl. 37.
Factory Outlet Shoe Store of Oklahoma, Inc., Tulsa, Okla. 810,810, pub. 4–19–66. Cl. 39.
Felt Products Mfg. Co., Skokie, Ill. 810,787–8, pub. 4–19–66. Cl. 35.
Finkl, A., & Sona Co., Chicago, Ill. 424,200, ren. 7–5–66. Cl. 23.
Finkl, A., & Sons Co., Chicago, Ill. 424,201, ren. 7–5–66. Cl. 23.
Finkl, A., & Sons Co., Chicago, Ill. 424,202, ren. 7–5–66. Cl. 23.
Fisher Scientific Co., Pittsburgh, Pa. 697,806–8, canc. Cl. 26.
Fleet Wholesale Supply Co., Inc., Appleton, Wis. 810,747, pub. 4–19–66. Cl. 21.
Flexible Steel Lacing Co., Chicago, Ill. 810,786, pub. 4–19–66. Cl. 35.
Florida Citrus Canners Cooperative, Lake Wales, Fla. 810,841, pub. 4–19–66. Cl. 46.
F. One Kabushiki Kaisha (F. One, Ltd.), Abeno-ku, Osaka City, Japan. 810,809, pub. 4–19–66. Cl. 39.
Formal Wear Mfg. Corp., New York, N.Y. 810,805, pub. 4–19–66. Cl. 39.
Fox, H., & Co., Brooklyn, N.Y., to The Grapette Co., Inc., Camden, Ark. 211,209, ren. 7–5–66. Cl. 45.
Freudenberg, Carl, Kommanditgesellschaft, Weinheim/Bergstrasse, Germany. 810,791, pub. 4–19–66. Cl. 37.
Friedman, Donald L., and Ethel H. Friedman: *See*—
Bachman, Walter S.
Frigeco, Paris, France. 697,734, canc. Cl. 21.
Gaebel, Arthur H., Inc., Larchmont, N.Y. 697,790, canc. Cl. 26.
Gaeltarra Eireann, Dublin, Ireland. 810,816, pub. 4–19–66. Cl. 42.
Garin Co.: *See*—
Garin, Henry P.
Garin, Henry P., d.b.a. Garin Co., Salinas, Calif. 810,858, pub. 4–19–66. Cl. 46.
Gelgy Chemical Corp., Ardsley, N.Y. 810,712–13, pub. 4–19–66. Cl. 6.
General Aniline & Film Corp.: *See*—
General Dyestuff Corp.
General Dyestuff Corp., to General Aniline & Film Corp., New York, N.Y. 421,575, ren. 7–5–66. Cl. 6.
General Dynamics Corp.: *See*—
Liquid Carbonic Corp., The.
General Foods Corp.: *See*—
Franklin Baker Co.
General Foods Corp., White Plains, N.Y. 810,851, pub. 1–4–66. Cl. 46.
General Tire & Rubber Co., The, Akron, Ohio. 810,685, pub. 4–19–66. Cl. 1.
Genesco, Inc., Nashville, Tenn. 810,804, pub. 4–19–66. Cl. 39.
Gibbons Food Products, Kansas City, Kans. 810,839, pub. 4–19–66. Cl. 46.
Goodall, Charles, and Maurice Goodall, near Burton-on-Trent, England. 697,772, canc. Cl. 23.
Gorham Rubber Co., San Francisco, Calif., by United States Rubber Co., New York, N.Y. 52,068, 12(c) pub. 7–5–66. Cl. 35.
Gott, George, Compton, Calif. 697,924, canc. Cl. 21.
Gourmet Bakers, Inc., Londen, N.J. 810,820, pub. 6–22–65. Cl. 46.
Grapette Co., The: *See*—
Fox, H., & Co.
Graph-O-Grid: *See*—
Hutchison, Edward N.
Graybar Electric Co., Inc., New York, N.Y. 216,974, ren. 7–5–66. Cl. 24.
Graybar Electric Co., Inc., New York, N.Y. 217,014–15, ren. 7–5–66. Cl. 24.
Graybar Electric Co., Inc., New York, N.Y. 217,590, ren. 7–5–66. Cl. 21.
Graybar Electric Co., Inc., New York, N.Y. 217,608, ren. 7–5–66. Cl. 21.
Graybar Electric Co., Inc., New York, N.Y. 217,861, ren. 7–5–66. Cl. 21.
Great Bear Spring Co., New York, N.Y. 220,932. Am. 7(d). Cl. 45.
Grocers' Baking Co., Louisville, Ky., to Campbell Taggart Associated Bakeries, Inc., Dallas, Tex. 219,396, ren. 7–5–66. Cl. 46.
Haack Bros. Mfg. Pharmacists, Inc., Portland, Oreg., by Lemmon Pharmacal Co., Sellersville, Pa. 423,784, 12(c) pub. 7–5–66. Cl. 18.
Halsey Corp., The, Middletown, Ohio. 810,881, pub. 4–19–66. Cl. 101.
Hammond, Edith H., Fort Lauderdale, Fla. 697,801, canc. Cl. 26.
Hanford, G. C., Mfg. Co., Syracuse, N.Y. 51,073, ren. 7–5–66. Cl. 18.
Hanover Canning Co., Hanover, Pa. 810,850, pub. 4–19–66. Cl. 46.
Harshaw Chemical Co., The, Cleveland, Ohio. 810,716, pub. 4–19–66. Cl. 6.
Hartung, Philip F., Jr., New Shrewsbury, N.J. 690,159. Am. 7(d). Cl. 22.
Heddon's, James, Sons, Dowagiac, Mich. 810,756, pub. 4–19–66. Cl. 22.
Henson-Kickernick, Inc.: *See*—
Kickernick, Inc.
Hickey-Freeman Co., Inc.: *See*—
Strauss, L., & Co.
High Point Sprinkler Co., High Point, N.C. 810,885, pub. 4–19–66. Cl. 103.
Hilton Hotels Corp., Chicago, Ill. 810,877, pub. 4–19–66. Cl. 100.
Hitco, Gardena, Calif. 810,683–4, pub. 4–19–66. Cl. 1.
Hively, Vern J., d.b.a. Alliance Valve & Specialty Co., Alliance, Ohio. 697,925, canc. Cl. 21.
Hodges Chemicals Co., Burlingame, Calif. 810,892. Cl. 12.
Hoffmann-La Roche Inc., Nutley, N.J. 697,715, canc. Cl. 18.
Honeywell Inc., Minneapolis, Minn. 810,725, pub. 4–19–66. Multiple Class (Classes 13, 21, 26, and 34).
Hubley Mfg. Co., The, Lancaster, Pa. 810,760, pub. 4–19–66. Cl. 22.

Hudnut, Richard, Morris Plains, N.J. 696,891, canc. Cl. 51.
Hudnut's R., Pharmacy, New York, N.Y., to Richard Hudnut, Morris Plains, N.J. 52,160, ren. 7–5–66. Cl. 51.
Hudnut's R., Pharmacy, New York, N.Y., to Richard Hudnut, Morris Plains, N.J. 52,080, ren. 7–5–66. Cl. 52.
Hudnut, Richard: *See*—
Hudnut's, R., Pharmacy.
Hutchison, Edward N., d.b.a. Graph-O-Grid, Baltimore, Md. 421,971, 12(c) pub. 7–5–66. Cl. 37.
Hutton, Donald S., Birmingham, Mich. 810,831, pub. 3–8–66. Cl. 46.
Hydrotherm, Inc., Northvale, N.J. 810,776, pub. 4–19–66. Cl. 34.
Idaho Candy Co., Boise, Idaho. 219,390, ren. 7–5–66. Cl. 46.
Ideal Cocoa & Chocolate Co., Lititz, Pa. 224,525, canc. Cl. 46.
Ideal Toy Corp., Hollis, N.Y. 810,754, pub. 4–19–66. Cl. 22.
Illinois Tool Works, Chicago, Ill. 697,748–9, canc. Cl. 22.
Indi Laboratories, Lubbock, Tex. 697,706, canc. Cl. 18.
Indian Head Mills, Inc.: *See*—
Ulmann, Bernhard, Co., Inc.
Industrial Wiping Cloth Co., Inc., Long Island City, N.Y. 697,719, canc. Cl. 19.
Insulite Co., The, International Falls and Minneapolis, Minn., by Boise Cascade Corp., Boise, Idaho. 210,344, 12(c) pub. 7–5–66. Cl. 12.
J. & P. Coats (R.I.), Inc., Pawtucket, R.I., by Coats & Clark, Inc., New York, N.Y. 422,581, 12(c) pub. 7–5–66. Cl. 43.
Jaxon Coat Co. Inc., New York, N.Y. 697,857, canc. Cl. 39.
Jaymar-Ruby, Inc., Michigan City, Ind. 810,812, pub. 4–19–66. Cl. 39.
Jefferson Electric Co., Bellwood, Ill. 697,810, canc. Cl. 27.
Johns-Manville Corp., New York, N.Y. 810,723, pub. 3–1–66. Cl. 12.
Juttner, John, Pomona, Calif. 810,813, pub. 4–19–66. Cl. 40.
Kalder, Milton, d.b.a. Mayfield House Fabrics Co., New York, N.Y. 697,865, canc. Cl. 42.
Kasar Co., d.b.a. Kasar Laboratories, Niles, Ill. 810,737, pub. 4–19–66. Cl. 18.
Kasar Laboratories: *See*—
Kasar Co.
Kentucky Fried Chicken Corp., Shelbyville, Ky. 810,835, pub. 4–19–66. Cl. 46.
Kickernick, Inc., by Henson-Kickernick, Inc., Minneapolis, Minn. 436,471, 12(c) pub. 7–5–66. Cl. 39.
Klein, Sarah, d.b.a. Revelee Pharmacal Co., Springfield, Mass. 697,707, canc. Cl. 18.
Kleinert, I. B., Rubber Co., by I. B. Kleinert Rubber Co., New York, N.Y. 54,142, 12(c) pub. 7–5–66. Cl. 40.
11–16–65. Cl. 46.
Knarr, George W., New Cumberland, Pa. 810,822, pub. 11–16–65. Cl. 46.
Kofuku Sangyo Co., Ltd., Nakaku, Nagoya, Japan. 697,802, canc. Cl. 26.
Kohner Bros., Inc., New York, N.Y. 810,749, pub. 4–19–66. Cl. 22.
Kroger Co., The: *See*—
Kroger Grocery & Baking Co.
Kroger Grocery & Baking Co., by The Kroger Co., Cincinnati, Ohio. 211,820, 12(c) pub. 7–5–66. Cl. 46.
Kroger Grocery & Baking Co., The, by The Kroger Co., Cincinnati, Ohio. 214,567, 12(c) pub. 7–5–66. Cl. 46.
Krypto Corp., San Francisco, Calif. 810,753, pub. 4–19–66. Cl. 22.
Laboratoires Biologiques Arval S.A. Sion, Sion, Switzerland. 810,869, pub. 4–19–66. Cl. 51.
Lakeville Arms Inc., Lakeville, Conn. 697,664, canc. Cl. 9.
Lancome S.A., to Lancome S.A., Paris, France. 422,028, ren. 7–5–66. Cl. 51.
Lane Ltd.: *See*—
Lane Tobacco, Ltd.
Lane Tobacco, Ltd., by Lane Ltd., New York, N.Y. 419,926, 12(c) pub. 7–5–66. Cl. 17.
Latrobe Electric Steel Co., by Latrobe Steel Co., Latrobe, Pa. 419,971, 12(c) pub. 7–5–66. Cl. 14.
Latrobe Steel Co.: *See*—
Latrobe Electric Steel Co.
Lehn & Fink Products Corp.: *See*—
Lysol, Inc.
Lemmon Pharmacal Co.: *See*—
Haack Bros. Mfg. Pharmacists, Inc.
Leonard, Harry A.: *See*—
Ski-Faring, Inc.
Letart Co., Inc., Smith Creek, Mich. 810,894–5. Cl. 12.
Lightfoot Schultz Co., to Philip Morris Inc., New York, N.Y. 420,728, ren. 7–5–66. Cl. 51.
Lilly, Eli, and Co., Indianapolis, Ind. 810,739, pub. 4–19–66. Cl. 18.
Liquid Carbonic Corp., The, Chicago, Ill., to General Dynamics Corp., New York, N.Y. 423,771, ren. 7–5–66. Cl. 6.
Litho-Strip Corp., Chicago, Ill. 810,728, pub. 4–19–66. Cl. 14.
Little Ballerina Mfg. Co., Inc., Passaic, N.J. 697,750, canc. Cl. 22.
Lysol, Inc., Bloomfield, N.J., to Lehn & Fink Products Corp., New York, N.Y. 219,630, ren. 7–5–66. Cl. 6.
Madison Throwing Co., Inc., Madison, N.C. 799,355, canc. Cl. 6.
Manhattan Incense Works: *See*—
Brilles, Bell D.
Marathon Corp., Rothschild, Wisc., to American Can Co., New York, N.Y. 421,141, ren. 7–5–66. Cl. 37.
Market Tire Co. of Maryland Inc., Rockville, Md. 810,746, pub. 4–19–66. Cl. 21.
Maryland Baking Co.: *See*—
Maryland Baking Co., The.
Maryland Baking Co., The, Baltimore, Md. 810,821, pub. 4–19–66. Cl. 46.
Maryland Baking Co., The, d.b.a. Maryland Baking Co., Baltimore, Md. 810,838, pub. 4–19–66. Cl. 46.
Mattel, Inc., Hawthorne, Calif. 810,761, pub. 4–19–66. Cl. 22.
Matter, Daniel W., d.b.a. Ultra-Violet Equipment Co., Fort Wayne, Ind. 697,742, canc. Cl. 21.
Mayfield House Fabrics Co.: *See*—
Kalder, Milton.
McMillan, Hugh J., Sault Ste. Marie, Mich. 697,695, canc. Cl. 18.
Mead Corp., The, Dayton, Ohio. 810,792, pub. 4–19–66. Cl. 37.
Mearl Corp., The, Ossining, N.Y. 810,707–8, pub. 4–19–66. Cl. 6.
Medallion Dairy Association, Aurora, Ill. 810,828, pub. 4–19–66. Cl. 46.
Merck & Co., Inc., Rahway, N.J. 810,735–6, pub. 4–19–66. Cl. 18.
Merck & Co., Inc., Rahway, N.J. 697,716–17, canc. Cl. 18.
Michigan Brush Mfg. Co., Inc., Detroit, Mich. 215,841, ren. 7–5–66. Cl. 29.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 697,641, canc. Cl. 5.
Mississippi Glass Co.: *See*—
Mississippi Wire Glass Co.
Mississippi Wire Glass Co., New York, N.Y., by Mississippi Glass Co., St. Louis, Mo. 210,085, 12(c) pub. 7–5–66. Cl. 33.
Morris, Philip, Inc.: *See*—
Lightfoot Schultz Co.
Morrison Milling Co., The: *See*—
Alliance Milling Co., The.
Morton Mfg. Corp., d.b.a. Snow White Products Co., Lynchburg, Va., to Morton Mfg. Corp., Richmond, Va. 420,852, ren. 7–5–66. Cl. 51.
Mrs. America, Inc., New York, N.Y. 713,675, canc. Cl. A.
Myers, F. E., & Bro. Co., The: *See*—
Myers, F. E., & Brother.
Myers, F. E., & Brother, to The F. E. Myers & Bro. Co., Ashland, Ohio. 52,274, ren. 7–5–66. Cl. 23.
N.V. Cigarettes Import Co., Scheveningen, Netherlands. 810,731, pub. 4–19–66. Cl. 17.
Nalley's, Inc., Tacoma, Wash. 705,657. Am. 7(d). Cl. 46.
National Distributors of Hollywood: *See*—
Casselman, Ethel.
National Shoes, Inc., New York, N.Y. 697,851, canc. Cl. 39.
Naugatuck Chemical Co., The, New York, N.Y., by United States Rubber Co., New York, N.Y. 218,486, 12(c) pub. 7–5–66. Cl. 6.
Neilson Chemical Co., Detroit, Mich., to Amchem Products, Inc., Ambler, Pa. 424,158, ren. 7–5–66. Cl. 6.
New Hampshire Dairy Co-Operative, Inc., Manchester, N.H. 810,852, pub. 4–19–66. Cl. 46.
New York Consolidated Card Co., The, New York, N.Y., by The United States Playing Card Co., Cincinnati, Ohio. 52,014, 12(c) pub. 7–5–66. Cl. 22.
New York Consolidated Card Co., The, New York, N.Y., by The United States Playing Card Co., Cincinnati, Ohio. 53,131, 12(c) pub. 7–5–66. Cl. 22.
New York Consolidated Card Co., The, New York, N.Y., by The United States Playing Card Co., Cincinnati, Ohio. 52,552, 12(c) pub. 7–5–66. Cl. 22.
Norcross, Inc., New York, N.Y. 810,800–1, pub. 4–19–66. Cl. 38.
Norcross, Inc., New York, N.Y. 810,799, pub. 4–19–66. Cl. 38.
North American Van Lines, Inc., Fort Wayne, Ind. 697,921, canc. Cl. 105.
Nuodex Products Co., Inc., Elizabeth, N.J., to Tenneco Chemicals, Inc., New York, N.Y. 420,741, ren. 7–5–66. Cl. 6.
Nygren, Henry A., Hobson, Mont. 697,638, canc. Cl. 4.
Ohio Art Co., The, Bryon, Ohio. 810,757–8, pub. 4–19–66. Cl. 22.
Orkin Expositions Management: *See*—
Orkin, William S.
Orkin, William S., d.b.a. Orkin Expositions Management, New York, N.Y. 697,905, canc. Cl. 101.
Oster, John, Mfg. Co.: *See*—
American Shearer Mfg. Co.
P-M-R Cooperative, Madison, Wis. 810,888, pub. 4–19–66. Cl. 200.
P-M-R Cooperative, Madison, Wis. 810,890–1, pub. 4–19–66. Cl. A.
Pacific Vegetable Oil Corp., San Francisco, Calif. 810,853, pub. 4–19–66. Cl. 46.
Pamper Music, Inc., Goodlettsville, Tenn. 810,790, pub. 4–19–66. Cl. 36.
Panther Oil & Grease Mfg. Co., to Texas Refinery Corp., Fort Worth, Tex. 424,611, ren. 7–5–66. Cl. 12.
Paper Service Co., The, Arlington Heights and Lockland, Ohio, by Cincinnati Industries, Inc., Cincinnati, Ohio. 211,670, 12(c) pub. 7–5–66. Cl. 37.
Park Industries, Inc., Murfreeboro, Tenn. 810,764, pub. 4–19–66. Cl. 23.
Parker Pen Co., The: *See*—
Eversharp, Inc.
Patrick, Lee, Inc., Parkville, Mo. 697,874, canc. Cl. 46.
Paul, Morrison B., Beverly Hills, Calif. 810,772, pub. 4–19–66. Cl. 26.
Pax Steel Products, Inc., Coldwater, Ohio. 697,882, canc. Cl. 50.
Pearce-Young-Angel Co., Greenville, S.C. 810,829, pub. 4–19–66. Cl. 46.
Penn Leather Co., Philadelphia, Pa. 209,337, ren. 7–5–66. Cl. 39.
Penn Leather Co., Philadelphia, Pa. 214,867, ren. 7–5–66. Cl. 39.

Pfizer, Chas., & Co., Inc., New York, N.Y. 810,732, pub. 4–19–66. Cl. 18.
Pfizer, Chas., & Co., Inc., New York, N.Y. 810,738, pub. 4–19–66. Cl. 18.
Precision Dynamics Corp., Burbank, Calif. 810,868, pub. 4–19–66. Cl. 50.
Premo Pharmaceutical Laboratories, Inc., South Hackensack, N.J. 697,691, canc. Cl. 18.
President Laboratories, Inc., Shreveport, La. 697,660, canc. Cl. 6.
Private Brands, Inc., Kansas City, Mo. 810,694, pub. 4–19–66. Cl. 6.
Procter & Gamble Co., The, Cincinnati, Ohio. 810,870, pub. 4–19–66. Cl. 51.
Producers Chemical Co., Borger, Tex. 810,883, pub. 4–19–66. Multiple Class (Classes 103 and 106).
Professional Budget Plan, Madison, Wis. 810,794, pub. 4–19–66. Cl. 37.
Providence Lithograph Co., Providence, R.I. 697,841, canc. Cl. 38.
Providence Lithograph Co., Providence, R.I. 697,843, canc. Cl. 38.
Purdue Frederick Co., The, Yonkers, N.Y. 810,740–2, pub. 4–19–66. Cl. 18.
QAC Co.: *See*—
Bachman, Walter S.
Quaker Oats Co., The, Chicago, Ill. 810,843, pub. 4–19–66. Cl. 46.
Quality House Products Co.: *See*—
Whink Products Co.
Quick, Ervin, San Jacinto, Calif. 810,691, pub. 4–19–66. Cl. 3.
Ravicovich, Emanuel, Inc., New York, N.Y. 810,686, pub. 4–19–66. Cl. 1.
Ree-Ceel Corp., Norfolk, Va. 697,644, canc. Cl. 5.
Red Arrow Products Corp., Milwaukee, Wis. 810,836, pub. 4–19–66. Cl. 46.
Redmond, A. G., Co., Owosso, Mich., to Controls Co. of America, Melrose Park, Ill. 423,433, ren. 7–5–66. Cl. 21.
RepsiCo., Inc.: *See*—
Bradham, Caleb D.
Research, Inc., Minneapolis, Minn. 810,767, pub. 4–19–66. Cl. 23.
Revelee Pharmacal Co.: *See*—
Klein, Sarah.
Rexall Drug and Chemical Co.: *See*—
United Drug Co.
Richkraft Co., The, Chicago, to Alton Box Board Co., Alton, Ill. 424,625, ren. 7–5–66. Cl. 12.
Rieber & Son A/S, Bergen, Norway. 810,826, pub. 4–19–66. Cl. 46.
Ritter Co., Inc., Rochester, N.Y. 697,724, canc. Cl. 21.
Robertshaw-Fulton Controls Co., Richmond, Va. 697,784. canc. Cl. 26.
Robinson & Co.: *See*—
Robinson, Noel A.
Robinson, Noel A., d.b.a. Robinson & Co., Gardena, Calif. 697,793, canc. Cl. 26.
Robinson Thread Co., Inc., The, Worcester, Mass. 810,817, pub. 4–19–66. Cl. 43.
Roden, Ted., Co., Inc., Los Angeles, Calif. 810,866, pub. 4–19–66. Cl. 50.
Rodriguez Hermanos de Cordoba, S.A., Cordoba, Spain. 810,846–7, pub. 4–19–66. Cl. 46.
Rothschild, Maurice L., & Co., Chicago, Ill. 697,858, canc. Cl. 39.
Rotokleen of Connecticut, Inc., Fairfield, Conn. 697,914–15, canc. Cl. 103.
Royal Baking Powder Co., Jersey City, N.J., and New York, N.Y., to Standard Brands Inc., New York, N.Y. 53,209, ren. 7–5–66. Cl. 46.
Royal, Inc.: *See*—
De Soto Chemical Coatings, Inc.
Rubbermaid Inc., Wooster, Ohio. 697,720, canc. Cl. 19.
Rymco, Inc., Detroit, Mich. 697,907, canc. Cl. 101.
Safeway Stores, Inc., Oakland, Calif. 697,856, canc. Cl. 39.
Salada-Shirriff-Horsey Ltd., Toronto, Ontario, Canada. 697,873, canc. Cl. 46.
Sandoz, Ltd., Basel, Switzerland. 810,798, pub. 4–19–66. Cl. 38.
Schecter, Herman J., d.b.a. Sommers Plastic Products Co., New York, N.Y. 697,631, canc. Cl. 1.
Schenley Distillers, Inc., d.b.a. Weston Winery, New York, N.Y. 810,862, pub. 4–19–66. Cl. 47.
Schmidt Baking Co., Inc., Baltimore, Md. 810,855, pub. 4–19–66. Cl. 46.
School Pictures, Inc., Jackson, Miss. 810,878, pub. 4–19–66. Cl. 100.
Scofield, George H., d.b.a. P-Nips, Cary, Ill. 810,842, pub. 4–19–66. Cl. 46.
Seattle Quilt Mfg. Co., Inc., Seattle, Wash. 697,744, canc. Cl. 22.
Segrest Feed & Seed Co., Inc., Slocomb, Ala. 810,682, pub. 4–19–66. Cl. 1.
Service Bureau Corp., The, New York, N.Y. 697,910, canc. Cl. 101.
Sexauer, J. A., Mfg. Co., Inc., White Plains, N.Y. 424,845, ren. 7–5–66. Cl. 13.
Shako Shoes, Cameron, S.C. 697,853, canc. Cl. 39.
Sherwin-Williams Co., The, Cleveland, Ohio. 424,217, ren. 7–5–66. Cl. 6.
Shetland Co., Inc., The, d.b.a. Shetland/Lewyt, Salem, Mass. 810,875, pub. 4–19–66. Cl. 52.
Shetland/Lewyt: *See*—
Shetland Co., Inc.
Shibley & Finer, Inc., Boston, Mass. 424,297, ren. 7–5–66. Cl. 39.
Shirley Fabrics Corp., New York, N.Y. 424,205, ren. 7–5–66. Cl. 42.
Shorewood Mills, Milwaukee, Wis. 216,358, ren. 7–5–66. Cl. 39.
Sigman Meat Co., Inc., Denver, Colo. 810,840, pub. 4–19–66. Cl. 46.
Since 1868 Crescent Corp., d.b.a. Crescent Corp., New York, N.Y. 810,727, pub. 4–19–66. Cl. 13.
Singer Co., The, New York, N.Y. 810,778, pub. 4–19–66. Cl. 34.
Ski-Faring, Inc., from Harry A. Leonard, Chicago, Ill. 697,840, canc. Cl. 38.
Smith, S., & Sons (England), Ltd., London, England. 810,819, pub. 4–19–66. Cl. 44.
Snow White Products Co.: *See*—
Morton Mfg. Corp.
Societe Rhodiaceta, Paris, France. 810,806–7, pub. 4–19–66. Cl. 39.
Society for Visual Education, Inc., Chicago, Ill. 419,973, ren. 7–5–66. Cl. 26.
Sommers Plastic Products Co.: *See*—
Schecter, Herman J.
Southern Advance Bag & Paper Co., Inc., Bangor, Maine, Boston, Mass., by Continental Can Co., Inc., New York, N.Y. 422,818–19, 12(c) pub. 7–5–66. Cl. 2.
Spun-Lo Elderlon, Inc., New York, N.Y. 810,802, pub. 4–19–66. Cl. 39.
Square D Co., Park Ridge, Ill. 810,779, pub. 4–19–66. Cl. 34.
Staedtler, J. S., Inc., New York, N.Y., to J. S. Staedtler, Inc., Montville, N.J. 217,377, ren. 7–5–66. Cl. 37.
Staedtler, J. S., Inc., New York, N.Y., to J. S. Staedtler, Inc., Montville, N.J. 218,744, ren. 7–5–66. Cl. 37.
Standard Brands Inc.: *See*—
Royal Baking Powder Co.
Standard Chemical Products, Inc., Hoboken, N.J. 810,680, pub. 3–8–66. Cl. 1.
Stearns & Foster Co., The, Lockland, Cincinnati, Ohio. 810,775, pub. 4–19–66. Cl. 32.
Stephens-Adamson Mfg. Co., Aurora, Ill. 810,762, pub. 4–19–66. Cl. 23.
Stetson, John B., Co., Philadelphia, Pa. 51,893, 12(c) pub. 7–5–66. Cl. 39.
Stitzel-Weller Distillery: *See*—
Stitzel-Weller Distillery, Inc.
Stitzel-Weller Distillery, Inc., d.b.a. Stitzel-Weller Distillery, Louisville, Ky. 810,864, pub. 4–19–66. Cl. 49.
Stouffer Foods Corp., Cleveland, Ohio. 810,823–4, pub. 4–19–66. Cl. 46.
Stover, Russell, Candies, Inc., Kansas City, Mo. 810,856, pub. 4–19–66. Cl. 46.
Stowcraft, Inc., Stowe, Vt. 697,847, canc. Cl. 39.
Strauss, L., & Co., Indianapolis, Ind., to Hickey-Freeman Co., Inc., Rochester, N.Y. 218,567, ren. 7–5–66. Cl. 39.
Strobeck, Hans, Aktiebolag, Malmo, Sweden. 697,690, canc. Cl. 18.
Sun Drop Sales Corp. of America, St. Louis, Mo. 779,230, canc. Cl. 45.
Sutton Cosmetics, Inc., New York, N.Y. 697,888, canc. Cl. 51.
Tenneco Chemicals, Inc.: *See*—
Nuodex Products Co., Inc.
Texas Refinery Corp.: *See*—
Panther Oil & Grease Mfg. Co.
Thomas, S. B., Inc., Long Island City, N.Y. 215,997, 12(c) pub. 7–5–66. Cl. 46.
Thompson-Hayward Chemical Co., Kansas City, Kans. 810,693, pub. 4–19–66. Cl. 6.
Thoro Chemical Co.: *See*—
Bachman, Walter S.
Trager Mfg. Co., Scranton, Pa. 810,717, pub. 4–19–66. Cl. 6.
Trans-Art, Inc., Kansas City, Mo. 810,867, pub. 4–19–66. Cl. 50.
Travelgard Co., Seattle, Wash. 810,690, pub. 4–19–66. Cl. 3.
Triangle Package Machinery Co., to Triangle Package Machinery Co., Chicago, Ill. 423,711, ren. 7–5–66. Cl. 26.
Tripler, F. R., & Co., Inc., New York, N.Y. 212,769, ren. 7–5–66. Cl. 39.
Turco Products, Inc., Los Angeles, Calif., to Purex Corp., Ltd., Lakewood, Calif. 422,917, ren. 7–5–66. Cl. 52.
U.S. Distributing Corp., Houston, Tex. 810,704, pub. 4–19–66. Cl. 6.
Ullman Co., Inc., The, Brooklyn, N.Y. 810,797, pub. 4–19–66. Cl. 38.
Ullman Devices Corp., Ridgefield, Conn. 697,652, canc. Cl. 6.
Ultra-Violet Equipment Co.: *See*—
Matter, Daniel W.
Underwood, John, & Co., Inc., New York, N.Y. 697,665, canc. Cl. 11.
Union Bag-Camp Paper Corp.: *See*—
Union Bag & Paper Co., The.
Union Bag & Paper Co., The, to Union Bag-Camp Paper Corp., New York, N.Y. 52,385–6, ren. 7–5–66. Cl. 2.
Union Carbide Corp.: *See*—
Union Carbide and Carbon Corp.
Union Carbide and Carbon Corp., to Union Carbide Corp., New York, N.Y. 420,917, ren. 7–5–66. Cl. 26.
Union Bag & Paper Co., The, to Union Bag-Camp Paper Corp., New York, N.Y. 52,383, ren. 7–5–66. Cl. 2.
Union Bag & Paper Co., The, to Union Bag-Camp Paper Corp., New York, N.Y. 53,577, ren. 7–5–66. Cl. 2.
Union Special Machine Co., Chicago, Ill. 53,236, ren. 7–5–66. Cl. 23.
United Drug Co., Boston, Mass., by Rexall Drug and Chemical Co., d.b.a. Rexall Drug Co., Los Angeles, Calif. 380,397, 12(c) pub. 7–5–66. Cl. 18.
United Drug Co., Boston, Mass., by Rexall Drug and Chemical Co., Los Angeles, Calif. 101,434, 12(c) pub. 7–5–66. Cl. 18.

United Drug Co., Boston, Mass., by Rexall Drug and Chemical Co., Los Angeles, Calif. 378,517, 12(c) pub. 7–5–66. Cl. 18.
United States Playing Card Co., The, Cincinnati, Ohio. 53,089, 12(c) pub. 7–5–66. Cl. 22.
United States Rubber Co., New York, N.Y. 810,692, pub. 4–19–66. Cl. 6.
United States Rubber Co., New York, N.Y. 420,256, 12(c) pub. 7–5–66. Cl. 6.
United States Rubber Co.: *See*—
Boston Rubber Shoe Co.
Eureka Fire Hose Co.
Naugatuck Chemical Co., The.
United States Playing Card Co., The: *See*—
New York Consolidated Card Co., The.
United States Radium Corp., Morristown, N.J. 424,518, ren. 7–5–66. Cl. 21.
United States Rubber Co., New York, N.Y. 544,226. Am. 7(d). Cl. 35.
United States Stoneware Co., The, Akron, to The United States Stoneware Co., Tallmadge, Ohio. 423,511, ren. 7–5–66. Cl. 1.
Universal Foods Corp., Milwaukee, Wis. 810,825, pub. 4–19–66. Cl. 46.
Valley Dolomite Corp., St. Louis, Mo. 810,722, pub. 4–19–66. Cl. 12.
Van Dyck, J. J., & Co.: *See*—
Van Dyck, Joseph J.
Van Dyck, Joseph J., d.b.a. J. J. Van Dyck & Co., Manistique, Mich. 810,844, pub. 4–19–66. Cl. 46.
Van Zale Electric Co., Bay City, Mich. 697,728, canc. Cl. 21.
Venue, Ben, Laboratories, Inc., Bedford, Ohio. 810,710, pub. 4–19–66. Cl. 6.
Verkamp Corp., The, Cincinnati, Ohio. 420,590, 12(c) pub. 7–5–66. Cl. 2.
Virden, John C., Co., Cleveland, Ohio, from Ekco Products Co., Chicago, Ill. 697,725–6, canc. Cl. 21.
Visual Graphics Corp., New York, N.Y. 810,880, pub. 4–19–66. Cl. 101.
Volt, W. J., Rubber Corp., Santa Ana, Calif. 810,748, pub. 4–19–66. Cl. 22.
Wade, Wenger Servicemaster Co., Downers Grove, Ill. 810,884, pub. 4–19–66. Cl. 103.
Wagner Bros. Feed Corp., Brooklyn, N.Y. 810,845, pub. 4–19–66. Cl. 46.
Wakefern Food Corp., Elizabeth, N.J. 810,886, pub. 4–19–66. Cl. 105.
Walker Mfg. Co., Racine, Wis. 810,774, pub. 4–19–66. Cl. 31.
Wallace Silversmiths, Inc., Wallingford, Conn. 697,824, canc. Cl. 34.
Weathersby-Brunner Co., by Witsell Bros.-Dean Lilly Co., d.b.a. Weathersby Brunner Co., Memphis, Tenn. 210,106, 12(c) pub. 7–5–66. Cl. 46.
West Foods, Inc.: *See*—
West Mushroom Co.
West Mushroom Co., also d.b.a. West Foods, Salem, Oreg., to West Foods, Inc., Soquel, Calif. 424,037, ren. 7–5–66. Cl. 46.
Western Auto Supply Co., Kansas City, Mo. 810,789, pub. 4–19–66. Cl. 36.
Western Carpet Cleaning Co., d.b.a. Zoll's Chemical Co., Detroit, Mich. 697,895, canc. Cl. 52.
Weston Winery: *See*—
Schenley Distillers, Inc.
Wetsman and Co., Detroit, Mich. 810,811, pub. 4–19–66. Cl. 39.
Weyerhaeuser Co., Tacoma, Wash. 810,893. Cl. 12.
White Rock Corp., Brooklyn, N.Y. 425,008, ren. 7–5–66. Cl. 45.
White, S. S., Co.: *See*—
White, S. S., Dental Mfg. Co., The.
White, S. S., Dental Mfg. Co., The, by S. S. White Co., Philadelphia, Pa. 45,482, 12(c) pub. 7–5–66. Cl. 44.
White, S. S., Dental Mfg. Co., The, by S. S. White Co., Philadelphia, Pa. 212,260, 12(c) pub. 7–5–66. Cl. 44.
White, S. S., Dental Mfg. Co., The, by S. S. White Co., Philadelphia, Pa. 212,261, 12(c) pub. 7–5–66. Cl. 44.
Whiting & Co., Inc.: *See*—
Whiting Paper Co.
Whiting Corp., Harvey, Ill. 424,875, ren. 7–5–66. Cl. 21.
Whiting Paper Co., to Whiting & Co., Inc., Holyoke, Mass. 28,260, ren. 7–5–66. Cl. 37.
Whitney Blake Co., The, Hamden, Conn. 421,195, ren. 7–5–66. Cl. 21.
Willo-Peer Corp., New York, N.Y. 810,770, pub. 4–19–66. Cl. 26.
Wilson Industries, Inc., Brooklyn, N.Y. 697,727, canc. Cl. 21.
Wings Club, Inc., New York, N.Y. 810,889, pub. 5–19–66. Cl. 200.
Witsell Bros.-Dean Lilly Co.: *See*—
Weathersby-Brunner Co.
Woodward-Schumacher Electric Corp., Chicago, Ill. 810,745, pub. 4–19–66. Cl. 21.
Wostenholm, George, & Son, Ltd., Sheffield, England. 53,722, 12(c) pub. 7–5–66. Cl. 23.
Xerox Corp., Rochester, N.Y. 810,795, pub. 4–19–66. Cl. 37.
Young, R. C., Seed & Grain Co., Lubbock, Tex. 810,678, pub. 4–19–66. Cl. 1.
Youngstown Sheet and Tube Co., The, Boardman, Ohio. 211,081, 12(c) pub. 7–5–66. Cl. 14.
Youngstown Sheet and Tube Co., The, Boardman, Ohio. 211,186, 12(c) pub. 7–5–66. Cl. 13.
Zero Mfg. Corp., Washington, Mo. 810,769, pub. 4–19–66. Cl. 23.
Zoll's Chemical Co.: *See*—
Western Carpet Cleaning Co.

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of May 1966

Examiner affirmed	245
Examiner affirmed in part	46
Examiner reversed	82
Total	373

Deposit Accounts

The practice instituted on May 1, 1966, pursuant to the notice of February 23, 1966 (824 O.G. 1200), whereby statutory fees may be charged against deposit accounts, and such accounts are closed if overdrawn, has resulted in certain difficulties for the Patent Office and deposit account holders. It has been decided therefore to modify that practice as indicated below.

As was pointed out in that notice, the charging of a fee against an overdrawn account cannot be considered as payment of the fee until a proper balance is restored or payment is made in some other way. Accordingly, deposit account holders who charge such fees must assume the risk of losing vital dates if they do not maintain a proper balance in their accounts at all times.

Apart from this, however, the overdrawing of an account places a burden on the Patent Office, particularly where a number of items are charged after the overdraft occurs, and it is appropriate that those who are responsible for causing such a condition should bear the cost of correcting it. In view of this fact, and of the hardship frequently caused if an account is permanently closed, the practice of closing deposit accounts merely because they are overdrawn will be discontinued, effective August 1, 1966. In lieu thereof an overdrawn account will be immediately suspended and no charges will be accepted against it until a proper balance is restored, together with a payment of ten dollars to cover the work done by the Patent Office incident to suspending and reinstating the account and dealing with charges which may have been made in the meantime. It is expected, however, that reasonable precautions will be taken in all cases to avoid overdrafts, and if an account is suspended repeatedly it will be necessary to close it.

Similarly, because of the burden placed on the Patent Office incident to the operation of deposit accounts, a charge of ten dollars will be made for opening each new account.

EDWARD J. BRENNER,
June 23, 1966. *Commissioner.*

Dependent Claims

Although the notice published on October 5, 1965, in 819 O.G. 3, explained that for the purposes of the present fee bill, Public Law 89–83, approved July 24, 1965, the Patent Office will consider a proper dependent claim as being one which incorporates by reference a single preceding claim, whether independent or dependent, and includes all the limitations of the claim so incorporated, there appears to be still some uncertainty on this matter and it is therefore thought to be desirable to elaborate it.

Since the initial determination, for fee purposes, as to whether a claim is dependent must be made by persons other than examiners, it is necessary, at that time, to accept as dependent virtually every claim which refers to another claim, without determining whether there is actually a true dependent relationship. Such acceptance does not, however, preclude a subsequent holding by the examiner that a claim is not a proper dependent claim.

An essential characteristic of a proper dependent claim is that it shall include every limitation of the claim from which it depends (35 U.S.C. 112) or in other words that it shall not conceivably be infringed by anything which would not also infringe the basic claim. Thus, for example, if claim 1 recites the combination of elements *a*, *b*, *c* and *d*, a claim reciting the structure of claim 1 in which *d* was omitted or replaced by *e* would not be a proper dependent claim, even though it placed further limitations on the remaining elements or added still other elements.

The fact that a dependent claim which is otherwise proper might require a separate search or be separately classified from the claim on which it depends would not render it an improper dependent claim, although it might result in a requirement for restriction.

The fact that the independent and dependent claims are in different statutory classes does not, in itself, render the latter improper. Thus, if claim 1 recites a specific product a claim for the method of making the product of claim 1 in a particular manner would be a proper dependent claim since it could not be infringed without infringing claim 1. Similarly, if claim 1 recites a method of making a product, a claim for a product made by the method of claim 1 could be a proper dependent claim. On the other hand, if claim 1 recites a method of making a specified product, a claim to the product set forth in claim 1 would not be a proper dependent claim if the product might be made in other ways.

Any claim which is in dependent form but which is so worded that it does not, in fact, include every limitation of the claim on which it depends, will be required to be cancelled as not being a proper dependent claim; and cancellation of any further claim depending on such a dependent claim will be similarly required. The applicant may thereupon amend the claims to place them in proper dependent form, or may redraft them as independent claims, upon payment of any necessary additional fee.

The basis for the difference in fees between independent and dependent claims is the fact that the examination of a dependent claim is normally a comparatively simple matter

New Applications Received During May 1966

Patents	7,779
Designs	418
Plant Patents	12
Reissues	17
Total	8,226

Issue—July 12, 1966

Patents	1,116	No. 3,259,908 to No.	3,261,023, incl.
Designs	70	No. 205,209 to No.	205,278, incl.
Plant Pats	3	No. 2,657 to No.	2,659, incl.
Total	1,189		

after the claim on which it depends has been examined. This relationship, however, obtains only when the independent claim represents a bona fide attempt to define the invention and to distinguish it from the known prior art. Accordingly, the presentation of a claim which on its face is obviously unpatentable or indefinite, as basis on which other claims are dependent, is not considered to be proper practice. One example of such a practice involves the use of a claim drawn to "all the features of novelty herein disclosed," with other claims, which actually recite the features thought to be novel, being dependent on the first. A similarly objectionable arrangement would involve the use, as a basic independent claim, of a claim merely reciting "a wheeled vehicle," "an amino acid" or "an internal combustion engine."

Such a practice as that just described involves not only an attempt to evade the fee provisions of Public Law 89–83, but also the presentation of a claim known by the attorney or agent presenting it to be unpatentable. Any registered patent attorney or agent who makes a practice of presenting claims of this character may be called on to explain his actions.

(Signed) EDWARD J. BRENNER,
Commissioner.

June 8, 1966.

Disclaimers

2,993,664.—*Ross C. Alderson*, Minneapolis, Minn., and *Benjamin Carpenter*, deceased, late of Lake Forest, Ill., by *Walter T. Fisher*, executor, Chicago, Ill. AUTOMATIC INSTRUMENT LANDING SYSTEMS FOR AIR-BORNE CRAFT. Patent dated July 25, 1961. Disclaimer filed Apr. 8, 1966, by the assignee, *Honeywell Inc.*

Hereby enters this disclaimer to claim 17 of said patent.

3,066,299.—*Richard S. Kampf*, Denver, Colo. RECORDER. Patent dated Nov. 27, 1962. Disclaimer filed Apr. 28, 1966, by the assignee, *Honeywell Inc.*

Hereby enters this disclaimer to claims 1–7 and 14–16 of said patent.

3,195,491.—*Walter W. Bulgrin*, Akron, Ohio, and *Gordon C. J. Parent*, Southgate, Mich. EQUIPMENT FOR PRODUCING TAPERED DISK WHEELS. Patent dated July 20, 1965. Disclaimer filed Apr. 26, 1966, by the assignee, *The Firestone Tire & Rubber Company.*

Hereby disclaims the terminal portion of the term of said patent subsequent to Aug. 4, 1981.

Disclaimer Correction

3,215,374.—*Richard Olshausen*, Sunset Beach, Calif. VEHICLE CONTROL SYSTEM. Patent dated Nov. 2, 1965. Disclaimer filed Jan. 7, 1966, by the assignee, *North American Aviation, Inc.*

Attention has been called to an error in the disclaimer to this patent published in the OFFICIAL GAZETTE of May 24, 1966, which should be corrected as follows: for the words "Hereby enters this disclaimer to claims 3 and 4 of said patent." read *Hereby enters this disclaimer to claims 1 and 2 of said patent.*

Adjudicated Patents

(Ct. Cls.) Anzalone Patent No. 2,397,114 (102—35.6), for ROCKET CONSTRUCTION. Claims 1 and 4, 6 and 7 *Held* valid and infringed. *Dwyer* v. *U.S.*, 357 F.2d 978; 149 USPQ 133.

(Ct. Cls.) Dwyer Patent No. 2,455,242 (102—37.8), for EMERGENCY DAY AND NIGHT SIGNALLING DEVICE. Claims 1, 2, 7 and 8 *Held* invalid. *Id.*

(Ct. Cls.) Dwyer and Anzalone Patent No. 2,519,123 (42—1), for HAND OPERATED ROCKET TYPE DEVICE FOR SIGNALLING AND OTHER PURPOSES. Claims 1, 4, and 7 *Held* invalid and not infringed. *Id.*

(C.A. Ill.) Trow and Nelson Patent No. 2,753,694 (62—320), for ICE DISINTEGRATING AND CHIP DELIVERING SPIRAL ICE CHIP PRODUCING MACHINE. Claims 2 and 4 *Held* void and infringed. *King-Seeley Thermos Co.* v. *Tastee Freez Industries, Inc.*, 357 F.2d 875; 149 USPQ 4.

(C.A. Ind.) Wahl Patent No. 2,800,252 (222—55), for POWDER-FEEDING APPARATUS. Claims 14, 15 and 17 *Held* valid. *Wahl* v. *Carrier Mfg. Co.*, 358 F.2d 1; 148 USPQ 698.

(C.A. Wis.) Horner, Kroll, Benson, Patent No. 2,973,614 (56—25.4), for ROTARY POWER MOWER AND CATCHER. Claims 1 to 4 and 8 to 12 *Held* invalid. *Toro Mfg. Corp.* v. *Jacobsen Mfg. Co.*, 357 F.2d 901; 148 USPQ 628.

(C.A.N.C.) Rice Reissue Patent No. 25,360 (2—224), for STOCKING AND PANTY. Claim 1 *Held* not infringed. *Morpul Inc.* v. *Glen Raven Mill, Inc.*, 257 F.2d 732; 149 USPQ 1.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 16[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acidum hydroxytoluinicum hydroxytoluinic acid	2-hydroxy-3-methylbenzoic acid $C_8H_8O_3$
acidum nafcaproicum nafcaproic acid	α,α-diethyl-1-naphthaleneacetic acid $C_{18}H_{18}O_2$
acidum sulfaloxicum sulfaloxic acid	4′[[(hydroxymethyl)carbamoyl]sulfamoyl]phthalanilic acid $C_{16}H_{14}N_2O_7S$
acidum tranexamicum tranexamic acid	*trans*-4-(aminomethyl)cyclohexanecarboxylic acid $C_8H_{15}NO_2$
alloclamidum alloclamide	2-(allyloxy)-4-chloro-*N*-[2-(diethylamino)ethyl]benzamide $C_{16}H_{23}ClN_2O_2$
alverinum alverine	*N*-ethyl-3,3′-diphenyldipropylamine $C_{20}H_{27}N$
amfepentorexum amfepentorex	*N*,α-dimethyl-*p*-pentylphenethylamine $C_{15}H_{25}N$
amicarbalidum amicarbalide	3,3-diamidinocarbanilide $C_{15}H_{16}N_6O$
aminophenazoni cyclamas aminophenazone cyclamate	*N*-methyl-*N*-(2,3-dimethyl-5-oxo-1-phenylpyrazolin-4-yl)amine cyclohexylsulfamate $C_{13}H_{17}N_3O \cdot C_6H_{13}NO_3S$
amiodaronum amiodarone	2-butyl-3-benzofuranyl *p*-[2-(diethylamino)ethoxy]-*m*,*m*-diiodophenyl ketone $C_{25}H_{29}I_2NO_3$
amprolii chloridum amprolium chloride	1-[(4-amino-2-propyl-5-pyrimidinyl)methyl]-2-picolinium chloride $C_{14}H_{19}ClN_4$
anagestonum anagestone	17-hydroxy-6α-methylpregn-4-en-20-one $C_{22}H_{32}O_3$
azabonum azabon	3-sulfanilyl-3-azabicyclo[3.2.2]nonane $C_{14}H_{20}N_2O_2S$
azacosterolum azacosterol	17β-[[3-(dimethylamino)propyl]methylamino]androst-5-en-3β-ol $C_{26}H_{46}N_2O$
azintamidum azintamide	2-[(6-chloro-3-pyridazinyl)thio]-*N*,*N*-diethylacetamide $C_{10}H_{14}ClN_3OS$
barbexaclonum barbexaclone	(−)-*N*,α-dimethylcyclohexaneethylamine compound with 5-ethyl-5-phenylbarbituric acid $C_{12}H_{12}N_2O_3 \cdot C_{10}H_{23}N$
bencyclanum bencyclane	3-[(1-benzylcycloheptyl)oxy]-*N*,*N*-dimethylpropylamine $C_{19}H_{31}NO$
benfurodili hemisuccinas benfurodil hemisuccinate	2-(1-hydroxyethyl)-β-(hydroxymethyl)-3-methyl-5-benzofuranacrylic acid γ-lactone hydrogen succinate $C_{18}H_{18}O_7$
biciotymolum biciotymol	2,2′-methylenebis[6-chlorothymol] $C_{21}H_{26}Cl_2O_2$
bolandioli dipropionas bolandiol dipropionate	estr-4-ene-3β,17β-diol dipropionate $C_{24}H_{36}O_4$
bolmantalatum bolmantalate	17β-hydroxyestr-4-en-3-one 1-adamantanecarboxylate $C_{30}H_{42}O_3$
buclosamidum buclosamide	*N*-butyl-4-chlorosalicylamide $C_{11}H_{14}ClNO_2$
bunamidinum bunamidine	*N*,*N*-dibutyl-4-hexyloxy-1-naphthamidine $C_{25}H_{39}N_2O$
buquinolatum buquinolate	ethyl 4-hydroxy-6,7-diisobutoxy-3-quinolinecarboxylate $C_{22}H_{31}NO_5$
butanilicainum butanilicaine	2-(butylamino)-6′-chloro-*o*-acetotoluidide $C_{13}H_{19}ClN_2O$
butaxaminum butaxamine	α-[1-(*tert*-butylamino)ethyl]-2,5-dimethoxybenzyl alcohol $C_{15}H_{25}NO_3$
butidrinum butidrine	α-[(*sec*-butylamino)methyl]-5,6,7,8-tetrahydro-2-naphthalene-methanol $C_{15}H_{23}NO$
butriptylinum butriptyline	10,11-dihydro-*N*,*N*,β-trimethyl-5*H*-dibenzo[*a*,*d*]cycloheptene-5-propylamine $C_{23}H_{27}N$
candicidinum candicidin	an antibiotic substance obtained from cultures of *Streptomyces griseus*, or the same substance produced by any other means
carbazocinum carbasocine	14-(cyclopropylmethyl)-1,2,3,4,4a,5,6,11-octahydro-5,11b-iminoethano-11b*H*-benzo[*a*]carbazole $C_{26}H_{34}N_2$
carpipraminum carpipramine	1′-[3-(10,11-dihydro-5*H*-dibenz[*b*,*f*]azepin-5-yl)propyl]-[1,4′-bipiperidine]-4′-carboxamide $C_{28}H_{36}N_4O$
cefaloglycinum cefaloglycin	7-(2-amino-2-phenylacetamido)-3-(hydroxymethyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, acetate ester, inner salt $C_{18}H_{19}N_3O_6S$
clamoxyquinum clamoxyquine	5-chloro-7-[[[3-diethylamino)propyl]amino]methyl]-8-quinolinol $C_{17}H_{24}ClN_3O$

[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, **7**, 299; 1954, **8**, 216, 313; 1956, **10**, 28; 1957, **11**, 231; 1958, **12**, 102; 1959, **13**, 105; *WHO Chronicle*, 1959, **13**, 152; 1960, **14**, 168, 244; 1961, **15**, 314; 1962, **16**, 385; 1963, **17**, 389; 1964, **18**, 433; 1965, **19**, 446.
Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, **9**, 185; 1959, **13**, 106; *WHO Chronicle*, 1959, **13**, 463; 1962, **16**, 101; 1965, **19**, 165, 206, 249.

[2] *Off Rec. Wld Hlth Org.*, **60**, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
clioquinolum clioquinol	5-chloro-7-iodo-8-quinolinol C_9H_5ClINO
clocortolonum clocortolone	9-chloro-6α-fluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione $C_{22}H_{28}ClFO_3$
cloforexum cloforex	ethyl (*p*-chloro-α,α-dimethylphenethyl)carbamate $C_{13}H_{18}ClNO_2$
clomocyclinum clomocycline	7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-(hydroxymethyl)-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{23}H_{25}ClN_2O_9$
cloracetadolum cloracetadol	β,β,β-trichloro-α-hydroxy-*p*-acetophenetidide $C_{10}H_{10}Cl_3NO_3$
clorofenum clorofene	4-chloro-α-phenyl-*o*-cresol $C_{13}H_{11}ClO$
clotiapinum clotiapine	2-chloro-11-(4-methyl-1-piperazinyl)dibenzo[*b*,*f*][1,4]thiazepine $C_{18}H_{18}ClN_3S$
colestyraminum colestyramine	a styrenedivinyl-benzene copolymer (about 2 percent divinyl-benzene) containing quaternary ammonium groups
coumafosum coumafos	*O*,*O*-diethyl phosphorothioate *O*-3-chloro-7-hydroxy-4-methylcoumarin ester $C_{14}H_{16}ClO_5PS$
crufomatum crufomate	4-*tert*-butyl-2-chlorophenyl methyl *N*-methylphosphoramidate $C_{12}H_{19}ClNO_3P$
cyacetacidum cyacetacide	cyanoacetic acid hydrazide $C_2H_5N_3O$
cyprazepamum cyprazepam	7-chloro-2-[(cyclopropylmethyl)amino]-5-phenyl-3*H*-1,4-benzodiazepine, 4-oxide $C_{19}H_{18}ClN_3O$
cyprolidolum cyprolidol	diphenyl[2-(4-pyridyl)cyclopropyl]methanol $C_{21}H_{19}NO$
cyproteronum cyproterone	6-chloro-17-hydroxy-1α,2α-methylenepregna-4,6-diene-3,20-dione $C_{22}H_{27}ClO_3$
dextranum 40 dextran 40	a polyanhydroglucose of weight average molecular weight about 40,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 45 dextran 45	a polyanhydroglucose of weight average molecular weight about 45,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 75 dextran 75	a polyanhydroglucose of weight average molecular weight about 75,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 110 dextran 110	a polyanhydroglucose of weight average molecular weight about 110,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 150 dextran 150	a polyanhydroglucose of weight average molecular weight about 150,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextrofeminum dextrofemine	(+)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{18}H_{23}NO$
diaveradinum diaveradine	2,4-diamino-5(3′,4′-dimethoxybenzyl)pyrimidine $C_{13}H_{16}N_4O_2$
dicloxacillinum dicloxacillin	6-[3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolecarboxamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{19}H_{17}Cl_2N_3O_5S$
difebarbamatum difebarbamate	1,3-bis(3-butoxy-2-hydroxypropyl)-5-ethyl-5-phenylbarbituric acid dicarbamate ester $C_{38}H_{62}N_4O_9$
difluanazinum difluanazine	1-(2-anilinoethyl)-4-[4,4-bis(*p*-fluorophenyl)butyl]piperazine $C_{28}H_{32}F_2N_2$
dihydroergotaminum dihydroergotamine	dihydroergotamine $C_{33}H_{37}N_5O_5$
dimethyli sulfoxidum dimethyl sulfoxide	dimethyl sulfoxide C_2H_6OS
diminazenum diminazene	3,3′-(diazoamino)benzamidine $C_{14}H_{15}N_7$
dimpylatum dimpylate	*O*,*O*-diethyl 2-isopropyl-6-methyl-4-pyrimidinylphosphonothioate $C_{12}H_{21}N_2O_3PS$
dioxationum dioxation	a mixture consisting essentially of *cis*- and *trans*-*p*-dioxane-2,3-diyl ethyl phosphorodithioate $C_{12}H_{26}O_4P_2S_4$
dioxybenzonum dioxybenzone	2,2′-dihydroxy-4-methoxybenzophenone $C_{14}H_{12}O_4$
distigmini bromidum distigmine bromide	3-hydroxy-1-methylpyridinium bromide hexamethylenebis(*N*-methylcarbamate) $C_{22}H_{38}Br_2N_4O_4$
dodeclonii bromidum dodeclonium bromide	[2-(*p*-chlorophenoxy)ethyl]dodecyldimethylammonium bromide $C_{28}H_{53}BrClNO$
doxycyclinum doxycycline	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{22}H_{24}N_2O_8$
embutramidum embutramide	*N*-(β,β-diethyl-*m*-methoxyphenethyl)-4-hydroxybutyramide $C_{17}H_{27}NO_3$
epinephrinum epinephrine	(−)-α-3,4-dihydroxyphenyl-β-methylaminoethanol (synonym: adrenaline; in certain countries the name Adrenalin is a trademark) $C_9H_{13}NO_3$
estradioli undecylas estradiol undecylate	estradiol 17-undecanoate $C_{29}H_{44}O_3$
estrazinolum estrazinol	3-methoxy-8-aza-19-nor-17α-pregna-1,3,5-trien-20-yn-17-ol $C_{20}H_{25}NO_2$
etymidum etymide	2-ethoxy-*N*-methyl-*N*-[2-(methylphenethylamino)ethyl]-2,2-diphenylacetamide $C_{28}H_{34}N_2O_2$
fenamifurilum fenamifuril	tetrahydrofurfuryl (2-carbamoylphenoxy)acetate $C_{14}H_{17}NO_4$
fenamolum fenamole	5-amino-1-phenyl-1*H*-tetrazole $C_7H_7N_5$
fenimidum fenimide	3-ethyl-2-methyl-2-phenylsuccinimide $C_{13}H_{15}NO_2$
fenpentadiolum fenpentadiol	2-(*p*-chlorophenyl)-4-methyl-2,4-pentanediol $C_{12}H_{17}ClO_2$
flopropionum flopropione	2′,4′,6′-trihydroxypropiophenone $C_9H_{10}O_4$
floxuridinum floxuridine	2′-deoxy-5-fluorouridine $C_9H_{11}FN_2O_5$
flubanilatum flubanilate	ethyl *N*-[2-(dimethylamino)ethyl]-*m*-(trifluoromethyl)carbanilate $C_{14}H_{19}F_3N_2O_2$

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flugestonum flugestone	9-fluoro-11β,17-dihydroxypregn-4-ene-3,20-dione, 17 acetate $C_{23}H_{29}FO_4$
fluindarolum fluindarol	2-(α,α,α-trifluoro-*p*-tolyl)indan-1,3-dione $C_{16}H_9F_3O_2$
flumedroxonum flumedroxone	17-hydroxy-6α-(trifluoromethyl)pregn-4-ene-3,20-dione $C_{22}H_{29}F_3O_3$
flusalanum flusalan	3,5-dibromo-α,α,α-trifluoro-*m*-salicylotoluidide $C_{14}H_8Br_2F_3NO_2$
folescutolum folescutol	6,7-dihydroxy-4-(morpholinomethyl)coumarin $C_{14}H_{15}NO_5$
furazabolum furazabol	17-methyl-5α-androstano[2,3-*c*]furazan-17β-ol $C_{20}H_{32}N_2O_2$
furfenorexum furfenorex	(+)-*N*-methyl-*N*-(α-methylphenethyl)furfurylamine $C_{18}H_{23}NO$
gestonoroni caproas gestonorone caproate	17-hydroxy-19-norpregn-4-ene-3,20-dione hexanoate $C_{28}H_{40}O_4$
guaiactaminum guaiactamine	2-(*o*-methoxyphenoxy)triethylamine $C_{13}H_{21}NO_3$
guaiapatum guaiapate	1-[2-[2-[2-(*o*-methoxyphenoxy)ethoxy]ethoxy]ethyl]piperidine $C_{18}H_{29}NO_4$
guaifyllinum guaifyilline	3-(*o*-methoxyphenoxy)-1,2-propanediol compound with theophylline $C_7H_8N_4O_2 \cdot C_{10}H_{14}O_4$
guanaclinum guanaciine	[2-(3,6-dihydro-4-methyl-1(2*H*)-pyridyl]guanidine $C_8H_{13}N_4$
guanoctinum guanoctine	(1,1,3,3-tetramethylbutyl)guanidine
guanoxyfenum guanoxyfen	(3-phenoxypropyl)guanidine $C_{10}H_{15}N_3O$
halocarbanum halocarban	4,4′-dichloro-3-(trifluoromethyl)carbanilide $C_{14}H_9Cl_2F_3N_2O$
haloxonum haloxon	3-chloro-7-hydroxy-4-methylcoumarin bis(2-chloroethyl)phosphate $C_{14}H_{14}Cl_3O_6P$
hamycinum hamycin	an antibiotic substance obtained from cultures of *Streptomyces pimprina*, or the same substance produced by any other means
heptaverinum heptaverine	*N*,*N*-dimethyl-γ-phenyl-Δ²,γ-norbornanepropylamine $C_{18}H_{25}N$
hydroxycarbamidum hydroxycarbamide	hydroxyurea $CH_4N_2O_2$
ibuprofenum ibuprofen	α-*p*-isobutylphenylpropionic acid $C_{13}H_{18}O_2$
imidolinum imidoline	1-(*m*-chlorophenyl)3-[2-(dimethylamino)ethyl]-2-imidazolidinone $C_{13}H_{17}ClN_3O$
imolaminum imolamine	4-[2-(diethylamino)ethyl]-5-imino-3-phenyl-Δ²-1,2,4-oxadiazoline $C_{14}H_{20}N_4O$
insulini injectio biphasica biphasic insulin injection	a sterile suspension of beef insulin crystals in a neutral solution of pork insulin
ketaminum ketamine	2-(*o*-chlorophenyl)-2-(methylamino)cyclohexanone $C_{13}H_{16}ClNO$
lactulosum lactulose	4-*O*-β-D-galactopyranosyl-*D*-fructose $C_{12}H_{22}O_{11}$
mebezonii iodidum mebezonium iodide	(methylenedi-1,4-cyclohexylene)bis[trimethylammonium iodide] $C_{19}H_{40}I_2N_2$
medibazinum medibazine	1-(diphenylmethyl)-4-piperonylpiperazine $C_{25}H_{26}N_2O_2$
medrysonum medrysone	11β-hydroxy-6α-methylpregn-4-ene-3,20-dione $C_{22}H_{32}O_3$
mefrusidum mefruside	4-chloro-N^1methyl-N^1-(2-methyltetrahydrofurfuryl)-*m*-benzenedisulfonamide $C_{12}H_{16}ClN_3O_6S_2$
mesoridazinum mesoridazine	10-[2-1-methyl-2-piperidyl)ethyl]-2-(methylsulfinyl)phenothiazine $C_{21}H_{26}N_2OS_2$
metabromsalanum metabromsalan	3,5-dibromosalicyl anilide $C_{13}H_9Br_2NO_2$
metalliburum metallibure	1-methyl-6-(1-methylallyl)-2,5-dithiobiurea $C_7H_{14}N_4S_2$
metazamidum metazamide	1-(*p*-methoxyphenyl)-5-methyl-4-imidazolin-2-one $C_{11}H_{12}N_2O_2$
meticranum meticrane	6-methylthiochroman-7-sulfonamide 1,1-dioxide $C_{10}H_{13}NO_4S_2$
metindizatum metindizate	2-(hexahydro-1-methyl-3-indolinyl)ethyl benzilate $C_{25}H_{31}NO_3$
metofenazatum metofenazate	2-[4-[3-(2-chlorophenothiazin-lo-yl)propyl]-1-piperazinyl]ethyl 3,4,5-trimethoxybenzoate ester $C_{31}H_{36}ClN_3O_5S$
metrifonatum metrifonate	dimethyl (2,2,2-trichloro-1-hydroxyethyl)phosphonate $C_4H_8O_4PCl_3$
metylperonum metylperone	4′-fluoro-4-(4-methylpiperidino)butyrophenone $C_{18}H_{26}FNO$
metyridinum metyridine	2-(2-methoxyethyl)pyridine $C_8H_{11}NO$
mithramycinum mithramycin	an antibiotic substance obtained from cultures of *Streptomyces tanashiensis*, or the same substance produced by any other means
nafiverinum nafiverine	1,4-piperazinediethanol α-methyl-1-naphthaleneacetate ester $C_{34}H_{38}N_2O_4$
nafoxidinum nafoxidine	1-[2-[p-(3,4-dihydro-6-methoxy-2-phenyl-1-naphthyl)phenoxy]ethyl]pyrrolidine $C_{29}H_{31}NO_3$
naftalofosum naftalofos	*N*-hydroxynaphthylimide diethyl phosphate $C_{16}H_{18}NO_6P$
naftazonum naftazone	1,2-naphthaquinone 2-semicarbazone $C_{11}H_9N_3O_2$
naftypramidum naftypramide	α-isopropyl-α-[2-(dimethylamino)ethyl]-1-naphthaleneacetamide $C_{19}H_{28}N_2O$

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nifuradenum nifuradene	1[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_8H_8N_4O_4$
nifurdazilum nifurdazil	1-(2-hydroxyethyl)-3-[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_{10}H_{12}N_4O_5$
nifurmeronum nifurmerone	chloromethyl 5-nitro-2-furyl ketone $C_6H_4ClNO_4$
nifurprazinum nifurprazine	3-amino-6-[2-(5-nitro-2-furyl)vinyl]pyridazine $C_{10}H_8N_4O_3$
nifursemizonum nifursemizone	5-nitro-2-furaldehyde 2-ethylsemicarbazone $C_8H_{10}N_4O_4$
nitrazepamum nitrazepam	1,3-dihydro-7-nitro-5-phenyl-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{11}N_3O_3$
nogalamycinum nogalamycin	an antibiotic substance obtained from cultures of *Streptomyces nogalater*, or the same substance produced by any other means
norfenefrinum norfenefrine	β-aminomethyl-α-3-hydroxyphenylethanol $C_8H_{11}NO_2$
obidoximi chloridum obidoxime chloride	1,1′-(oxydimethylene)bis[4-formylpyridinium chloride]dioxime $C_{14}H_{16}Cl_2N_4O_3$
octafonii chloridum octafonium chloride	benzyldiethyl[2-[4-(2,2,4-trimethylpentyl)phenoxy]ethyl]ammonium chloride $C_{27}H_{42}ClNO$
oleum radio-ethiodatum (^{131}I) radio-ethiodized oil (^{131}I)	an iodine addition product of the ethyl ester of the fatty acid of poppyseed oil, containing 475 mg./ml. (37 percent by weight) of iodine. A portion of this iodine is the radioactive isotope ^{131}I.
oxybenzonum oxybenzone	2-hydroxy-4-methoxybenzophenone $C_{14}H_{12}O_3$
oxyclozanidum oxyclozanide	3,5,6,3′,5′-pentachloro-2,2′-dihydroxybenzanilide $C_{13}H_4Cl_5NO_3$
oxyfedrinum oxyfedrine	L-3[(β-hydroxy-α-methylphenethyl)amino]-3′-methoxypropiophenone $C_{19}H_{23}NO_3$
pancreozyminum pancreozymin	a hormone obtained from duodenal mucosa
paraflutizidum paraflutizide	6-chloro-3,4-dihydro-3-(*p*-fluorobenzyl)-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide $C_{14}H_{13}ClFN_3O_4S_2$
pecilocinum pecilocin	an antibiotic substance obtained from cultures of *Paecilomyces varioti bainer*, or the same substance produced by any other means
penamecillinum penamecillin	acetate ester of the hydroxymethyl ester of Penicillin G $C_{18}H_{22}N_2O_6S$
penimepicyclinum penimepicycline	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-[[4-(2-hydroxyethyl)-1-piperazinyl]methyl]-6-methyl-1,11-dioxo-2-naphthacenecarboxamide salt with Penicillin V $C_{45}H_{56}N_6O_{14}S$
pentorexum pentorex	α,α,β-trimethylphenethylamine $C_{11}H_{17}N$
pifenatum pifenate	ethyl α,α-diphenyl-2-piperidinepropionate $C_{24}H_{31}NO_2$
piperonyli butoxidum piperonyl butoxide	α-[2-(2-butoxyethoxy)ethoxy]-4,5-(methylenedioxy)-2-propyltoluene $C_{19}H_{30}O_5$
pipobromanum pipobroman	1,4-bis(3-bromopropionyl)piperazine $C_{10}H_{14}Br_2N_2O_2$
prednazatum prednazate	11β,17,21-trihydroxypregna-1,4-diene-3,20-dione, 21-(hydrogen succinate), compound with 4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazineethanol $C_{31}H_{39}O_8 \cdot C_{21}H_{26}ClN_3OS$
prednisoloni steaglas prednisolone steaglate	the stearate ester of 11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-glycolate $C_{41}H_{64}O_8$
procarbazinum procarbazine	*N*-isopropyl-α-(2-methylhydrazino)-*p*-toluamide $C_{12}H_{19}N_3O$
proglumidum proglumide	D,L-4-benzamido-*N,N*-dipropylglutaramic acid $C_{18}H_{26}N_2O_4$
prolintanum prolintane	1-phenyl-2-*N*-pyrrolidinopentane $C_{15}H_{23}N$
propipocainum propipocaine	3-piperidino-4′-propoxypropiophenone $C_{17}H_{25}NO_2$
propiramum propiram	*N*-(1-methyl-2-piperidinoethyl)-*N*-2-pyridylpropionamide $C_{18}H_{25}N_3O$
propyperonum propyperone	4′-fluoro-4-(4-piperidino-4-propionylpiperidino)butyrophenone $C_{28}H_{35}FN_2O_3$
protionamidum protionamide	2-propylthioisonicotinamide $C_9H_{12}N_2S$
pyridaronum pyridarone	2-(4-pyridyl)-benzofuran $C_{13}H_9NO$
pyrimitatum pyrimitate	*O,O*-diethyl *O*-[2-dimethylamino-6-methyl-4-pyrimidinyl]phosphorothioate $C_{11}H_{20}N_3O_3PS$
pyritidii bromidum pyritidium bromide	3-amino-8-[(2-amino-6-methyl-4-pyrimidinyl)amino]-6-(*p*-aminophenyl)-5-methylphenanthridinium bromide methobromide $C_{28}H_{27}Br_2N_7$
pyrrolifenum pyrrolifene	α-benzyl-β-methyl-α-phenyl-1-pyrrolidinepropanol acetate $C_{28}H_{33}NO_2$
quinetalatum quinetalate	6-(diethylcarbamoyl)-3-cyclohexene-1-carboxylic acid compound with 4-[[2-(dimethylamino)ethyl]amino]-6-methoxyquinoline (2 : 1) $C_{14}H_{19}N_3O \cdot 2C_{12}H_{19}NO_3$
racefeminum racefemine	(±)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{18}H_{23}NO$
racemelfalanum racemelfalan	(±)-3-[*p*-[bis(2-chloroethyl)amino]phenyl]alanine $C_{13}H_{18}Cl_2N_2O_2$
radiomerisoprolum (^{197}Hg) radiomerisoprol (^{197}Hg)	1-(hydroxymercuri-^{197}Hg)-2-propanol $C_3H_8HgO_2$
sulfacetenum sulfacetene	N^1-acetyl-N^1-(3-methoxypyrazinyl)sulfanilamide $C_{13}H_{14}O_4N_4S$
sulformetoxinum sulformetoxine	N^1-(5,6-dimethoxy-4-pyrimidinyl)sulfanilamide $C_{12}H_{14}N_4O_4S$
sulisobenzonum sulisobenzone	5-benzoyl-4-hydroxy-2-methoxybenzenesulfonic acid $C_{14}H_{12}O_6S$
terodilinum terodiline	*N-tert*-butyl-1-methyl-3,3-diphenylpropylamine $C_{20}H_{27}N$

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testosteroni ketolauras testosterone ketolaurate	testosterone 3-oxododecanoate $C_{31}H_{48}O_4$
tetramisolum tetramisole	(±)-2,3,5,6-tetrahydro-6-phenylimidazo[2,1-*b*]thiazole $C_{11}H_{12}N_2S$
tiamizidum tiamizide	4-chloro-*N*-methyl-3-(methylsulfamoyl)benzamide $C_9H_{11}ClN_3O_3S$
tioguaninum tioguanine	2-aminopurine-6-thiol $C_5H_5N_5S$
tiotixenum tiotixene	*N,N*-dimethyl-9-[3-(4-methyl-1-piperazinyl)propylidene]thioxanthene-2-sulfonamide $C_{23}H_{30}N_4O_2S_2$
tioxolonum tioxolone	4-hydroxy-1,3-benzoxathiol-2-one $C_7H_4O_3S$
tolycainum tolycaine	methyl 2-[2-(diethylamino)acetamido]-*m*-toluate $C_{15}H_{22}N_2O_3$
triacetamolum triacetamol	2,2,2-trichloro-4′-hydroxyacetanilide $C_8H_6Cl_3NO_2$
triclocarbanum triclocarban	3,4,4′-trichlorocarbanilide $C_{13}H_9Cl_3N_2O$
triclodazolum triclodazol	3-(2,2,2-trichloro-1-hydroxyethyl)-5,5-diphenyl-4-imidazolidinone $C_{17}H_{13}Cl_3N_2O_2$
trifluperidolum trifluperidol	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{23}F_4NO_2$
trioxysalenum trioxysalen	6-hydroxy-β,2,7-trimethyl-5-benzofuranacrylic acid, α-lactone $C_{14}H_{12}O_5$
tylosinum tylosin	an antibiotic substance obtained from cultures of *Streptomyces fradiae*, or the same substance produced by any other means.
urokinasum urokinase	a plasminogen activator isolated from human urine
vasopressini injectio vasopressin injection	a sterile aqueous solution containing the pressor principle of the posterior lobe of the pituitary body
verapamilum verapamil	5-[(3,4-dimethoxyphenethyl)methylamino]-2-(3,4-dimethoxyphenyl)-2-isopropylvaleronitrile $C_{27}H_{38}N_2O_4$
vinglycinatum vinglycinate	deacetylvincaleukoblastine 4-ester with *N,N*-dimethylglycine $C_{48}H_{66}N_6O_9$
vintiamolum vintiamol	*N*[(4-amino-2-methyl-5-pyrimidinyl)methyl]-*N*-[2-[(2-benzoylvinyl)thio]-4-hydroxy-1-methyl-1-butenyl]formamide $C_{21}H_{24}N_4O_3S$
viridofulvinum viridofulvin	an antibiotic substance obtained from cultures of *Streptomyces viridogriseus*, or the same substance produced by any other means
xantinoli nicotinas xantinol nicotinate	7-[2-hydroxyethyl)methylamino]propyl]theophylline nicotinate $C_{14}H_{22}N_6O_4 \cdot C_6H_5NO_2$

NOTE.—Proposed International Non-Proprietary Names List 15, WHO/Pharm/Nom/41.65, delete

fiumoperonum fiumoperone	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{23}F_4NO_2$

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	9-17-62	11-14-60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1- 9-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3- 4-63	4- 5-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	2- 5-63	7-18-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-11-62	2- 26-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	9-24-62	11-16-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	8-28-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-27-62	5-21-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12-31-62	10- 5-61
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6- 5-63	1- 2-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	1-28-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	9- 4-62	2-15-60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	11- 1-62	4- 5-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	11-13-62	6-15-61
ELEMENTS, GROUP 270—M. L. LEVY, Manager Conductors; Switches; Miscellaneous.	3-19-63	8-17-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-30-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	5-17-65	6- 8-64

Total number of pending applications (excluding Designs)	198,186
Total number of Design applications pending	4,690
Total number of applications awaiting action (excluding Designs)	146,208
Total number of Design applications awaiting action	2,722
Date of oldest new application awaiting action	Sept. 4, 1962
Date of oldest amended application awaiting action	Feb. 15, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during Ju'y 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1955*.

Patents ..... Numbers 2,474,805 to 2,477,557, inclusive

Plant Patents ..... Numbers 852 to 857, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	8-14-64	12- 2-63
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	11-15-63	8-16-61
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	4-10-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	1-20-64	11- 7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8- 5-64	8-21-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	9-26-63	1- 3-62
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	10-14-63	6-18-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	5- 3-63	3-22-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-24-64	5-15-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-25-63	8-15-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7- 1-63	7-13-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE GUSTAV WIDMER, HANS BATZER AND ERWIN NIKLES

No. 7474. Decided December 16, 1965

[53 CCPA —; 353 F.2d 752; 147 USPQ 518]

1. PATENTABILITY—COMPOUNDS—COMBINING REFERENCES—OBVIOUSNESS—DIFFERENCES IN REFERENCES IMMATERIAL IN VIEW OF OVERRIDING SIMILARITIES.

"It is quite clear from the references that appellants' starting reactant alcohol [ring unsaturated cyclohexyl methyl alcohol] is well-known in the art as a starting reactant to make other epoxy monomers useful for the same purposes as those disclosed by appellants. While the epoxides of Newey and the Phillips references are either ethers or carboxylic acid esters, rather than being carbonic acid esters as in Mueller and appellants' application, it is clear that those differences are of no moment since all three types of compounds will undergo identical reaction with the identical reagent for the purpose of epoxidizing the cyclohexyl ring double bond. Further, from the record it appears that the three types of epoxy compounds have the same general properties as reflected by the same general end use. It is common ground that it is the epoxy group in all which is similarly affected by the same hardeners or curing agents."

2. SAME—REFERENCES—REFERENCE PATENT DISCLOSURE NOT LIMITED TO EXAMPLES.

"We cannot agree that in order to be a valid teaching for reference purposes only so much as is shown in the examples of a patent is available as prior art. Examples in a reference are merely that, exemplary of the broader disclosure, all of which is available for what it clearly teaches."

3. SAME—COMPOUNDS—OBVIOUSNESS—EVIDENCE—COMPARATIVE TESTS OF END PRODUCTS—*In re Druey, In re Surrey,* AND *In re Finley* CONSTRUED.

"We do not think those cases [*In re Druey, In re Surrey,* and *In re Finley*] are to be read to establish a hard and fast rule that evidence of unexpected properties of the end-product is wholly irrelevant, and therefore inadmissible, on the issue of non-obviousness of an intermediate. While both the *Druey* and *Surrey* cases were *primarily* concerned with the *relevance* of the affidavits therein, we think that is the case because a sulfa drug or analgesic the subject matter sought to be patented, is of such a nature as to be unpredictable in its action. Thus, considering that the action of drugs is generally highly specific, it can fairly be said that tests on the end-product drugs may not be relevant, and thus inadmissible, to show non-obviousness of intermediates. Clearly, the proffered evidence must run a greater risk of failing the relevancy test of admissibility in proportion to its remoteness from the claimed subject matter. Whether too remote is a question of law to be determined on the basis of the subject matter *as a whole*."

4. SAME—SAME—SAME—SAME—SAME—*In re Finley* CONSTRUED.

"* * * the court in *Finley* appears to have been primarily concerned with the weight or materiality rather than the relevance of the tests on the end-product salt of the claimed ester, since the court noted the affiant averred the test on the salt was 'a good measure of the stability of the [claimed] *esters* to heat.' Thus we think this court in stating, 36 CCPA at 1004: '* * * we do not feel, viewing the record in the light of the authorities cited [which did not consider that unexpected results could rebut a prima facie showing of obviousness], that the grant of the patent sought would be proper * * *,' was indicating that the tests were either not material or not of such weight as to rebut the prima facie case of obviousness."

5. SAME—SAME—SAME—SAME—SAME.

On the issue whether evidence showing differences in thermal stability and cracking with respect to cured epoxy compounds could rebut the prima facie obviousness of the corresponding claimed epoxy monomer over the prior art epoxy monomers, *Held* that "Here, we are satisfied that one of ordinary skill

in this art would ascribe to the monomers the contributing cause for the difference in the cured products"; that "Also, the end-product here does not itself react with anything else to show the unexpected property; the test of 'thermic aging' or thermal stability is a test of the product itself rather than one of reactivity in and with a highly specific environment"; and that "Further, the cited art in disclosing 'potting' as a use of the epoxy monomers, suggests the property tested to be relevant in showing a relationship between the monomer and the cured end-product, since potting is well-known as encapsulation of electrical and electronic products in which thermal stability and freedom from cracking is important."

6. SAME—SAME—SAME—SAME—SAME.

Upon considering the patentability of a claim to a di-(epoxycyclohexylmethyl) carbonate over prior art references disclosing a corresponding di-(epoxycyclohexyl) carbonate as well as di(epoxycyclohexylmethyl) ethers and carboxylates, and with reference to an affidavit comparing properties of corresponding cured epoxy cyclohexyl-methyl and epoxy cyclohexylmethyl and epoxy cyclohexyl compounds, *Held* that "We think the unexpected result of less loss in weight and freedom from cracking during 'thermic aging' to be of such weight as to effectively rebut the prima facie case of obviousness based on the references, since nowhere therein are there any indications that such change in end-product properties would be expected to flow from the added methylene bridge in the monomer."

7. SAME—SAME—SAME—SAME—SAME.

"* * * we do not view the affidavit as carrying claims 4 and 7–9. Claims 4 and 8 call for compounds having a methyl group on the number 6 carbon of the epoxycyclohexylmethyl ring. Claims 7 and 8 are specific to compounds in which a bisphenol A-derived radical [Z-link] separated the two carbonate groups linking the rings."

8. SAME—SAME—SAME—SAME—SAME.

"* * * we think it clear that the showing with respect to the cured end-product of claim 3 alone is of insufficient weight to overcome the prima facie showing of obviousness of the numerous epoxy monomers encompassed within generic claim 9."

9. SAME—PARTICULAR SUBJECT MATTER—"NEW EPOXY COMPOUNDS."

The refusal of certain claims in an application entitled "New Epoxy Compounds," as unpatentable over the prior art, is reversed as to one claim and affirmed as to the remaining claims.

APPEAL from the Patent Office. Serial No. 11,964.

MODIFIED.

Harry Goldsmith, *Bryant W. Brennan*, *Joseph G. Kolodny* (*A. Ponack* of counsel) for appellants.

Clarence W. Moore (*J. E. Armore* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

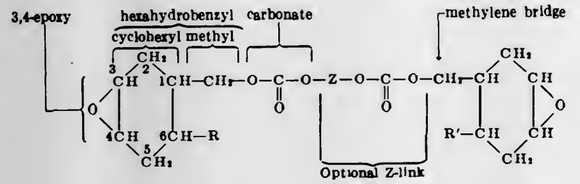
MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from an affirmance by the Board of Appeals of the rejection of claims 3, 4, and 7–9, which are all the claims remaining in appellants' application Serial No. 11,964, filed March 1, 1960, for "New Epoxy Compounds."

The invention relates to epoxy esters of carbonic acid which may be termed di-(3,4-epoxyhexahydrobenzyl) carbonates [equivalent name: di-, or bis-(3,4-epoxycyclohexylmethyl) carbonates].[1] Those epoxy carbonate esters are light-colored monomers that are liquid or fusible at room temperature and can be cured with the usual hardeners for such polyepoxy (polyepoxide) compounds. Mixtures con-

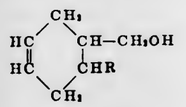
[1] The prefix "di-" is also referred to as bis-, and in certain of the references, where two or more groups occur, as poly-.

taining epoxy compounds of the invention and a hardener can be used as textile assistants, laminating resins, paints, lacquers, dipping resins, casting resins, fillers, putties, and adhesives, and are especially valuable as insulating compounds for electrical purposes. With reference to the groups giving rise to the particular nomenclature used hereinafter, the claimed epoxy carbonate esters may be depicted thus:



R,R′=H or methyl; Z=a hydrocarbon radical of a polyalcohol or a polyphenol.

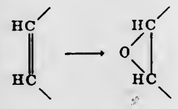
In order to appreciate the differences between the compounds claimed and those of the prior art, a short discussion of a method of preparing a compound representative of those claimed will be helpful. The claimed epoxy carbonate esters may be prepared by starting with a ring unsaturated cyclic alcohol, e.g.:



to which a carbonate group is added (by reaction with phosgene,

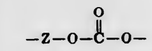


or a carbonic acid ester) to form the ester linkage by a known method. The ring double bonds are then epoxidized,



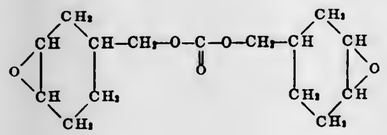
(with peracetic acid), to produce the claimed epoxy monomers.

As noted above in the diagram of the claimed compounds, there may be a single carbonate group linking two cyclohexylmethyl [hexahydrobenzyl] rings, or, optionally, there may be an additional ester link of the nature

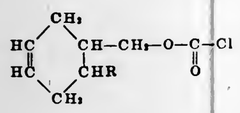


the Z-link, inserted between the rings. If in the reaction which adds the carbonate group to the ring unsaturated cyclic alcohol, 2 moles of the alcohol are used, a compound containing a single carbonate link is formed, as, for example, in claim 3:

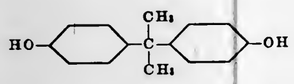
3. The compound of the formula



If only one mole of alcohol is used, the resulting compound is the corresponding chloroformate:

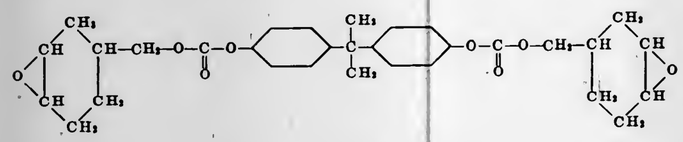


Then the Z-link is added by reaction of a proper amount of the chloroformate with polyhydroxy compounds, e.g., bisphenol A:



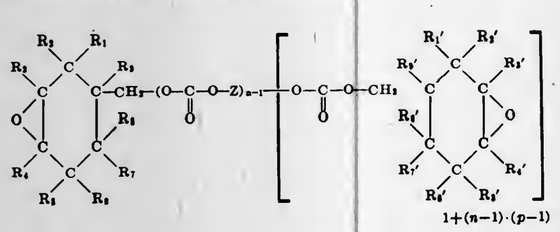
producing, for example, the compound of claim 7:

7. The compound of the formula



Generic claim 9 covers both types and reads:

9. Epoxy compounds of the general formula



in which R_1 and R_6 taken together and R_1' and R_6' taken together each form a member selected from the class consisting of two hydrogen atoms, two lower alkyl radicals of 1 to 4 carbon atoms and one methylene radical, R_2, R_2', R_3, R_3', R_4, R_4', R_5, R_5', R_7, R_7', R_8, R_8', R_9, and R_9' each represent a member selected from the class consisting of hydrogen atoms and lower alkyl radicals of 1 to 4 carbon atoms, Z is a hydrocarbon radical with $2+(n-1).(p-1)$ free valences and is of the group consisting of the hydrocarbon radical of a polyalcohol and the hydrocarbon radical of a polyphenol, n represents a whole number of at least 1 and at the most 2, and p represents a whole number of at least 1.

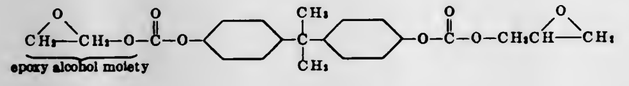
Claims 4 and 8 differ from claims 3 and 7 respectively in that one hydrogen on the number 6 ring carbon is replaced by a methyl group.

The following references are relied on for the rejection of claims 3, 4 and 7–9 under 35 U.S.C. 103:

Phillips et al. (I), 2,750,395, June 12, 1956.
Mueller et al., 2,795,572, June 11, 1957.
Newey, 2,848,426, August 19, 1958.
Phillips et al. (II), 2,917,491, December 15, 1959.

A second ground of rejection involves generic claim 9 which was rejected "as failing to properly define the invention" within the meaning of 35 U.S.C. 112. We do not reach that issue.

The Mueller et al. patent (Mueller) is directed to epoxy esters of carbonic acid and their polymers, which are thus of the same class of compounds as those disclosed by appellants. As do appellants, Mueller discloses and claims epoxy carbonate esters having either one or two carbonate ester linkages between alcohol moieties. Mueller's epoxy esters are prepared in the same manner as appellants'. In the latter type, the two carbonate groups may be separated by a radical derived from di-nuclear dihydric phenols, e.g., bisphenol A, to give the following compound:



By comparison with appellants' claim 7 it will be noted that only the terminal epoxy-containing moieties, derived from the starting reactant alcohols, are different.

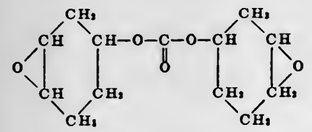
Regarding the alcohol moiety of the Mueller epoxides, Mueller teaches and claims epoxyalkanols, epoxyalkoxyalkanols, *epoxycycloalkanols*, and epoxyalkoxycycloalkanols. Within each of those classes of alcohols Mueller names preferred members. Pertinent here is the disclosure that:

> Particularly preferred epoxy-substituted alcohols are the * * * epoxycycloalkanols * * * and particularly those containing not more than 12 carbon atoms, such as * * * 3,4-epoxycyclohexanol * * * and the like.

As epoxy carbonate esters produced therefrom,[2] Mueller specifically discloses:

> The preferred epoxy esters of the invention are those derived from * * * (2) epoxy-substituted aliphatic and cycloaliphatic monohydric alcohols containing from 3 to 12 carbon atoms, such as for example, * * * di-(3,4-epoxycyclohexyl) carbonate, * * *.

The structure of that compound is:



It can be seen by comparing that structure with the structure of the compound of appellants' claim 3, that the carbonate group indirectly links the two rings through methylene bridges in appellants' compound, while in Mueller's compound the carbonate group is directly bonded to the rings.

The remaining references were cited to show the specific alcohol reactants used by appellants which would, when used in Mueller, result in epoxy carbonate esters having a methylene bridge, and, as called for in claims 4 and 8 and covered in generic claim 9, a methyl or other aliphatic group on the number 6 carbon of the cyclohexyl ring. All three secondary references are concerned with epoxy monomers

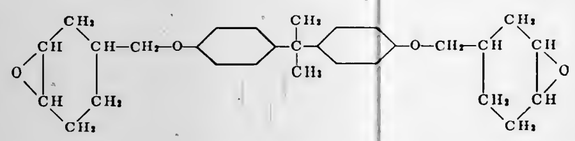
[2] Mueller discloses that the starting alcohols may be initially epoxy alcohols, or may be unsaturated alcohols which are subsequently epoxidised by the same reactant used by appellants. Mueller shows the same series of reactions as appellants to attain his epoxy carbonate esters.

(also termed epoxides) useful, as Phillips et al. (I) states, "in certain commercial applications such as, for example, surface coatings, laminates and plastic molding compositions." Newey states that his epoxides may be cured with what are apparently well-known curing agents, and that when the epoxides

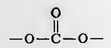
> * * * are to be used in the preparation of castings or pottings the curing agent and the epoxy material are generally combined together and then poured into the mold or casting which may if desired contain additional material, such as electrical wires, apparatus, etc., and the mixture then heated to effect the cure.

Newey also discloses his epoxy compounds to be useful in adhesive and impregnating compositions, and that when amines are reacted with the epoxides "high molecular weight products instead of cross-linked cured products," useful in making coating compositions, will be produced.

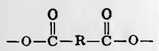
Exemplary alcohol reactants listed in Newey "include, among others (3,4-epoxycyclohexyl) methanol * * * [and] 3,4-epoxycyclohexanol * * *." It will be recognized that those two alcohols are the epoxidized forms of appellants' and Mueller's unsaturated alcohols; Newey also discloses that the corresponding unsaturated alcohol is used as the starting material, to be subsequently epoxidized with the same reactant as used by appellants. The compound of Newey's Example III shows the use of the 3,4-epoxycyclohexyl methanol:



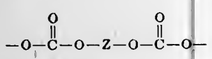
The major difference between Newey and Mueller is that, like appellants, Mueller is directed toward epoxy *carbonate* esters while Newey's epoxides are epoxy *ethers*, and thus do not contain the



linkage. Also, while both Phillips references are directed to epoxides they are esters of dicarboxylic acids rather than of carbonic acid; they contain an



linkage, rather than a



linkage between the epoxycyclohexylmethyl rings.

I. *The Prima Facie Case of Obviousness*

We agree with the Board that upon these references the Examiner has made a prima facie showing that the claimed epoxy carbonate esters are obvious. The Board stated:

> We agree with the Examiner that the Phillips et al. and Newey patents make the substitution of a 3,4-epoxycyclohexyl-methyl alcoholic component for the 3,4-epoxycyclohexyl component of the Mueller et al. esters an obvious expedient. Mueller et al. describe the epoxy-substituted aliphatic and cycloaliphatic monohydric alcohols as being preferred epoxy-substituted alcohols in preparing their esters of carbonic acids * * *.
>
> Newey's disclosure of the equivalent or alternative use of epoxycyclohexyl and epoxycyclohexyl-methyl radicals as the terminal reactive radicals in his disclosed polyepoxides would suggest the alternative use of these radicals, with or without the substituents that Phillips et al. show to be conventional, as the terminal radicals in the Mueller et al. compounds.

[1] It is quite clear from the references that appellants' starting reactant alcohol is well-known in the art as a starting reactant to make other epoxy monomers useful for the same purposes as those disclosed by appellants. While the epoxides of Newey and the Phillips references are either ethers or carboxylic acid esters, rather than being carbonic acid esters as in Mueller and appellants' application, it is clear that those differences are of no moment since all three types of compounds will undergo identical reaction with the identical reagent for the purpose of epoxidizing the cyclohexyl ring double bond. Further, from the record it appears that the three types of epoxy compounds have the same general properties as reflected by the same general end use. It is common ground that it is the epoxy group in all which is similarly affected by the same hardeners or curing agents.

We fully appreciate the fact that the alcohol reactants of Mueller is a secondary alcohol, and that of Newey and appellants is a primary alcohol. We fail to find this so significant as is urged since Mueller teaches that alcohols which may be used to produce epoxy carbonate esters may be either primary or secondary. Certainly primary and secondary alcohols are not to be taken as equivalents for all purposes, but from the above teaching of Mueller it would appear that the art suggests the use of the primary alcohol of Newey in place of the secondary alcohol of Mueller, for the purpose of making epoxy carbonate esters. This is particularly the case since Newey teaches the equivalence of the alcohol of Mueller and that of appellants as starting reactants.

Appellants also argue that there is no working example in Mueller of the di-(3,4-epoxycyclohexyl) carbonate, and that disclosure is merely the name of a compound "tucked away" among a number of other compounds. [2] We cannot agree that in order to be a valid teaching for reference purposes only so much as is shown in the examples of a patent is available as prior art. Examples in a reference are merely that, exemplary of the broader disclosure, all of which is available for what it clearly teaches.

II. *The Affidavit*

Appellants rely on an affidavit of Nikles, one of the joint inventors, as rebutting the Examiner's prima facie showing of obviousness. That affidavit purports to compare the Mueller epoxide, di-3,4-epoxycyclohexyl carbonate, with appellants' epoxide, di-3,4-epoxycyclohexylmethyl carbonate. After preparation of the respective epoxides, samples of each are mixed with phthalic anhydride and tetrahydrophthalic anhydride hardeners. Two samples of each mixture are identically cured for 16 hours at 120° C., and for 5 additional hours at 160° C. Then "thermic aging" tests are performed. These tests consist of placing the sample moldings into an oven heated to 220° C. Both loss of weight and appearance of the moldings are determined

after 5 hours and after 10 hours in the oven, with the following results:

[Epoxy resin A (Mueller) = Di-(3,4-epoxy-cyclohexyl) carbonate]
[Epoxy resin B (Appellants) = Di-(3,4-epoxy-cyclohexyl*methyl*) carbonate]

Molding No.	Epoxy resin	Hardener	Initial weight of moldings (mg.)	Loss of weight between 5 and 10 hours (mg.)
1	A	Phthalic anhydride	3,679	152
2	A	do	3,623	167
3	B	do	3,638	22
4	B	do	3,680	19
5	A	Tetrahydrophthalic anhydride	3,646	122
6	A	do	3,632	130
7	B	do	3,690	13
8	B	do	3,662	13

Regarding the appearance of the moldings, the affidavit states: Moldings Nos. 1, 2, 5, 6 (from epoxy resin A) after 5 hours at 220 C. already show extensive stress cracks and are dark colored, while moldings Nos. 3, 4, 7 and 8 (from epoxy resin B) have remained intact.

From the facts shown in the affidavit, appellants conclude that any possible presumption of obviousness is rebutted, stating:

* * * The affidavit compares the thermal stability of the two compounds as represented by the loss of weight of moldings or castings obtained therefrom, which is a standard test for such products. The results obtained show that the loss of weight of the Mueller et al. compounds is ten *times* greater than the loss of weight in applicants' product, and further shows that in the Mueller et al. product, the moldings show extensive stress cracks and are dark-colored, while the moldings from applicants' compounds remain intact. The affidavit is clearly indicative of the unique properties of applicants' products over the prior art compound which the Examiner regards as closest to applicants' compounds. * * *

The Board gave four reasons for according little weight to the affidavit:

* * * It is apparent, though, that: (1) this affidavit selects the phthalic anhydride and tetrahydrophthalic anhydride *derivatives* as a basis for comparison and that these compounds are only a small fraction of the possible derivatives described in the specification and patent; (2) the affidavit compares these derivatives as to a property which appellants' specification does not even disclose as a general characteristic * * *; (3) these derivatives are prepared from only one of the compounds claimed, although the specification provides no disclosure that the derivatives of the compounds claimed are alike as to the characteristic tested; and (4) the breadth of claim 9 appears to make it very probable that compounds covered by claim 9 differ more from each other than they do from the compounds of the prior art.

The second objection does not seem well taken since Example 4 of the specification relates to an epoxy compound, in which the Z link is propyl, which is cured with phthalic anhydride and subsequently tested for thermal stability, the application reporting "Thermal stability according to Martens: 170° C."[3] We also agree with appellants that the Board upon reconsideration withdrew reasons 3 and 4 with respect to all but claim 9. In our view, however, we do not reach, with respect to claim 9, either the objections on point 3 or 4, nor the above noted rejection based on undue breadth.

The Solicitor relies on *In re Druey*, 50 CCPA 1538, 1542, 319 F.2d 237, 138 USPQ 39; *In re Surrey*, 50 CCPA 1336, 1339, 319 F.2d 233,

[3] Thus we need not discuss in detail the Skeist and Lee et al. publications submitted by appellants upon petition for reconsideration for the purpose of showing that thermal stability is known as an important factor in epoxy resins when used for electrical purposes such as for potting resins. Nor need we discuss whether the advantage or benefit of thermal stability would inherently flow from the indicated use of the compounds as insulating compounds for electrical purposes.

138 USPQ 67, and *In re Finley*, 36 CCPA 998, 174 F.2d 130, 81 USPQ 383, as governing the result of this case with regard to the affidavit. In each of those cases the appellants attempted to rely on affidavit showings as establishing unexpected results or properties for the compounds claimed in order to overcome the prima facie case of obviousness as shown by references. This court held the affidavits to be insufficient to rebut the showing of obviousness since the compounds tested were end-products whereas the compounds claimed were intermediates. The Solicitor points out that here epoxy monomers are the subject of the claims while a cross-linked, cured product is the subject of the affidavit tests, and thus, following the *Druey*, *Surrey* and *Finley* cases, the affidavit cannot be considered to rebut the prima facie case of obviousness based on the references.

[3] We do not think those cases are to be read to establish a hard and fast rule that evidence of unexpected properties of the end-product is wholly irrelevant, and therefore inadmissible, on the issue of non-obviousness of an intermediate. While both the *Druey* and *Surrey* cases were *primarily* concerned with the *relevance* of the affidavits therein,[4] we think that is the case because a sulfa drug or analgesic, the subject matter sought to be patented, is of such a nature as to be unpredictable in its action. Thus, considering that the action of drugs is generally highly specific, it can fairly be said that tests on the end-product drugs may not be relevant, and thus inadmissible, to show non-obviousness of intermediates. Clearly, the proffered evidence must run a greater risk of failing the relevancy test of admissibility in proportion to its remoteness from the claimed subject matter. Whether too remote is a question of law to be determined on the basis of the subject matter *as a whole*.

[4] In contrast, the court in *Finley* appears to have been primarily concerned with the weight or materiality rather than the relevance of the tests on the end-product salt of the claimed ester, since the court noted the affiant averred the test on the salt was "a good measure of the stability of the [claimed] *esters* to heat." Thus we think this court in stating, 36 CCPA at 1005:

* * * we do not feel, viewing the record in the light of the authorities cited [which did not consider that unexpected results could rebut a prima facie showing of obviousness], that the grant of the patent sought would be proper * * *

was indicating that the tests were either not material or not of such weight as to rebut the prima facie case of obviousness.

[5] Here, we are satisfied that one of ordinary skill in this art would ascribe to the monomers the contributing cause for the difference in the cured products. Also, the end-product here does not itself react with anything else to show the unexpected property; the test of "thermic aging" or thermal stability is a test of the product itself rather than one of reactivity in and with a highly specific environment. Further, the cited art, in disclosing "potting" as a use of the epoxy monomers, suggests the property tested to be relevant in showing a relationship between the monomer and the cured end-product, since potting is well-known as encapsulation of electrical and electronic products in which thermal stability and freedom from cracking is important.

[4] Certain language in Druey and Surrey indicates that insofar as the court considered the weight of the evidence, it was deemed insufficient to rebut the prima facie case of obviousness.

[6] We think the unexpected result of less loss in weight and freedom from cracking during "thermic aging"[5] to be of such weight as to effectively rebut the prima facie case of obviousness based on the references, since nowhere therein are there any indications that such change in end-product properties would be expected to flow from the added methylene bridge in the monomer. Thus we reverse the decision of the Board as to claim 3.

[7] However, we do not view the affidavit as carrying claims 4 and 7–9. Claims 4 and 8 call for compounds having a methy group on the number 6 carbon of the epoxycyclohexylmethyl ring. Claims 7 and 8 are specific to compounds in which a bisphenol A-derived radical separates the two carbonate groups linking the rings. While such variance in structure is suggested by the art to be prima facie obvious, that showing manifestly is not rebutted by a *relevant* affidavit which relates to the cured end-product of a compound which has no such methyl group or Z-link, and only one carbonate grouping. Thus we affirm as to claims 4, 7 and 8.

[8] Further, we think it clear that the showing with respect to the cured end-product of claim 3 alone is of insufficient *weight* to overcome the prima facie showing of obviousness of the numerous epoxy monomers encompassed within generic claim 9. Thus we affirm as to claim 9.

In accordance with the above view, it is unnecessary to consider the Board's remaining objections to the affidavit, or to consider the separate rejection of claim 9 as unduly broad. [9] The decision of the Board as to claim 3 is reversed, and that as to claims 4 and 7–9 is affirmed.

MODIFIED.

U.S. Court of Customs and Patent Appeals

IN RE RICHARD F. SHANNON

No. 7534. Decided February 17, 1966

[53 CCPA —; 356 F.2d 548; 148 USPQ 504]

1. PATENTABILITY—EVIDENCE—SUPERIOR PROPERTIES ESTABLISHED BY DISCLOSURE IN APPLICATION.

"It appears from appellant's specification that an adhesive mix of the gamma-aminopropyltriethoxy silane with phenol formaldehyde resin [the invention mix], used to bond a uniform test 'board' of glass fiber structure, exhibits less than one-fourth the swelling of mixes using other organo silicon compounds, and one-eighth that exhibited by a control board bonded with a resin having no organo silicon additive. Similarly, as compared to a previously prepared siloxane, 'Dow XEF–165 (emulsified methyl hydrogen siloxane),' the parting strength of the invention mix was 33% higher when dry and 75% higher after humidity 'conditioning' for 120 hours at 120° F. and 100% relative humidity. Thus the superiority of the invention mix is undisputedly established over that of other mixtures disclosed in the specification."

2. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—REJECTION CONSIDERED MERELY CUMULATIVE BY BOARD OF APPEALS.

"Although the Board did not elaborate on the Examiner's position, it clearly did affirm the combination rejection, stating: 'The rejection of the appealed claims on Vasileff et al. in view of Jex et al. is considered at best to be merely cumulative to the rejection based on Jex et al. alone and is not deemed to warrant a detailed discussion. For these reasons and those set forth in the Examiner's answer, we conclude that the appealed claims are unpatentable over the prior art applied.' That affirmance of the combination rejection was made a reason of appeal and has been briefed and argued by appellant here."

[5] The Patent Office has not objected on the grounds that those properties lack a significant relation to the performance of the end-products in their contemplated use (i.e., it has not urged the test conditions are not standard or are more stringent than would have recognized practical significance, or show an insignificant difference in weight loss and cracking).

3. SAME—EVIDENCE—PRODUCT—ONE-STEP PROCESS AS OPPOSED TO TWO-STEP PROCESS NOT CONCLUSIVE OF PATENTABILITY IN PRODUCT.

"It is clear that Jex produces his bonded glass fiber (cloth) products by a two-step process, first the silane then the resin, as distinct from appellant's one-step process using the mix. That difference in process, however, is not conclusive of patentability with regard to the end products, and appellant has offered no evidence to show that his product is substantially different from that of Jex."

4. SAME—PARTICULAR SUBJECT MATTER—"BONDED GLASS FIBER STRUCTURES AND MATERIALS."

The refusal of certain claims in an application entitled "Bonded Glass Fiber Structures and Materials," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 705,494.

AFFIRMED.

Herman I. Hersh (*James H. Littlepage* of counsel) for appellant.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This is an appeal from a decision by the Board of Appeals concerning product claims 1, 2, 4, 5, 9 and 10, all the claims in application Serial No. 705,494, filed December 27, 1957, for "Bonded Glass Fiber Structures and Materials." The issue presented by the appeal is whether the Board's affirmance of the rejection of those claims as obvious in view of certain prior art, 35 U.S.C. 103, is proper.

The invention relates to glass fiber structures in which the glass fibers are bonded to one another in the structure by a synthetic resinous material. The beneficial properties of glass fibers are well known, and include high strength and flexibility. The fibers are also inert, non-flammable, and rot and heat resistant. Cloth of such fibers is useful in making boat hulls or auto bodies, and fibers in the form of glass wool or discontinuous interfelted arrangements are useful in electrical and thermal insulation, pipe wrap or roof decking, all of which structures employ a thermosetting resinous material to bond the fibers in a permanent form. Such resinous materials commonly are the phenol, urea, or melamine formaldehyde, or polyester resins. Appellant notes in his brief on appeal that "such resins are referred to generally in the trade as resins of the thermosetting type which polymerize by condensation between hydroxy, amino and carboxyl groups."

The problem appellant faced is generated by the fact that the glass fibers are fine, solid, rod-like members having smooth surfaces. As a result, and in contrast to both natural organic fibers which are porous in character with fibrillae extending from the surfaces and synthetic fibers of a resinous character, the glass fibers present little or no surfaces by means of which a mechanical bond or grip can be formed with the resin. Further, glass fibers are hydrophilic. In the presence of high humidity or moisture a water film forms thereon, even when coated with a resin, thus dissipating the bonded relation-

ship between resin and glass fiber. As a result, structures of bonded fibers exhibit a poor parting strength and excessive swelling.

Appellant combines gamma-aminopropyltriethoxy silane with curable resinous materials, such as those mentioned above, to form a mix which is applied to glass fibers as a single-layer adhesive coating. Claims 1 and 9 are representative:

1. Glass fibers and a single adhesive coating on the surfaces of the glass fibers comprising a condensation polymer selected from the group consisting of a hydroxy, amino, and carboxyl condensation resin and gamma-amino propyl triethoxy silane present in an amount within the range of 0.02 to 2.0 percent by weight of the coating.

9. A bonded glass fiber structure comprising glass fibers in an interfelted arrangement and a binder securing the fibers one to another in which the binder comprises a thermosetting resinous base selected from the group consisting of a hydroxy, amino, and carboxyl condensation resin and contains 0.02 to 2.0% by weight of gamma-amino propyl triethoxy silane.

Of the remaining dependent claims, numbers 2 and 10 are specific to phenol formaldehyde as the condensation resin, 4 is specific to urea formaldehyde, and 5 to melamine formaldehyde resin.

[1] It appears from appellant's specification that an adhesive mix of the gamma-aminopropyltriethoxy silane with phenol formaldehyde resin, used to bond a uniform test "board" of glass fiber structure, exhibits less than one-fourth the swelling of mixes using other organo silicon compounds, and one-eighth that exhibited by a control board bonded with a resin having no organo silicon additive. Similarly, as compared to a previously prepared siloxane, "Dow XEF-165 (emulsified methyl hydrogen siloxane)," the parting strength of the invention mix was 33% higher when dry and 75% higher after humidity "conditioning" for 120 hours at 120° F. and 100% relative humidity. Thus the superiority of the invention mix is undisputedly established over that of other mixtures disclosed in the specification.

The rejection is based on two references:

Vasileff et al., 2,541,896, February 13, 1951.
Jex et al., 2,832,754, April 29, 1958.

Jex et al. (Jex) discloses products formed by successively treating (sizing) a heat-cleaned glass cloth with a 1.2% water solution of gamma-aminopropyltriethoxy silane, drying the glass cloth, and then laminating layers of the sized glass cloth with a melamine-aldehyde resin, and finally curing the laminate. These laminates were tested for flexural strength according to a standard test [1] with the following results:

TABLE 5.—*Flexural Strength*

	Dry, p.s.i.	Wet, p.s.i.	Percent Retention
Non-sized glass cloth laminate	24,400	13,800	56.5
Sized glass cloth laminate (treated with solution of triethoxysilylpropylamine)*	80,000	76,500	95.8

*"Triethoxysilylpropylamine" is the same as gamma-aminopropyltriethoxy silane.

Besides the superiority in those properties, Jex also notes that the gamma-amino*propyl*triethoxy silane of his invention possesses "new

[1] The test is disclosed by Jex as described in "Air Force Specification MILP-8013 (also Federal Specification LP-406a, Method No. 1031)."

and unexpected properties as compared with the known triethoxysilyl*methyl*amines * * *." [Emphasis ours.] The Jex reference is not limited to melamine-aldehyde resin alone since it teaches generally that:

* * * We have found that reinforced plastics, such as laminates, prepared from fibrous glass materials and those thermosetting resins which comprise the aldehyde condensation resins, the epoxy resins and the urethane resins, having a superior glass to resin bond are produced by subjecting the fibrous glass materials, prior to lamination, to a treatment with a compound within the scope of this invention.

Vasileff et al. (Vasileff) was concerned with the problem of counteracting the adverse effect which residual methylol groups in aldehyde type condensation resins have on the electrical properties of the cured resins, particularly on exposure to moisture. Phenol, urea and melamine formaldehyde type resins are specifically disclosed as resins for glass fiber molding compositions and molded articles. Vasileff states that:

* * * *by adding to aldehyde type condensation resins an organosilane compound* containing at least one hydroxyl group attached to the silicon, or a group readily convertible thereto by hydrolysis such as, halogen, amino and ester groups, the stability of the electrical properties of molded articles made therefrom is greatly improved. * * * [Emphasis ours.]

Thus, Vasileff mixes organo silane compounds, such as di-tertiarybutoxydiaminosilane, di-tertiarybutoxysilanediol, diphenylsilanediol and tetraethyl orthosilicate, with aldehyde type resins to make an impregnating solution used in laminating pyrolized glass cloth. The impregnating resin solution or mix "may be blended with various fillers such as wood flour, mica, glass fibers, glass cloth, and the like."

The claims were rejected by the Examiner as "unpatentable over Jex et al. taken alone or Vasileff et al. in view of Jex et al." While the gist of the Board's view was that:

* * * It is considered that combining the components would be an obvious modification in view of Jex et al. who disclose the identical components each employed for a similar purpose * * * [,]

it is our view that the combination rejection of the Examiner is sound, thus making it unnecessary to consider the rejection based on Jex alone.[2]

[3] It is clear that Jex produces his bonded glass fiber (cloth) products by a two-step process, first the silane then the resin, as distinct from appellant's one-step process using the mix. That difference in process, however, is not conclusive of patentability with regard to the end products, and appellant has offered no evidence to show that his product is substantially different from that of Jex.

We note here that the tests in the specification were comparisons with resins containing either no additives or those containing other siloxanes, silicone oils, or silicons. No comparison with a product produced by a two-step process was made. In fact, the specification is silent on the prior methods of use of "previously preferred Dow 165 * * *," and of use "of the large group of different types of

[2] [2] Although the Board did not elaborate on the Examiner's position, it clearly did affirm the combination rejection, stating:

The rejection of the appealed claims on Vasileff et al., in view of Jex et al. is considered at best to be merely cumulative to the rejection based on Jex et al. alone and is not deemed to warrant a detailed discussion.

For these reasons and those set forth in the Examiner's answer, we conclude that the appealed claims are unpatentable over the prior art applied.

That affirmance of the combination rejection was made a reason of appeal and has been briefed and argued by appellant here.

organo silicon compounds which have been tried as agents to facilitate the bonding relationship between resinous materials and glass fibers * * *." The specification also notes, similarly unspecifically:

> To the present, one of the better solutions to this problem of deriving greater utilization of the high strength properties of glass fibers when employed as a reinforcement with resinous materials in the manufacture of reinforced plastics and coated fabrics, has comprised the use of an anchoring agent in the form of an organo silicon compound or a Werner complex compound * * *.

Thus, the thrust of appellant's invention was the discovery of the comparative benefits of the gamma-aminopropyltriethoxy silane in a resin mixture as compared to other types of organo silicon compounds in a mixture with a resin, and differences in the final products as compared to the products of the Jex two-step process appear on this record to be at best arguable. As this court noted in a similar situation in *In re Mostovych*, 52 CCPA 884, 339 F.2d 455, 144 USPQ 38, at 41, "an arguable difference is not convincing at the precise point where comparative evidence is clearly needed." See *In re Boe*, [PA 7535] 53 CPA —, — F.2d —, — USPQ —.

In our view, Vasileff supplies the concept of the combination of an organo silicon compound, although of a different structure, with the resins used both by Jex and appellant as a mix for bonding glass fibers. Thus, we think that one of ordinary skill in this art, upon viewing the two references, would find the invention as a whole obvious.

Appellant argues that the organo silanes of Jex are entirely different from those of Vasileff from the standpoint of structure, characteristics and reactivity. The fault in that argument is that it is directed to the rejection as involving the substitution of the Jex organo silane for that in Vasileff. But as we view it, the rejection is not based on such a substitution. One of ordinary skill in this art would know from Vasileff that products having a single coating of resin mixed with silane were a common alternative to the products produced by two steps as in Jex. There are only two reasonable suggestions to be gained from Vasileff: To use his hydroxy silane in a two-step Jex process, or to mix the Jex gamma-amino silane with the commonly used resins. Vasileff does not so teach the particular hydroxy silane to be an absolute requirement of his mix as to negate the general teaching of resin plus silane in combination. Thus, the concept of the combination is fairly contained in Vasileff and would suggest the claimed modification of Jex to one of ordinary skill in the art. *In re Bascom*, 43 CCPA 837, 841, 230 F.2d 612, 109 USPQ 98.

We recognized in *In re Biefeld*, 48 CCPA 795, 285 F.2d 826, 128 USPQ 391, that a patentable distinction existed between separate coatings of a treating material and an impregnant, and a single thin film size coating of the two in combination. Even a cursory reading of that case will indicate that the facts there do not permit our determination there to be raised to a rule of law governing the factual situation here. In *In re Lainson*, 52 CCPA 880, 339 F.2d 252, 144 USPQ 19, 21, this court stated, in response to a similar reliance on prior cases, that:

> * * * The question of obviousness, however, is so closely tied to the facts of each particular case that prior decisions in cases involving different facts are ordinarily of little value in reaching a decision.

[4] For the foregoing reasons, the decision of the Board is affirmed.
AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HANS THEODOR BOE

No. 7535. Decided February 17, 1966

[53 CCPA —; 355 F.2d 961; 148 USPQ 507]

1. PATENTABILITY—REFERENCES—OBVIOUSNESS MAY EXIST ALTHOUGH TEACHINGS RELIED UPON MAY BE DISCLOSED IN ART AS NON-PREFERRED OR UNSATISFACTORY FOR INTENDED PURPOSE.

   "All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art. Thus, in *In re Smith*, 32 CCPA 959, 148 F.2d 351, 65 USPQ 167; in *In re Nehrenberg*, 47 CCPA 1159, 280 F.2d 161, 126 USPQ 383; and in *In re Watanabe*, 50 CCPA 1175, 315 F.2d 924, 137 USPQ 350, this court affirmed rejections based on art which we concluded rendered the claimed invention obvious to those of ordinary skill in the art despite the fact that the art teachings relied upon in all three cases were phrased in terms of a non-preferred embodiment or as being unsatisfactory for the intended purpose."

2. SAME—AFFIDAVIT.

   "It seems clear to us that despite the lateness of its filing, the Boe affidavit on which appellant relies was given every appropriate consideration. Increased porosity with a corresponding increased water retention and loss of mechanical strength is taught by the prior art and is not a new and unexpected result. The affidavit does not show increased water retention without the expected corresponding loss of mechanical strength. We agree with the Board that appellant's affidavit is not conclusive because it is not responsive to the issue which was clearly raised by the Examiner."

3. SAME—PARTICULAR SUBJECT MATTER—"HIGHLY POROUS AND ABSORPTIVE NON-WOVEN FABRICS AND METHOD OF MAKING SAME."

   The refusal of certain claims in an application entitled "Highly Porous and Absorptive Non-Woven Fabrics and Method of Making Same," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 845,743.

AFFIRMED.

Burgess, Dinklage & Sprung, Arnold Sprung for appellant.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

The Board of Appeals affirmed the Examiner's rejection of claims 9, 11 and 12 of appellant's application for patent Serial No. 845,743, filed August 12, 1959, for "Highly Porous and Absorptive Non-Woven Fabrics and Method of Making Same."

The appealed claims are directed to a method of manufacturing highly porous absorptive non-woven materials in the nature of chamois leather. Such materials have good water retention as well as absorptive properties. As pointed out in the specification:

> If these non-woven fabrics are being used as chamois leather they must not only be characterized by a high porosity but also by a high water retention power. The chamois leather must fulfill two requirements, firstly to take away remnant water from the window pane and secondly to retain this water under pressure. A sponge for example is not suited for after-cleaning and drying a window since the water retention capacity is poor. * * *

Claim 9, upon which claims 11 and 12 depend, defines the method as follows:

> In a method of manufacturing highly porous absorptive non-woven materials having outstanding water-retention characteristics, the steps of:
>
> (1) impregnating a loose fiber web of cardable textile fibers with an aqueous latex foam containing 40–200 parts by weight of a pore-former selected from

the group consisting of urea, thiourea, dicyandiamide, and hexamethylene tetramine, per 100 parts by weight of latex solids,

(2) re-impregnating the resulting web with substantially the same aqueous latex foam in the form of a paste,

(3) drying the twice-impregnated web, and

(4) thereafter washing the web with water to dissolve out the pore-forming agent.

Claim 11 is directed to the method wherein the wash water contains an alkaline agent, and claim 12 the method wherein the web is subjected to an intermediate treatment with a Glauber's salt-solution.

The claims were rejected under 35 U.S.C. 103 in view of:

Nottebohm, 2,719,795, October 4, 1955.
Fernald, 2,700,694, January 25, 1955.

The claimed method involves impregnating a fiber fleece with an aqueous latex foam containing in addition to a curable bonding agent, 40 to 200 parts by weight of a pore former selected from the group consisting of urea, thiourea, dicyandiamide and hexamethylene tetramine, per 100 parts by weight of latex solids. The thus impregnated material is then dried at a temperature below the curing temperature of the bonding agent. The resulting material is then impregnated with a paste made from substantially the same latex foam, dried again, and vulcanized. After drying and vulcanization, the material is washed with water to dissolve out the particles of pore-forming agent, producing a material containing pores in the bonding agent. The sheet material obtained is said to consist of "an open skeleton of intermingled polyposed fine cardable fibers."

The differences between the claimed method and the method disclosed by Nottebohm for making a similar type of material are (1) the point at which the pore-forming materials are initially introduced in the method and (2) the selection of the pore-forming materials from the group consisting of urea, thiourea, dicyandiamide and hexamethylene tetramine.

We shall consider each of these differences separately. It is appellant's position that his introduction of the pore-forming materials in the initial latex foam produces a greater porosity in the finished material than is achieved by the Nottebohm method. To support this position, an affidavit was submitted, together with samples of the finished materials, which clearly establishes the greater porosity of the materials manufactured according to appellant's method. We think it significant, however, that no tests are reported and no assertion is made as to the relative tensile strengths of the materials. We think it clear from the Nottebohm patent that the art had used pore-forming materials in what Nottebohm refers to as the "prestabilization of the fleeces." This step corresponds generally to what in appellant's method is the first impregnation step. Nottebohm in discussing this knowledge of the art states:

It has been found that the latices to be used for the prestabilization of the fleeces should be substantially free of fillers, such as starches or water soluble salts, which can subsequently be washed out to form micropores, because the presence of such fillers, on the one hand, increases the viscosity of the latices to such an extent that it becomes practically impossible to produce a stable foam or to obtain in any other manner a satisfactory impregnation of unstabilized fleeces, while, on the other hand, binder particles deposited from binder liquids containing such fillers exhibit, after washing out of the pore formers, insufficient mechanical strength to effect by themselves a reliable and uniform stabilization of the fleeces.

It seems to us that the foregoing statement in Nottebohm indicates what one of ordinary skill in this art was expected to know, namely, that the pore-forming materials can be added with the latice-forming materials in the prestabilization of the fleeces but that such addition is subject to two problems, i.e., (1) the stability of the foam and its satisfactory impregnation of the fleece and (2) the "insufficient mechanical strength to effect by themselves a reliable and uniform stabilization of the fleeces." Appellant does not disclose how his method overcomes the problems stated by Nottebohm except by the suggestion in his specification that:

It is known to produce highly absorptive porous non-woven sheet materials, so-called non-woven fabrics, by impregnating a batt of cardable, preferably polyposed fibers with an aqueous dispersion or emulsion of a bonding agent, such as natural or synthetic rubber, thermoplastic resins or the like, and hardening or curing said bonding agents.

It is further known to increase the porosity of said non-woven fabrics by incorporating into said emulsion or dispersion a water soluble salt, such as Glauber's salt. Since these water soluble salts cause a coagulation of the latex, stabilizers, such as starch must be added. After curing of the bonding agent, the resulting non-woven fabric is subjected to the action of warm or hot water, thereby dissolving the water soluble salts and the stabilizer with the formation of pores within the cured bonding agent.

Although the porosity of the non-woven fabric may thus be increased, said method is disadvantageous since the sharp edged crystals of the inorganic salts may cause mechanical damage to the fine delicate fibrous gauze. It is furthermore difficult to remove the sparingly soluble stabilizer, such as starch.

While Nottebohm does disclose pore-forming materials which might have the disabilities to which appellant refers, it is clear that Nottebohm's teachings are not so limited. Thus Nottebohm states:

The latices which may be used for the reinforcing paste impregnation are vulcanizable latices of the same type as those used for the prestabilization, but they contain, in addition to about 8% to about 20% by weight of vulcanizable binder solids per 100 parts by weight of binder solids between about 100 parts and 275 parts by weight of a filler or pore-forming agent, which in the final impregnation is preferably selected from the group consisting of the water soluble and water solubilizable high molecular organic substances and mixtures of such organic substances with not more than about twice their weight of water soluble alkali metal salts. The term "water solubilizable" is used in the present specification and claims to designate such high molecular organic substances which can be easily converted from a less water soluble form to a more water soluble form, for instance, by an after-treatment with enzymes.

Nottebohm also discloses a variant on the process which appellant does not appear to have used in the comparative tests as reported in the Boe affidavit. Thus Nottebohm states:

The water absorbent properties of the sheet material obtainable according to the process described heretofore may be further improved, according to a preferred embodiment of my invention, by subjecting the prestabilized sheet material, prior to the paste impregnation thereof, to an intermediate treatment which comprises applying to the prestabilized material an aqueous solution of a pore-forming agent capable of forming, on drying, relatively large water soluble deposits, and then drying the material. Solutions of alkali metal salts, such as Glauber's salt or sodium chloride, and of organic water soluble substances, such as polyvinyl alcohol or sugar solutions, have been found to be useful for this purpose.

It seems to us, therefore, that one of ordinary skill in this art, at the time of appellant's invention, would know from the Nottebohm reference (1) that the pore formers could be introduced into the proc-

ess prior to Nottebohm's final impregnation step, (2) that by so doing the porosity of the material, referred to by Nottebohm as "the water absorbent properties" may be further improved by adding an aqueous solution of pore-forming materials to the prestabilized material before the paste impregnation, and (3) that the pore forming material could be "organic water soluble substances."

While appellant's affidavit describes tests of certain of Nottebohm's disclosures it does not describe a test nor compare the products resulting from Nottebohm's modified process. For all the present record shows, it may be that appellant is satisfied to sacrifice some mechanical strength in his end product in order to secure additional porosity (measured by appellant in terms of water absorption). The Examiner in his answer stated:

> * * * Appellant has not shown that his product is not lower in mechanical strength as a result of impregnation with a filler in the latex dispersion.

The Board stated:

> * * * We agree with the Examiner that the addition of pore formers according to the non-preferred disclosure of Nottebohm and acceptance of the mentioned disadvantages does not properly constitute grounds for patentability over the reference. The record before us lacks evidence of pore former influence on mechanical strength. Manifestly, however, increased porosity should result in loss of strength.

[1] All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art. Thus, in *In re Smith*, 32 CCPA 959, 148 F.2d 351, 65 USPQ 167; in *In re Nehrenberg*, 47 CCPA 1159, 280 F.2d 161, 126 USPQ 383; and in *In re Watanabe*, 50 CCPA 1175, 315 F.2d 924, 137 USPQ 350, this court affirmed rejections based on art which we concluded rendered the claimed invention obvious to those of ordinary skill in the art despite the fact that the art teachings relied upon in all three cases were phrased in terms of a non-preferred embodiment or as being unsatisfactory for the intended purpose.

We therefore agree with the Board and the Examiner that:

> * * * the addition of pore formers according to the non-preferred disclosure of Nottebohm and acceptance of the mentioned disadvantages does not properly constitute grounds for patentability.

We pass now to appellant's argument that it was not obvious to select his pore-forming materials from the class of materials recited in the appealed claims. The Board summarized the Fernald teaching as follows:

> Fernald relates to the production of porous separators for batteries in which he uses water soluble pore forming agents in a sheeted composition, the preferred substances being sugar, urea, and inorganic salts.

It concluded, as we do, that:

> We find ourselves in agreement with the Examiner that it would be obvious to select urea as the organic water soluble pore forming substance in the process of Nottebohm from a consideration of Fernald.

The "Summary" in the Examiner's answer states our views and is here incorporated. The Examiner stated:

> Appellant bases his arguments for patentability on the new and unexpected results from the use of particular pore formers mixed with a resin latex and applied as the first impregnating layer to a fibrous batt whereas (1) applicant's disclosure teaches a first impregnation without pore formers as shown in the Nottebohm reference; (2) the Nottebohm reference teaches a loss in mechanical strength with particular pore formers causing increased viscosity and applicant has shown no evidence of pore former influence on mechanical strength. If the loss of mechanical strength is accepted, increased porosity is obvious; and (3) the Fernald reference teaches the equivalance of the pore forming materials used.

[2] It seems clear to us that despite the lateness of its filing, the Boe affidavit on which appellant relies was given every appropriate consideration. Increased porosity with a corresponding increased water retention and loss of mechanical strength is taught by the prior art and is not a new and unexpected result. The affidavit does not show increased water retention without the expected corresponding loss of mechanical strength. We agree with the Board that appellant's affidavit is not conclusive because it is not responsive to the issue which was clearly raised by the Examiner.

[3] For the foregoing reasons, the decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE E. DARE BOLINGER AND NORMAN E. KLEIN

No. 7484. Decided February 24, 1966

[53 CCPA —; 356 F.2d 552; 148 USPQ 541]

1. APPLICATION—DISCLOSURE—SUFFICIENCY OF DISCLOSURE.

"Appellants do not point to any specific portion of the specification as supporting claim 70 or the other appealed claims. While we have assumed that they rely on the specification as a whole, this manner of arguing that the claims are supported by the disclosure is not very helpful to us."

2. SAME—SAME—RIGHT TO MAKE.

"The Board, proceeding correctly in determining the issue as to support for the appealed claims, attempted to first find support in the disclosure for the embodiment of appellants' invention defined in the claims. It was unable to reach a determination because it found as we do that the language in the claims is ambiguous in the light of appellants' disclosure. Only then did it proceed to the Seem patent in which the appealed claims originated. The Board then found that Seem in fact claimed a different invention. The claims are not ambiguous when read in light of the patent in which they originated and when applied to the various embodiments of the Seem invention there disclosed."

APPEAL from the Patent Office. Serial No. 274,358.

AFFIRMED.

Walter E. Mueller, Norman C. Armitage, John LaPrade, Solon B. Kemon for appellants.

Clarence W. Moore, (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

Appellants appeal from the decision of the Board sustaining certain of the Examiner's rejections of appealed claims 70 through 75. The appealed claims originated in U.S. Patent No. 2,864,229 to Seem et al.[1] and were copied into appellants' parent application here on appeal.[2] After nearly fourteen years of prosecution in the Patent Office, the parent application comes before us on appeal with apellants urging that the Board erred in affirming the Examiner's two grounds of rejection of the appealed claims.

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[1] Filed June 5, 1957, issued December 16, 1958, entitled "Apparatus for Thermally Processing Yarns."

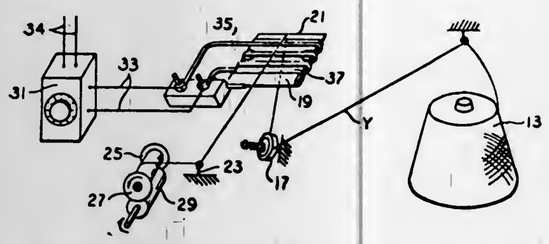
[2] Serial No. 274,358, filed March 1, 1952, entitled "Method and Apparatus for Crimping Thermoplastic Yarns."

The determinative issue here is whether the appealed claims are supported by the disclosure. Since we find that the Board properly sustained the Examiner's rejection that the appealed claims are not readable on appellants' disclosure, it is not necessary to review the Board's affirmance of the rejection based on "double patenting" involving appellants' Patent No. 2,919,534.[3]

Appellants' invention is directed to a method and apparatus for crimping thermoplastic yarns. Appellants state in their specification:

> In its broadest form, this invention comprises moving a strand of thermoplastic yarn issuing from any conventional source through a heating zone in order to elevate the temperature of at least the outer micellar layer of the yarn to within the plastic range, immediately thereafter passing it over a sharpened edge, preferably in an acutely angular path, and finally collecting the crimped yarn upon a bobbin or the like.

An embodiment of the invention is shown in FIG. 1 of the application on appeal and is here reproduced.



In the specification, appellants explain the operation of this apparatus as follows:

> * * * Numeral 13 denotes a conventional yarn supply package, such as a pirn, bobbin, cake or the like. The yarn Y is unwound from this package and passed through a tension device 17, such a a spring-biased disc array. From the tension device, the yarn Y travels upwardly past one side of a blade element 19, over and around the sharpened edge 21 of the blade 19, making an acute bend as it does so, and thence downwardly through a guide 23 to a suitable take-up means, generally designated 25, such as a flanged bobbin 27 driven by a rotating cork-covered roll 29.
>
> The blade 19 is wrapped with several turns of electrical resistance wire 35 to which current is supplied through conductors 33 from a variable transformer 31 connected to any desired source of current, not shown, by leads 34. Sheets of dielectric material, e.g., mica, are provided between the blade and resistance wire, as at 37.
>
> Heat is supplied to the yarn by convection and radiation as it moves past the side of the blade and by conduction as it moves over the edge of the blade so that it is in a suitably plastic condition and capable of responding satisfactorily to the action of the blade in the interval during which it passes over the edge thereof.

The appealed claims consist of independent claims 70 and 75 and dependent claims 71–74. All of the appealed claims contain certain language which the Board found was not supported by the disclosure. We think the appealed claims stand or fall together and the parties do not argue otherwise.

Appealed claim 70 is representative:

> 70. Apparatus for processing yarns comprising a creel for mounting at least one supply package of said yarn, a twister spindle, a traveler ring, a traveler, and feed means to ravel yarn from said supply package and feed the same at a preselected speed to the traveler and take-up package, *spaced guide means intermediate said creel and said twister spindle to direct the yarn in a generally straight-line path during at least a portion of its travel, and heater means intermediate said spaced guide means operable to uniformly heat the yarn to a selected temperature during said portion of its travel.* [Empasis added.]

[3] Filed November 2, 1955, issued January 5, 1960, a continuation-in-part of the parent application here on appeal, entitled "Improved Textile Materials and Methods and Apparatus for Preparing the Same."

The italicized portion of claim 70 represents that language found by the Board not to be supported by the disclosure.

Having the benefit of the disclosure quoted above from the specification, we may proceed to determine whether claim 70 is supported by that disclosure.[4] Referring to claim 70, "spaced guide means" are "intermediate said creel and said twister." The specification is silent as to this terminology. This could be interpreted as meaning elements 17 and 23 are "spaced guide means" in FIG. 1, as element 23 is termed a "guide" in the specification and element 17 is a "tension device" which in fact serves as a guide. However, claim 70 further provides that these guide means "direct the yarn on a generally straight-line path during at least a portion of its travel," and that "heater means," intermediate said spaced guide means, "heat the yarn" *during* the "generally straight-line path" portion of the yarn's travel.

It is not readily understandable in what manner elements 23 and 17 can be said to "direct the yarn on a generally straight-line path" and also have heating of the yarn *during* this generally straight portion of travel. Appellants in one argument[5] explain that element 21, termed a "blade" in the specification, is a "guide," and that "blade" 21 and "tension device" 17 serve to direct the yarn in a generally straight-line path.

Accepting appellants' interpretation, claim 70 requires that "heater means" be positioned "intermediate said spaced guide means." Appellants explain that "blade" 21 is also the "heater means." Appellants maintain that "blade" 21 is one of a pair of "spaced guide means" and also the "heater means."

Appellants argue that the foregoing analysis clearly proves that the appealed claims are in fact supported by their specification and that as the terms of the claims are clear and unambiguous, the Board committed clear error in resorting to the Seem patent, the origin of the appealed claims, as an aid in determining the meaning of the above terms.

The Board, experiencing difficulty in understanding in what manner the appealed claims were supported by the disclosure, did turn to the Seem disclosure for assistance. The Board found that its confusion disappeared as the Seem specification disclosed and the claims defined *an entirely different invention.* The Board stated in its opinion:

> * * * [Seem] involves no crimping. It is concerned with apparatus for thermally processing a traveling thermoplastic yarn while subjecting it to controlled degrees of tensile stress so as to impart uniform tensile characteristics to the yarn, and employs conventional guides * * * on opposite sides of a heater * * *.
>
> In summary, we agree with the Examiner that the two cases involve distinctly different concepts and structures and that claims 70 to 75 find no reasonable basis in the instant application. The rejection * * * is accordingly sustained.

[1] [4] Appellants do not point to any specific portion of the specification as supporting claim 70 or the other appealed claims. While we have assumed that they rely on the specification as a whole, this manner of arguing that the claims are supported by the disclosure is not very helpful to us.

[5] Appellants, as far as we are able to determine from the record and briefs before us, have not stated specifically what elements they regard as being "spaced guide means" as specified in claim 70. Their arguments vacillate between calling "guide" 23 and "tension device" 17 the "spaced guide means" with the "blade" 21 serving as the "heater means"; and calling "blade" 21 and "tension device" 17 the "spaced guide means" with "blade" 21 also the "heater means." In one argument, discussed infra in the text, the blade is said not to be a part of the appealed claims.

We agree that there is "no reasonable basis in the instant application" for the appealed claims. The Board found that the *disclosed* purpose of the blade was to crimp the yarn. It stated:

> * * * We * * * doubt that persons of ordinary skill in the art would reasonably read or consider the sharp blade edge * * * as one of the guide means of the claims. * * *
>
> It is our opinion that claims 70 to 75 involve a different inventive concept and apparatus than that *disclosed* in the instant application, *notwithstanding that their terms may be so broadly construed as to vaguely read on the latter.* * * * [Emphasis added.]

We agree with the above reasoning. While one element may perform two functions, *In re Kelley*, 49 CCPA 1359, 305 F.2d 909, 134 USPQ 397, we think the sole disclosed purpose of the blade is to crimp the yarn and the yarn is guided about the blade by elements 17 and 23 rather than by the blade and element 17. It necessarily follows that the disclosure does not support the requirement of the appealed claims that the heater means intermediate the spaced guide means heat the yarn *during the generally straight-line portion of travel provided by the spaced guide means.*

Appellants argue conversely that it is not necessary to consider the blade a guide means:

> * * * It is merely incidental that the yarn as guided by either of said pairs of yarn guides in Appellants' disclosure (FIG. 1 or 2) directs the yarn about a blade member or in the alternative about an arcuate heating member and a blade member * * *.
>
> * * * * * * *
>
> Appellants' disclosure clearly supports each and every element of the Seem et al. claims regardless of whether the blade is considered a guide means.
>
> The apparatus claims on appeal are all directed to the processing of yarn by means of the apparatus elements set forth in the claims. None of these claims are drawn to edge-crimping or is any blade member set forth in the claims on appeal. * * *

The invention claimed in Seem is not concerned with the crimping of thermoplastic yarn, nor does it disclose any crimping of that yarn. It is concerned with subjecting a thermoplastic yarn to "controlled degrees of tensile stress, with and/or without correlated heat." As disclosed in the Seem specification, it was desired to supply spools of thermoplastic yarn which possessed uniform tensile strength.

In comparison, appellants sought to supply crimped yarn. The specification states only that fabrics made from crimped yarn possess "a pleasing appearance, desirable hand and good tensile strength," and that the "crimped yarn * * * will withstand operating tensions normally employed in the art * * *." Concerning the tension employed during operations, the specification states that "optimum results" are obtained with "minimum" tension for lower denier yarns and higher levels of tension for higher denier yarns.

We find no disclosure in appellants' specification that supports claims to the Seem invention. We do not understand how appellants are assisted in their argument that the disclosure supports the appealed claims by disclaiming a blade and edge crimping, what we think is appellants' invention.

Appellants rely on several propositions of law, arguing as follows:

> * * * The mere reading of the count leaves no doubt that it is not in any way ambiguous. The Patent Office Tribunals therefore committed reversible error in permitting the construction of this portion of the count in the light of the Seem et al. disclosure. The law on this point is clear and unequivocal. A search for meaning on interpretation is necessary only where there is ambiguity in the terms of the count, * * *. In the absence of ambiguity, counts broadly drawn must be given the broadest construction which they will reasonably permit and should not be construed in the light of teachings of the patent in which they originated. * * * [Citations omitted.]

We think appellants have misconstrued the rejection in this case. The claims stand rejected on the ground that they are not supported by the disclosure. There is no "count" before the court, as in interference cases.[6] The issue here is whether the appealed claims are supported by the disclosure.

[2] The Board, proceeding correctly in determining the issue as to support for the appealed claims, attempted to first find support in the disclosure for the embodiment of appellants' invention defined in the claims. It was unable to reach a determination because it found as we do that the language in the claims is ambiguous in the light of appellants' disclosure. Only then did it proceed to the Seem patent in which the appealed claims originated. The Board then found that Seem in fact claimed a different invention. The claims are not ambiguous when read in light of the patent in which they originated and when applied to the various embodiments of the Seem invention there disclosed.

While appellants have the right to claims which claim something they have *disclosed as their invention*, the claims must be supported by the specification. We agree with the Board that the appealed claims are not so supported and on this basis alone the decision of the Board is affirmed.

AFFIRMED.

In the United States Patent Office
Before the Board of Appeals

EX PARTE WALTER M. BUDDE, JR.

Appeal No. 498—23. Decided March 14, 1966

1. RES JUDICATA—CLAIMS DEFINING SAME SUBJECT MATTER THOUGH USING DIFFERENT VERBIAGE—PRIOR ADJUDICATION BINDING—NO DIFFERENT QUESTION OF PATENTABILITY PRESENTED BECAUSE OF NEW EVIDENCE OR NEW ISSUES—EX PARTE SCHOTT (136 USPQ 383) OVERRULED.

   "We are not convinced that the principles of * * * [court] decisions were honored in *Ex parte Schott* * * * since the claim in the second application and a claim held unpatentable in the prior appeal are said to 'define precisely the same structure, although using somewhat differing verbinge' yet the *res-judicata* rejection was reversed. We expressly repudiate, as a statement of applicable law, the ruling of the noted decision that held to be controlling those rulings in infringement cases to the effect that 'a prior adjudication should not be considered as binding or be followed when passing upon the same claim where a different question of patentability is presented for adjudication because of new evidence or new issues.'"

2. SAME—SAME—SAME—SAME.

   "We realize that we might distinguish the facts of the instant case [in the rejection on the ground of *res judicata*] from the facts of the *Schott* case in that the additional showing in the instant case is intended to support an argument for unobviousness which was made in the original appeal, while in the *Schott* case the capability of use shown to the Examiner in the second case, apparently, was not previously argued. We will not attribute significance to this distinction, however, because so to do would (1) suggest that adjudicated application claims are open to renewed consideration as to some arguments as to patentability but not as to others and (2) the decisions of

[6] Appellants direct considerable argument to the "breadth" of the claims in Seem in relation to the invention in Seem. This issue is not before the court.

the courts * * * provide no basis or measure for such a distinction and, indeed, seem to outlaw the attempted distinction."

3. SAME—PATENTABILITY OVER PRIOR ART NOT CONSIDERED.

"In view of our opinion with respect to the rejection on *res judicata*, and without suggesting the inapplicability of the directive in M.P.E.P., 706.03(w) to the examination before the Examiner, we determine that it is unnecessary to pass upon the question of whether the claimed process is patentable over the prior art. Accordingly, we make no ruling on this basis for the rejection of the claims."

APPEAL from the Examiner (Walter A. Modance) of Group 120. Serial No. 280,131.

AFFIRMED.

Sherman J. Kemmer, *William G. Ewert* and *Cecil C. Schmidt* for appellant.

Before FEDERICO, ASP, FRIEDMAN, KREEK, DRACOPOULOS, BAILEY, KEELY, BREWRINK, MAGIL, ROSA, BEHRENS AND MANGAN, *Examiners-in-Chief*

BEHRENS, *Examiner-in-Chief*.

This is an appeal from the decision of the Examiner finally rejecting claims 1 to 6.

The following references are relied on by the Examiner:

Boesekan et al., Chemical Abstracts, vol. 23 (1923), page 4192.

Pigulevskii et al. (I), Chemical Abstracts, vol. 26 (1932), page 2170 (abstract of J. Gen. Chemistry, vol. 1, No. 2), pages 235–239 (1931).

Pigulevskii et al. (II), Chemical Abstracts, vol. 50 (1956), page 10,073 (abstract of J. Applied Chemistry (USSR)), vol. 28, pages 1353–5.

Markley, Fatty Acids (1947), page 417.

British patent, 877,632, September 20, 1961.

The appealed claims were rejected (1) on the ground of *res judicata*, and (2) as being unpatentable over the Boeseken et al. and Pigulevskii et al. references.

The rejection on *res judicata* is based on the decision of this Board and of the U.S. Court of Customs and Patent Appeals in appellant's parent application Serial No. 624,747, filed November 28, 1956 (*In re Budde*, 50 CCPA 1491, 1963 C.D. 630, 795 O.G. 1068, 319 F.2d 242, 138 USPQ 71). Appellant does not challenge the Examiner's holding that the claims are directed to the same invention as the claims before the Board and the court in the previous appeal. Appellant contends (brief, page 9) that, following *Ex parte Schott*, 136 USPQ 383, a "different" issue of patentability is presented by the instant appeal because appellant has presented "new art" for consideration, on the basis of which, appellant asserts, the Board and the court reasonably could have arrived at a different conclusion in the original appeal. The original appeal dealt with the obviousness, under 35 U.S.C. 103, of a process of saponifying an epoxidized fatty ester at a temperature of from about 50° C. to about 120° C. and a time not over about 2 hours. The evidence that appellant adduced in the instant appeal consists of patents and publications (see brief, page 16) which are intended to demonstrate that, as appellant argued in the original appeal, it would have been unexpected that the saponification of the epoxy esters could take place at the temperature and time called for in the claims without undesirable destruction of the epoxy rings.

Appellant points out the applicability of the statements of law in this Board's decision in *Ex parte Schott*, supra, and states that,

"* * * if the decision does not have the effect which it appears to have, appellant and his counsel feel a moral obligation to present the question for judicial scrutiny and interpretation."

In the circumstances a reference to some of the decisions on *res judicata* would seem appropriate. As early as 1899 the Court of Appeals for the District of Columbia in *In re Barratt*, 14 App. D.C. 255 (sub nom *Barratt* v. *Duell*, 1899 C.D. 320) ruled as follows:

"The new application does not make a different case. The case is the same precise case. The subject matter of invention is the same. The claim is the same. Only the specifications and drawings are more full, and the state of the art at the time of the alleged invention is more fully and satisfactorily shown. But all this, which might well have been adduced by way of amendment or otherwise in the original proceeding or which might have been shown under a bill in equity, at the utmost amounts to no more than a clearer and better declaration or additional proof of the alleged invention. It does not make any new case, and it does not justify the filing of any new application."

Commissioner Allen in *Ex parte Kinney*, 1905 C.D. 441, 118 O.G. 2253, stated:

"It is therefore clear that this Office is justified in refusing to consider successive applications for the same subject-matter. In other words, it is not required to reexamine the question of patentability, but may take it as settled by the first adjudication."

The court in *In re Lundberg* and *Zuschlag*, 47 CCPA 1140, 1960 C.D. 478, 761 O.G. 582, 280 F.2d 865, 126 USPQ 412, made the following rulings:

"The starting point is a comparison of what is claimed here *with the relevant claims in the prior case*. If the claimed subject matter is the same, the prior adjudication is binding; if differences appear, then we look to their nature and significance. If the difference is one which would not be obvious to one of ordinary skill in the art, the prior adjudication is certainly not a ground for rejection. But, we repeat, the difference is between the previously adjudicated claims and the appealed claims, not between the present claims and the prior art.

* * * * * * *

"Patentability over prior art is not reconsidered as a virgin problem. On the contrary, the prior decision stands, right or wrong, for all disputed issues there decided, *In re Prutton*, 40 CCPA 975, 980, 204 F.2d 291, 295, 97 USPQ 447, 450, and we determine patentability of the new claim *over the adjudicated claim*, considering prior art, if necessary, only if substantial differences between the claims exist. The public policy which is implemented by this rule is that there shall be an end to litigation, that when one has exhausted the remedies provided by law he shall not be permitted to go through the process all over again."

In *In re Prutton* so referred to, the court followed *In re Ellis*, 24 CCPA 759, 1937 C.D. 153, 478 O.G. 478, 86 F.2d 412, 31 USPQ 380, in ruling as follows:

"*Res judicata* applies whether the final decision in the earlier application was right or wrong, or was induced by want of the particular evidence offered to the Board in this case, *Blackford* v. *Wilder*, 28 App. D.C. 535, unless the appealed claims are patentably different from those refused in that application * * *."

[1] We are not convinced that the principles of these decisions were honored in *Ex parte Schott*, supra, since the claim in the second application and a claim held unpatentable in the prior appeal are said to "define precisely the same structure, although using somewhat differing verbiage" yet the *res judicata* rejection was reversed. We expressly repudiate, as a statement of applicable law, the ruling of the noted decision that held to be controlling those rulings in infringement cases to the effect that "a prior adjudication should not

be considered as binding or be followed when passing upon the same claim where a different question of patentability is presented for adjudication because of new evidence or new issues."

[2] We realize that we might distinguish the facts of the instant case from the facts of the *Schott* case in that the additional showing in the instant case is intended to support an argument for unobviousness which was made in the original appeal, while in the *Schott* case the capability of use shown to the Examiner in the second case, apparently, was not previously argued. We will not attribute significance to this distinction, however, because so to do would (1) suggest that adjudicated application claims are open to renewed consideration as to some arguments as to patentability but not as to others and (2) the decisions of the courts, supra, provide no basis or measure for such a distinction and, indeed, seem to outlaw the attempted distinction.

As for the instant case, the decisions of the courts in *In re Barratt*, *In re Prutton*, and *In re Lundberg et al.*, all supra, seem directly applicable. We will sustain the rejection on *res judicata*.

[3] In view of our opinion with respect to the rejection on *res judicata*, and without suggesting the inapplicability of the directive in M.P.E.P., 706.03(w) to the examination before the Examiner, we determine that it is unnecessary to pass upon the question of whether the claimed process is patentable over the prior art. Accordingly, we make no ruling on this basis for the rejection of the claims.

Because of the possibility of conflict in our decisions and because of the importance of the legal issue, this appeal was considered by all the regular members of the Board excepting Lidoff, Examiner-in-Chief, who disqualified himself because of his association, as a Primary Examiner, with the parent application.

The decision of the Examiner is affirmed.

AFFIRMED.

BAILEY and BREWRINK, *Examiners-in-Chief*, concurring.

With the decision of the majority holding *res judicata*, the undersigned agree. With some statements in the supporting opinion, the undersigned disagree as pointed out below.

As the majority recognize in the second paragraph on page 5, the fact situation in *Ex parte Schott*, supra, is not present in the case being decided, nor it is present in the decisions that they cite. In the decisions that they cite, all deal with the *same* novelty, and the *same* utility, see the court decisions *In re Barratt* at 1899 C.D. in the paragraph bridging pages 321 and 322 and ensuing paragraph; *In re Lundberg et al.*, at 1960 C.D. 3rd and 4th paragraphs on page 480; *In re Prutton* at 97 USPQ page 448, 1st column, last partial paragraph and page 449, first column, last paragraph; *In re Ellis* at 1937 C.D. page 154, last complete paragraph and *Blackford* v. *Wilder* at 1907 C.D., the entire introduction, pages 492–495, which make clear that the question of *res judicata* to be determined was based on broader claims to same novelty having the same utility. Not one mentions a *newly* disclosed and documented *utility* urged for the *first* time in the *second* appeal as warranting issuance of a patent for the same novelty. They deal with an appellant's desire to present *enlarged evidence* on the *same* utility and the *same* or broader novelty.

The novel structure evolved by Mr. Schott was urged in the first application as having a known utility. In the first application the decision affirming the rejection on a combination of references was based on the specific holding of lack of establishing that the novel combination yielded a new and unexpected result.

In the second application Mr. Schott added disclosure of a *new* utility (i.e. a new and unexpected result) *not* disclosed, argued or documented in the first application. Such was disclosed, argued and completely and convincingly documented in the second application. This was the issue presented for adjudication for the *first* time in the *second* application; namely, is the *novel* structure (the same as claimed in the first application) shown to be patentable because of the *new* utility disclosed and documented for the *first* time in the *second* application?

The undersigned agree that the language from *Ex parte Schott*, supra, quoted by the majority at the end of the first paragraph on page 5 is too broad if read divorced from the facts on which it is based. To fit the facts, the statement should have been that a prior adjudication should not be considered as binding when passing upon the *same* (*novel*) *claim* where a different question of patentability is presented for adjudication because of (1) *new* evidence; (2) *on new* issues (newly disclosed utility). All three, i.e. (*a*) *novel subject matter claimed*, (*b*) with *new* evidence, (*c*) documenting a *newly disclosed utility*, must be present. This was the *only* situation decided in *Ex parte Schott*, supra. The first adjudication did not touch thereon so that this question could not have before been adjudicated. The basis of a *res judicata* holding was thus missing.

In the present application the decisions cited are, as held in the majority opinion, directly applicable to the present facts. This viewpoint is due to the fact that in the instant appeal there is urged the *same* claimed novelty and the *same* utility on which the first decision was based. A second adjudication is requested solely because of *enlarged* evidence on the *same issues*.

As to points (1) and (2) set out in the second paragraph of page 5, the following is noted.

As to (1): A distinction should clearly be drawn as between (*a*) *new* issues not before adjudicated (as above carefully defined) and (*b*) *issues before adjudicated* (as present in the instant appeal where there is merely enlarged evidence on the same issues). *Res judicata* applies only to the latter.

As to (2): Since the court decisions to which the majority refer did not pass upon the situation decided in *Ex parte Schott*, supra, they do not outlaw the distinction there in fact made and in fact present. The dicta of the majority opinion indicate that the majority would do this if the point were before them for decision. The undersigned are of the opinion that these dicta are in error.

Because of the viewpoints expressed by the majority, a new search was made by the undersigned for precedents on the *Ex parte Schott* holding. The following decisions by this Board (all much more pertinent than any decision cited in the majority decision) were found that are consonant with *Ex parte Schott*, supra:

Ex parte Gustafson et al. (Apr. 19, 1932), 14 USPQ 332.
Ex parte Jameson et al. (Mar. 23, 1934), 23 USPQ 179.
Ex parte Osborn et al. (Nov. 7, 1934), 25 USPQ 260.

Ex parte Jameson et al. is particularly of interest, although it has a slight variant over *Ex parte Schott*, supra. The first application disclosed plural alternatives for yielding the same utility. The *second* application disclosed that one alternative, namely, pectin, yielded a *new* utility not yielded by others disclosed in the first application. The Board in their opinion pointed out that the *new* utility urged formed an adequate basis for patent issue in the second application, and commented that such *new* utility could probably not have been introduced into the first application without introduction of new matter, 23 USPQ at page 180, second column, about the middle of the page.

Thus, the undersigned concur with the majority in their decision, holding *res judicata* in the instant application, and as to their dicta that the legal statement in *Ex parte Schott*, supra, was not coextensive with the fact situation on which it was based. However, for the reasons given, it is felt that the dicta are in error in stating that *Ex parte Schott*, supra, is at variance with any decision that they cite.

MANGAN, *Examiner-in-Chief*, concurring.

I concur in the result reached in this case, as based on the precedents cited in the majority opinion. I also agree that *Ex parte Schott*, supra, is not a precedent for appellant's position, despite its broad language which would make it appear so, since its holding must be construed as limited to the entirely different factual situation there involved. The facts of the instant case must correspondingly limit the applicability of the present decision.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,847,808, J. W. Romine, TREE WRAPPING MACHINE, **filed** May 31, 1963, D.C., S.D. Iowa (Des Moines), Doc. 5–1395, *The Greening Nursery Company* v. *J and R Tool and Manufacturing Company*. Complaint dismissed; Patent No. 2,847,808 held invalid; defendant's prayer for declaratory judgment, that Patent No. 3,001,345, is not and does not infringe plaintiff's patent, is denied Mar. 31, 1966. Judgment of Mar. 31, 1966, amended to read—Complaint dismissed; claims 1, 2, 5, 6, and 7 of Patent No. 2,847,808 held invalid; defendant's prayer for declaratory judgment, that defendant's machine disclosed in Patent No. 3,001,345 does not infringe plaintiff's patent claims 1, 2, 5, 6, and 7, is hereby denied Apr. 26, 1966.

2,867,325, G. Hirs, FILTER APPARATUS; **2,867,326**, same, **filed** Apr. 1, 1966, D.C., E.D. Mich. (Detroit), Doc. 28251, *Detroit Filter Corporation* v. *Gene Hirs et al.* Order, on motion of defendants, dismissing this declaratory judgment action because of the fact that the same issues between the same parties were before the court in previously filed Civil Action No. 25,979 (*Gene Hirs et al.* v. *Detroit Filter & Engineering Corp.* Final judgment holding patents valid and claim 11 of Patent No. 2,867,325 and claims 6 and 7 of Patent No. 2,867,326 held infringed; injunction issued Nov. 22, 1965). May 4, 1966.

2,867,326. (See 2,867,325.)

2,914,070, Kellner and Block, BODY ENCIRCLING GARMENTS, **filed** Sept. 24, 1962, D.C., S.D.N.Y., Doc. 62/3234, *Formal Fashions, Inc.* v. *Braiman Bows, Inc.* Judgment holding Patent No. 2,914,070 invalid; complaint dismissed Apr. 20, 1966.

2,924,771, E. H. Greenberg et al., METHOD AND APPARATUS FOR IDENTIFYING METALS, **filed** Apr. 12, 1966, D.C., E.D. Mich. (Detroit), Doc. 28282, *Elmer H. Greenberg et al.* v. *Acromag, Incorporated et al.*

2,925,625, D. W. Souza, CONTRAST COLOR EMBOSSED PLASTICS AND METHOD OF PRODUCTION; **2,996,822**, same, CONTRAST COLOR EMBOSSED PLASTICS; **3,036,945**, same, EMBOSSABLE PLASTIC ASSEMBLY, **filed** Feb. 7, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c230, *Dymo Industries, Inc.* v. *Majestic Electric Supply Co., Inc. et al.* Consent judgment; patents held valid and infringed; defendants enjoined Apr. 21, 1966.

2,940,085, J. J. Hussey, SAFETY RAIL FOR BATHTUBS, **filed** July 10, 1964, D.C., N.D. Ohio (Cleveland), Doc. C64–475, *Frohock-Stewart, Incorporated* v. *Reed-Cromex Corporation*. Final judgment; patent held valid and infringed; defendant enjoined Apr. 6, 1966.

2,967,997, R. D. McCoy, METHOD AND APPARATUS FOR CHECKING ELECTRONIC ANALOG COMPUTERS, **filed** Apr. 5, 1966, D.C.N.J. (Newark), Doc. 345–66, *Reeves Instrument Company* v. *Electronic Associates, Inc. et al.*

2,973,614, H. F. Horner et al., ROTARY POWER MOWER AND CATCHER, **filed** Apr. 11, 1961, D.C., E.D. Wis. (Milwaukee), Doc. 61–C–97, *Toro Manufacturing Corporation* v. *Jacobsen Manufacturing Company*. Patent held valid and infringed Apr. 30, 1965. Mandate of Court of Appeals, 7th Cir. received, judgment of District Court reversed; Court of Appeals finds patent invalid in that the improvement over prior art was obvious Apr. 26, 1966.

2,977,231, Fox and Palley, PACKAGING AND DISPENSING BEVERAGE CONCENTRATES, **filed** July 7, 1965, D.C., M.D. Fla. (Jacksonville), Doc. 65–242–J, *Cecil Wolfson et al.* v. *Reddi-Wip Southeast, Inc. et al.* Final judgment for plaintiff (notice Apr. 6, 1966).

2,992,303, F. W. Murphy, AUTOMATIC SAFETY IGNITION SWITCH, **filed** Jan. 20, 1966, D.C., N.D. Tex. (Lubbock), Doc. 5–276, *Frank W. Murphy Manufacturer, Inc.* v. *Irrigation Devices Co.* Final consent judgment; defendant enjoined for life of Patent No. 2,992,303, from infringing the same Apr. 6, 1966.

2,992,733, Buus and Luedtke, MAGNETIC PULLEY AND PERMANENT MAGNET THEREFOR, **filed** Apr. 19, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c691, *Indiana General Corporation* v. *Eriez Manufacturing Co.*

2,996,822. (See 2,925,625.)

2,999,552, F. K. Fox, TUBULAR-DRILL STRING MEMBER; **3,146,611**, same, **filed** Apr. 14, 1966, D.C., S.D. Tex. (Houston), Doc. 66–H–210, *Henan Oil Tools, Inc.* v. *Engineering Enterprises, Inc. et al.*

3,031,902, Parske and Hansen, INDEX MECHANISM; **3,099,873**, Brainard and Merner, SHUTTLE OPERATED TAPE CONTROLLED MACHINE TOOL; **Re. 25,737**, W. E. Brainard et al., MACHINE TOOL WITH MECHANICAL CUTTING TOOL CHANGER; **Re. 25,812**, M. Morgan, AUTOMATIC MACHINE TOOL, **filed** Sept. 20, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1575, *Kearney & Trecker Corp.* v. *Cincinnati Milling Co. and Cincinnati Milling and Grinding Machines, Inc.* Defendant Cincinnati Milling Machine Co. dismissed as a party to this action Apr. 27, 1966. **Transferred** May 10, 1966, D.C., S.D. Ohio (Cincinnati), Doc. 6146, *Kearney & Trecker Corp.* v. *Cincinnati Milling & Grinding Machines, Inc.*

3,035,754, A. A. Meister, BAG CONSTRUCTION, **filed** Apr. 25, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c725, *Bagcraft Corporation of America* v. *Oneida Paper Products, Inc.*

3,036,945. (See 2,925,625.)

3,061,280, J. A. Kraft et al., APPARATUS FOR MIXING FLUENT MATERIAL, **filed** Jan. 13, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C–32, *Scientific Industries, Inc.* v. *Kraft Apparatus, Inc. et al.* Order of discontinuance Apr. 29, 1966.

3,066,528, Giannini and Ducati, WIND TUNNEL; **Re. 25,088**, Ducati and Blackman, PLASMA-JET TORCH APPARATUS AND METHOD RELATING TO INCREASING THE LIFE OF THE BACK ELECTRODE, **filed** Apr. 22, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–689WB, *Giannini Scientific Corporation* v. *Space-General Corporation et al.*

3,072,141, J. S. Wheeler, Jr., VALVE, **filed** July 31, 1965, D.C., S.D. Tex. (Houston), Doc. 65–H–482, *Mission Mfg. Co.* v. *Gulf Valve Company, Inc. et al.* Consent judgment; Patent No. 3,072,141 held valid and infringed; defendants enjoined Apr. 28, 1966.

3,083,291, Soffa and Angelucci, DEVICE FOR MOUNTING AND BONDING SEMICONDUCTOR WAFERS; **3,165,818**, same, METHOD FOR MOUNTING AND BONDING SEMICONDUCTOR WAFERS, **filed** July 13, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c1168, *Kulicke & Soffa Mfg. Co.* v. *Basic Products Corporation*. By agreement, cause dismissed without prejudice Apr. 25, 1966.

3,088,177(a), H. M. Riegelman, LOCKING DEVICE FOR CLOSURE MEMBERS, **filed** Aug. 7, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–1127–JWC, *Ador Corporation* v. *Met-Tec Aluminum Sash & Door Co., Inc.* Stipulation and consent judgment in favor of plaintiff Mar. 30, 1966.

3,088,177(b); **3,111,209**, H. M. Riegelman, ROLLER MEANS FOR SLIDABLE CLOSURE MEMBER; **Des. 198,363**, same, HANDLE FOR WINDOWS, **filed** Aug. 7, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–1128–JWC, *Ador Corporation* v. *International Window Corp. et al.* Stipulation and consent judgment in favor of plaintiff Mar. 30, 1966.

3,099,873. (See 3,031,902.)

3,103,618, S. I. Slater, CONTINUOUSLY VARIABLE DIMMER SWITCH; **3,222,488**, B. H. Matthews, ELECTRICAL SWITCH WITH CAMMING BRIDGING CONTACT, **filed** Apr. 29, 1960, D.C., N.D. Ohio (Cleveland), Doc. C66–315, *Lucerne Products, Inc. et al.* v. *Sears, Roebuck and Company.*

3,104,663, M. H. Laws, PRESSURIZED MEANS FOR BODY CAVITY TREATMENT, **filed** Apr. 26, 1966, D.C. Md. (Baltimore), Doc. 17251, *Birch and Birch* v. *Schering Corporation.*

3,111,209. (See 3,088,177(b).)

3,131,974, R. E. Futer, AIR-LIFT CONVEYING OF SOLID OBJECTS, **filed** July 22, 1965, D.C.N.J. (Newark), Doc. 805–65, *Rudolph E. Futer et al.* v. *Elizabeth Engineering Corp.* Consent judgment for injunction Apr. 18, 1966.

3,132,988, W. F. Fowler, DECORATIVE CHRISTMAS ORNAMENTS, **filed** Feb. 19, 1965, D.C., E.D. Va. (Norfolk), Doc. 4980, *Pyramid Mills Co., Inc.* v. *Star Band Co., Inc.* Consent judgment; patent held valid and infringed; defendant enjoined Apr. 1, 1966.

3,146,611. (See 2,999,552.)

3,165,818. (See 3,083,291.)

3,222,488. (See 3,103,618.)

Re. 25,088. (See 3,066,528.)

Re. 25,737. (See 3,031,902.)

Re. 25,812. (See 3,031,902.)

Des. 198,363. (See 3,088,177(b).)

PLANT PATENTS

GRANTED JULY 12, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,657
ROSE PLANT
Louis Lens, Wavre-Notre-Dame, Belgium, assignor, by direct and mesne assignments, of one-half to McHutchison & Co., Inc., Ridgefield, N.J., a corporation of New Jersey, and one-half to San Lorenzo Nursery Company, San Leandro, Calif., a corporation of California
Filed Oct. 13, 1964, Ser. No. 403,672
Claims priority, application Belgium Oct. 15, 1963
1 Claim. (Cl. Plt.—20)

A new and distinct variety of rose plant of the hybrid team class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a healthy and vigorous plant habit, production of strong lateral branches on the plant which bear heavy dark green foliage, a small leaf size, strong, upright and stiff flower stems, excellent production of large flowers having stiff petals and good form when grown in greenhouses for cut flowers, a distinctive, attractive and Brilliant Mandarin Red flower color which is retained until the flowers fall, and long lasting flower qualities as cut flowers when kept in water.

2,658
ORCHID PLANT
Maurice Lecoufle and Michel Vacherot, both of Boissy-Saint-Leger, France, assignors to Vacherot & Lecoufle, Boissy-Saint-Leger, France, a partnership
Filed July 30, 1965, Ser. No. 476,222
1 Claim. (Cl. Plt.—68)

A new and distinct variety of Laeliocattleya orchid plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a strong habit of plant growth, an ability to break easily to produce side growths, abundant flower production, with the flowers usually borne in groups of five flowers well arranged on the spike, and with at least two flowering sprouts growing from the rhizome, large flower size and attractive and full shape, with the flower petals being joined and sometimes overlapping, excellent texture and substance of the flower petals, a natural blooming period in the spring around Easter time, while also being fully controllable by photoperiodism, and a distinctive and attractive Orchid Purple general color tonality of the flowers, said color shading lighter and trimming the fringed edges of the flowers, with the flowers having Indian Yellow color beneath the column and gradually fanning out into the veins and becoming yellow patches on the sides.

2,659
ORCHID PLANT
Maurice Lecoufle and Michel Vacherot, Boissy-Saint-Leger, France, assignors to Vacherot & Lecoufle, Boissy-Saint-Leger, France, a partnership
Filed July 30, 1965, Ser. No. 476,223
1 Claim. (Cl. Plt.—68)

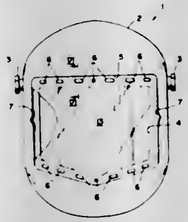
A new and distinct variety of Brassocattleya orchid plant, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of superior strength and vigor, clear green foliage having smooth edges, prolific flower production, with perfectly shaped flowers usually borne in clusters of 3 flowers per cluster, and with many flowering sprouts usually growing from the same rhizome at the same time, exceptionally large flower size, said flowers being well open and almost flat in form, and the petals being of hard substance, a distinctive and attractive pure white flower color, with Canary Yellow appearing in the interior of the labellum, and an ideal suitability for commercial cut flower production, as well as for non-commercial growing by amateurs.

PATENTS

GRANTED JULY 12, 1966

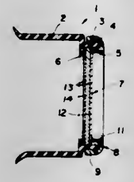
GENERAL AND MECHANICAL

3,259,908
FACESHIELD CLIP-ON VISOR
Jack N. Simpson, Reading, and Charles J. Boyer, West Reading, Pa., assignors to The Electric Storage Battery Company, Philadelphia, Pa.
Filed Apr. 13, 1964, Ser. No. 359,240
3 Claims. (Cl. 2—9)



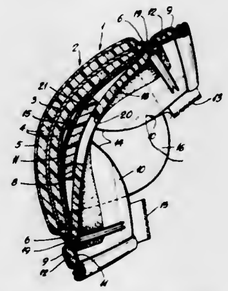
1. A face protective shield having a window opening defined by a slightly offset frame portion, a slot on each side of the shield between the frame portion and the shield, a projection on the inner surface of each side of the shield closely adjacent one of said slots, and a visor of flexible and springy, transparent plastic material which is normally flat and which is provided with a pair of laterally extending ears, each of said ears having a hole corresponding in outline to each of said projections, said ears projecting into the front of said shield through said slots, and said projections extending through said holes and releasably locking said visor upon said shield, whereby the springiness of the ears and visor cause said ears to lock in place by moving closely to the inner surface of said visor, and whereby said projections act as stops for preventing forward displacement of said visor.

3,259,909
LENS MOUNTING MEANS FOR GOGGLES
William G. Wood, Douglassville, Pa., assignor to The Electric Storage Battery Company, Philadelphia, Pa.
Filed Apr. 17, 1964, Ser. No. 360,489
1 Claim. (Cl. 2—14)



A pair of goggles comprising an eye shield having a pair of lens openings in the front portion thereof, annular shoulder portions integrally formed on the front face of said shield and surrounding said openings, said shoulder portions terminating in annular, radially outwardly projecting beads, lens means contained within said portions, and an annular cap of slightly flexible plastic material which is detachably fitted on each bead, said caps each having a substantially U-shape cross-section defining an annular well into which said beads are projected so as to cause the legs of the U to flex outwardly and then snap into locking engagement with said beads to assure an airtight fit with said lens means, one of said legs of each U embracing said shoulder portion, the other leg snugly embracing the radially inward surface of the bead with its extremity pushing against the outer peripheral portion of said lens means to assure an air-tight fit.

3,259,910
LIMB PROTECTOR FOR HOCKEY PLAYERS AND THE LIKE
Gustave René Daignault, 160 Desaulnier Blvd., St. Lambert, Quebec, Canada
Filed Apr. 16, 1964, Ser. No. 360,237
Claims priority, application Canada, May 14, 1963, 875,557
5 Claims. (Cl. 2—24)



1. A limb protector for hockey players and the like, comprising a padded limb joint covering member having an outer part adapted to cover the outside portion of a limb joint and side parts adapted to cover the side portions of said limb joint, said side parts each having a V-notch made intermediate their ends, said notch having its apex adjacent said outer part and its edges adapted to move together upon bending of said limb joint, and padded flanges depending from said outer part at the sides thereof and freely overlying said notches.

3,259,911
DRESS SHIELD AND METHOD OF DRESS SHIELD MANUFACTURE
Wallace B. Tyrrell, Jr., Venice, Fla., assignor to Tyrrell Industries, Inc., Venice, Fla., a corporation of Florida
Filed Jan. 29, 1964, Ser. No. 340,957
8 Claims. (Cl. 2—56)



1. A dress shield for underarm use in a garment, said shield comprising respectively absorbent and water repellent plies and having opposite ends, the upper end having a concave upper margin and the lower end having a downwardly convex lower margin, and pressure sensitive adhesive transfer tapes extending tranversely of the shield at its said ends and having respective margins in registry

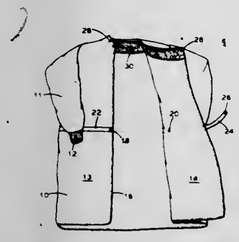
with the corresponding margins of the upper and lower ends of the shield, each of said tapes having substantially rectilinear margins opposite the margins which register with the upper and lower ends of the shield, said rectilinear margins extending continuously across the shield.

3,259,912
SWIMMING AND/OR BATHING CAP
Sal F. Lima, San Leandro, and Mario Marigonda, Alameda, Calif., assignors of one-half to said Lima and one-half to said Marigonda
Filed Mar. 18, 1964, Ser. No. 352,742
6 Claims. (Cl. 2—68)



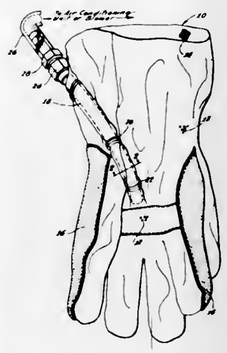
1. A swimming, bathing, cap comprising a cap shaped jacket of a size adapted to be generally greater than the head of a user and having inflatable tubular air passages extending over the entire surface of said jacket forming a lattice work of tubular passages including a marginal passage adapted to substantially conform to the hair line of a user, said jacket formed of low resiliency highly yieldable water impervious material, a cap shaped liner disposed adjacent the interior surface of said jacket, said liner formed of relatively form retentive material compared to that of said jacket and attached to said jacket adjacent said marginal passage, and means for admitting pressurized air to said passages to inflate said passages and thereby provide a form retentive shroud for fitting spaced about the head of a user.

3,259,913
SURGICAL GOWN
Daniel Tames, 3500 N. Shore Drive, Chicago, Ill.
Filed Aug. 24, 1964, Ser. No. 391,493
7 Claims. (Cl. 2—114)



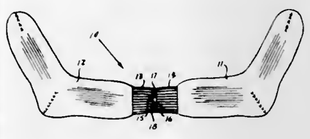
1. A surgical gown having a neck band and comprising a fabric coat of a size and shape completely to surround the body of the wearer, said coat having a back opening extending the full length of said coat, a plurality of spaced mating fasteners along the neck edge of said coat on each side of said back opening whereby the edges of said back opening may be overlapped and selectively fastened according to size, sleeves secured to said gown and a neck yoke of absorbent material secured below and adjacent said neck band to the inside surface of said coat, said neck yoke being made of an elongated strip of a length substantially to cover the entire neck area of the coat, whereby perspiration in the neck area may be readily absorbed.

3,259,914
HEAT-RESISTANT AIR-COOLED GLOVE
Donald B. Johnson, 26063 East Base Line, San Bernardino, Calif.
Filed Feb. 6, 1964, Ser. No. 343,027
6 Claims. (Cl. 2—161)



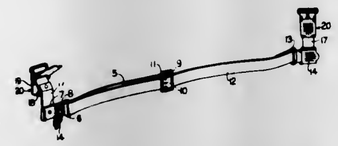
1. A ventilated glove assembly for connection to a source of air for protecting the hand of an operator when handling items having temperatures substantially different from a normal range of temperatures, including
an outer layer of substantially gas-impervious insulating material conforming to the shape of the hand of the operator,
an inner layer of porous material conforming to the shape of the hand of the operator and positioned within the outer layer, and
a hose attached to the glove and extending from a position outside of the glove to a position between the inner and outer layers of material for receiving air from the source of air having a temperature to counteract the temperatures of items substantially different from the normal range for circulating air throughout the glove and through the inner layer of porous material to provide a normal temperature within the glove.

3,259,915
DOUBLE SOCK
Stanley W. Dison, 5221 Carmen Way, Sacramento, Calif.
Filed Oct. 21, 1964, Ser. No. 405,512
7 Claims. (Cl. 2—239)



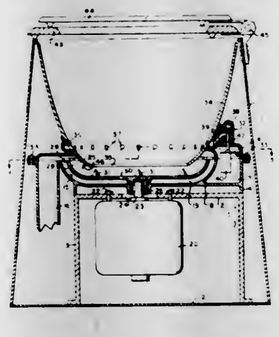
1. A double sock construction comprising:
an outer sock;
an inner sock;
means connecting the inner sock and the outer sock together along a peripheral line not lower than the ankle, the connecting means securing the inner and outer socks together around less than the entire peripheral line to form an opening into the space between the socks allowing the removal of foreign matter accumulated therein.

3,259,916
BABY DIAPER FASTENER
Walter J. Stepniak, 3128 Carney Ave., Marinette, Wis.
Filed May 26, 1964, Ser. No. 370,311
1 Claim. (Cl. 2—323)



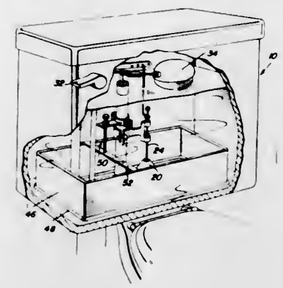
A baby diaper fastener combination of the character described, comprising a pair of fasteners secured in horizontal spaced relation to one another, first and second elastic straps, said first strap being behind the second elastic strap and extending horizontally over to the center of the second strap, an adjustable buckle on said second strap, said buckle comprising vertically disposed and centrally located center member secured to one end of the first elastic strap downwardly directed clamp, a vertically disposed strap secured to the upper portion of each one of the said fasteners and to the lower portion of each one of said clamps whereby said clamps may be clamped over the upper edge of overlapping portions of a diaper, and each fastener may be clamped to a substantially vertical edge of a diaper and the straps adjusted to assist in keeping the overlapping portions in place, thereby providing a means of securement of a diaper on a baby.

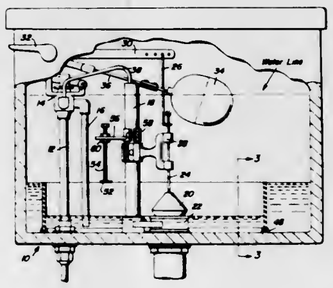
3,259,917
SELF-PURGING AND VENTILATING TOILET
Anthony Rascov, 4303 Tabasco Road, Clermont County, Ohio
Filed Apr. 27, 1964, Ser. No. 362,566
5 Claims. (Cl. 4—10)



1. A self purging and ventilating toilet comprising:
(a) a toilet bowl with an open base,
(b) a housing below said bowl and connected to said bowl a short distance above the opening in the base of the bowl to provide a low level water supply to said bowl,
(c) a dish shaped impeller in said housing having its rim extending above the opening in said bowl,
(d) a motor for rotating said impeller,
(e) a drain connected to said having,
(f) a float controlled valve for controlling the water supply to said toilet, and
(g) a series of apertures in said bowl for dispersing the water from said water supply into said bowl.

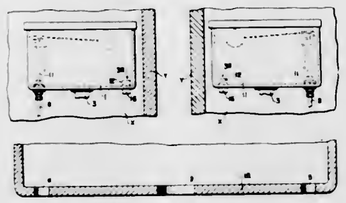
3,259,918
WATER SAVING DEVICE
William E. Walker, Sr., P.O. Box 57, Artesia Wells, Tex., and William E. Walker, Jr., P.O. Box 201, Freer, Tex.
Filed Dec. 21, 1964, Ser. No. 419,791
4 Claims. (Cl. 4—18)





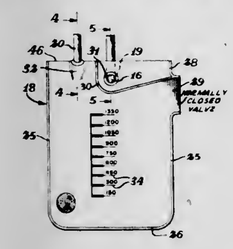
1. In a water closet flush tank having a bottom, side walls, and centrally located flushing apparatus, a wall surrounding the flushing apparatus and spaced inwardly from the flush tank wall, said second mentioned wall being sealed to the bottom of the flush tank in a watertight manner and projecting vertically upward therefrom a height substantially less than the height of the flush tank wall.

3,259,919
TOILET FLUSH TANKS
Nicholas A. Cipriano, 9126 Lanham Severn Road, Lanham, Md.
Filed Apr. 27, 1964, Ser. No. 362,628
2 Claims. (Cl. 4—68)



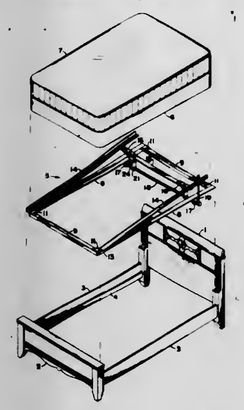
1. An elongated horizontal flush tank having a central discharge opening and two additional openings formed in its bottom, one near each end, at substantially the same distance from said central discharge opening, a supply pipe passing through one of said additional openings and a removable and replaceable plug closing the other, said additional openings being of the same size, and said supply pipe and plug being interchangeable, whereby said supply pipe may be fitted in either of said openings as desired, while said plug is fitted in the other opening.

3,259,920
SANITARY FLUID RECEPTACLE
Ronald L. Voller, 7043 W. Monroe St., Niles 48, Ill.
Filed Nov. 6, 1963, Ser. No. 321,842
18 Claims. (Cl. 4—110)



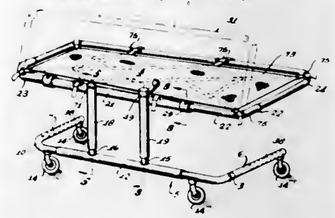
1. A sanitary fluid receptacle comprising flexible sealable material formed in complementary half portions, said half portions being sealed to each other to form a fluid receiving chamber having top, bottom and side portions, said chamber having an opening adjacent the top portion thereof on one of the sides of the chamber forming a fluid outlet valve, and a fluid inlet tube secured to the top portion of the chamber and having a portion thereof projecting into the chamber, the portion of the inlet tube projecting into the chamber being spaced from the surrounding chamber defining surfaces to form an ullage in the top portion of the fluid receiving chamber.

3,259,921
TILTING ACCESSORY FOR STANDARD BED
James Samuel Alsobrook, Jr., Lookout Mountain, Tenn., assignor to ADX Corporation, Chattanooga, Tenn., a corporation of Tennessee
Filed Jan. 27, 1965, Ser. No. 428,338
2 Claims. (Cl. 5—62)



2. In combination with a standard bedstead having side members including slat barriers, an accessory for tilting springs and a mattress to an inclination comprising: a primary supporting frame, including a pair of spaced parallel longitudinal rails and a pair of spaced transverse stretchers pivotally connected to the rails by horizontal plates fixed to the rails, the plates having fixed thereon stop members limiting the pivotal movement of the stretchers to positions normal to the rails, each of said stretchers being adjustable in length to cause the rails to rest on the slat barriers; a secondary supporting frame pivoted to the primary supporting frame on a transverse axis at one end of the primary frame, a rotatable shaft pivotally supported by the primary frame adjacent to its opposite end, means for rotating the shaft, at least one crank and connecting rod elevating lever connected between the primary frame and the secondary frame, the end of the crank being fixed to the shaft, the end of the connecting rod being pivotally connected to the secondary frame and the secondary frame including a stop member engageable by the connecting rod when the lever is moved past a straight line position.

3,259,922
LIFTING AND TRANSPORTING DEVICE
Edwin L. Fischer, 22035 W. Carbon Mesa Road, Malibu, Calif.
Filed Oct. 7, 1964, Ser. No. 402,105
14 Claims. (Cl. 5—86)



1. Lifting and transporting apparatus for incapacitated persons comprising a U-shaped base frame having end sections and a central section, a pair of vertical standards attached to the center portion of said central section of said base frame, a horizontal member attached to the upper ends of said standards, a screw and nut combination extending axially within one of said standards, rotation of said screw raising and lowering said horizontal member, a cradle attached in the ends of said horizontal member, a sheet, means for attaching said sheet to said horizontal member and said cradle, and a one-way brake on said screw and nut combination, said brake being effective only during the lowering of said horizontal member and said cradle.

3,259,923
BED ATTACHED SHELF
Carl J. Batteram, 324 Valeria St., Dubuque, Iowa
Filed June 19, 1964, Ser. No. 376,319
1 Claim. (Cl. 5—332)



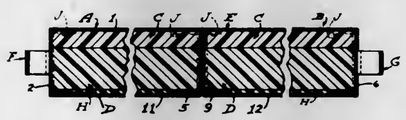
In combination with the headboard of a bed, a horizontally disposed shelf orientated at the upper edge of the headboard and projecting outwardly therefrom so that an intermediate portion is supported by the upper edge of the headboard, means connecting the shelf to the headboard whereby the volume under the shelf and outwardly of the headboard from the intermediate portion form the storage area, said connecting means including a hinge structure for enabling the shelf to fold to a vertically retracted position, said connecting means including a pair of hinge strips and a hinge barrel interconnecting the strips with a portion of the shelf space from the hinge barrel engaging said upper edge of the headboard for retaining the shelf in horizontal position.

3,259,924
INNERSPRING MATTRESS OR CUSHION
Thomas R. Inman, Stuart, Va., assignor to United Elastic Corporation, Easthampton, Mass., a corporation of Massachusetts
Filed June 30, 1965, Ser. No. 468,444
4 Claims. (Cl. 5—354)



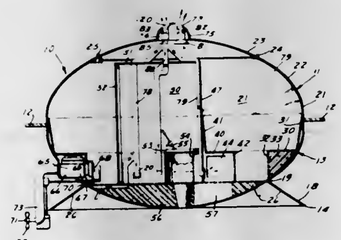
1. A coil spring cushion structure comprising a plurality of spring coils, means spaced from at least one end thereof for sideways locking of the coils to prevent turning or cocking in use, and a covering fabric for at least one side of elastic material capable of stretching in at least one direction, the fabric being unattached to the spring coils and capable of sliding across the ends thereof, whereby under load only the coils under the load are compressed and adjacent coils are not pulled sideways in the stretch direction.

3,259,925
SELF-WARMING CUSHION
Michael Tilles, 1514 Oak St., Alameda, Calif.
Filed Mar. 1, 1965, Ser. No. 436,119
2 Claims. (Cl. 5—355)



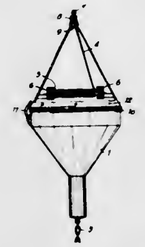
1. A foldable cushion comprising two laminated sections, each section embodying a top layer of flexible heat-reflecting material an intermediate layer of resilient flexible material and a bottom layer of flexible waterproof material, a unitary casing enclosing both laminated sections to provide at least one relative smooth continuous and uninterrupted surface extending over both sections with the diametrically opposite surface of said casing encompassing each section of said cushion independently of the other.

3,259,926
LIFE SPHERE
Charles E. Otterman, Arcadia, Calif., assignor to Surrounding Sound, Inc., Los Angeles, Calif.
Filed Jan. 11, 1965, Ser. No. 424,780
12 Claims. (Cl. 9—4)



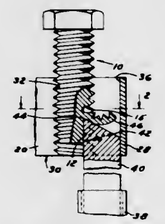
3. A buoyant life saving vessel comprising a body which is substantially circular in plan and which is oval shaped in vertical cross section, said body having a bottom section below its horizontal axis, a sub-surface stabilizer structure on the body in the form of arcuate stabilizer means extending outwardly from the lower part of the hull of the body in a direction between the horizontal and vertical, seating means for passengers within the body and spaced from the vertical axis of the body and air inlet and exhaust means at the upper part of the body communicating with spaces within the body.

3,259,927
MOORING BUOY
Henri Albert Devis, 91 Avenue Franklin Roosevelt, Brussels, Belgium
Filed May 12, 1964, Ser. No. 366,713
Claims priority, application Belgium, Sept. 10, 1963, 42,951, Patent 637,191; Apr. 6, 1964, 43,517, Patent 646,147
1 Claim. (Cl. 9—8)



A mooring buoy, comprising a floater having an upper hollow upwardly converging conical portion and a lower hollow downwardly converging conical portion, locking claws interconnecting said two portions, a sinker, a chain connecting said sinker to the lower end of said lower portion, an axle mounted within said upper portion, a spring operatively connected with said axle, a ring located outside of said floater, a stop carried by the upper end of said upper portion, and a painter extending through said stop and having one end connected with said ring and another end connected with said axle, said spring being adapted to wind said painter upon said axle.

3,259,928
APPARATUS AND METHOD OF LONGITUDINALLY SLOTTING THREADED BLANKS
Richard B. Wallace, Bloomfield Hills, Mich., assignor to The Oakland Corporation, Birmingham, Mich., a corporation of Michigan
Filed June 20, 1963, Ser. No. 289,287
24 Claims. (Cl. 10—2)

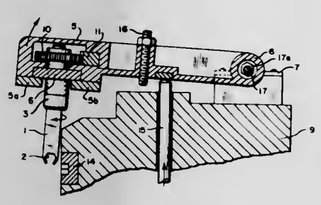


1. Apparatus for producing elongated recesses in previously threaded fasteners which comprises a die having a threaded recess to conform to the threads on a fastener received therein, and an opening in the die extending parallel to the axis of the threaded recess and in communication with the recess, and an elongated plow-like recessing tool having a single cutting edge at its leading end movable in said opening parallel to the axis of said threaded recess and adapted to cut material from the fastener to form a recess therein.

3,259,929
NUT TRANSFER MECHANISM IN MACHINE FOR MAKING NUTS AND SIMILAR ARTICLES

Gerardus C. van de Meerendonk, Helmond, Netherlands, assignor to Nedschroef Octrooi Maatschappij N.V., Helmond, Netherlands, a limited-liability company of the Netherlands

Filed Dec. 11, 1963, Ser. No. 329,846
Claims priority, application Netherlands, Feb. 26, 1963, 289,439
10 Claims. (Cl. 10—76)



1. In a machine for making nuts and other metal articles including a frame provided with a plurality of spaced die matrices located with their faces in a single surface, a transfer mechanism for transferring workpieces from one matrix to the next, said transfer mechanism including a bridge support pivotally mounted on the frame, a carrier slide mounted on the bridge support and a plurality of transfer fingers rotatably mounted on the carrier slide and extending respectively to a position opposite the die matrices for receiving workpieces therefrom, means for moving said carrier slide to and fro and for simultaneously rotating said fingers through 180° in a forward and backward direction, and means for rotating said pivoted bridge support on its pivot axis against the action of a spring for periodically swinging said fingers away from the faces of said die matrices during the rotation of said fingers, the improvement in which the spring for biasing said bridge support comprises a torsion bar under tension located along the pivot axis of the bridge support, means non-rotatably connecting the end portions of the torsion bar respectively with a part of the bridge support and with respect to the frame of the machine, one of said connecting means including a readily engageable and disengageable coupling means.

3,259,930
METHOD OF MAKING A FORM TIE

Frank E. Buyken, 8620 Island Drive, Seattle, Wash.

Filed May 4, 1964, Ser. No. 364,511
1 Claim. (Cl. 10—155)



The method of forming a concrete form-tie-rod, comprising:

swelling a tie-rod blank inward from its end to a diameter slightly greater than its normal diameter;

forming male thread elements on said swelled portion; from the outer end toward the inner end of the swelled portion;

providing a washer having an axial opening slightly larger than the normal diameter of the tie-rod and slightly smaller than the outer thread diameter of the swelled portion;

lance-cutting said washer outward from its axial passage at opposed positions to points spaced inward from its periphery;

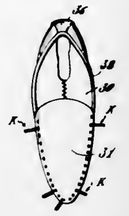
symmetrically deforming said washer at the lance-cut sides to form female thread elements outstanding on opposite sides of said washer, at the axial opening of the washer, mating with the thread elements of the swelled portion; and

screwing said washer on to said swelled portion of the tie rod.

3,259,931
METHOD OF MAKING HAND-SEWN SHOES

Leonard A. Levenson, 17 Gale Ave., Haverhill, Mass.

Filed Jan. 27, 1964, Ser. No. 340,235
11 Claims. (Cl. 12—142)



1. That method of hand-sewing the upper and forepart plug of a moccasin shoe which comprises as steps: providing a plug having marginal, uniformly spaced stitch-receiving perforations, providing an upper having corresponding marginal perforations, assembling the upper and plug and temporarily uniting them to provide an embryo moccasin, providing a sewing thread with a needle at each end, and so adjustably supporting the embryo moccasin, while drawing stitches in the formation of a true hand-sewn moccasin seam, that the operator may apply pulling stress to the thread, in the formation of each successive stitch, in a substantially horizontal direction while starting the seam at one side of the shoe and continuing around the toe to the opposite side of the shoe, and force-lasting the shoe after completion of the seam.

3,259,932
CABLE-STAYED BRIDGE

Pierre Patin, Paris, France, assignor to Compagnie d'Ingenieurs et Techniciens d'Etudes (C.I.T.E.), Paris, France, a company of France

Filed Mar. 3, 1964, Ser. No. 348,963
Claims priority, application France, Mar. 6, 1963, 927,001
3 Claims. (Cl. 14—18)

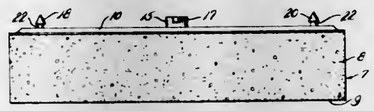


1. Cable-stayed bridge comprising portals, a decking, cable stays connecting the tops of said portals to said decking, at least one transverse interruption in said decking, decking portions formed by said interruption and means between said decking portions for applying to said portions a force in opposite direction to the force produced in and parallel to said decking adjacent said interruption by said cable stays.

3,259,933
REMOVABLE CELLULAR SPONGE MOP HEAD ASSEMBLY

John W. Clause, Ravenna, Ohio, assignor to W. J. Ruscoe Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 2, 1964, Ser. No. 415,412
3 Claims. (Cl. 15—244)



1. A mop head assembly or the like for use with a mop having a handle and an end plate having a center aperture with a slot extending therefrom longitudinally of such end plate, and a pair of end apertures therein at longitudinally spaced and balanced portions thereof secured to said handle, said mop head comprising

an open cell sponge of substantially the same size as said end plate, and

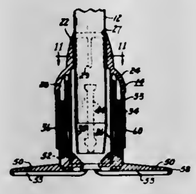
a resilient molded plastic backing layer on one surface of said sponge and intimately bonded thereto,

said backing layer having a securing protuberance extending therefrom adjacent each end thereof for extending through said end apertures and engaging said end plate to attach said mop head thereto, said backing layer also having a center locking protuberance with at least one lug thereon to engage said center aperture by relative insertion and arcuate movement therebetween to position said lug to extend transversely of said end plate.

3,259,934
COMBINATION SUCTION CLEANING TOOL

Karl Eric Leinfelt, Solna, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed Aug. 25, 1964, Ser. No. 391,979
Claims priority, application Canada, Sept. 16, 1963, 884,674
6 Claims. (Cl. 15—373)

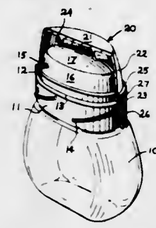


1. In a vacuum cleaner tool, a hollow elongated double walled body, said walls forming an annular space therebetween which is open at one end, a round brush slidably disposed in said space, means accessible for manipulation at the exterior of said body for moving said brush between a position in which it is extended out through said open end and a position in which it is retracted within said space, and a pair of wing members pivotally mounted on opposite sides of said hollow body adjacent to the open end of said annular space and pivotal between a position in which the wings extend alongside the exterior of the outer of the double walls and a position in which the wings extend outwardly at right angles thereto, each wing member having a longitudinal channel formed in the surface thereof which faces away from said wall when the wing is alongside thereof, said hollow body having an aperture at the end thereof remote from said open end, said aperture communicating with the interior of the inner of said double walls and adapted to receive a suction conduit.

3,259,935
CLOSURE RETAINER

Ira H. Miller, Lambertville, Mich., assignor to Owens-Illinois, Inc., a corporation of Ohio

Filed Mar. 16, 1962, Ser. No. 180,092
13 Claims. (Cl. 15—571)

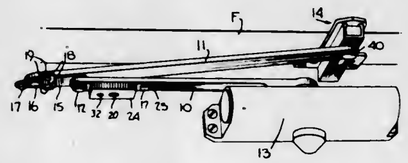


6. A container comprising (a) a threaded body member having a non-circular opening at the top thereof, (b) a lid of corresponding non-circular cross-section for covering the opening in said body member, and (c) a flexible threaded band surrounding said lid, said band rotating relative to said lid as the threads on said band engage the threads on said body member.

3,259,936
DOOR HOLDER AND CONTROL

Vincent E. Sheridan, Mount Prospect, Ill., assignor, by mesne assignments, to Eaton Yale & Towne Inc., a corporation of Ohio

Filed May 5, 1964, Ser. No. 364,917
6 Claims. (Cl. 16—49)



1. In a door control of the class described, a door closer adapted to be mounted on a door, a closer main arm and forearm for connecting the door closer to a door frame, each of said arms having a particular fixed length, there being a first pivot about which said arms rotate relatively to each other during opening and closing movements of the door, and a further pivot between the forearm and door frame, a stop portion on one of said arms for engaging the other arm as said arms rotate about the first pivot, opposed sides on said stop portion each effective to limit the relative rotation of the arms in one direction to an extended position for limiting the door opening movement, and means mounting said further pivot for yielding movement in a direction at right angles relatively to the door frame whereby to cushion the action of said stop portion while permitting effective door closer operation whether the closer is installed on a right-hand or left-hand door.

3,259,937
HYDRAULIC DOOR CLOSER

Nicholas Kotikov, 3132 Unruh Ave., Philadelphia 49, Pa.

Filed Sept. 30, 1963, Ser. No. 312,475
5 Claims. (Cl. 16—51)

1. A hydraulic door closer comprising:

(a) an outer elongated cylinder open at one end;

(b) an inner cylinder slidably mounted in said open end and having its inner end extending into said outer cylinder; said inner cylinder being movable to have a portion project from the outer cylinder;

(c) a bearing sleeve slidably mounted in said outer cylinder and having the inner end of said inner cylinder hermetically sealed thereto;
(d) a header closing the opposite end of said outer cylinder and having a central bore;
(e) a hollow piston rod having one end secured to said header, the interior of said piston rod communicating with the central bore in said header;
(f) said bearing sleeve having a central opening for receiving said hollow piston rod and being of a larger diameter than the outer diameter of said piston rod;
(g) a piston mounted on the end of said hollow piston rod that is disposed opposite to the end connected to said header, said piston having a central opening communicating with the interior of said hollow piston rod;
(h) a coil spring disposed between said outer and inner cylinders and bearing against said bearing sleeve for yieldingly urging said sleeve toward said header for moving said inner cylinder within said outer cylinder;
(i) a flexible bellows enclosing said hollow piston rod and having one end hermetically sealed to said bearing sleeve so as to enclose the central opening in said



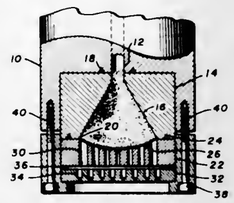
sleeve and having its other end hermetically sealed to said header;
(j) said header having a valve-controlled fluid passage opening into a first fluid receiving compartment bounded by said bellows, bearing sleeve, the exterior surface of said hollow piston, and said header, said fluid passage also communicating with the central bore in said header;
(k) a second fluid-receiving compartment bounded by the inner surface of said inner cylinder and the outer surface of said hollow piston rod and by said piston and by said bearing sleeve, the second compartment being in communication with said first-named compartment by the central bore in said bearing sleeve;
(l) a third fluid-receiving compartment bounded by the inner surface of said inner cylinder and by said piston and by a plug hermetically sealing the outer end of said inner cylinder; said third compartment being in communication with the interior of said hollow piston rod; and
(m) said three compartments being filled with fluid and being hermetically sealed for preventing the escape of fluid and for preventing any fluid from contacting with the outer surface of said inner cylinder; whereby no film of fluid will collect on the portion of the outer surface of said inner cylinder that is extendible from said outer cylinder.

3,259,938
SPINNERET PACK

Eugie A. Martin, Pensacola, Fla., assignor to Monsanto Chemical Company, St. Louis, Mo., a corporation of Delaware

Filed Mar. 13, 1964, Ser. No. 351,721
10 Claims. (Cl. 18—8)

1. A spinneret pack for melt spinning apparatus comprising, in fixed juxtaposed relation in the direction of polymer flow, the combination of:
(a) polymer conduit means;
(b) means defining a cavity having a variable transverse cross-section increasing in the direction of polymer flow and substantially larger than the polymer entrance port, said conduit means communicating with said cavity;
(c) granulated inert porous material within said cavity;
(d) screening means across the bottom of said cavity;
(e) a distribution plate attached in sealed relationship with the bottom of said cavity;
(f) means defining a plurality of spaced capillaries in



said distribution plate, any point on the surface of which is substantially equidistant from the centerline of the polymer entrance port, said capillaries having variable lengths and cross-sectional areas with respect to the other capillaries, said cross-sectional areas increasing proportionally with increases in capillary length; and
(g) a spinneret plate attached in sealed relationship next below said distribution plate.

3,259,939
APPARATUS FOR FORMING AND PROCESSING TEXTILE FIBERS AND FILAMENTARY MATERIALS

Francis C. Skalko, Pawtucket, R.I., and John J. Owens, Greenville, S.C., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Original application Apr. 6, 1960, Ser. No. 20,419, now Patent No. 3,144,687. Divided and this application June 1, 1964, Ser. No. 371,688
8 Claims. (Cl. 18—8)

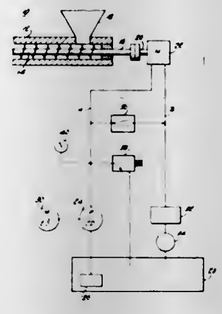


1. Apparatus of the character disclosed, in combination, a feeder arranged to deliver heat-softened material, rotatable means engaging continuous filaments of the heat-softened material for attenuating the material to continuous filaments, guide means converging the filaments into a linear bundle, a deflector surface, said rotatable means beng disposed to impinge the linear bundle onto the deflector surface to disperse the filaments, feeding means arranged to continuously deliver fibrous materials into the region of and in engagement with the dispersed filaments, and a compactor arranged to receive and blend together the interengaged dispersed filaments and fibrous material into a linear yarn-like bundle.

3,259,940
ADJUSTABLE DRIVE IN PLASTIC EXTRUDER

Leslie J. Kovach, Clifton, and Bruno V. Menegus, Wayne, N.J., assignors to Modern Plastic Machinery Corporation, Clifton, N.J., a corporation of Delaware

Filed Oct. 14, 1964, Ser. No. 403,733
5 Claims. (Cl. 18—12)

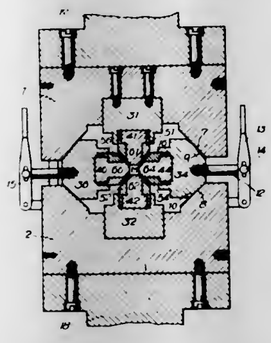


1. In combination with an extruder including an axially extending rotatable screw, a positive displacement hydraulic motor having a drive shaft coupled to said screw, a positive displacement hydraulic pump, an electric motor connected to said pump, an adjustable pressure regulator and an adjustable flow regulator connecting said hydraulic pump to said hydraulic motor.

3,259,941
VERY HIGH PRESSURE APPARATUS

Kazuo Yasunami, Ashiya-shi, Japan, assignor to Kobe Steel Works, Ltd., Kobe, Japan

Filed Jan. 6, 1965, Ser. No. 423,712
Claims priority, application Japan, Jan. 10, 1964, 39/792
6 Claims. (Cl. 18—16)

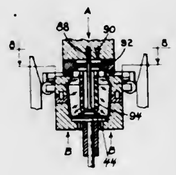


1. An apparatus for producing very high pressure in an object and having a pair of aligned pistons adapted to be driven toward each other and not less than three pistons arranged in a plane perpendicular to the common axis of said aligned pistons and adapted to be driven toward the middle point between said aligned pistons, said apparatus comprising aligned opposite bolsters having said respective aligned pistons secured thereto with the other pistons radially arranged between said bolsters, and members supporting the respective radially arranged pistons on the outside thereof and each formed at its outer end with planar surfaces oppositely inclined at an angle of forty-five degrees to the direction in which said aligned pistons are driven, said bolsters being each formed with planar surfaces inwardly inclined at the same angle to make slidable face-to-face contact with the adjacent inclined planar surfaces of said respective members, said bolsters being also adapted to drive under press action said aligned pistons toward each other while at the same time driving said supporting members and hence said other pistons radially inwardly through the intermediary of said inclined planar surfaces formed on said bolsters and supporting members to serve as power-transmitting means therebetween.

3,259,942
METHOD AND APPARATUS FOR THE MANUFACTURE OF CONTAINERS

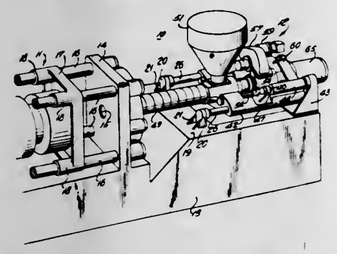
Charles J. Politis, Athens, Greece, assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed Dec. 17, 1963, Ser. No. 331,178
6 Claims. (Cl. 18—19)



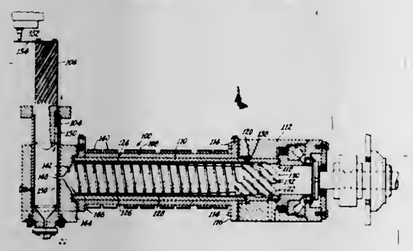
1. An apparatus for forming thin wall hollow articles such as containers which have the characteristics of a reduced neck portion intermediate the bottom and open end of a container, including a mold having at least three relatively movable portions which when moved to a molding position provide an open end mold cavity of the shape of the container to be formed, the first of said mold portions having an opening therein of frusto-conical configuration with the small end of the frustum of the cone providing a bottom surface on which the bottom of the container is formed, the side walls of said opening diverging from said bottom surface and adapted to form a portion of the container side wall in the vicinity of said aforementioned bottom, second and third portions of said mold positioned adjacent to and extending beyond said first portion and in the vicinity of said first mold portion providing an opening of the same size as said opening in said first mold portion but converging in a direction away from said first mold portion to provide a reduced transverse measurement to form the aforementioned reduced neck portion of the container, said second and third mold portions each providing substantially one half of the surface which the upper wall portion of said container is formed, said second and third mold portions being split in a direction substantially normal to the bottom forming surface of said first mold portion and movable toward and away from each other, means for supporting a heated sheet of thermoplastic material adjacent said mold transverse of said cavity and aligned therewith, a mandrel disposed opposite to said mold cavity, means for advancing said mandrel against said sheet and into said mold cavity to draw material from said sheet into said cavity to form a partially completed article, means for sealing off said partially completed article at the open end of said cavity, means for establishing a differential of fluid pressure across the material of said partially completed article there being a greater pressure within than without said sealed off partially completed article whereby to further form said article substantially to completion against the interior of said mold cavity, means for moving said second and third mold portions relative to each other and means for ejecting said substantially finished article from said first portion of said mold when said second and third portions of the mold are in a separated position.

3,259,943
PLASTIC SCREW INJECTOR
Leslie J. Kovach, Clifton, and Bruno V. Menegus, Wayne, N.J., assignors to Modern Plastic Machinery Corporation, Clifton, N.J., a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,222
8 Claims. (Cl. 18—30)



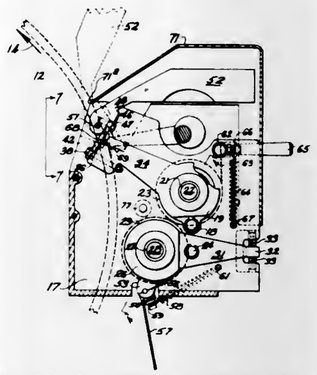
1. A screw injection molding machine comprising a longitudinally extending support member, a pair of transversely spaced leading brackets mounted on said support member, a pair of transversely spaced trailing brackets mounted on said support member and aligned with said leading brackets, a pair of transversely spaced longitudinally extending parallel rails extending between and supported by said leading and trailing brackets, means for adjusting the leading ends of said rails in a substantially vertical plane relative to said leading brackets, a carriage longitudinally slidably engaging said rails, means for urging said carriage forwardly along said rails, a longitudinally extending extruder barrel mounted on said carriage and terminating in an extrusion nipple at its leading end, an extrusion screw extending within said barrel and axially slidable therein, rotary drive means connected to said screw, and means for axially advancing said screw in said barrel.

3,259,944
MOLD CHARGING MEANS
Donald B. McIlvin, Danvers, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Application Feb. 5, 1965, Ser. No. 430,632, which is a division of application Ser. No. 231,222, Oct. 17, 1962, now Patent No. 3,200,438, dated Aug. 10, 1965. Divided and this application July 27, 1965, Ser. No. 475,082
4 Claims. (Cl. 18—30)



1. An injection molding machine having in combination, an injection cylinder, a piston mounted in the cylinder, an injection nozzle at the discharge end of the cylinder through which the piston expels fluid plastic into a mold cavity, means for introducing fluid plastic into the cylinder and thus causing retraction of the piston in the cylinder to a normal rest position adjacent the end opposite said discharge end, and means operated by such retraction of the piston for causing the operation of the introducing means to terminate, the piston and cylinder assembly being characterized by an escape passage through which fluid plastic can flow from the cylinder in the event of a failure of the means for causing the operation of the introducing means to terminate accompanied by a consequent retracting movement of the piston beyond its normal rest position.

3,259,945
APPARATUS FOR CRUSHING IMPURITIES IN COTTON CARD WEBS AND THE LIKE
Raymond M. Zoch, Columbus, Ga., assignor to Lummus Cotton Gin Company, a corporation of Georgia
Filed Sept. 3, 1963, Ser. No. 306,064
3 Claims. (Cl. 19—106)

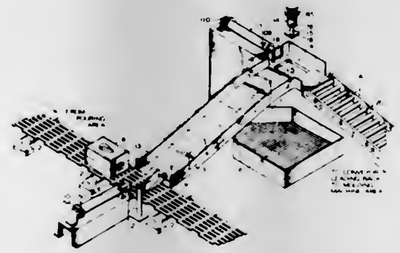


1. The combination with a carding engine having a doffer and means to deliver from the doffer a moving web of carded fibers, of
(a) upper and lower cooperating driven web crushing rolls between which the web is delivered from the doffer, said upper roll having end shafts,
(b) weighting means for the upper roll embodying:
(1) roll carrying arms in which the end shafts of the upper roll are journaled and having outer ends extending away from the longitudinal axis of the upper roll,
(2) pivots on which said arms are mounted and laterally spaced from the longitudinal axis of said upper roll,
(3) weight arms disposed for cooperation with the outer ends of each of the upper roll carrying arms and having ends pivotally mounted adjacent said outer ends of the upper roll carrying arms,
(4) weights on on each of the weight carrying arms,
(5) knife-edge members on the outer ends of the upper roll carrying arms, and
(6) seats on the weight carrying arms adjacent the pivoted ends thereof for receiving the knife-edges of said members, whereby the weight carrying arms press the upper roll into contact with the lower roll through said knife-edge members.

3,259,946
AUTOMATIC FEEDER SYSTEM FOR MOLD SHAKE-OUT
William C. Blue, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Apr. 9, 1962, Ser. No. 186,081
4 Claims. (Cl. 22—95.5)

1. In an automatic conveyor feeder system for a mold shake-out apparatus, the combination of:
(a) conveyor means including a conveyor belt for conveyance of open-bottomed flasks each containing a mold and casting therein,

(b) driving means for driving said conveyor belt,
(c) an upwardly inclined ramp having the lower end adjacent said conveyor belt for receiving mold flasks from said conveyor belt and on which ramp the flasks are moved upwardly in stacked succession,
(d) a horizontal platform at the upper end of said ramp onto which flasks are moved from said ramp, said platform having a central opening therein through which the molds and castings contained in the flasks may fall to the shake-out apparatus,
(e) a downwardly inclined chute for receiving flasks moved from said platform and by which the flasks are returned slidably by gravity to said conveyor belt,
(f) a first power cylinder having a piston member operable to an extended position for pushing flasks in stacked succession from said conveyor belt onto said ramp and to a retracted position in which said piston member is clear of the path of travel of the flasks on the conveyor belt,
(g) a second power cylinder having a piston member operable to an extended position for pushing the mold and casting out of its flask and through the central opening in said platform and being operable to a retracted position clear of the path of movement of the flask moving onto said horizontal platform,
(h) a third power cylinder having a piston member operable to an extended position for pushing the flasks, in successive order, from said horizontal platform onto said chute for return to the conveyor belt and being operable to a retracted position clear of the path of movement of the flask moving onto said horizontal platform,



(i) interlocking control means associated with said first, second and third power cylinders for effecting operation of the respective piston members of said first, second and third power cylinders successively to their respective extended and retracted positions, in sequential order,
(j) said interlocking control means including delay means for delaying operation of the respective piston members of said second, third and first power cylinders to their respective extended positions until the respective piston members of the first, second and third power cylinders are restored to their respective retracted position in their proper sequential order, and
(k) actuating means operable from an inactive position to an actuating position, upon engagement thereof by movement of a flask into position adjacent the lower end of said ramp, for initiating operation of said interlocking control means to effect a complete sequential cycle of operation of the respective piston members, each successive cycle being initiated by movement of each successive flask into said position adjacent the lower end of said ramp, said actuating means being operative to its said inactive position upon disengagement thereof by movement of the flask from the conveyor belt onto the ramp by the piston member of the first power cylinder to its said extended position.

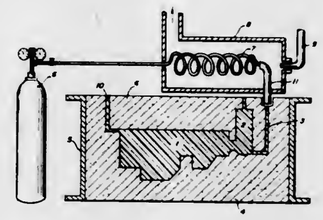
3,259,947
INDUCTION HEATING METHOD FOR MAKING MOLDS
Harry R. Knight, 1535 Oregon Ave., Muskegon, Mich.
No Drawing. Filed Nov. 5, 1964, Ser. No. 409,314
3 Claims. (Cl. 22—193)

2. A method of making cores and molds, comprising the steps of: providing a mixture of particulate refractory material having therein a heat responsive binding agent capable of binding said particulate material into an integral article when heated; dispersing through said material a small amount of a finely divided paramagnetic powder; forming the resulting mixture into a desired configuration; and applying to the resultant mixture for several seconds a high frequency magnetic field, creating heat uniformly throughout said material in said binding agent in proportion to the mass of the mixture, to uniformly cure said binding agent.

3,259,948
MAKING FINE GRAINED CASTINGS
Roy C. Feagin, Mountain Lakes, N.J., assignor to Howe Sound Company, a corporation of Delaware
No Drawing. Filed Apr. 9, 1962, Ser. No. 185,882
17 Claims. (Cl. 22—196)

1. The method of making a fine grained casting of an alloy which comprises:
(a) forming the surface of the mold in which such casting is made with a surface layer comprising a compound of the group consisting of cobalt aluminate and cobalt silicate,
(b) introducing a melt of the alloy into the mold, and
(c) cooling the alloy in the mold to below its freezing temperature to effect catalyzed nucleation of said alloy by said compound during initial solidification of the melt.

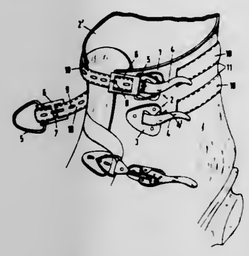
3,259,949
CASTING METHOD
William H. Moore, Purchase, N.Y., assignor to Meehanite Metal Corporation, a corporation of Missouri
Filed Jan. 16, 1964, Ser. No. 338,044
2 Claims. (Cl. 22—196)



1. The method of making a metal shape comprising the steps of selecting a consumable plastic pattern having a material of construction selected from the group consisting of expanded polystyrene and polyethylene resins, ramming sand around said pattern, introducing an inert gas selected from the group consisting of carbon dioxide, nitrogen, and argon at a temperature in excess of 500° F., said gas impinging directly on said pattern, thereby substantially volatilizing said material of construction in the

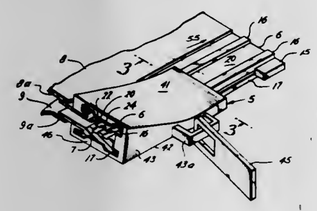
substantial absence of oxygen with subsequent passing of same from its position in the sand and thereafter pouring molten metal into the resultant cavity.

3,259,950
TENSIONING DEVICE FOR A SKI BOOT
Ewald Ernst Teufel, Tuttlingen, Germany, assignor to Rieker & Co., Tuttlingen, Germany
Filed Feb. 25, 1964, Ser. No. 347,213
Claims priority, application Germany, Nov. 14, 1963, R 36,572
3 Claims. (Cl. 24—70)



1. In a ski boot having closure flaps adapted to enclose the ankle part of a leg, a tensioning device for tightening said flaps around said ankle part and for drawing the front edges of said flaps toward each other, said tensioning device comprising at least one strap secured to said boot and having a loose end portion on one of said closure flaps with a plurality of holes in said strap longitudinally spaced from each other, a buckle having a tongue, said end portion of said strap being adapted to be threaded through said buckle and said tongue being adapted to be inserted into any of said holes so as to vary the effective length of said strap and buckle, an eye member pivotably connected to the outer end of said buckle, and a locking lever pivotably secured to the other closure flap, said locking lever when pivoted from its open position to its closed position being adapted to hook upon said eye member to tighten said strap.

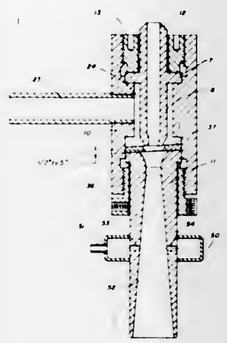
3,259,951
SLIDE FASTENER
Merle A. Zimmerman, 3930 Merwin St., Shreveport, La.
Filed July 15, 1964, Ser. No. 382,902
3 Claims. (Cl. 24—201)



1. In a slide fastener apparatus including slider means and flexible slide fastener means having a marginal portion including a plurality of longitudinally extending spaced ridges and recesses formed therein for engaging similar recesses and ridges in an adjacent flexible slide fastener means, the improvement comprising:

(a) shoulder means formed along both edges of said marginal portion,
(b) said shoulder means extending longitudinally of said flexible slide fastener means and on opposite sides of the longitudinally extending ridges and recesses therein,
(c) said shoulder means being disposed rearwardly of said longitudinally extending ridges and recesses, and
(d) means in said slider means for engaging said shoulder means to the rear of said longitudinally extending ridges and recesses for urging said flexible slide fastener means laterally apart without interfering with the mating engagement of said ridges and recesses.

3,259,952
JET DEVICE FOR BLOWING YARN AND PROCESS
James F. Caines, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 12, 1964, Ser. No. 344,364
7 Claims. (Cl. 28—1)

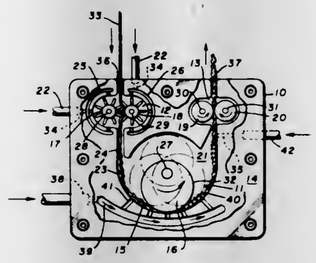


1. A new jet apparatus adapted for processing multifilament polymeric yarn which jet comprises an outer housing member containing therein a yarn inlet member and a venturi exit member, the venturi exit member comprising a converging entry portion, a cylindrical throat section and a long divergent exit section in series, means for supplying a primary flow of gaseous fluid around said yarn inlet member so that the fluid contacts the yarn as it emerges from said inlet member and further means for introducing a secondary flow of gaseous fluid into the venturi member through at least one small hole located approximately mid-way along the length of the divergent exit section of the venturi.

3,259,953
DOUBLE CRIMPING APPARATUS
Russel F. Baer, Beloit, Wis., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Apr. 27, 1964, Ser. No. 362,700
3 Claims. (Cl. 28—1)

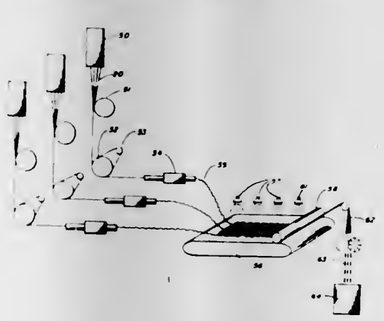
1. Apparatus for crimping yarn comprising:
(a) a housing having inlet and outlet apertures opening into a chamber therein including an arcuate wall surface;
(b) crimping means mounted in said inlet aperture for controllably deforming said yarn and advancing said yarn onto and along said arcuate wall surface at a predetermined speed;

(c) withdrawing means mounted in said outlet aperture for removing said yarn at substantially said predetermined speed; and
(d) a member mounted proximate said arcuate wall surface intermediate said crimping and withdrawing means and including a portion alternately movable



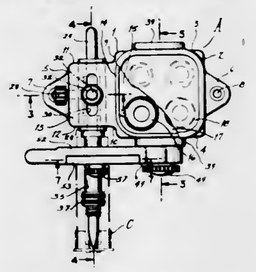
from a position away from said arcuate wall surface to a position in moving engagement with and in the direction of said yarn, said portion being movable at a speed greater than said predetermined yarn speed whereby said yarn is spacedly wadded to impart a second crimp thereto.

3,259,954
APPARATUS FOR JET PROCESSING MULTIFILAMENTS
Richard F. Dyer and James F. Caines, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 25, 1965, Ser. No. 427,669
4 Claims. (Cl. 28—1)



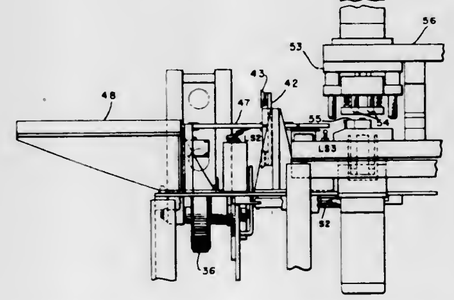
1. An apparatus for jet processing multifilament, multilobal cross-section yarn including a plurality of jets, means for feeding said cross-section yarn to the jets, which jets include a venturi section and being positioned between the feeding means and a yarn take-up means, means for supplying a heated fluid to the jet associated therewith and means positioned above the jet for exhausting the hot fluid from the jet away from the exit of the jet, the apparatus being further characterized at the yarn take-up means by a conveyor belt adapted to receive the yarn after the entangling and crimping treatment in the jet, a high temperature heating means capable of maintaining at least 140° C. in a zone surrounding said conveyor belt for heat-setting and relaxing said yarns, and roll means for removing said yarns from the conveyor belt and feeding them to a cutting means for cutting the entangled crimped filaments into short staple lengths.

3,259,955
CARTRIDGE TRIMMER
George L. Strebler, 4015 Oregon, St. Louis, Mo.
Filed Sept. 11, 1964, Ser. No. 395,884
8 Claims. (Cl. 29—1.32)



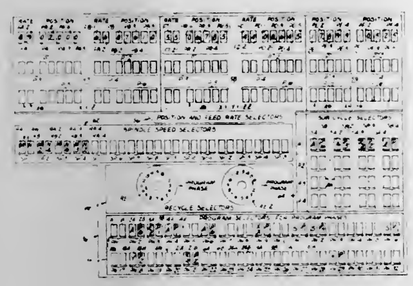
1. A cartridge trimmer comprising a body, an arbor support, means for shiftably mounting said arbor support on said body, an arbor positionable upon said arbor support, said arbor having a cutting groove, means mounted on said arbor support for presenting a cartridge to be trimmed in operative relationship to said cutting groove, and cutting means receivable within said groove.

3,259,956
MACHINE FOR APPLYING SUSPENSION LOOPS TO THE ELECTRODES USED IN ELECTROLYTIC OPERATIONS
Frank H. Reed, Linden, N.J., assignor to Service Machine Company, Elizabeth, N.J., a corporation of New Jersey
Filed Jan. 21, 1964, Ser. No. 339,287
3 Claims. (Cl. 29—282)



1. A machine for forming and applying suspension loops to electrode plates, comprising the combination of
means for locating an electrode plate in a definite position,
a magazine for feeding a stack of loop forming strips to a definite location,
forming means for bending individual strips into U clip formation,
a first transfer device for transferring the top strip in said magazine to said forming means,
a second transfer device positioned to receive the bent clips from said forming means and to transfer a received clip into position over the edge of said definitely positioned plate,
a stitching die for driving portions of the thus located clip through said plate and for upsetting protruding portions of said strip at the far side of the plate, and
means for effecting cooperative operation of the foregoing in the timed relation described.

3,259,957
PRESETTABLE CONTROL SYSTEM
Richard E. Stobbe, Milwaukee, Wis., assignor to Kearney & Trecker Corporation, West Allis, Wis., a corporation of Wisconsin
Filed Sept. 3, 1963, Ser. No. 306,077
14 Claims. (Cl. 29—26)



1. In a machine tool having a plurality of relatively movable members capable of performing a plurality of different functions in predetermined sequence;

a plurality of presettable positioning measuring means operative to determine the relative position of each of said members;

a variable speed transmission selectively connectible to drive a predetermined one of said members at a predetermined setting of said positioning measuring means operative to deactivate said transmission mechanism for stopping movement of said support in predetermined position;

presettable control means including a plurality of manually settable switch means respectively operable in coactive groups to identify the member to be moved, the rate at which said transmission is operably connectible to drive the selected member, and to preset said positioning means for indicating the extent of movement of the selected member, each of said coactive groups of function switch means being energizeable when activated to correspondingly activate said preselected program measuring means and to connect said transmission for moving the selected member the required distance at the selected rate;

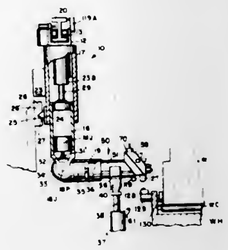
a sub-cycle control system comprising a plurality of separate sequentially interconnectible cycle select switch means presettable to program a cycle in which a plurality of said groups of selector switch means are activated;

a presettable program control system including a plurality of sequentially interconnectible program switch means respectively presettable to program the sequence in which individual groups of function switch means and said sub-cycle control are activated; and

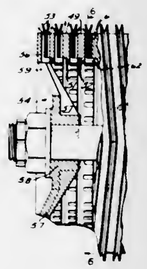
means responsive to preset actuation of said position measuring control means connected to effect sequential activation of said program switch means to effect corresponding activation of said function switch means and said cycle switch means for effecting a predetermined program of machine movements.

3,259,958
AUTOMATIC PRODUCTION MACHINE
Jerome H. Lemelson, 85 Rector St., Metuchen, N.J.
Filed Oct. 22, 1965, Ser. No. 501,654
19 Claims. (Cl. 29—26)

1. In an automatic machine tool for selectively performing pre-programmed operations upon a work-piece: a manipulator fixture including first and second arm members extending from a base support member, said arm members secured to each other at the near ends thereof, the opposed end of said first arm member mounted to said base support member, a work operating turret mounted to the opposed end of said second arm member, first power means for controlling linear movement of said fixture in a first direction along the length of said first arm member, second power means for controlling linear movement of said fixture in a second direction along the length of said second arm member, and third power means for controlling rotational movement of said fixture in a third direction about a rotational axis, pre-programmed control means for selectively actuating said first, second and third power means, such that said work operating turret is program directed in said first, second and third directions to a desired work station.

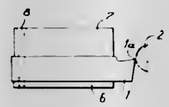


3,259,959
AIR COOLED RASP
Alton E. Tobey, 2203 Mission St., Santa Cruz, Calif.
Filed Oct. 23, 1963, Ser. No. 318,222
3 Claims. (Cl. 29—79)



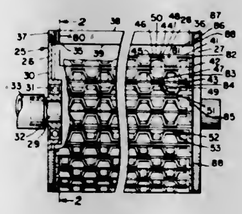
3. A rotatable rasp comprising a plurality of coaxially aligned spacer rings defining an inner open portion, rasp blades removably interposed between peripheral end face portions of adjacent rings and extending radially outward therefrom, said rings having outwardly extending open-ended channels in peripheral face portions opposing faces of associated rasp blades, said channels communicating said inner open portion with the outer periphery of said rings adjacent said blades, a pair of heads coaxially aligned with said rings and engaged with the outermost ones thereof, one of said heads having opening therein, and one of said heads having vanes communicating with the inner open portions defined by said rings, said vanes being operative on rotation of the rasp to force fluid from said inner open portion into and outwardly through said channels, and means securing said heads, rings, and blades together.

3,259,960
CUTTING TOOL APPARATUS
Jules Louis Jeanneret, 13–21 Rue Henri-Gelin, Niort (Deux-Sevres), France
Filed Sept. 23, 1963, Ser. No. 310,804
Claims priority, application France, Sept. 25, 1962, 910,382
4 Claims. (Cl. 29—96)



1. A cutting tool assembly adapted for being inserted into a tool carrier of a lathe-type machine tool, said assembly comprising a cutting tool having opposite parallel base surfaces, a shim on each of said base surfaces, and means detachably connecting the shims to said base surfaces such that the shims and cutting tool constitute a unit assembly, the sum of the thicknesses of both shims and the cutting tool being constant, the thickness of the shim engaging the tool base surface opposed to the cutting edge thereof being such that said cutting edge is located on the horizontal diametric plane of the work-piece, while the thickness of the opposite shim is equal to the vertical distance between the cutting edge and that base surface of said tool opposed to said cutting edge.

3,259,961
CYLINDRICAL HONEYCOMB ROLL
Edward T. Bryand, South Portland, Maine, assignor to Metal-Tech, Inc., Biddeford, Maine, a corporation of Maine
Filed Dec. 21, 1964, Ser. No. 419,780
12 Claims. (Cl. 29—121)



1. A rotary cylindrical roll comprising:

a pair of spaced apart, parallel, circular end members, each having an annular peripheral, inner face;

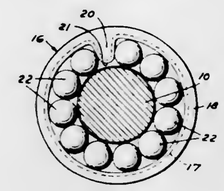
a plurality of alternate straight, thin strips and undulated bent, thin strips, extending axially between, and spaced around, the said annular, inner faces of said members to form a cylindrical honeycomb openwork, said bent strips each having uniformly spaced, oppositely disposed, flattened nodes in engagement with the straight strips on each side thereof;

means connecting each said node to the adjacent straight strip for mutual support of said strips;

an integral tongue bent at right angles from each said straight strip at each opposite terminal end thereof, said tongues being in flatwise engagement with the inner peripheral faces of said end members, and

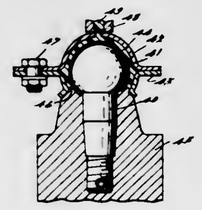
a layer of relatively hard, infusible alloy firmly and securely affixing each said tongue to the adjacent inner peripheral face of one of said end members.

3,259,962
METHOD OF ASSEMBLING BEARING ELEMENTS
Elvin A. Taylor, Plymouth, Mich., assignor to Plymouth Stamping Company, Plymouth, Mich., a corporation of Michigan
Original application Feb. 17, 1964, Ser. No. 345,399. Divided and this application May 6, 1965, Ser. No. 453,736
5 Claims. (Cl. 29—148.4)



1. A method of assembling a circumferential series of rolling bearing elements between the coaxial, circumferentially extending race surfaces of a pair of coaxial, radially spaced bearing race members, comprising disposing a substantial number of the elements of said series in a circumferentially extending array, with a pair of elements of said array in circumferentially spaced relation to one another, while rigidly confining said array against radially outward movement of the elements, and causing circumferential and outwardly acting compressive force to be exerted directly on said array in opposite directions at and from said pair of elements radially inward of the rolling axes of all of said elements, thus to retain the elements in said array against unassisted separation thereof, thereafter disposing said series of elements, as thus confined and compressed in said array, in coaxial relation to and axially between said race members, and exerting axial force in opposite directions on said race members to cause the latter to engage and simultaneously put said series out of said confined and compressed condition and substantially in a radial plane through said race surfaces.

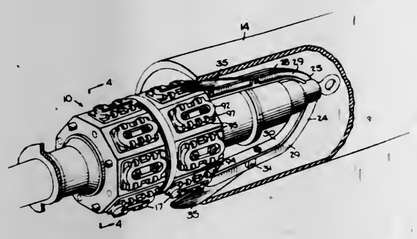
3,259,963
METHODS OF CONSTRUCTING ELEMENTS HAVING LOW FRICTION PRESSURE ENGAGEMENT
Charles S. White, 35826 41st St., Palmdale, Calif.
Continuation of application Ser. No. 855,896, Nov. 27, 1959, which is a continuation of application Ser. No. 619,782, Nov. 1, 1956. This application Oct. 21, 1963, Ser. No. 317,732
5 Claims. (Cl. 29—149.5)



5. The method of forming a ball joint having a ball of a stud and ball journaled in a two-piece stamped housing wherein one stamping is generally semispherical in shape having an aperture near the dome thereof and the other stamping is generally truncated spherical in shape having an enlarged opening in the lower portion thereof, which includes the steps of, positioning a cap of low friction material about said ball, positioning said

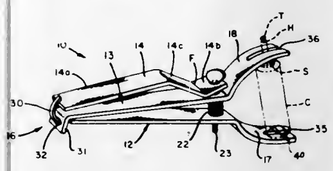
one stamping loosely over the dome of said ball, positioning said second stamping over the remaining portion of the ball with the stud projecting through said opening, securing said stampings together to form a housing loosely disposed about the ball, supporting said stud in an arbor having an annular upper end portion encircling the stud near the juncture of the ball and the stud and pinching said cap against the surface of the ball to retain it in position, supporting said other stamping on the outer periphery of said annular upper end portion of the arbor in a manner to close off said opening and to centrally position the ball within the housing to define a space between the ball and housing, moving an injecting nozzle into engagement with said one stamping and communication with said aperture in a manner to force said other stamping firmly against the supporting arbor, and injecting hardenable material through said nozzle and aperture into the housing to fill said space between the ball and housing and accurately conforming said cap to the surface of the ball under pressure.

3,259,964
PIPE CLAMP
William T. Engel, Union, N.J., assignor to Kahle Engineering Co., Union City, N.J., a corporation of New Jersey
Filed June 28, 1963, Ser. No. 291,564
6 Claims. (Cl. 29—200)



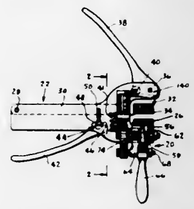
1. An internal pipe clamp for engaging and aligning pipe sections with a pre-determined spacing between adjacent ends of the aligned pipe sections comprising the combination of an elongated center shaft having a front portion for entering one pipe section and a rear portion for protruding from said one section for entering a subsequent pipe section, a support frame attached to the forward end of said center shaft having a plurality of radially spaced guide legs extending outwardly and rearwardly of said center shaft for supporting and positioning the pipe clamp within the pipe, a pair of housings surroundings the center shaft, a pair of hydraulic motors mounted on said center shaft each attached to one of said housings, a plurality of pipe clamping members movably mounted on each of said housings for movement transversely of said center shaft for engaging said pipe sections, a pair of elongated hollow pistons one coupled to each of said hydraulic motors and being slidably and concentrically mounted on said shaft, toggle links operatively connecting said pistons and said pipe clamping members, one of said housings being slidably mounted on said shaft, a plurality of drive shafts arranged parallel to said center shaft for adjustably coupling said housings together, a fixed coupling between each of said drive shafts and one of said housings, an adjustable coupling between each of said drive shafts and the other of said housings for providing relative movement of said housings longitudinally of the drive shaft and apart from one another and, means for simultaneously operating all of said adjustable couplings for spacing said pipe sections while said sections are engaged by said pipe clamping members.

3,259,965
CONDENSER PLIERS
Ralph L. Evans, 2110 W. North Temple St., Salt Lake City, Utah
Filed June 12, 1964, Ser. No. 374,746
4 Claims. (Cl. 29—227)



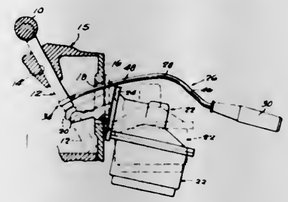
3. A hand tool comprising
a pair of elongated juxtaposed coextensive jaw members pivotally connected at the rear ends thereof for movement toward and away from each other and having opposed jaws at the front ends thereof,
a transverse screw threadedly engaging one of said members adjacent to its jaw,
the other of said members having an opening adjacent to its jaw for loosely receiving said screw,
a lever loosely engaging said screw and disposed on the side of said other member opposite from said one member,
said lever having a fulcrum engaging said other member and being rockable about said fulcrum for moving said jaw members toward and away from each other,
spring means disposed coaxially of said screw between said jaw members for yieldably urging same apart, and
means for releasably locking said lever when the spacing between said jaw member is minimum.

3,259,966
SEAL PRESS
Morris Canter, 173 W. Penn St., Long Beach, N.Y.
Filed Apr. 13, 1964, Ser. No. 359,383
3 Claims. (Cl. 29—282)



1. A hand seal press having a main frame, comprising at least one pair of levers pivoted together, at least one jaw attached to each of said levers, a bracket affixed to said main frame supporting rotatable cord holding means having at least one spring rotating said cord holding means toward said jaws, and holding means to hold said cord holding means against the action of the said spring comprising spring loaded detent means mounted on said bracket; said rotatable cord holding means having an operating lever associated with an end, said end defining an arc when said rotatable cord holding means is rotated, with at least one portion of said arc near said bracket, said spring loaded detent means being mounted on said bracket with a portion of said detent normally being within said arc defined by said end associated with said operating lever, said end of said operating lever moving during rotation of said rotatable cord holding means from a first position on one side of said detent to a second position on another side of said detent.

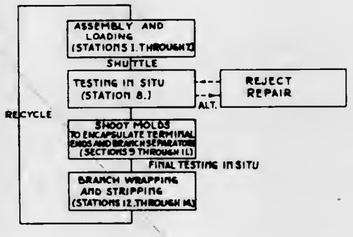
3,259,967
METHOD OF INSTALLING A FUEL PUMP OVER A CRANKCASE OPENING
Joseph A. Marsicano, 735 Schwabe St., Freeland, Pa.
Continuation of abandoned application Ser. No. 346,212, Feb. 20, 1964. This application Aug. 24, 1965, Ser. No. 482,228
2 Claims. (Cl. 29—401)



1. The process for installing a fuel pump exteriorly of and over a vertically-elongated opening formed in the sidewall of a crankcase in which there is a working push rod, the pump carrying a mounting flange and having an upwardly spring-pressed lever arm, which comprises providing a tool including an elongated rod having a forward end on which there is a head and having a rear end on which there is a handle with the portion of the rod between the head and handle irregularly bowed, the head being provided with a pair of laterally-spaced and opposed fingers with a groove therebetween and opening to the free ends of the fingers, inserting the tool through the opening so that the head is adjacent the push rod with the bowed portion inverted and extending through and contacting the upper portion of the opening in the crankcase and the handle exteriorly of and outwardly of the opening, manipulating the handle so as to, in turn, cause the push rod to be received within the groove and be removably and lockingly embraced by the fingers and elevate the lower end of the push rod to a position opposite to and within the area defined by the opening, positioning the pump extriorly of the crankcase so that the lever arm projects through the opening and the free end of the lever arm is located below and adjacent the elevated push rod with the mounting flange below the bowed portion of the tool and having its lower portion abutting against the crankcase adjacent the opening with its upper portion leaning away from the crankcase while the tool is holding the push rod in the elevated position, partially attaching the lower abutting portion of the flange to the sidewall of the crankcase, manipulating the handle of the tool so as to detach the fingers from the push rod and withdraw the head and adjacent part of the bowed portion of the tool through the opening and permit the lower end of the push rod to seat upon the free end of the lever arm, shifting the flange so as to completely bridge the opening and abut against the adjacent portion of the sidewall of the crankcase, and completing the attachment of the flange to the sidewall of the crankcase.

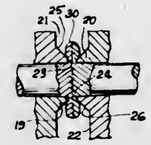
3,259,968
METHOD AND APPARATUS FOR FABRICATION AND IN SITU TESTING OF WIRE HARNESS STRUCTURES
Robert M. Dyksterhouse, Charlevoix, Mich., assignor, by mesne assignments, to Circuit Controls Corporation, Petoskey, Mich., a corporation of Michigan
Filed Aug. 4, 1961, Ser. No. 129,274
13 Claims. (Cl. 29—407)

12. In a method for the fabrication and in situ testing of wire harness structures, the steps including:
(a) assembling a plurality of individual circuit leads having terminal connectors at the ends thereof into a pre-determined fixed wire harness configuration upon an assembly board surface;
(b) loading the terminal connectors of each of said circuit leads into pairs of mating disconnect test receptacles positioned within terminal connector molds that are fixedly positioned upon said assembly board surface so as to provide positive dimensional control over said circuit leads;
(c) superimposing a test circuit across each of said



pairs of test receptacles so as to electrically test said circuit leads prior to molding of said terminal connectors;
(d) charging the said molds so as to encapsulate the terminal connectors of said circuit leads; and
(e) superimposing a test circuit across each of said pairs of test receptacles so as to electrically test said circuit leads after molding of said terminal connectors.

3,259,969
METHOD OF MAKING BUTT WELDED JOINTS
Alfred H. Tessmann, Atlanta, Ga. (% Central Cable Corp., 1901 Montreal Road, P.O. Box 595, Tucker, Ga.)
Filed Jan. 22, 1963, Ser. No. 253,123
1 Claim. (Cl. 29—487)



The method of forming a butt welded joint of first and second sections of wire made of work-hardenable material, said method comprising bringing the two sections of wire together with their ends in abutting relation to one another, holding the first said section in a stationary chuck while holding the second said section in an axially movable chuck, heating the abutting ends of the wire until plastic and simultaneously moving the movable chuck and the second section held therein toward the first section to unite said sections of wire, said second section of wire, while it is moving toward the first section, causing the plastic material at the abutting ends to move outwardly of the axis of the wire to form an upset region at the joint, allowing the upset region to cool, the heating and subsequent cooling steps resulting in an annealing of the upset region which lowers the tensile strength at the joint below that of the remainder of the wire, and working the region at the end adjacent to the joint by moving said chucks and the wire sections held therein toward one another to strain the material of the weld and the annealed material adjacent thereto, the movement of said chucks and wire sections

held therein toward one another continuing until the chucks contact and compress between them the upset region at the joint, the method comprising the further steps of limiting the contact between the chucks and upset region to a narrow band located adjacent the surface of the wire whereby to form a thin membrane at the surface of the wire, releasing one of said chucks, moving said released chuck away from the membrane and reclamping said moved chuck to the wire, releasing the other of said chucks and then sliding the reclamped chuck and wire toward the released chuck, thereby shearing the said membrane from the joint in the wire and restoring the upset region to substantially the original cylindrical form and diameter of the wire.

3,259,970

METHOD OF SUBMERGED ARC WELDING OF IRON AND STEEL USING NITRIDE PRODUCING MATERIALS

Sadayoshi Morita, Teiji Ito, Takeshi Nishi, and Shigeo Fujimori, Yawata, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Dec. 27, 1962, Ser. No. 247,492
Claims priority, application Japan, Dec. 29, 1961, 36/48,066
14 Claims. (Cl. 29—488)

1. In a method of submerged arc welding of low temperature iron and steel materials having high notch-toughness, that improvement comprising using as the core rod and the flux a core rod and a flux at least one of which contains, in excess of the materials that are normally present, at least one nitride producing metal and at least one of which core rod and flux contains at least one material which discharges nitrogen when it is heated, whereby at least one nitride of the nitride producing metal is formed in the metal deposited during the welding.

3,259,971

HIGH TEMPERATURE BRAZE ALLOY AND METHOD OF USING THE SAME FOR MOLYBDENUM, OTHER REFRACTORY METALS AND ALLOYS THEREOF

Leonard J. Gagola, Baltimore, and Charles R. Wilks, Towson, Md., assignors to Martin Marietta Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,599
5 Claims. (Cl. 29—498)

1. A brazing compound for use in brazing parts selected from the group consisting of molybdenum, columbium, tantalum, tungsten, and refractory alloys of these metals in which the remelt temperature of the brazement is appreciably higher than the original brazing temperature of the brazing alloy as a result of subsequent diffusion alloying, said brazing compound comprising a mixture of a braze alloy consisting of 91.5 plus or minus 1.0% titanium and 8.5 plus or minus 1.0% silicon by weight and a powdered metal selected from the group consisting of molybdenum and columbium, the ratio of braze alloy to powdered metal being respectively by weight in the range of 4 to 5:1.

3. A method of brazing parts selected from the group consisting of molybdenum, columbium, tantalum, tungsten, and refractory alloys of these metals in which the remelt temperature of the brazement is appreciably higher than the original brazing temperature of the brazing alloy which comprises: forming a braze alloy consisting of 91.5 plus or minus 1.0% titanium and 8.5 plus or minus 1.0% silicon by weight, forming a brazing compound of said brazing alloy and a powdered metal selected from the group consisting of molybdenum and columbium, with the ratio of braze alloy and powdered metal being respectively by weight in the range of 4 or 5:1, brazing the assembly including said brazing compound at a temperature of 2450° F. to 2600° F. for a time period up to fifteen minutes, and diffusion alloying said brazed assembly at a temperature of 2200° F. for three to six hours.

3,259,972

EXOREACTANT MATERIAL FOR BONDING

Roger A. Long, San Diego, Calif., assignor to Whittaker Corporation, a corporation of California

No Drawing. Filed Feb. 1, 1963, Ser. No. 255,663
22 Claims. (Cl. 29—498.5)

1. An exothermic brazing composition consisting essentially of nickel oxide, a metallic fluoride and a solid reducing agent.

13. The method of uniting two metal pieces comprising: placing at the joint of said metal pieces a metallic composition, said metallic composition being selected from the group consisting of nickel oxide and a mixture of metallic oxide and metallic fluoride, said composition also containing a reducing agent, the metals of said oxide and said fluoride having melting points lower than either metal piece and higher than 900° F.; heating the metallic composition to a temperature sufficient to initiate the reaction between said selected composition and said reducing agent; allowing said reaction to continue until substantially all of said selected composition has been reduced to native metal and until the heat produced by the reaction is sufficiently high to allow said native metal to flow but less than that which will cause a substantial portion of either metal piece to melt; and allowing said native metals to cool whereby said metal pieces are united.

3,259,973

METHOD, FILLER ALLOY AND FLUX FOR BRAZING

Joseph F. Quaas, Island Park, and John P. Broderick, Bayside, N.Y., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

No Drawing. Filed Mar. 11, 1963, Ser. No. 264,059
11 Claims. (Cl. 29—504)

1. A method of brazing a light metal which comprises the steps of applying a flux to said light metal essentially consisting of the following constituents in the indicated ranges of percentages by weight:

Constituents:	Range
Potassium chloride	30–70
Sodium chloride	10–30
Lithium chloride	10–40
Lithium fluoride	2–10
Ammonium acid fluoride	1–10

applying heat to said fluxed light metal to activate said flux, and melting a filler alloy essentially consisting of the following constituents in the indicated ranges of percentages by weight upon said fluxed light metal at brazing temperatures:

Constituents:	Range
Magnesium	0.8–5.2
Chromium	0.25 max.
Manganese	0.7 max.
Copper	0.15 max.
Aluminum	Balance

whereby the deposited filler alloy, and the light metal, upon anodizing, match in color.

6. A filler rod for brazing a light metal essentially consisting of the following constituents in the indicated ranges of percentages by weight:

Constituents:	Range
Magnesium	4.0–5.2
Chromium	0.25 max.
Manganese	0.7 max.
Copper	0.15 max.
Aluminum	Balance

11. A brazing flux composition essentially consisting of the following constituents in the indicated ranges of percentages by weight:

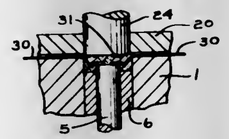
Constituents:	Range
Potassium chloride	55–65
Sodium chloride	12–18
Lithium chloride	15–25
Lithium fluoride	2–5
Ammonium acid fluoride	4–6

3,259,974

METHOD FOR MOLDING CUP-SHAPED BODIES

Lawrence J. Gehl, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Original application Aug. 18, 1961, Ser. No. 132,335, now Patent No. 3,149,375. Divided and this application Nov. 6, 1963, Ser. No. 326,317
3 Claims. (Cl. 29—527)



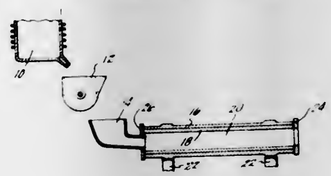
1. The method of molding a unitary cup-shaped body with at least one wire passing through the base of said body generally horizontally from the external side surface of said base to the inner surface of said base and thence flush with said inner surface, which comprises positioning at least one straight piece of wire horizontally through an opening in the sidewall of an open top mold intermediate the top and bottom of the cavity formed by said mold, extending the wire horizontally into said cavity and supporting the innermost end thereof on the top surface of a central core member in the lower part of said cavity forming an annular cavity portion beneath said wire, filling the mold cavity with a charge of granular molding material and compressing the molding material within said cavity.

3,259,975

TUBE MANUFACTURE

Edward C. Chapman, Lookout Mountain, Tenn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 19, 1963, Ser. No. 331,715
15 Claims. (Cl. 29—528)



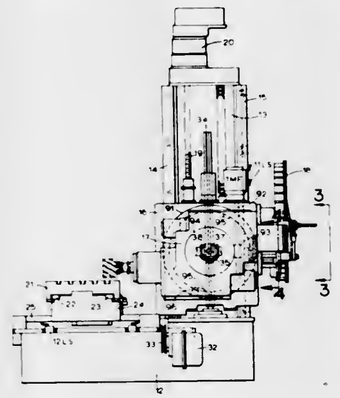
1. In the manufacture of seamless tubes, the steps of centrifugally casting a muff having a preselected length, diameter and wall thickness, reducing said muff size in a single cold tube-reducing operation, mainly reducing the wall thickness of and lengthening the casting, then reducing the diameter of the elongated cold reduced tube to the desired finished diameter and wall thickness and further lengthening the tube in a single hot rolling and stretching operation to provide a finished tube from a casting in only two metal flowing steps.

3,259,976

AUTOMATIC TOOL CHANGE MECHANISM FOR MACHINE TOOL

Swan E. Bergstrom, Lewis A. Dever, and David I. McDonald, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed Sept. 25, 1963, Ser. No. 311,587
7 Claims. (Cl. 29—568)



1. A machine tool for automatically performing a series of successive machining operations with different cutting tools comprising a tool head, a turret rotatably supported on said tool head, a pair of spindles journaled for rotation in said turret with their axes disposed in spaced, parallel relation and normal to the axis of rotation of said turret but offset by equal amounts on opposite sides thereof, power draw bar means associated with the rear end of each of said spindles for securing a cutting tool in the forward end thereof, means for indexing said turret on said head to move one spindle thereon from an operating station to a tool change station and the other spindle thereon from the tool change station to the operating station, a tool drum supported for rotation on said tool head, a plurality of receptacles distributed around the periphery of the drum for holding the different cutting tools, selection means for rotating the drum to bring a selected receptacle into a tool change position, means to transfer a cutting tool from the spindle at the tool change station to its receptacle in said tool drum and vice versa, and means for controlling the operation of said selection means and said transfer means to cause the old tool carried by the spindle at the tool change station to be returned to said tool drum and replaced with a new tool therefrom while a machining operation is being performed by the tool in the spindle at the operating station.

3,259,977

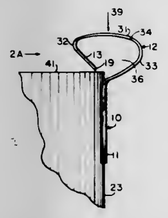
CAN OPENER

James Gold Portteus, Toledo, Ohio, assignor to Phillip A. Portteus, Dallas, Tex.

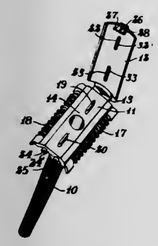
Filed Dec. 19, 1963, Ser. No. 333,787
3 Claims. (Cl. 30—16)

1. A one-piece can opener comprising a shaft elongated in a first vertical direction and having a top part, a bottom end, a front concave surface and a rear convex surface, said shaft being joined firmly at its top part to a handle, said handle comprising a top surface projecting to the rear of the rear surface of said shaft as a portion substantially normal to said first vertical direction, said top surface having a front part above and extending forwardly of the top part of the front surface of said shaft, and

a bottom portion of said handle being firmly joined to the top part of said shaft, a pointed plate having a base portion and a pointed portion, a rear part of said base portion being joined to a front part of said pointed portion, said pointed plate base portion having a rear part, said rear part being firmly joined to said front part of said handle, said pointed portion having a tip directed toward the front surface and bottom end of said shaft, said tip being spaced away from said front surface of said shaft and longitudinally spaced closer to the top than the bottom end of said shaft, said shaft having two side edges, one side edge having a vertically extending recess therein extending transversely in the direction toward the other side edge for the full thickness of said shaft, an elongated tongue of lesser width than the length of the pointed plate, one edge of said tongue extending from said shaft and being integral with and extending from said shaft along the edge of said side recess distant from said handle and the length of said tongue being at an angle to said first vertical direction of elongation of said shaft, and another edge of said tongue bounding an extremity thereof and extending to a corner in line with a side and the bottom end of said shaft, said tongue extremity having inner and outer surfaces respectively co-planar with the inner and outer surfaces of said shaft.

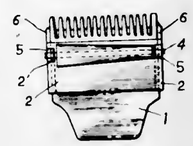


3,259,978
SAFETY RAZOR WITH INTEGRAL HINGE MEANS FOR A PIVOTAL CAP AND LOCKING MEANS FOR SAID CAP
Theodore E. Weichselbaum, St. Louis, Mo., assignor to Brunswick Corporation, a corporation of Delaware
Filed Oct. 23, 1963, Ser. No. 318,240
2 Claims. (Cl. 30—59)



1. A disposable razor comprising:
a blade support adapted to receive a double edge razor blade on a surface thereof, said support surface having a flat center portion and a pair of downwardly slanting portions adjoining said center portion,
a series of guard fingers adjoining the slanting portions and having surfaces spaced downwardly from said slanted surface portions,
a pair of elongated studs extending perpendicularly from said support to position a double edge razor blade on said flat center portion of the support,
a blade cover having a concave blade engaging surface terminating in a pair of longitudinally extending ridges, said blade cover being pivotally joined to said support by a thin section of plastic and having apertures therethrough for receiving said stubs when said cover is pivoted over said blade, said ridges on said blade cover extending on either side of said center portion of said blade support to below the lowermost edges of said slanting portions, and
means for engagingly securing the razor blade between said center portion of the blade support and said blade cover with the cutting edges of the blade being adjacent to and spaced from said guard fingers and with said ridges on said cover bearing on said blade along its cutting edges.

3,259,979
CUTTING-HEAD ON HAIR CUTTING MACHINE
Günter Klinder, Berlin, Germany, assignor of one-half to Hugo Geng, Duisburg-Kasslerfeld, Germany
Filed Sept. 1, 1964, Ser. No. 393,663
Claims priority, application Germany, Sept. 7, 1963, K 50,757
9 Claims. (Cl. 30—201)



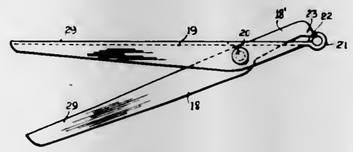
1. In a hair cutting head having a flat base, the improvement comprising a revolving guide consisting of a single roller, and means rotatably supporting said roller below said base and transversely of the longitudinal axis of symmetry of the cutting head, said roller being slightly conical so that the longitudinal profile line defined by the surface element of the roller remote from the base is inclined relative to said base.

3,259,980
VEGETABLE CUTTER
Florentino Espino, 218 E. 46th St., Hialeah, Fla.
Filed May 21, 1964, Ser. No. 369,062
4 Claims. (Cl. 30—279)



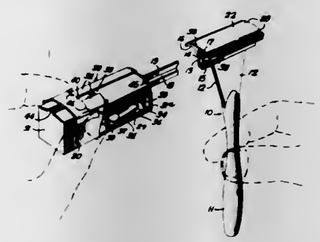
1. A vegetable cutter, comprising a handle contoured to fit one's hand, said handle having a rectangular opening in one end thereof, a plurality of elongated, rectangular, flexible steel cutting blades of different lengths, each blade bent to form an elongated loop with the end portions of the blade in face to face contact, a shorter blade on each side of the longest blade, and a still shorter blade on the outer side of each shorter blade, the blades placed with adjacent loops in contact and adjacent surfaces of the end portions in face to face contact, the end portions of said blades forming a tang extending into the opening in said handle.

3,259,981
METHOD OF JOINING TOGETHER A TERMINAL CONNECTOR AND AN ELECTRIC CABLE
Eugene B. Raymond, Skokie, and Leslie L. Schiller, Niles, Ill., assignors to Triple A Specialty Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 19, 1963, Ser. No. 324,673
1 Claim. (Cl. 30—289)



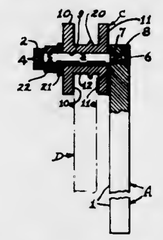
A tool for notching a portion from the side of an insulated terminal cable to expose the electrical conductor core thereof, comprising
(a) a pair of handle members pivotally connected together inwardly of corresponding end portions thereof,
(b) a holder for said cable comprising a sleeve formed integrally with an end portion of one of said members and extending transversely of the long axis of said one member,
(c) said sleeve having a slot formed in one side thereof in a circumferential direction with respect to said sleeve,
(d) and a cutting tip formed on an end portion of the other of said members and movable into said slot through an arc passing through the insulation of said cable on one side of the long axis of the cable for notching out a side portion of said cable to expose the conductor core therein.

3,259,982
INJECTOR RAZOR BLADE
William C. Boyd, 2520 Salisbury Road, Midlothian, Va.
Original application Sept. 20, 1962, Ser. No. 224,993, now Patent No. 3,171,197, dated Mar. 2, 1965. Divided and this application Oct. 20, 1964, Ser. No. 405,163
6 Claims. (Cl. 30—353)



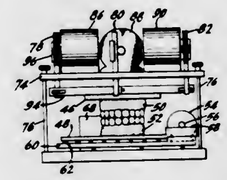
6. A blade for a razor constructed to have jaws which together form a blade seat, the seat being the uppermost structure of the razor, the jaws being resiliently biased to clampably engage an element projecting from the underside of the blade, the blade comprising a double edged leaf having an upper end and lower face, at least one edge of the blade being rectilinear, the upper face of the blade being convex, a rectilinear fixed feather on the under face of the blade parallel to the rectilinear edge at an intermediate position in the width of the blade, the opposite sides of the feather being so inclined with respect to the blade as to form channels at the opposite sides of the feather, the opposite sides of the feather adapted to be wedgingly engaged by the jaws of the razor for holding the blade to the seat.

3,259,983
EMBOSSING TOOL FOR INCREASING THE EDGE THICKNESS OF WALLBOARD
Robert G. Ames, Hillsborough, Calif., assignor to Ames Taping Tool Systems Manufacturing Co., Harvey, Ill., a corporation of Illinois
Filed Apr. 9, 1964, Ser. No. 358,491
8 Claims. (Cl. 30—365)



1. A tool for embossing the edge of wallboard for increasing the thickness of the edge and comprising:
(a) a cylindrical member adapted to be rolled along an edge of a wallboard that is to be increased in thickness and having an axial bore extending therethrough;
(b) said cylindrical member having an annular rib extending therearound and projecting outwardly therefrom and adapted to be forced into the wallboard edge to form a groove for increasing the thickness of the edge;
(c) said cylindrical member having end discs for guiding said member along the wallboard edge and for limiting the extent to which said rib and cylindrical member increases the thickness of the edge;
(d) one of said discs having a circular projection on its inner surface for forming a groove on the surface of the wallboard and adjacent to the edge being increased in thickness; and
(e) means for moving said cylindrical member along the wallboard edge.

3,259,984
DENTAL APPARATUS AND METHOD
Murray Seldenberg, Highland Park, N.J. (89 Morris St., New Brunswick, N.J.)
Filed Sept. 17, 1959, Ser. No. 840,636
4 Claims. (Cl. 32—32)

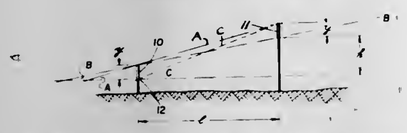


2. A dental articulator system which comprises an upper member and a lower member for supporting upper and lower dentures; means supporting said upper and lower members in such manner as to permit controlled relative movement between said members with respect to three mutually perpendicular axes; an electromechanical servomechanism connected to at least one of said members and adapted to move said one member with respect to the other, said servomechanism being responsive to an electrical signal for moving said member an amount and distance determined by the magnitude and polarity of such signal; a source of electrical signals whose magnitude and polarity represent relative jaw movements; and means for applying signals from said source to said servomechanism.

3,259,985
VISUAL APPROACH GUIDANCE SYSTEM FOR LANDING AIRCRAFT

George Arthur Neal, Downsview, Ontario, Canada, assignor to The de Havilland Aircraft of Canada Limited, Downsview, Ontario, Canada

Filed Apr. 18, 1962, Ser. No. 188,497
Claims priority, application Canada, Apr. 20, 1961, 821,660, Patent 652,322
7 Claims. (Cl. 33—46)



1. A visual approach guidance system for landing aircraft on an air strip having a predetermined touch down point thereon and comprising: a plurality of target means to one side of said air strip located substantially beside said touch down point and of a predetermined height y between upper and lower edges thereof; and a sighting member of a height between upper and lower edges thereof substantially equal to the said height dimension y and positioned beside said air strip a distance l in advance of said target means and a height h above the lower margin of said target means to define a line of sight when said sighting means appears to the eye to cover said target means of an angle A defining an approach angle for an aircraft approaching said air strip, the upper edge of said sighting means being adapted to be sighted on the lower edge of said target means thereby to define a high angle of approach described by the relation

$$\tan C=\frac{h+y}{l}$$

where C is the high angle of approach.

ERRATUM

For Class 33—50 see:
Patent No. 3,260,001

3,259,986
TELESCOPE SIGHT FOR TOP-EJECTING FIREARMS

Gibson F. Carr, Guilford, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Nov. 20, 1963, Ser. No. 324,921
2 Claims. (Cl. 33—50)

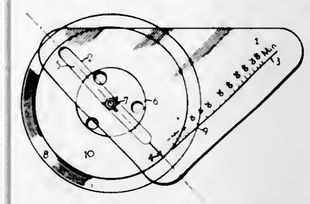


1. A telescope sight for a top-ejecting firearm comprising, a rearward portion including an eye piece, a forward portion including an objective lens, said forward and rearward portions joined by a tubular body portion adapted to be positioned over the ejection port of a top-ejecting firearm, said tubular body portion including an upper and lower elongated slot operative to allow a cartridge to be ejected upwardly through the tubular body portion of said scope, means mounting said sight on said firearm, said means being spaced from said slot to provide unobstructed access from said port through said slot.

3,259,987
RECORDING TAPE DEVICE

Elliott R. Weyer, New York, N.Y.
(West Hills Road, Ivoryton, Conn.)

Filed Aug. 6, 1964, Ser. No. 387,834
2 Claims. (Cl. 33—128)

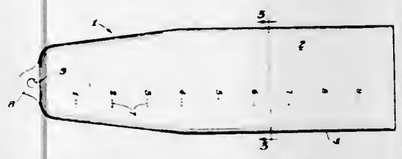


1. A device for estimating the transport time of tape on a hub which is adapted to be mounted on a spindle, which comprises a transparent plate-like element having a straightedge, a base line marked on the plate-like element and arranged at right angles to the straightedge, said base line being marked and calibrated to constitute a time scale; the base line being provided with a zero index which is spaced a measured distance from the intersection of the loci of points of the straightedge and the base line, said measured distance being equal to one-half of the diameter of the spindle.

3,259,988
FISH MEASURING DEVICE

Charles T. Lunn, 2246 Mayfield Road, Saginaw, Mich.

Filed July 20, 1964, Ser. No. 383,850
3 Claims. (Cl. 33—169)



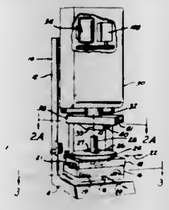
1. A measuring device comprising side walls forming a hollow body of generally elliptical cross section, at least one of said walls having a transparent portion extending substantially the full length of said body; a closure wall at one end of said body; measuring indicia carried by one of the side walls of said body in a position to be visible through said transparent wall portion, said indicia extending longitudinally of said body from said closure wall, said body tapering from a point between its ends toward said one end whereby said body has a smaller cross sectional area at said one end than at its other end; and substantially planar, thin anchor means joined to one of said walls and extending in prolongation of said body and to which a line or the like may be anchored.

3,259,989
METHOD AND APPARATUS FOR AUTOMATIC CENTERING SYSTEM

Robert A. Wilson, Berkley, Mich., assignor to The Bendix Corporation, Ann Arbor, Mich., a corporation of Delaware

Filed Dec. 21, 1964, Ser. No. 419,924
20 Claims. (Cl. 33—174)

1. In profile recording apparatus which includes a table for supporting a workpiece having an axis, gaging means adapted to engage a surface of said workpiece, and means providing for relative rotation of said gaging means and said workpiece about an axis of rotation parallel to said workpiece axis, servo means for moving said table along mutually perpendicular axes perpendicular to the axis of said workpiece to adjust the location of said axis of said workpiece to align the axis of said workpiece with said axis of rotation comprising means responsive to movement of said gaging means toward and away from said axis of rotation along said surface of said workpiece

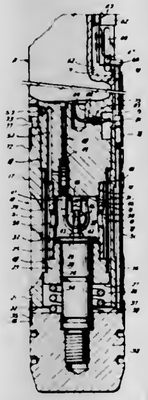


during relative rotation of said gaging means and said workpiece about said axis of rotation for providing an electric signal representing a displacement of said workpiece axis from said axis of rotation, resolver means responsive to said relative rotation and said signal for developing components of said signal related to components of said displacement along said mutually perpendicular axes and means for applying said signal components to said servo means.

3,259,990
CONTROL APPARATUS FOR BOREHOLE INSTRUMENTS

John E. Key, Jr., Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas

Filed Dec. 5, 1963, Ser. No. 328,423
2 Claims. (Cl. 33—178)

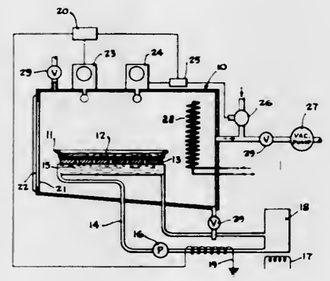


2. A control apparatus for borehole instruments including: a housing having a cavity therein, said housing having an upper end adapted for dependent coupling to a borehole instrument and a lower end defining a bore extending longitudinally between said cavity and the exterior of said housing; electrical switch means disposed in said cavity, said switch means being adapted for electrical connection in an electrical circuit for controlling the operation of such electrical circuit; an elongated plunger slidably received in said bore for travel between longitudinally-spaced positions relative to said housing, said plunger having an inner end extending into said cavity and an outer end extending outwardly from said lower housing end, said outer end being so arranged where engagement with a borehole obstruction forces said plunger inwardly into said cavity, said inner end being operatively positioned relative to said switch means for operating said switch means at one of said positions of said plunger; resilient biasing means for normally biasing said plunger toward the other of said positions; stop means for limiting travel of said plunger to said other position; an elongated arm means disposed lengthwise of said housing with the longitudinal axis of said arm means in a plane including the longitudinal axis of said housing, said arm means having a first and second end movably connected to said housing, said movably-connected ends being arranged so that said ends can be disposed in an extended first position relative to one another to place said arm means along said housing and in a contracted second position relative to one another to project said arm means outwardly from said housing; means on said housing releasably holding said first and second ends in said first position; and means in said housing responsive to travel of said plunger to said one position for releasing said holding means, said movement-responsive means including at least two slidable rod members tandemly disposed between said plunger and said holding means for travel between longitudinally-spaced positions relative to said housing, and at least one slidable member intermediate said rod members and operatively disposed therebetween so that longitudinal travel of one rod will be translated through said slidable member into an equivalent longitudinal travel of the other of said rods.

3,259,991
FREEZE DRYING METHOD AND APPARATUS

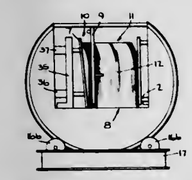
George M. Illich, Jr., Lake Forest, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

Filed Jan. 7, 1965, Ser. No. 424,060
13 Claims. (Cl. 34—5)



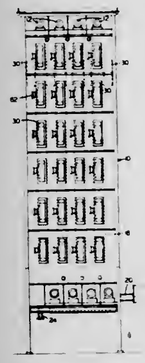
1. A method of drying a temperature sensitive material in a vacuum chamber having in communication therewith a thermocouple type vacuum gauge and an ionization type vacuum gauge, comprising the steps of: freezing the material; placing the frozen material in the vacuum chamber; applying heat and vacuum to the vacuum chamber to remove moisture from the material being dried; calibrating the thermocouple type vacuum gauge and the ionization type vacuum gauge for a vacuum atmosphere of air; recording the thermocouple type vacuum gauge reading while conducting the drying operation; simultaneously recording the ionization type vacuum gauge reading; and applying additional heat and vacuum to the vacuum chamber when the thermocouple type vacuum gauge reading and the ionization type vacuum gauge reading are essentially the same, at which time the major portion of the moisture has been removed from the material being dried and the vacuum chamber atmosphere is substantially all air.

3,259,992
METHOD AND APPARATUS FOR WINDING STACKS OF SHEETS
Willard R. Bonwit, Rydal, Pa., Moshe Segal, Kew Gardens, N.Y., and John J. Hartlove and William E. Scherer, Baltimore, Md., assignors to The Lord Baltimore Press, Incorporated, Baltimore, Md., a corporation of Maryland
Filed May 28, 1962, Ser. No. 197,952
9 Claims. (Cl. 34—23)



1. The method of winding a stack of sheets in face to face contact with each other which comprises the steps of placing said stack of sheets on edge, relieving the pressure on the portion of the sheets adjacent one edge of the stack, simultaneously applying pressure on the portion of the sheets adjacent the opposite edge thereof, and passing air between the sheets in said stack while said sheets are assembled in stack formation and maintaining said sheets in stack formation in at least partial face to face contact with each other until air has been passed between all of said sheets.

3,259,993
APPARATUS AND METHOD FOR TREATING STRIP
William L. Zabriskie, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 12, 1965, Ser. No. 455,195
3 Claims. (Cl. 34—23)



2. A continuous process method of heating or cooling strip metal comprising:

(a) continuously moving said strip metal through a housing, said moving strip metal having an atmosphere boundary layer adjacent thereto.

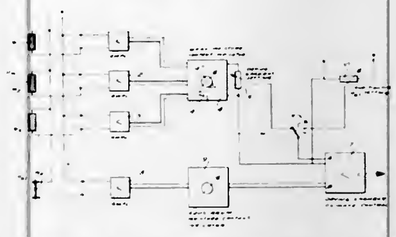
(b) exposing for treatment a portion of said moving strip between support points in said housing,

(c) directing a plurality of jets of a gaseous medium from orifices against both sides of said strip at selected and spaced apart areas along said exposed portion at a discharge velocity between 5,000 and 12,000 feet per minute to impart a momentum to said gaseous medium against said moving strip metal that is greater than the momentum of said boundary layer,

(d) removing said gaseous medium from said strip at points in between said selected areas of jet impingement in such a manner as to establish flow of said gaseous medium along said strip from the areas of impingement to the points of removal in directions substantially parallel to the path of strip movement, and

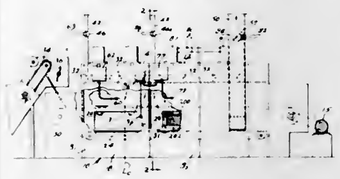
(e) continuously recirculating the gaseous medium removed from the strip through heat exchanger means.

3,259,994
DRYING METHOD AND APPARATUS
Horst Klinkmueller and Friedrich Hirth, Stuttgart, Germany, assignors to Gann-Apparate- und Maschinenbau G.m.b.H., Stuttgart S., Germany
Filed Dec. 20, 1962, Ser. No. 246,104
Claims priority, application Germany, Dec. 23, 1961, G 33,897
9 Claims. (Cl. 34—26)



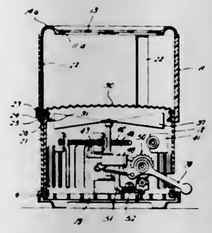
1. In a method of drying solid material, particularly wood, the steps of: exposing solid material to be dried in a drying chamber to a variable climate in said drying chamber; measuring the mean moisture content of said solid material during its exposure to said variable climate, said mean moisture content varying as a result of said exposure to said variable climate; determining in said variable climate the equilibrium moisture content characteristic of said solid material when exposed to said variable climate by measuring the moisture content of a thin specimen of said material exposed to said climate, said specimen having a surface/thickness ratio permitting it to display an equilibrium moisture content varying in conformity with variations of said variable climate; determining any deviation of said mean moisture content from a reference value equal to *a* times the value of said determined equilibrium moisture content wherein the factor *a* is a desired drying gradient; and regulating said variable climate in said drying chamber during drying said solid natural therein in dependency upon said this determined deviation in a manner tending to eliminate such existing deviation.

3,259,995
MOVING MATERIAL DRYING METHOD AND APPARATUS
John W. Powischill, Cheltenham, Pa., assignor to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 3, 1964, Ser. No. 341,895
25 Claims. (Cl. 34—31)



1. A method of continuously drying material to a desired condition consisting of the steps of conveying material along a predetermined path through at least first and second zones, controlling the drying conditions by means including circulating a conditioned drying medium through the material to dry the same, sensing the temperature of the drying medium after it has passed through the material at least at one given point in one of said zones and varying the drying conditions in at least one of said zones in response to deviations of the temperature of the drying medium sensed at said point from a predetermined temperature at said point.

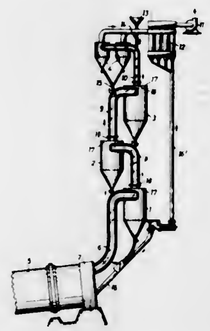
3,259,996
PORTABLE LAUNDRY DRYER
R. Dell Hull, 3110 E. 33rd St.; Roy L. Hull, 3551 S. Toledo Place; and Jerry R. Hull, 3110 E. 33rd St., all of Tulsa 35, Okla.
Filed Sept. 5, 1963, Ser. No. 306,798
10 Claims. (Cl. 34—53)



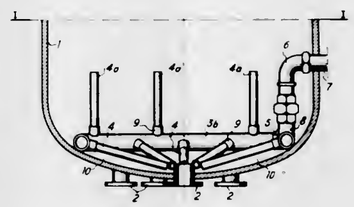
1. A portable laundry dryer, comprising, a lower tubular casing section having openings through the walls thereof for entrance of outside air, an upwardly tapering transverse foraminous wall across the upper portion of said lower casing section, an upper tubular casing section defining a drying chamber disposed about the lower casing section in telescoping relation for extension and retraction relative thereto, an inwardly extending annular rim about the upper end of said upper section defining a central opening in said upper end, said annular rim being arcuate in cross-section with its concave side facing downwardly, a perforate cover hinged to said rim for closing said central opening, releasable latch means constructed and arranged between the casing sections for securing said casing sections in relatively extended position, and means mounted in said lower casing section for heating and circulating air through said drying chamber, said means for circulating air including a horizontally disposed fan rotatably mounted below said foraminous wall, and an annular baffle secured to the wall of the lower casing section about the periphery of the fan.

3,259,997
APPARATUS FOR HEAT EXCHANGE BETWEEN GAS AND FINE-GRANULAR MATERIAL
Franz Müller, Bensberg-Refrath, Germany, assignor to Klöckner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany, a corporation of Germany
Filed Oct. 22, 1962, Ser. No. 232,151
Claims priority, application Germany, Oct. 31, 1961, K 45,086
4 Claims. (Cl. 34—57)

1. Apparatus for heat exchange between gas and fine-granular material comprising a plurality of dust-from-gas separators and respective gas conduits serially interconnecting said separators to form a continuous gas path therethrough, material conveying means having pipe means extending from each subsequent separator relative to said gas path to the gas conduit entering the preceding separator, said material conveying means forming a path for material generally in counter flow to the gas, said gas conduits having a polygonal cross section whose internal side length is less than 2 meters and internal cross-sectional area is greater than the square of 2 meters, and the polygon wall portions of said conduits having normally closed cleaning openings extending through the wall portion at an acute angle to the wall surface near one of the longitudinal edges of the wall portion with the axis of the respective openings substantially parallel to the inner surface of the next adjacent wall portion, whereby the entire width of said inner surface is accessible through said opening to cleaning by a tool shorter than the inner width of said conduit.



3,259,998
DEVICE FOR THE FLUIDIZATION OF POWDERED MATERIALS
Jean-Claude Leclere, Saint Germain-en-Laye, and Jean Rouanet, Metz, France, assignors to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, France, a professional institution of France
Filed Aug. 7, 1963, Ser. No. 300,517
Claims priority, application France, Aug. 17, 1962, 907,139, Patent 1,338,537; Dec. 1, 1962, 917,269, Patent 82,698
8 Claims. (Cl. 34—57)

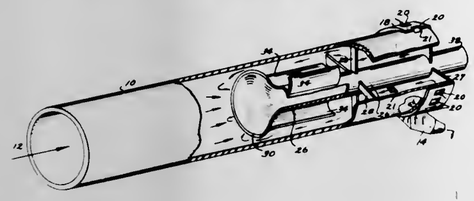


1. A device for the fluidization of pulverulent material, comprising, in combination, an upright vessel having a bottom wall formed with at least one outlet opening therein the latter directly communicating with the interior of said vessel, and including a peripheral wall extending upwardly from the peripheral portion of said bottom wall; a plurality of tubes located adjacent said bottom wall and extending in substantially radial direction from a peripheral zone of said vessel towards the center thereof, said tubes having top faces directed upwardly away from said bottom wall and being formed with substantially upwardly directed apertures; and compressed gas distributing means operatively connected to said tubes, respectively, for introducing compressed gas into the same.

3,259,999
COMBINATION COOLER-DRYER

Richard F. Brown, Savannah, Ga., assignor to Southern Nitrogen Company, Inc., Savannah, Ga., a corporation of Georgia

Filed Nov. 26, 1963, Ser. No. 326,055
7 Claims. (Cl. 34—135)



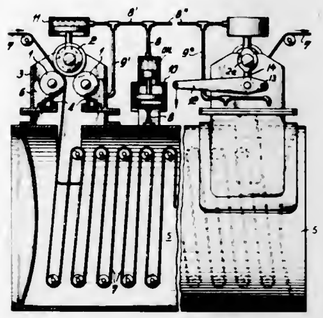
1. Apparatus for continuously drying and cooling moist agglomerates, said apparatus comprising a rotatable continuous cylindrical drum having a fully open material inlet end and a substantially closed material discharge end, said discharge end being disposed opposite said inlet end and being connected to said inlet end by means of a continuous cylindrical wall, said discharge end being provided with outlet means to discharge dried and cooled agglomerates therefrom; means for supplying moist agglomerates to said inlet end; means for supplying a hot drying gas to said inlet end to dry agglomerates fed into said drum; said drum being tipped downwardly for advancing said agglomerates through said drum from the inlet end to said discharge end; conduit means spaced concentric with the longitudinal axis of said drum extending inwardly from an opening therefor in the discharge end of said drum, said conduit means terminating in an inner opening having an outwardly curved end at a point within said drum and intermediate the ends thereof, the curved end of said conduit means being spaced a relatively short distance from the cylindrical wall of the drum, the curved end and cylindrical wall forming a drying zone with the inlet end of said drum and forming a cooling zone with the discharge end of said drum; cooling gas openings in the cylindrical wall of the drum near the discharge end and extending around the periphery of the cylindrical wall; means at the discharge end of the drum for feeding cooling gas into the cooling gas openings and then into said drum and means associated with the conduit means and operative through the open inner end thereof for drawing drying gas and cooling gas through said drying and cooling zones respectively, and discharging said gases from said drum, wherein the drying gas is supplied in heated condition to the open inlet end from a source outside said apparatus.

3,260,000
PRESSURE ABSORBER ARRANGEMENT FOR PROCESSING WEBS OF TEXTILE GOODS

Günther Schiffer, Krefeld, Germany, assignor to Joh. Kleinewefers Söhne, Krefeld, Germany

Filed July 9, 1962, Ser. No. 208,373
Claims priority, application Germany, July 15, 1961, K 44,254
4 Claims. (Cl. 34—242)

1. A pressure absorber arrangement for processing webs of textile goods, which includes: a pressure container for receiving and containing a pressure medium, said pressure container being provided with an inlet and an outlet, a first conveying and sealing unit arranged at said inlet, a second conveying and sealing unit arranged at said outlet, each of said units including a plurality of roller means for passing a web of textile goods therethrough and respectively into and out of said pressure container, first means connected to at least one of said roller means and continuously pressing it in the direction toward the other roller means of the same unit, second means connected to at least one of said roller means for pressing the same in the direction toward the other roller means of the same unit, said second means being pressure fluid operable, means for supplying fluid to said pressure fluid operable means comprising piston means



including a smaller first effective area connected with said fluid operable means and a larger second effective area, and means communicating with the interior of said pressure container for conveying pressure from the latter to said second effective area thereby to cause said first area to supply fluid at a pressure greater than the pressure in said container to said pressure fluid operable means.

3,260,001
TELESCOPE SIGHT MOUNT FOR FIREARMS

William R. Weaver, % Weaver Mfg. Inc., 7125 Industrial Ave., El Paso 15, Tex.

Filed Apr. 5, 1963, Ser. No. 270,888
8 Claims. (Cl. 33—50)



1. For use with firearm having a pair of spaced apart longitudinally extending grooves disposed on an upper portion thereof, a telescope sight mount removably attachable to said firearm, comprising, a sight-supporting bracket member formed from a single continuous strip of sheet metal, said bracket member including an arcuate body portion shaped to encircle more than one-half the circumference of the barrel of a telescope sight, the ends of said body portion being turned outwardly at angles to said body portion to define a pair of spaced apart legs, inturned toe portions at the free ends of said legs receivable in said grooves, a screw member extending transversely between said legs intermediate the free ends of said legs and said body portion and spaced from the firearm and the sight barrel adapted to draw said legs toward each other whereby to clamp said arcuate body portion about the sight barrel and to urge said toe portions into clamping engagement in said grooves, said angles being selected to provide a spacing between the legs such as to permit a limited degree of relative movement between the legs while the body portion remains tightly clamped about the sight barrel.

3,260,002
SNOW PUSHER HAVING EQUALIZER GUIDE SCRAPER TONGUE MEMBER

Sterling P. Bresch, 9917 Fonda Drive, St. Louis County 37, Mo.

Filed Sept. 25, 1963, Ser. No. 311,393
8 Claims. (Cl. 37—53)

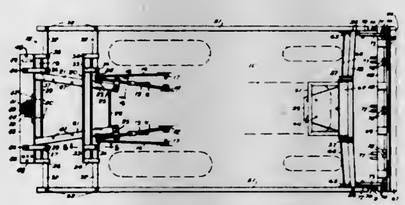


1. A snow pusher comprising
(a) a pair of triangularly shaped side panels joined at a common top edge and meeting in an apex, said panels defining a hollow pyramidal shape open at the bottom and at one end,
(b) a guide member mounted on the apex, said guide member including a flat planar base extending forwardly of said apex and aligned with the plane defined by the bottom edges of the triangular panels, and a hollow body congruent to said pyramidal shape mounted on and projecting over the base, the apex of the snow pusher panels being received within the hollow body, and
(c) means securing the guide member to the triangular panels.

3,260,003
BULLDOZER OR LIKE IMPLEMENT FOR ATTACHMENT TO A TRACTOR

Colin Henry Rolfe, Wheelholme, Springsure, Queensland, Australia

Filed June 4, 1963, Ser. No. 285,522
2 Claims. (Cl. 37—144)

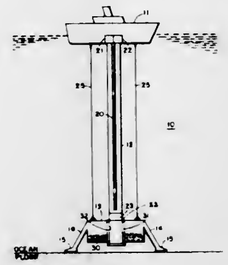


1. A tractor-mounted implement including: a tractor; rearwardly extending power-operated lifting arms on said tractor; a first frame including a pair of carrying arms rigidly connected together and lying one on either side of said tractor; a working head mounted on said first frame in front of said tractor; a rear frame rigidly attached for unitary movement with said lifting arms; a detachable but rigid connection between said first frame and said rear frame, a transverse tool bar pivotally attached to said rear frame; spaced tool attachment means on said tool bar; and correspondingly spaced attachment means on said working head suited to engage said tool attachment means.

3,260,004
DEEP-SEA MINING METHOD

Warren B. Brooks, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed Sept. 9, 1963, Ser. No. 307,631
6 Claims. (Cl. 37—195)



1. In apparatus for mining mineral materials from the ocean floor, the combination which comprises:
(a) buoyant means adapted to float at the surface of a body of water;
(b) conduit means extending downwardly from said buoyant means through said body of water toward the floor thereof;
(c) valve means at the lower end of said conduit to control the flow of water into the lower end of said conduit;
(d) means at the lower end of said conduit for preventing flow of mineral materials into said conduit;
(e) bin means supported on the lower end of said conduit means, said bin means being provided with well means for receiving said conduit means so that said bin means may be lifted upwardly around said conduit means;
(f) a plurality of cables extending from said bin means to said buoyant means;
(g) means connected to said bin means for picking up said mineral materials from said floor and conducting said materials into said bin means; and
(h) means supported on said buoyant means for evacuating water from said conduit means.

3,260,005
METHOD OF ASSEMBLING A STEAM IRON BASE

Nelson E. Loomis, Colebrook, Conn., assignor to Son-Chief Electrics, Inc., Winsted, Conn., a corporation of Connecticut

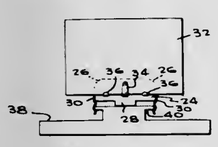
Filed June 2, 1965, Ser. No. 460,757
3 Claims. (Cl. 38—77)



1. In a method of assembling a steam iron, the steps of; placing a locator plate having openings therein upon a soleplate provided with a plurality of outlet ports and upstanding integral orientation pins with said openings registering with said orientation pins, said locator plate having a peripheral surface which when positioned by said orientation pins will be equispaced throughout its length from said outlet ports; placing a heating element on said soleplate within the space between said locator plate and outlet ports; uniting said locator plate and heating element to said soleplate; attaching a cover over said united locator plate and heating element with said cover providing a common generating chamber enclosing said

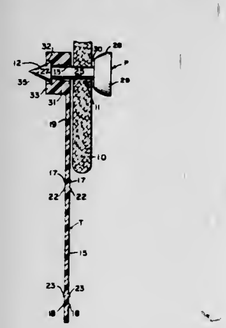
locator plate openings and said soleplate outlet ports; sealing the periphery of said cover to said soleplate, heating element and locator plate to maintain said chamber fluid-tight; and attaching a water reservoir above said cover.

3,260,006
CARD CLIP
Anatoly Dunajew, Haledon, N.J., assignor to Dunmar Products, Inc., a corporation of New Jersey
Filed Dec. 13, 1963, Ser. No. 330,276
2 Claims. (Cl. 40—124)



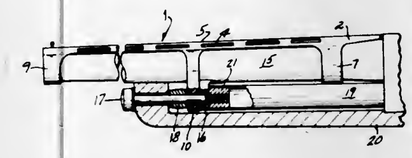
1. A holder for card-type clip finder systems, comprising a mount of T-form cross-section including a cross-arm having opposed ends, a card clip having spring legs projecting laterally away from a side thereof and adapted to snap over the ends of the cross-arms, a central tab extending between and in the same direction as said legs for engagement with said cross-arm intermediate said ends thereof, and card-holding means carried on said clip, said card-holding means comprising a central S-form spring tabs struck from said clip, and an outer tab struck from said clip at opposed ends thereof, said S and outer tabs being adapted to support the bottom edge of said card.

3,260,007
ANIMAL TAGS
Norman J. Hayes, 2138 Shoshone Trail N., Cody, Wyo.
Filed Jan. 14, 1965, Ser. No. 425,498
5 Claims. (Cl. 40—301)



1. The combination of an animal tag and a pin for attaching said tag to the ear of an animal, said tag being formed of sufficiently resilient material to bend or twist during use and having a flat base providing a space on each side adapted to carry an identification mark, each said space having a surface capable of receiving a marking ink or the like;
a neck extending upwardly from said base and integral therewith, said base being wider than said neck and said neck having a length sufficient that said identification space on both sides of said base will be visible below the ear of an animal to which the upper end of said neck is attached;
a socket integral with said neck at the upper end thereof and having a thickness greater than said base and neck, said socket extending laterally to one side from said neck, and having a flat, outer end, said socket having a lateral hole therein which decreases in diameter toward said outer end and a well of larger diameter than said hole at the end of lesser diameter; and
said pin being formed of less resilient material than said tag, but non-toxic to said animal, said pin having:
a cylindrical stem having a diameter slightly greater than the maximum diameter of said socket hole;
a coaxial, circular button at one end of said stem having a flat rear end;
a coaxial, conical point at the other end of said stem, said conical point having a rear rim of a diameter greater than that of said stem but less than that of said well and said conical point being self piercing, thereby permitting said ear tag to be installed by pushing said point through a lower, insensitive portion of the ear of an animal and into and through said socket hole, through pressure between said button and the flat end of said socket; and
said neck being flat against said ear of said animal, both during and after installation.

3,260,008
SIGHT FOR FIREARMS
Arthur S. Yeomans, Jr., Northford, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Aug. 3, 1964, Ser. No. 386,949
5 Claims. (Cl. 42—1)

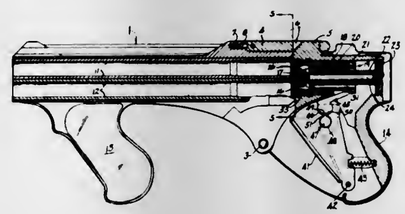


4. A gun having a barrel and a sight rib detachably mounted on said barrel, said rib comprising an elongated member of flexible material having between its ends a length of upper sight surface, said member having dependent therefrom intermediate said ends a single mounting band integral with said member and having a main opening for receiving said barrel under said member and also having a secondary opening extending parallel with said main opening for receiving another of the existing gun parts in parallelism with said barrel for detachably fixing said rib on said barrel, said member having means for maintaining said ends and substantially all of said member therebetween in contiguity with said barrel and retained against lateral movement, an apertured barrel bracket depending from said barrel, said gun including among its other existing gun parts a forearm and a detachable take-down screw adapted for passage into the secondary opening of the mounting band and said bracket aperture for screw threaded fixation to said gun and detachably mounting said rib with at least longitudinal fixation on said barrel with said band adjacent at least one of said forearm and said bracket.

3,260,009
MULTI-BARREL FIREARM WITH ROTATABLE AND RECIPROCABLE HAMMER
Robert L. Hillberg, Cheshire, Conn., assignor to Olin Mathieson Corporation, a corporation of Virginia
Filed Dec. 23, 1964, Ser. No. 420,562
3 Claims. (Cl. 42—69)

1. A multi-barrel firearm including a barrel housing and trigger housing pivotally joined together, a plurality of barrels each having a cartridge receiving chamber

mounted in said barrel housing, a breech plug mounted in said trigger housing, a plurality of firing pins slidably mounted in said breech plug, each of said firing pins being aligned with a cartridge receiving chamber, a cylindrical rotary hammer mounted rearwardly of said firing pins, means mounting said rotary hammer in said trigger housing for rotation and for reciprocation toward and away from said firing pins along its longitudinal axis which is parallel to the longitudinal axes of said barrels, said rotary hammer including a forward face having recesses aligned with all but one of said firing pins so that said rotary hammer is engageable with only one firing pin at a time, a trigger pivotally mounted in said trigger housing engageable with said hammer to move said hammer rearwardly relative to said breech plug and release said hammer each time said trigger is pulled, spring means biasing said hammer toward a forward position adjacent said breech plug, a cam track formed in the outer surface of said rotary hammer, and means mounted in said trigger housing engaging said cam track to rotate said hammer into engagement with another firing pin each time the hammer is moved fore and aft.



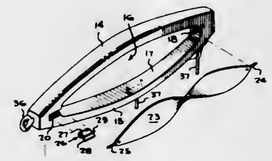
3,260,010
FISHING ROD
Henri Dubois, 23 Rue Henri Barbusse, Levallois-Perret, France
Filed May 24, 1963, Ser. No. 283,671
Claims priority, application France, June 22, 1962, 901,561
4 Claims. (Cl. 43—18)



3. A glass fiber fishing rod formed as a tube with the walls of the tube comprising rolled layers of strips of glass fiber material of the type in which the fibers lie in parallel lines, with each strip rolled relatively to the longitudinal axis of the rod with said axis at an angle of but a few degrees from parallel to the glass fibers of each strip, and with said strips alternating in angularity so that the fibers of one rolled strip are at an acute angle relatively to the fibers of the next superimposed strip.

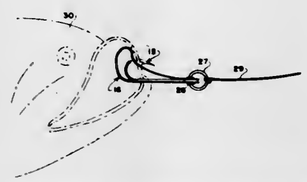
3,260,011
FISH LURE
Donald K. Reamy, 19 Winnard Road, Hampton, Va.
Filed May 1, 1964, Ser. No. 364,214
1 Claim. (Cl. 43—42.09)

A fish lure comprising, an elongated body having a central aperture and closed ends, a cylindrical bearing seat in one end of the body open to the central aperture, a bearing housing in the other end of the body open to the central aperture and to the exterior of the body, a resilient clip in the bearing housing, the clip having an open arcuate central section with separable legs extending therefrom defining an entrance throat into the central section, the bearing housing having an enlarged recess to receive the central section of the clip, means on the



body for abutment by the legs of the clip to yieldingly hold portions of the clip legs in contact to close the throat into the central section of the clip, and a spinner having shaft means extending therefrom for seating in the cylindrical bearing seat and snapping into the central section of the clip to removably support the spinner for rotation within the aperture in the body.

3,260,012
FISH HOOKS AND LURES
Milton M. Stolzer, 630 Cedar St., Uniondale, N.Y.
Filed Aug. 26, 1964, Ser. No. 392,173
9 Claims. (Cl. 43—42.1)

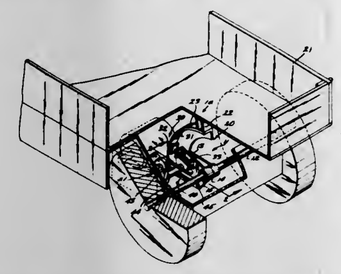


1. In a device of the character described, a fish hook comprising an elongated shank having a bight at one end which terminates in a point; the other end of the shank being formed as an eye; the plane of said eye being perpendicular to the plane of said bight, and a guard including a tubular structure made of a strip of springy material having a hole at each end thereof; said eye being at the ends of said strip, and means to maintain the assembly, positioned through said eye and holes; said tubular structure being deformable when pinched to flatten; said springy strip having an elongated slot therethrough; said shank being positioned on said tubular structure whereby said point is normally within said tubular structure adjacent said slot in said strip and so that when the tubular structure is pinched to flatten, said slot in said strip will approach the shank, and said point of the hook will pass out of the tubular structure through said slot in said strip.

3,260,013
TOY DUMPING MECHANISM
John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Jan. 22, 1964, Ser. No. 339,412
7 Claims. (Cl. 46—40)

1. A simple, reliable toy dumping mechanism adapted to compensate for overloads thereon while permitting manual operation, comprising:
(a) a dumping arm pivotally mounted on a support axle;

(b) positioning means operatively connected with said dumping arm for rotating it to and between a dumping position and a receiving position;
(c) pivotally mounted frame means for supporting a container; and
(d) coupling means for operatively connecting said dumping arm to said frame means, said coupling



means being adapted to permit said dumping arm to regulate said container position under normal loading conditions of said container, to permit said dumping arm to move independently of said container when said container is overloaded and to permit said container to be manually moved independently of said dumping arm.

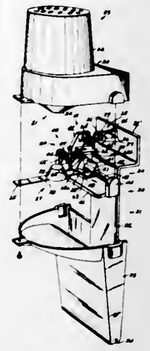
3,260,014
ROPE SPINNING SWIVEL
Leonard D. Krueger, 4580 Flower St., Arvada, Colo.
Filed July 8, 1963, Ser. No. 293,500
3 Claims. (Cl. 46—47)



1. A spinning rope organization comprising, in combination, a hondo defining an eye and a stem extending therefrom, a rigid arcuate rope-simulating member extending through and fixed within said eye, said member having a first free end extending generally normal to the plane of said eye and a second free end extending generally away from and in alignment with said stem, a loop length of rope having one end affixed to said stem and the other end affixed to said second end of said arcuate member, and means mounting a handle length of rope on the first free end of said arcuate member for swiveling movement with respect thereto whereby said loop and hondo swivel with respect to said hand e length of rope.

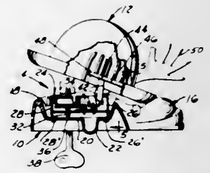
3,260,015
BABY DOLL BURP MECHANISM
John W. Ryan, Bel Air, Calif., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Apr. 22, 1964, Ser. No. 361,766
9 Claims. (Cl. 46—117)

6. A baby doll burp mechanism adapted to be operated by patting the baby doll on the back and to periodically produce a burp sound when operated so as to simulate the actual behavior of a baby, comprising: sound producing means within a baby doll and adapted to emit a burp sound when operated; control means in said doll arranged to operate said sound producing means in response to only a predetermined total stimulus applied thereto; actuator means responsive to patting the body of said baby doll for applying to said control means a



stimulus less than said predetermined total stimulus, said control means including means for accumulating successive stimuli from said actuator means to thereby actuate said sound producing means.

3,260,016
OSCILLATING AMUSEMENT DEVICE ADAPTED TO SIMULATE A COMIC HUMAN CHARACTER
Adolph E. Goldfarb, 6927 Eagle Ave., North Hollywood, Calif.
Filed Mar. 12, 1964, Ser. No. 351,454
1 Claim. (Cl. 46—119)



An amusement device adapted to simulate a comic human character comprising, a base simulating a pair of shoe members, a simulated hat positioned directly above said pair of shoe members, said shoe members extending a short distance up into said hat at their rearward end with the front end of said shoe members extending forwardly beyond the front of said hat presenting a visual impression that the head and body of a human character is telescoped between the hat and base, means mounting said simulated hat relative to said shoe members for oscillating movement of said simulated hat, said means including a motor for oscillating said simulated hat with respect to said shoe members, a simulated pair of arms and hands extending outwardly from under said simulated hat, said arms and hands being provided with means whereby they quiver as the hat is oscillating.

3,260,017
ELECTRICALLY ACTUATED TOY SPACE STATION HAVING LAMP MEANS
Robert A. Wolfe, 455 Elizabeth Ave., Newark, N.J.
Filed Apr. 17, 1964, Ser. No. 360,712
3 Claims. (Cl. 46—226)

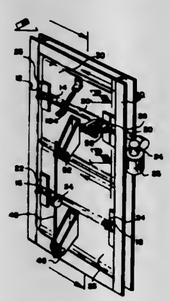
1. A toy space station comprising gas-tight container means simulating the appearance of a space station, adapted to be filled with a gas which is lighter than air, and when filled with said gas, tending to rise, said con-

tainer means carrying at least one lamp which is visible at the exterior of said container means, a hold-down unit adapted to be situated directly beneath said container means on a suitable surface, said hold-down unit carrying a rotary reel means and a reversible electric motor means operatively connected to said reel means for turning the latter in one direction or another, electrical wiring connected to said reel means to be reeled on to the same or paid out of the same depending upon the direction of rotation of said electrical motor means, said electrical wiring being mechanically connected to said container means for controlling the elevation thereof, said hold-down unit being heavy enough to remain stationary on a given sur-



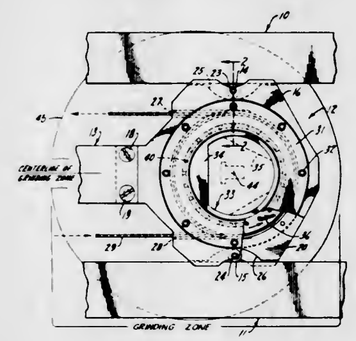
face while said container means due to its tendency to rise pulls upwardly on said electrical wiring to become situated at an elevation controlled by said reel means, said electrical wiring also being electrically connected with said lamp, a control unit spaced from said hold-down unit and connected with the latter through additional electrical wiring which is electrically connected with said motor means and with the electrical wiring extending from said reel means to said container means and lamp, and a pair of switch means connected to said additional wiring, carried by said control unit, and accessible to the operator for controlling the operation of said motor and for controlling the operation of said lamp, respectively.

3,260,018
DOOR CLOSING MECHANISM
Wilmer R. Schuh, 8245 N. 27th Ave., Space B69, Phoenix, Ariz.
Filed Feb. 26, 1964, Ser. No. 347,491
7 Claims. (Cl. 49—7)



1. In a door closing mechanism the combination of: an outline frame having an opening therein; a closure member pivotally mounted therein; an actuator shaft pivotal relative to said closure member; holding means tending to hold said shaft against rotation relative to said frame; a latch member mounted on said closure member; an outwardly diverging V-shaped notch in said shaft; said latch member having an inwardly directed complemental V-shaped portion engageable with said V-shaped notch; a fusible link tending to hold said latch member in said notch; and first means tending to close said closure member with respect to said opening in said frame, said closure member pivoted about the axis of said shaft, said link when intact holding said latch member to connect said closure member to said shaft and whereby rupture of said link releases said latch member and permits cam action of said V-shaped portion of said latch member in said V-shaped notch portion of said actuator shaft to eject said latch member therefrom under influence of said first means tending to pivot said closure member relative to said shaft and, thus, permitting pivotal movement of said closure member relative to said shaft.

3,260,019
GRINDING METHOD
Sidney M. Napp, Rockton, Ill., assignor to Besly-Welles Corporation, South Beloit, Ill., a corporation of Illinois
Filed Apr. 18, 1963, Ser. No. 274,000
4 Claims. (Cl. 51—281)

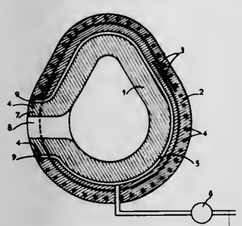


1. In the method of grinding a planar surface on a workpiece, the steps comprising
orienting a workpiece having a planar surface to be ground with the planar surface disposed in a plane generally coincident with the grinding plane of a rotating, axially fixed grinding wheel in a grinding zone,
moving the center of the workpiece laterally past the grinding wheel along a continuously advancing rectilinear path of travel which is oriented at right angles to the axis of rotation of the grinding wheel,
maintaining the planar surface to be ground in the grinding plane as the workpiece is advanced into, through, and out of the grinding zone to a point in its path of travel at which the workpiece leaves contact with the grinding wheel, and
positively imparting rotational movement having a constant peripheral velocity to the workpiece during the time it is in contact with the grinding wheel.

3,260,020
CONCENTRIC CHAMBERED PRESTRESSED UNIT
Pierre Patin, Paris, France, assignor to Compagnie d'Ingenieurs et Techniciens d'Etudes (CITE), Paris, France, a company of France
Filed May 23, 1963, Ser. No. 282,784
Claims priority, application France, May 24, 1962, 898,690
5 Claims. (Cl. 52—2)

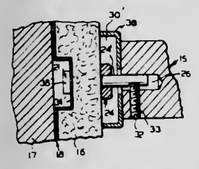
1. A prestressed unit comprising a substantially closed concrete inner chamber, a plurality of metal reinforcements surrounding the chamber and spaced therefrom, a

concrete shell covering said reinforcements and defining a cavity around the inner chamber, a fluid tight layer



engaging said shell in the cavity and a product under permanent pressure in the cavity.

3,260,021
MEANS FOR MOUNTING FIXTURES AND APPLIANCES ONTO PLASTER OR TILE WALLS
Jacob M. Katz, 357 E. 57th St., New York, N.Y.
Filed Sept. 27, 1962, Ser. No. 226,685
4 Claims. (Cl. 52—27)



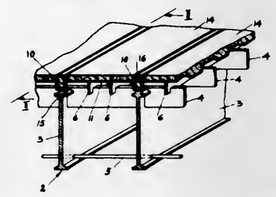
1. In combination with an item having a base positioned against the surface of a wall structure comprising a masonry wall faced with a flat finishing layer of wall material, a template member positioned against the masonry wall and formed with a channel therealong whose longitudinal opening is against the masonry wall; the template being perforated aside the channel; said template member being mounted with an adhesive onto the masonry wall and imbedded within said finishing layer; said channel having a floor wall, two nuts fixed to said template member in predetermined spaced relation; each of said nuts being a T-nut comprising a headed interiorly threaded shank; the heads of said nuts being within the channel and their shanks extending respectively through holes in said floor wall; said nuts extending from said template member, to and flush with the surface of the wall structure, a tenon plate positioned on the surface of said wall structure, having a forwardly extending post intermediate two holes in said plate; said holes being in said spaced relation, screws passed through said holes and threadedly engaging said nuts whereby said tenon plate is securely held against the surface of the wall structure; the base of said item having a cavity opening at the wall structure; the tenon plate being within said cavity, a bracket extending from said base of said item, forwardly of the wall structure; said bracket having a socket communicative with said cavity; said post being within said socket, and means on the bracket, releasably engaging said post.

3,260,022
PAPERBOARD ARCHES
Reynolds Guyer, Peninsula Road, White Bear Lake, Minn., and Peter A. Palony, St. Paul, Minn.; said Palony assignor to said Reynolds Guyer, doing business as Reynolds Guyer Agency of Design, St. Paul, Minn.
Filed Sept. 24, 1962, Ser. No. 225,475
6 Claims. (Cl. 52—86)

1. A decorative arch including,
a plurality of arch portions of relatively rigid sheet material,
said arch portions being of angular form and each including a base panel and a side panel at substantially right angles to said base panel,
means extending through, and connecting the ends of said side panels of adjacent arch portions in overlapping relation and said base panels of adjoining arch portions being foldably connected along parallel fold lines,
and separate flaps hinged to the base panel and side panel at the ends of said arch.



3,260,023
BRIDGE FLOOR AND SURFACING COMPONENT THEREFOR
Harry S. Nagin, Merion, Pa., assignor to Reliance Steel Products Company, McKeesport, Pa., a corporation of Pennsylvania
Filed Aug. 15, 1962, Ser. No. 217,021
2 Claims. (Cl. 52—181)



1. A bridge floor comprising a grating constituting a deck support, the grating having parallel main bearing bars and cross bars, the main bearing bars having a lateral flange portion at the top thereof extending from each side of the vertical central plane of the bar the grating being covered by panels welded thereto providing a traffic bearing surface, said panels each comprising parallel spaced side bars and a transversely-corrugated sheet metal bottom member extending between the side bars and joining them, the ridges of the corrugations terminating below the top edges of the side bars and the bottoms of the corrugations being at a level such that the panel sets on the grating with the side bars resting on the lateral flanges of the main bearing bars and bottoms of the sheets are supported by the grating between the main bearing bars, a filling in the space between the side bars and above the bottom comprised of epoxy resin and an aggregate cured in situ in the panel, the bottom edges of the side bars being welded to the grating bars at intervals therealong at points under the ridges of the corrugated bottom where the filling is at a level above the point of welding.

3,260,024
PRESTRESSED GIRDER
Gerald Gregory Greulich, 3018 NE. 20th Court, Fort Lauderdale, Fla.
Original application May 2, 1962, Ser. No. 191,966, now Patent No. 3,166,830, dated Jan. 26, 1965. Divided and this application Dec. 27, 1963, Ser. No. 333,880
6 Claims. (Cl. 52—223)

1. A girder comprising a prefabricated prestressed concrete top chord including metal gusset plate means embedded therein and projecting downward therefrom, a top and bottom chords, and means rigidly securing the prefabricated pretensioned metal bottom chord spaced from the top chord, a metal web disposed between the

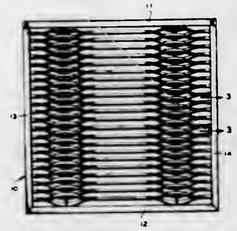


top and bottom of the web to the projecting gusset plate means and to the bottom chord, the web maintaining the bottom chord in pretensioned condition.

3,260,025
PRECOMPRESSED VERTICALLY STACKED, PREFABRICATED BUILDING ELEMENTS
Cornelis van der Lely, Zug, Switzerland, assignor to C. van der Lely N.V., Maasland, Netherlands, a limited-liability company of the Netherlands
Filed May 16, 1961, Ser. No. 110,376
Claims priority, application Netherlands, May 30, 1960, 252,145
3 Claims. (Cl. 52—228)

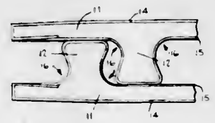
1. A building structure which comprises: a plurality of vertically stacked prefabricated elements; said elements including a foundation element, a floor element, a wall element, and a roof element; said said elements each composed of bonded material; said elements each including an elongated cavity, said cavities being in vertical alignment and providing a continuous passageway through said elements; said elements including embedded anchor plates; screw-threaded rod means received in said cavities and extending through said continuous passageway provided thereby; said screw-threaded elements adjustably retained by said anchor plates in tension with said elements thereby in opposed compression; plastic sealing material interposed substantially continuously between said elements, said sealing material being in compression opposed to the tension of said rod means; and a facing of paper-like material integral with the surfaces of the vertical sides of said elements.

3,260,026
SOLAR SCREEN
James C. Bacon, Woodland Hills, Calif., assignor, by mesne assignments, to Alcan Aluminum Corporation, New York, N.Y., a corporation of New York
Filed Feb. 24, 1964, Ser. No. 346,628
9 Claims. (Cl. 52—473)



1. Screen wall structure providing substantially complete shade from direct light rays comprising a frame member and a plurality of relatively narrow horizontally disposed elongated panels having free edges thereon supported within said frame member in uniformly spaced vertical alignment, each of said panels being provided with at least one relatively narrow longitudinally disposed slot, and a vertically disposed spring bar of greater width than said slot extending through the vertically aligned slots of said horizontally disposed panels and positioned transversely thereof to expand said panels to provide light directing surfaces, the panel material on one side of each slot being curved upwardly with the free edge on said one side directed downwardly and the panel material on the opposite side of each slot being curved downwardly with the free edge on said opposite side directed upwardly.

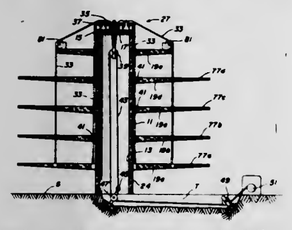
3,260,027
BUILDING BOARD OR THE LIKE
John Page, Glenview, and Rupert J. Straub, Lisle, Ill., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 11, 1963, Ser. No. 264,084
2 Claims. (Cl. 52—602)



2. Building board suitable for forming self-supporting partitions, said building board comprising a gypsum-containing oblong-rectangular sheet substantially flat on the face side and having a plurality of spaced, longitudinally-extending, gypsum-containing ribs integral therewith protruding from the rear side thereof and disposed asymmetrically about the longitudinal center line of said board so that two such boards may be nested with board edges flush, said sheet being not less than about ¼ inch in thickness intermediate the ribs, each of said ribs being substantially parallel to and spaced from the longitudinal edges and not less than about the thickness of said sheet in height with an average transverse thickness not less than about the thickness of said sheet and not more than about 3½ times the thickness of said sheet, the total of the transverse thicknesses of all ribs as measured at mid-height being between about 5 to 25 percent of the width of the building board, each of said ribs also having outermost surfaces substantially in a plane parallel to the face side and strengthening means adjacent the juncture of said ribs with said rear side, said face side and

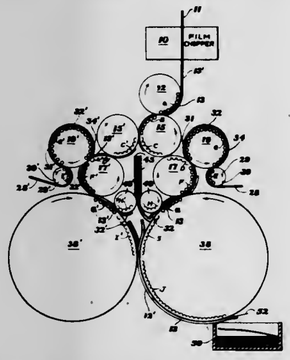
rear side with ribs each having a paper covering adhered thereto, the paper covering having a tensile strength in any direction no less than about 15 pounds per lineal inch.

3,260,028
METHOD OF CONSTRUCTING A BUILDING
R. Lee Fraser, 3723 Northwood Drive, Memphis, Tenn.
Filed July 22, 1963, Ser. No. 296,661
5 Claims. (Cl. 52—745)



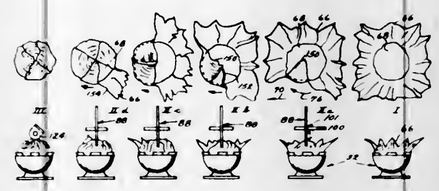
1. The method of constructing a building with hoisting equipment including a plurality of hoisting members, said method comprising the steps of constructing a central substantially large single cylindrical core in upstanding relationship from the supporting ground and with said core having access means to the interior of the building, constructing adjacent the ground and supported therefrom a plurality of substantially annular floors respectively having central substantially circular openings through which said core extends, constructing tensile bands respectively around said floors; by the use of said hoisting equipment respectively attached between said floors and said core and by the use of said core as the support from the ground and said plurality of hoisting members attached to each floor, hoisting said floors successively to position said floors in vertically spaced relationship and with the upper one being hoisted first to a position adjacent the top of said core and then on down to the bottom one to a position adjacent the bottom of said core and with the positioning of said floors being such that the distances between adjacent floors are less than the diameter of said cylindrical core.

3,260,029
ROTARY FOLDING ARRANGEMENT
Harry A. Kubick, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 18, 1963, Ser. No. 265,770
9 Claims. (Cl. 53—3)



8. A folding method for wrapping a film sheet in a porous paper comprising the steps of:
developing a flow of separate and consecutively non-overlapping film sheets;
conveying alternate film sheets in separate but symmetrical paths;
laying a trailing portion of a wrapping paper over each of the film sheets during traversal of the paths with the leading portion of the paper being of a length substantially equal to that of the film sheets;
transferring the composite sheet and paper to a next conveyor means so that the film sheet overlays the paper;
conveying the composite film sheet and paper toward a folding region;
diverting by means of a substantially reduced force the leading portion of each respective paper to the middle thereof in a direction so that it partially overlaps the film sheets; and
detecting the diverted alternate leading portions at a location normally having at least one leading portion present.

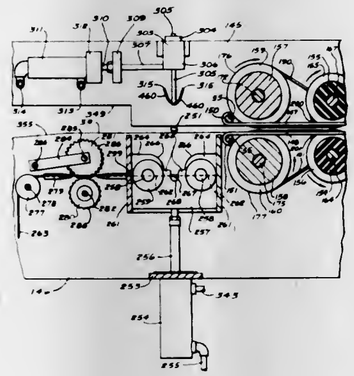
3,260,030
AUTOMATIC WRAPPING APPARATUS
Fritz Wach and Robert A. Stratton, Yuma, Ariz., assignors to Wastron Developments, Incorporated, Yuma, Ariz., a corporation of Arizona
Filed June 29, 1962, Ser. No. 206,212
24 Claims. (Cl. 53—34)



1. A method of wrapping with flexible wrapping material an article which has at least a portion of its periphery in the form of a generally rounded surface, comprising the steps of:
partially wrapping said article by disposing said wrapping around the article except for a given area of said rounded surface portion, where it extends outwardly from the article,
moving the partially wrapped article forward along a given path,
rotating the so moving article about an axis generally perpendicular both to the forward direction and to the width of said path, and
closingly forcing the outwardly extending wrapping material on the rotating forwardly moving article inwardly over said given area and flatwise thereagainst to effect a fully wrapped article.

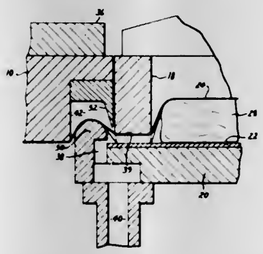
3,260,031
LOAF PACKAGING MACHINE
Duard W. Enoch, Kansas City, Mo., Clarence A. Kieffaber, Overland Park, Carl C. Perkins, Jr., Prairie Village, and Roger J. Schroeder, Overland Park, Kans., and Merlin A. Stickelber, Kansas City, Mo., assignors to Interstate Bakeries Corporation, Kansas City, Mo., a corporation of Delaware
Filed Jan. 29, 1963, Ser. No. 254,749
11 Claims. (Cl. 53—76)

8. In a bread loaf packaging machine, a table, means for depositing in a predetermined location on said table a wrapped bread loaf having a portion of the wrapper extended in open ended flattened tubular form endwise therefrom, twisting means for said extended portion of said wrapper, means for applying a tie to the twisted wrapper after said twisting means has completed the twisting thereof, and means for controlling the sequence of operations of said twisting means and tie applying means, comprising a plurality of circuit controlling cams, a continuously rotating cam shaft and means for supplying



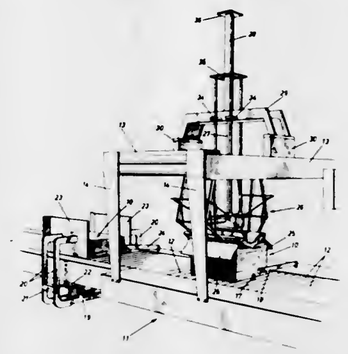
electrical energy to the circuits controlled by said cams, comprising switching means engaged by said wrapped loaf upon reaching said location on said table and switching means actuated by one of said cams.

3,260,032
APPARATUS FOR MAKING PACKAGES
William M. Hill, The Gore, Ayr, Ontario, Canada, and Peter D. J. Dicks, 138 Vero Beach Blvd., Weston, Ontario, Canada
Filed June 7, 1963, Ser. No. 286,222
8 Claims. (Cl. 53—112)



8. In a packaging machine clamping means including a first ring and a base for clamping a piece of packaging film, support means for supporting an article to be packaged on a package base in spaced relation to a piece of film in said clamping means, means including a film heating device and also including said support means and a second ring for stretching film retained in said clamping means over an article to be packaged and pressing a marginal edge portion thereof against a package base on said support means whereby to form a package, means for evacuating air from the interior of said package, including first passage means formed across the clamping surface of said second ring, second passage means defined by said support means and a piece of film held in said clamping means and adapted to communicate with said first passage means when said support means and second ring press the marginal edge portion of film against said support means, said second passage means being adapted to connect with a source of vacuum.

3,260,033
APPARATUS FOR APPLYING A TOP WRAPPER TO A PILE OF DISCRETE ARTICLES
Harry Shaw, Aurora, Ontario, Albert J. Pearce, Toronto, Ontario, and George S. Blair, Willowdale, Ontario, Canada, assignors to Toronto Star Limited, Toronto, Ontario, Canada
Filed Aug. 21, 1963, Ser. No. 303,566
Claims priority, application Canada, July 10, 1963, 722,944
25 Claims. (Cl. 53—196)



1. Apparatus for securing a length of wrapping paper over the top and opposed sides of a pile of discrete articles, comprising, first means for applying a mid portion of said wrapping paper against the top of said pile, with end portions of said wrapping paper depending against said sides, means responsive to actuation of said first means for separating an upper part of said pile from a lower part at least at the edges thereof and means responsive to separating said upper part from said lower part for tucking said end portions between said separated upper part and said lower part.

3,260,034
COW HALTER INCORPORATING FEED CONTROL MEANS
Frederick A. Major, 8655 Geiger Road, Normandy, Mo.
Filed Jan. 29, 1965, Ser. No. 429,000
6 Claims. (Cl. 54—24)

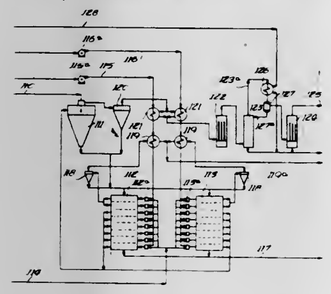


1. In a cow halter of the character described having a headstall including an upper end headstrap segment and a lower end chin strap segment, said segments being connected by a pair of cheek strap segments, the combination therewith comprising:
a wide noseband having each of its opposite end portions secured to one of said cheek straps;
a narrow supporting strap for the noseband having its upper end secured to the halter head strap segment and its lower end secured to the upper edge of the noseband centrally thereof;

a facing of flexible material that is incapable of reflecting light permanently secured to the front surface of said noseband;

and a panel that is highly capable of reflecting light permanently secured to the facing at a selected location intermediate the ends thereof.

3,260,035
METHOD FOR RECOVERING SULFUR DIOXIDE FROM A GAS STREAM
Thomas D. Wheelock and David R. Boylan, Ames, Iowa, assignors to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa
Filed Apr. 29, 1963, Ser. No. 276,559
2 Claims. (Cl. 55—73)



1. In the preparation of sulfur dioxide, the method of removing dust and water from a warm gas stream containing sulfur dioxide, water vapor, and dust, the steps of:

(a) scrubbing said stream contercurrently with liquid water at a temperature high enough to maintain most of said water vapor in said gas stream as vapor and removing said dust with the liquid scrub water;

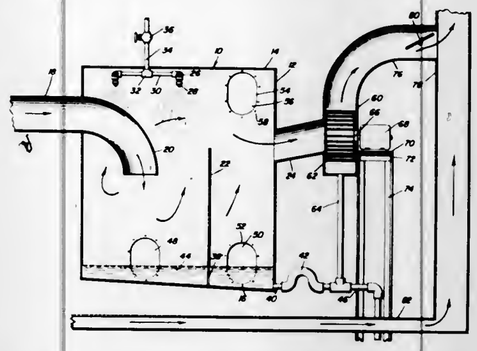
(b) condensing said water vapor in the scrubbed gas stream in a condenser to reduce the water content of said scrubbed gas stream and separating said gaseous sulfur dioxide from the condensed water to provide liquid water for said scrubbing step; and

(c) utilizing said condensed and separated water as at least the major source of the liquid water for said scrubbing step;

whereby the dust and water content of the sulfur dioxide can be effectively reduced with a minimum loss of sulfur dioxide.

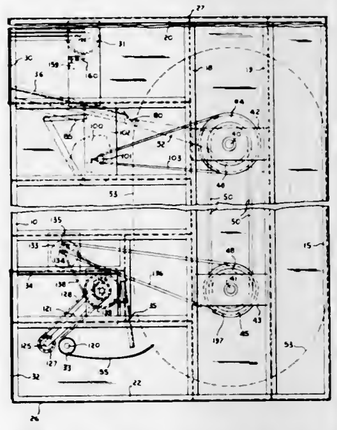
3,260,036
SMOKE WASHER
Frank De Bellis, 300 Harrison St., Gary, Ind.
Filed Mar. 5, 1964, Ser. No. 349,641
5 Claims. (Cl. 55—223)

1. A smoke washing apparatus comprising a hollow housing defined by a peripheral wall, a top and a bottom, said bottom being inclined to form a low point therein, drain means communicated with the low point of the bottom for drainage of water therefrom, a smoke inlet conduit communicating with one side of said housing, a cleaned smoke outlet conduit communicated with said housing at an opposite side thereof in relation to the inlet conduit, an upwardly extending partition disposed within said housing between the inlet and outlet conduit with the partition being connected to the bottom and spaced below the top of the housing, a plurality of water spray nozzles disposed above the smoke inlet conduit whereby incoming smoke will be intermingled with water discharged from the spray nozzles, fan means communicated with the outlet conduit for discharging the clean smoke into a discharge stack, said partition having opening means in the lower edge thereof for enabling passage of water along the inclined bottom, said fan means including a centrifugal type of fan including a fan housing communicated with the outlet conduit and a discharge pipe communicating with the discharge stack, drain means in the lower portion of the fan housing, said



fan housing including a tangential discharge pipe communicated therewith and also communicating with a discharge stack, a damper mounted in the discharge pipe, and a by-pass pipe from the source of smoke communicated with the discharge stack and by-passing the smoke washer when the smoke washer is not in service.

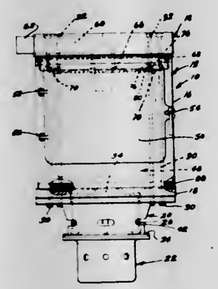
3,260,037
INDEFINITE LENGTH FILTER MEANS WITH PROGRAMMING MEANS
John F. Babbitt and Oscar A. Wurtenberg, Louisville, Ky., assignors to Continental Air Filters, Inc., Louisville, Ky., a corporation of Delaware
Filed Jan. 23, 1963, Ser. No. 253,355
8 Claims. (Cl. 55—271)



4. In a gaseous fluid filter arranged in a duct for confining the flow of fluid and having an upstream space and a downstream space separated by a sheet of filter medium, said filter including a supply roll from which said sheet is unwound to form a fresh portion of the sheet and a take-up roll upon which said sheet is rewound in the form of a spent portion of the sheet, a movable conveyor for transporting said sheet across said duct and having a plurality of hollow blades presenting screen-like surfaces upon which said sheet is supported, reciprocable

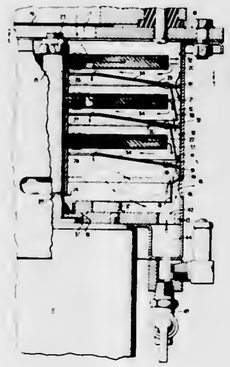
means mounted in said upstream space and extending transversely of said duct for positioning said sheet in contact with said blades, means for actuating said reciprocable means during a portion of the movement of said conveyor, and a motor for driving said conveyor; the combination comprising an electrical system having a circuit including said motor; a relay circuit for starting and stopping said motor, a cam-actuated switch in said relay circuit, said switch being adapted to interrupt said relay circuit at the conclusion of each cycle of movement of said reciprocable means, and means for establishing said relay circuit in order to initiate operation of said motor.

3,260,038
RECEPTACLE AND INTERLOCKING RESILIENT FLANGE SUPPORT MEANS THEREFOR
Claude E. Casady, Occidental Hotel, Muskegon, Mich.
Filed Oct. 16, 1962, Ser. No. 230,913
3 Claims. (Cl. 55—373)



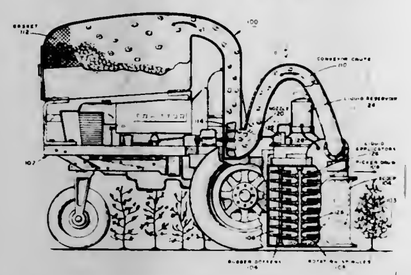
1. Suction cleaning apparatus comprising: a hollow tubular housing having first and second opposite ends; said tubular housing including first and second closing head members at said first and second ends respectively; a motor operated blower means attached to said second head member and fluidly communicating with said second end of said housing; said housing having an inlet duct extending into said housing at said first end, opposite said blower means, and having an outer periphery; said first head member at said first end having a radially inwardly extending annular support flange element having inner and outer peripheral diameters and a flat upper surface; said outer peripheral diameter being connected to said first head member at all points; said flange element having a cutout formed by cutting a chord across it, with the perpendicular distance from the chord to the center of said flange element being less than the inner radius of said flange element; a porous disposable dirt receptacle bag in said housing; said bag having a top end and having said top end supported on said annular support flange element to suspend said bag therefrom; said top end of said bag having a first flat annular element having an inner peripheral diameter forming a central opening receiving said duct, said opening and said duct being constructed and arranged so that the entire periphery of said opening contacts the entire outer periphery of the exterior of said duct, thus creating an airtight seal between the periphery of said opening and the exterior of said duct, said annular element also having an outer peripheral diameter greater than the inner peripheral diameter of said housing support flange element and smaller than the outer peripheral diameter of said housing support flange element; said bag having a second annular element spaced from said first annular element forming an annular outer groove sealingly receiving said housing support flange element; the outer periphery of said second element sealingly secured at all points to all points of the periphery of the top end of said bag; said first annular element of said bag also having a cutout formed by cutting a chord across it, with the perpendicular distance from the chord to the center of said first annular element of said bag being greater than the radius of the inner periphery of said first annular element of said bag and less than the outer peripheral radius of said first annular element of said bag.

3,260,039
CENTRIFUGAL FILTER
Oliver L. I. Brown, Quaker Hill, Mason P. Wilson, Jr., Hartford, and Roger L. Schonewald, Norwich, Conn., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,725
11 Claims. (Cl. 55—403)



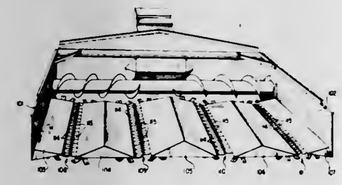
1. A centrifugal filter for removing liquid particles from aerosols which comprises a chamber including an inlet, a liquid outlet and gas outlets, a motor connected to said chamber and having a driven shaft extending into the chamber, a plurality of spaced impellers having drive connections with said shaft, each impeller including a plurality of planar disks, said impellers each comprising a plurality of aerosol inlet passages spaced from said driven shaft and extending through said disks, annular spacers coaxial with and interleaved with the disks of said impellers and forming with said disks a plurality of minute planar passages extending outwardly from said annular spacers radially of said disks, a plurality of baffle means forming a series of adjacent chamber sections, each of said baffle means comprising a substantially cylindrical portion abutting the interior wall of said chamber, each said baffle means comprising a further portion adapted for the reception of aerosols and extending inwardly from said cylindrical portion toward said drive shaft between adjacent ones of said impellers, each of said baffle means having a depending skirt attached to said further portion outwardly of the periphery of the next adjacent downstream impeller, said further portion being substantially circular and provided with means facilitating the transfer of aerosols from said further portion to said plurality of passages in one of said adjacent ones of said impellers, said last-named means comprising an orifice in said further portion adjacent the ends of said last-named plurality of passages, and liquid drain means in said baffle means comprising a plurality of orifices, said liquid drain means being disposed adjacent said interior wall.

3,260,040
COTTON PICKING PROCESS
Edward L. Wilson, Jr., Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Aug. 30, 1963, Ser. No. 305,659
9 Claims. (Cl. 56—41)



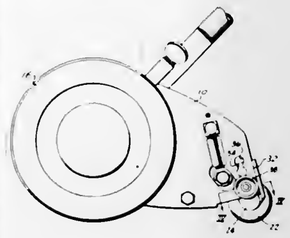
1. In the method of mechanically picking cotton wherein cotton bolls are removed from growing plants by moving barbed spindles and are removed from the spindles by doffers, said spindles being moistened to facilitate the picking and doffing operation, and said cotton is transported from said doffers to a basket by a stream of air, the improvement of contacting said cotton with a preservative during said mechanical picking.

3,260,041
CASTOR BEAN HARVESTER
Irven W. McRoberts and Andrew D. Sherman, Hastings, Nebr., assignors to Enterprise, Inc., Hastings, Nebr., a corporation of Nebraska
Filed Dec. 26, 1963, Ser. No. 333,395
4 Claims. (Cl. 56—119)



1. In a harvester for castor bean crops or the like:
a mobile structure adapted for movement over a ground surface;
at least a pair of forwardly projecting apron-like extensions on said structure spaced laterally apart to provide an elongated fore-and-aft passageway to receive a row of plants therein, the upper surfaces of both of said apron-like extensions sloping downward toward said passageway;
resilient barrier members lining said passageway on opposite sides thereof and converging inwardly to form a yieldable barrier permitting plant stalks to be received in said passageway as said structure advances over the ground but preventing plant products from falling vertically through said passageway to the ground;
means including looped conveyor members mounting said barrier members for movement rearward along said passageway to carry plant products thereon toward the rear of said structure, said conveyor members being moved by the force exerted on said barrier members by plants received in said passageway; and
means at the aft end of said passageway for gathering in plant products delivered thereto by said movable barrier members.

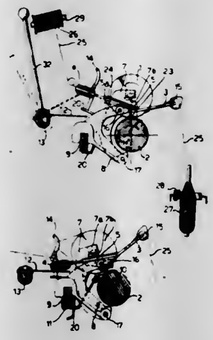
3,260,042
LAWN MOWER ROLLER ADJUSTMENT
Rudolph A. Hanson, Edward J. Ziegler, and John E. Fischer, Jackson, Mich., assignors to Yard-Man, Inc., Jackson, Mich., a corporation of Michigan
Original application Aug. 31, 1962, Ser. No. 220,628, now Patent No. 3,178,874, dated Apr. 20, 1965. Divided and this application Feb. 15, 1965, Ser. No. 432,547
3 Claims. (Cl. 56—249)



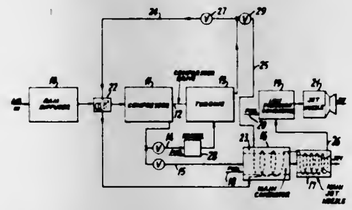
1. A lawn mower comprising, in combination, a frame member having a general plane of configuration, a ground roller, an elongated flange defined on said frame member substantially perpendicularly related to the general plane thereof, an elongated slot defined in said frame member having a longitudinal axis substantially parallel to said flange, a plurality of circular holes defined in said frame member intersecting said slot whereby the slot longitudinal axis diametrically intersects said holes, said holes being of greater diameter than the width of said slot and being spaced apart along the length thereof, a bracket rotatably supporting an end of said roller, an elongated recess defined in said bracket slideably receiving said flange, a threaded pin mounted in said bracket extending through said slot and slideable therealong, a nut member having a threaded bore operatively associated with said pin located on the opposite side of said frame member with respect to said bracket, a projection defined on said nut member concentric to said bore and closely receivable within a selected one of said holes and a shoulder defined on said nut member transversely related to said threaded bore and adapted to engage said frame upon said projection being received within a hole, said shoulder limiting the degree of entrance of said projection into the associated hole and forming the thrust bearing surface of said nut member as said pin is tensioned by tightening said nut member on said pin.

3,260,043
THREAD TWINING MACHINE
Giovanni Carlo Anselmetti, Turin, Italy, assignor to Nazionale Cogne Società per Azioni, Turin, Italy
Filed Feb. 3, 1964, Ser. No. 341,963
Claims priority, application Italy, Nov. 19, 1963, 24,683/63
8 Claims. (Cl. 57—84)

1. A thread twining machine comprising a thread feed roll and a driving cylinder having mutually parallel axes of rotation, a stationary machine frame, a frame for an automatic stop device, said pressure roll being rotatably mounted in said frame, means pivotally mounting said frame on said stationary machine frame whereby said frame is pivotable from a working position at which said feed roll is in tangential contact with said driving cylinder to an inoperative position at which said pressure roll is in spaced relationship to said driving cylinder, a first and second lever coaxially pivotably mounted on said stationary machine frame, said first lever being a swing lever carrying an idle pulley at one end and a counterweight at its other end, said second lever comprising an abutment element adapted to engage said frame and thereby constrain said frame in its working position, said swing lever at one position thereof causing said abutment element to engage said frame, said swing lever being movable from said one position to a position where it causes said abutment element to become released from said frame, said swing lever being freely movable relative to said second lever through a limited angular extent between the two aforementioned end positions of said swing lever.



3,260,044
TURBO-COMPRESSOR DRIVE FOR JET POWER PLANT
George H. Garraway, 20 Thorman Lane, Huntington, N.Y.
Filed July 2, 1962, Ser. No. 206,735
6 Claims. (Cl. 60—35.6)



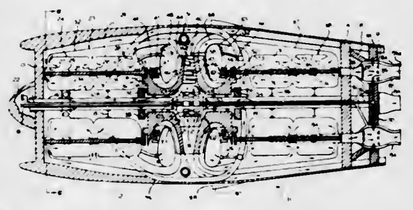
1. A jet propulsion power system comprising an air inlet, a mechanical compressor for inlet air, a gas turbine for driving the compressor, a hot gaseous jet fluid generating chamber receiving a portion of the compressed air from the compressor, a jet nozzle receiving hot gaseous jet fluid from the generating chamber and forming a propulsive jet, means for supply a driving fluid to said turbine in a gaseous state which comprises a flow conduit between the compressor discharge and the turbine inlet for delivering the remaining portion of air from the compressor to the turbine inlet, and means therein for elevating the temperature of the air passing to the turbine inlet, said chamber and said nozzle being comprised of a unitary structure, said structure having an unbroken exterior surface continuous over said chamber and nozzle portion thereof, and a flow conduit from the turbine discharge arranged to conduct turbine discharge fluid about said unitary structure to effect indirect heat exchange between turbine discharge fluid and relatively hot jet fluid whereby said structure is thereby capable of being sufficiently cooled by mass flow of turbine discharge fluid to generate said jet fluid in said chamber by stoichiometric combustion and to conduct through said nozzle said jet fluid generated thereby.

3,260,045
PROPELLING CHARGE FOR SOLID-FUEL ROCKETS
Hermann Renner and Karl-Otto Wehlow, Dusseldorf, Germany, assignors to Firma Rheinmetall G.m.b.H., Dusseldorf, Germany
Filed Jan. 25, 1963, Ser. No. 253,883
Claims priority, application Germany, Jan. 30, 1962, R 31,998
2 Claims. (Cl. 60—35.6)



1. A rocket propelling means for solid-fuel motors, comprising a casing, a propellant charge of the internal burning solid type in the casing and spaced by a gap therefrom, a longitudinally extending notch provided on the outer periphery of the propellant charge, said notch being of sufficient radial depth so that a crack is formed due to combustion pressures between the inner and outer surfaces of the solid propellant charge adjacent the notch, and sealing means in the notch to seal off the outer surface of the solid propellant charge from the burn area, said crack providing increased burn area.

3,260,046
JET ENGINE
Constantine A. Serriades, 3950 N. Lake Shore Drive, Chicago, Ill.
Filed Sept. 9, 1963, Ser. No. 307,471
10 Claims. (Cl. 60—35.6)



8. A jet engine comprising:
a jet engine body formed by a shell having a forward and a rear end,
said jet engine body having mounted therein a turbine,
said turbine, having axially extending contrarotating turbine blades rotating about the axis of the jet engine,
said turbine forming an annular turbine combustion chamber leading into the turbine,
coolant pipes being mounted to spray coolant along the walls of the turbine forming the turbine combustion chamber,
a first-stage compressor connected to the turbine to rotate therewith,
means to deliver compressed air into the turbine combustion chamber,
first fuel pipe means to deliver fuel into the turbine combustion chamber,
a plurality of spaced tandem compressors, each of said tandem compressors having
a first and second interconnected compressor,
said first and second compressors each having a forward end inlet and a rear end inlet and a central outlet, and

means to receive compressed air from both ends of each of the first and second compressors and impel the compressed air upwards towards the central outlets of the first and second compressors,

first delivery pipe means connecting the first compressor outlets to flow compressed air towards the rear of the jet engine and into the turbine compressed air delivery means,

second delivery pipe means connecting the second compressor outlets to flow compressed air towards the forward end of the jet engine and into the turbine compressed air delivery means,

means connected to the tandem compressors to deliver air from the first-stage compressor to the end inlets of the first and second compressors thereof,

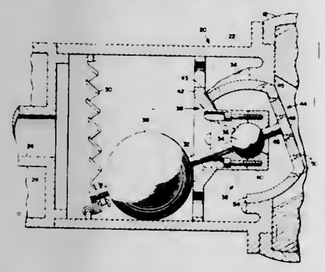
means connected to the turbine to rotate the tandem compressor rotor shaft therewith, and conduit means connected to the turbine to deliver gases therefrom to exhaust nozzles to form a portion of the propulsion force of the jet engine.

3,260,047

FLUID INJECTOR, SELF-COMPENSATING FOR LATERAL ACCELERATION

Lawrence W. Kesting, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 2, 1964, Ser. No. 335,446
8 Claims. (Cl. 60—35.6)



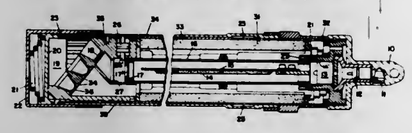
1. In a rocket having a solid propellant motor provided with a central passageway; an oxidizer disposed for injection into said passageway for substantially equal distribution across the grain of said propellant to sustain ignition thereof; injection means mounted in said rocket in biased relation thereto and disposed for tilting responsive to lateral accelerations acting on said rocket to inject said oxidizer into said passageway for substantial equal distribution across said propellant.

3,260,048

THRUSTER CATAPULT AND ROCKET MOTORS

Norman J. Waecker, Masonville, N.J., and Albert Benditt, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army

Filed Feb. 24, 1964, Ser. No. 347,096
4 Claims. (Cl. 60—35.6)



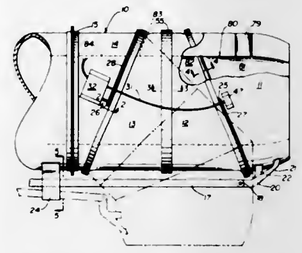
1. In an ejection seat apparatus having a thruster type catapult motor and a rocket type motor operating in sequence, said motors each having a respective one of telescoping tube members, a launching tube telescopingly receiving said rocket motor tube, primary ignition means to generate pressure within said catapult tube for actuation thereof, secondary ignition means within said rocket tube and located exteriorly of said catapult tube for actuating said rocket motor, said catapult tube having one end larger than the other, said one end having means normally interrupting communication between the interior of said catapult tube and said secondary ignition means during catapult motor operation, means carried by said rocket tube for restraining said other end of said catapult tube, said restraining means being responsive to pressure build-up caused by catapult motor operation for releasing said other end, so constructed and arranged that the difference in forces acting upon said ends will move said catapult tube past the releasable restraining means and render said interrupting means ineffective.

3,260,049

VARIABLE VECTORING NOZZLE FOR JET PROPULSION ENGINES

Carroll E. Johnson, Fort Worth, Tex., assignor to The Boeing Company, Wichita, Kans., a corporation of Delaware

Filed May 9, 1963, Ser. No. 279,068
10 Claims. (Cl. 60—35.55)



1. A variable vectoring nozzle for a jet propulsion engine capable of generating exhaust gases comprising,

exhaust duct means,

first and second wedge-shaped duct section means rotatably supported in said exhaust duct means,

nozzle means rotatably connected to said exhaust duct means,

drive means having two separate drive shafts for simultaneously turning said first and second wedge-shaped duct section means by said separate drive shafts in opposite directions and controlling and varying the direction of thrust of the exhaust gases, and

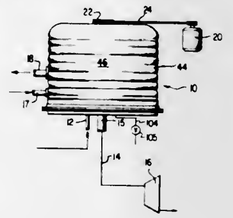
means for controlling the angular relationship of said nozzzle means relative to said exhaust duct means.

3,260,050

ROTARY VAPOR GENERATOR

James H. Anderson, 1615 Hillock Lane, York, Pa.

Filed Oct. 12, 1964, Ser. No. 402,993
19 Claims. (Cl. 60—39.18)



1. A vapor generator comprising:

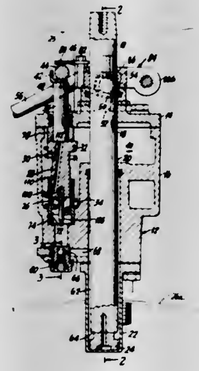
a vapor generator enclosure having vaporizable fluid therein, a vapor exhaust standpipe disposed in said enclosure, means to control fluid communication between said enclosure and said standpipe, means to heat said enclosure to provide vaporization of the fluid therein, a rotating support in said enclosure coaxially disposed intermediate the ends of said standpipe, a vapor dome mounted on said rotating support to enclose the upper end of said standpipe, a fluid heat exchange and transmitting tube assembly disposed on said rotating support, means to transmit vapor from said assembly to said vapor dome for storage therein, a preheater tube assembly fixedly mounted around the walls of said enclosure adjacent said rotating support and fluid tube assembly, means to supply liquid to said preheater tube assembly for preheating therein and means to transmit preheated liquid therefrom to the fluid tube assembly disposed on said rotating support, and means to control the quantity of liquid and heat supplied to said generator.

3,260,051

CHAIR RAISING AND LOWERING MECHANISM

Hideharu Horie, Osaka, Japan, assignor to Takara Company, New York, Inc., Brooklyn, N.Y., a corporation of New York

Filed Mar. 17, 1964, Ser. No. 352,624
6 Claims. (Cl. 60—52)



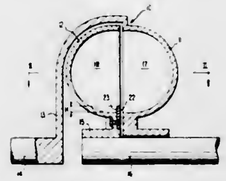
1. Chair raising and lowering mechanism, comprising a movable ram adapted to be secured to the seat of a chair for raising and lowering said seat, and means for locking said ram in a position thereof, said locking means comprising clamping means movable from an inoperative ram non-locking position to an operative ram locking position, and means for operating said clamping means comprising a guide member having a guide slot therein, a pin movable in said guide slot from one position corresponding to said inoperative position of said clamping means to another position corresponding to said locking position of said clamping means, means secured to said pin and having a part spaced therefrom to provide a pivot for moving said pin from said one position to said other position, a member connected to said pin for rotating the latter, and stop means in the path of movement of said spaced part, for stopping the movement thereof during an initial movement of said pin operating member in one direction so that continued movement of said pin operating member in said direction causes said pin to pivot about said spaced part and move from said one position thereof to said other position thereof for operating said clamping means, pumping means including a plunger for raising and lowering the ram, including means controlled by operation of said spaced part for controlling said plunger.

3,260,052

HYDRODYNAMIC COUPLING

Heinz Stäbler, Steinenbronn, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed July 17, 1964, Ser. No. 383,340
5 Claims. (Cl. 60—54)



1. A hydrodynamic coupling for motor vehicles, comprising:

primary means including a first rotary semi-toroidal shell provided with blade means,

secondary means including a second rotary semi-toroidal shell provided with blade means,

said first and second shells being positioned mutually adjacent and in a mutually facing relationship to form a toroidal work circuit about a common axis of rotation, said work circuit comprising an inner cross-over area, said area being nearest said common axis of rotation, each of the said blade means comprising substantially semi-circular blades having bases and having radially extending edges disposed oppositely to said bases,

said edges of the blades of said first semi-toroidal shell being disposed ahead of the bases thereof in the forward direction of rotation to thereby form an angle of inclination of said last named blades,

and further means effectively forming baffle means within said area extending radially outward from said common axis of rotation,

the distance said baffle means extends radially outward and the extent of said angle of inclination being mutually related,

said distance being the smaller the larger the angle of inclination of said last-named blades.

3,260,053

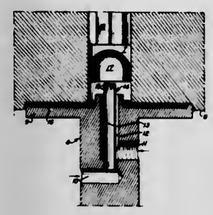
STABILIZING MINE ROOFS

Roy G. Miller, Massapequa Park, N.Y., assignor of one-half to Dayton T. Brown, Inc., Long Island, N.Y., a corporation of New York

Original application Sept. 30, 1959, Ser. No. 843,517. Divided and this application Oct. 30, 1962, Ser. No. 242,028
5 Claims. (Cl. 61—36)

1. Method for stabilizing a mine formation containing voids and cracks, which comprises injecting a hardenable binder material component under pressure into a bore hole communicating with said voids and cracks while simultaneously separately injecting into said bore hole under pressure a catalyst component promoting the hardening of said binder material component, one of said components being injected in annular flow into the bore hole and the other of said components being injected in radially outward flow into such annular flow for said separate simultaneous injection of both the binder material com-

ponent and the catalyst component into said bore hole, bore hole along their common path and conducting the intermixed binder material and catalyst components along



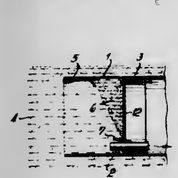
and thoroughly intermixing said binder material component and catalyst component under pressure within said said bore hole to said voids and cracks.

3,260,054

PROCESS FOR PRODUCING EXCAVATIONS IN WATER-BEARING GROUND

Hans Lorenz, Berlin-Charlottenburg, Germany, assignor of one-third each to Entreprises Leon Chagnaud & Fils, Paris, France, and Entreprises Joya-Chabert, Villeurbanne, Rhone, France

Filed Apr. 5, 1963, Ser. No. 270,958
Claims priority, application Germany, Apr. 12, 1962, L 41,737; July 13, 1962, L 42,452
8 Claims. (Cl. 61—42)



1. A process for producing excavations in water-bearing ground by means of a caisson having a determinable driving direction including a transverse wall defining a rearwardly disposed pressureless chamber, said process comprising forming and maintaining a cushion of thixotropic liquid at the front end of the caisson between the excavation face and the transverse wall of the caisson, loosening the ground at the excavation face which is stabilized by the thixotropic liquid and conveying the thusly loosened ground into the pressureless chamber via a passage in the cushion and transverse wall.

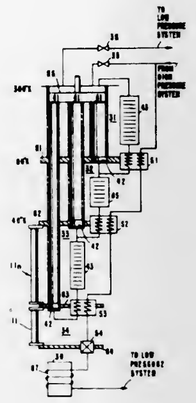
3,260,055

AUTOMATIC THERMAL SWITCH

James E. Webb, administrator of the National Aeronautics and Space Administration with respect to an invention of Ervin R. Wiebe

Filed May 4, 1965, Ser. No. 453,231
11 Claims. (Cl. 62—6)

1. An automatic thermal switch comprising a housing of a material having thermal insulation properties below a predetermined temperature, said housing having two opposite open ends; a pair of flanges for sealing the opposite ends of said housing; a first pipe coupled to one of said flanges disposed within said housing; a second pipe coupled to the other flange, said second pipe being coaxially disposed over said first without being in contact therewith; a gas having a predetermined temperature of solidification lower than said predetermined temperature at which the material of said housing is substantially a thermal insulator, and at which said pair of flanges and said first and second pipes are thermal conductors, for



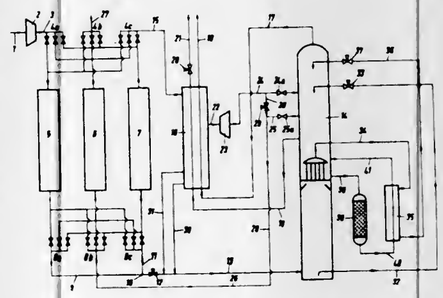
thermally insulating said pair of flanges from one another at temperatures below said predetermined temperature of solidification.

3,260,056

REGENERATIVE HEAT EXCHANGE IN LOW TEMPERATURE GAS FRACTIONATION

Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft

Filed Jan. 8, 1963, Ser. No. 250,062
Claims priority, application Germany, Jan. 12, 1962, G 34,001
12 Claims. (Cl. 62—13)



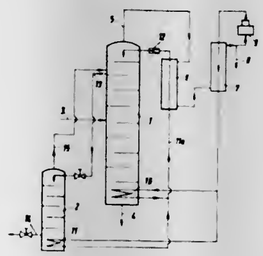
1. In a process for the low temperature fractional separation of a predetermined amount of a gas mixture in a rectification column, which process comprises the preliminary steps of passing an impure gas mixture feed through one of at least three cyclically interchangeable regenerators, the regenerator in the first cycle serving to cool said feed and condense the condensable impurities in the impure feed, the regenerator in the second cycle serving to remove the impurities by having a scavenger gas traverse the regenerator to sublime and carry away said impurities, and the regenerator in the third cycle serving to heat the cooled, clean feed resulting from the first cycle, the improvement which comprises passing an amount of said impure feed through the first-cycle regenerator in excess of the predetermined amount of gas mixture fractionated and separated in the rectification column, passing the heated excess of substantially unsaturated gas mixture effluent from the third-cycle regenerator in indirect heat exchange with pure gas fractions separated in the rectification column, expanding the excess gas mixture and passing it through the second-cycle regenerator as scavenger gas, thereby subliming and removing the condensed impurities obtained in the first cycle, and then discarding said scavenger gas with the condensed impurities therein.

3,260,057

TWO STAGE RECTIFICATION PROCESS FOR SEPARATING A MIXTURE OF ETHANE, ETHYLENE AND ACETYLENE

Rudolf Becker, Munich-Solln, Germany, assignor to Linde Aktiengesellschaft

Filed July 5, 1961, Ser. No. 121,963
Claims priority, application Germany, July 30, 1960, G 30,202
8 Claims. (Cl. 62—17)



1. A process for separating a C_2 hydrocarbon ternary mixture of ethane, ethylene and acetylene, which process comprises the steps of:

(1) rectifying said ternary mixture in a first distillation column and withdrawing therefrom a bottoms product fraction consisting essentially of ethane, an overhead product fraction consisting essentially of ethylene, and a side stream consisting of ethylene in a preponderant amount, and acetylene and ethane in a ratio of 1:1 to 7:1 respectively;

(2) rectifying said side stream in a second distillation column and withdrawing therefrom a bottoms fraction highly enriched in acetylene and an overhead fraction; and

(3) recycling said overhead fraction from the second distillation column to a point in the first distillation column near the point at which said side stream is withdrawn.

3,260,058

METHOD AND APPARATUS FOR SEPARATING GASEOUS MIXTURES, PARTICULARLY HELIUM-CONTAINING GASES

Joseph Ray, Emmaus, and Lee S. Gaumer, Jr., Allentown, Pa., assignors to Air Products and Chemicals, Inc., a corporation of Delaware

Filed May 9, 1962, Ser. No. 193,463
20 Claims. (Cl. 62—23)

1. A method of separating components of gaseous mixtures, comprising the steps of

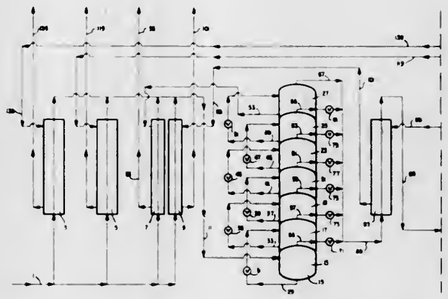
cooling a gaseous mixture to a first relatively low temperature and partially liquefying the gaseous mixture to produce a first liquid portion and a first vapor portion,

passing partially liquefied gaseous mixture to a first separation zone,

withdrawing from the first separation zone a first liquid of a composition substantially corresponding to the composition of the first liquid portion and a first vapor of a composition substantially corresponding to the composition of the first vapor portion,

flashing a second vapor from said first liquid,

cooling said first vapor and said second vapor to a



second temperature lower than said first temperature and partially liquefying said first vapor and said second vapor to produce a second liquid portion and a third vapor portion,

passing partially liquefied first vapor and second vapor to a second separation zone,

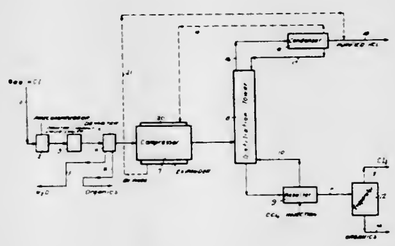
and withdrawing from the second separation zone a third vapor of a composition substantially corresponding to the composition of the third vapor portion.

3,260,059

PURIFICATION OF HYDROGEN CHLORIDE

David S. Rosenberg and Edward A. Belmore, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

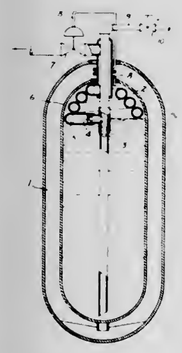
Filed Oct. 21, 1963, Ser. No. 317,482
10 Claims. (Cl. 62—28)



1. A method of purifying hydrogen chloride gas containing water and organic and/or inorganic contaminants, which comprises removing from the hydrogen chloride gas substantially all of the water and solidifiable organic and/or inorganic contaminants by compressing the hydrogen chloride gas containing these impurities to a pressure within the range of about 1 to about 4 atmospheres, cooling the thus-compressed gas to a temperature not substantially below about −10° centigrade, whereby the water and substantial amounts of the organic and/or inorganic contaminants are condensed to

form a mist in the gas, thereafter, separating the mist from the gas, compressing the thus-treated gas to a suitable liquefaction pressure of at least about 4 atmospheres, introducing the thus-compressed gas under pressure into a fractionation zone, countercurrently contacting the gas within the fractionation zone with liquid hydrogen chloride, maintaining reflux conditions within the fractionation zone, forming a liquid fraction containing the contaminants having a higher boiling point than hydrogen chloride, which fraction is removed substantially continuously from a lower portion of the fractionation zone, and forming a purified hydrogen chloride product, substantially free of higher boiling impurities, which product is recovered from an upper portion of the fractionation zone.

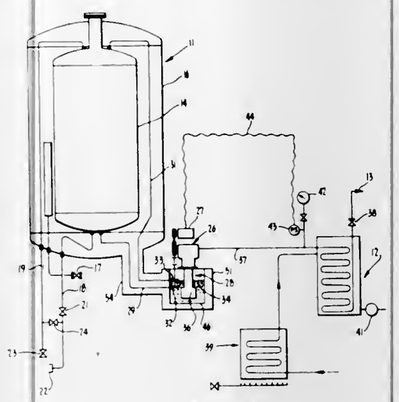
3,260,060
DEWAR FOR LIQUID AIR AND/OR OTHER MULTICOMPONENT CRYOGENIC LIQUIDS
Richard S. Pauliukonis and George Matlow, Cleveland, Ohio, assignors to Ryan Industries, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Aug. 26, 1964, Ser. No. 394,099
3 Claims. (Cl. 62—45)



2. In cryogenic storage apparatus that can relieve pressure build-up while maintaining composition consistency of a multicomponent liquid whose components differ in volatility, a cryogenic vessel, heat exchanger means within the ullage space of the vessel for absorbing heat from said ullage space, a pressure-reducer device discharging into said heat exchanger means, means for supplying fluid from the vessel interior to said pressure-reducer device, said heat exchanger means leading from said pressure-reducer device and being connected to vent means exterior of the vessel.

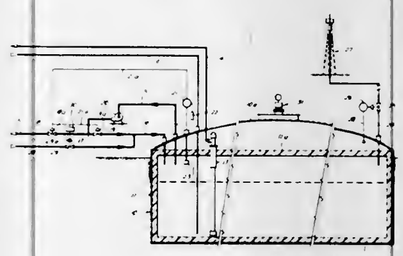
3,260,061
FLOW SYSTEM FOR CRYOGENIC MATERIALS
Robert S. Hampton, Livermore, Owen S. Jones, Orinda, and William Josephian, Oakland, Calif., assignors to Lox Equipment Company, Livermore, Calif., a corporation of California
Filed Dec. 16, 1964, Ser. No. 418,759
8 Claims. (Cl. 62—52)

1. In a cryogenic flow system of a type including a storage vessel having an inner container for liquefied gas and an outer jacket about the inner container defining a vacuum void therebetween, flow line means extending from the inner container of said vessel, and a pump for effecting flow of liquefied gas from the inner container of said storage vessel through said flow line means, the combination comprising a sump including an inner container and an outer jacket about the inner container of said sump and defining a sealed void therebetween, said void of said sump communicated with said void of said vessel, said flow line means extending through said void of said vessel and said void of said sump into the inner container of said sump, valve means disposed within the



inner container of said sump and connected to said flow line means, and means associated with said pump and said sump for removably supporting said pump in a position wherein a portion of said pump including a pumping head thereof extends into the interior of said inner container of said sump.

3,260,062
STORAGE SYSTEMS
James J. Mitchell, Houston, Tex., assignor to Texas Eastern Transmission Corporation, Shreveport, La., a corporation of Delaware
Filed Oct. 2, 1964, Ser. No. 401,158
4 Claims. (Cl. 62—54)



1. A storage system comprising,
a storage tank,
a vapor withdrawal line connected to said tank above the maximum liquid level,
a compressor in said line,
a vapor return line connected to said tank and to said vapor withdrawal line downstream of said compressor,
first valve means in said vapor withdrawal line downstream of the connection with said vapor return line,
second valve means in said vapor return line,

and pressure control means including a motor for each valve means and a controller sensing pressure outside said tank and in the vapor space above the maximum liquid level in said tank for moving said first valve means setting toward more closed position and said second valve means setting toward more open position with a reduction in pressure in the vapor space in said tank relative to the pressure outside said tank and vice versa.

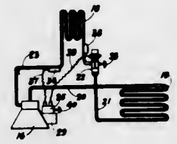
3,260,063
WARNING SYSTEM FOR TEMPERATURE CONTROLLED CRAFT COMPARTMENT
Jerry E. Johnson, Bellevue, Wash., assignor to Ryan Recording Thermometer Co., Seattle, Wash., a corporation of Delaware
Filed July 31, 1964, Ser. No. 386,668
8 Claims. (Cl. 62—126)



1. In combination, a craft adapted to be towed, a nonpropulsion internal combustion engine on said craft, a primary generator driven by said engine, a battery, a generator for charging said battery driven by said engine, a compartment on said craft, a temperature control system for said compartment including an electric motor deriving its electrical energy from said primary generator, thermostat means in said compartment including normally-open high and low temperature switches arranged to respectively close automatically when the temperature in said compartment rises above or lowers beneath a preset temperature range, a normally inactive electrical warning device external of said compartment, a first power circuit for said warning device from said battery and including said switches in parallel with one another whereby said warning device is activated as a consequence of the closing of either of said switches, a second power circuit for said warning device from said battery, and normally-open switch means in said second power circuit operatively associated with said battery charging generator to close whenever the voltage output of the latter ceases, whereby said warning is activated whenever said engine stops or whenever the temperature in said compartment departs from said range.

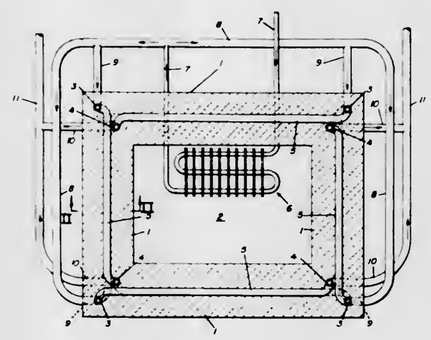
3,260,064
AIR CONDITIONING SYSTEM WITH IMPROVED HUMIDITY CONTROL
Alwin B. Newton, Spring Garden Township, York County, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 107,486, May 3, 1961. This application June 9, 1964, Ser. No. 375,418
4 Claims. (Cl. 62—209)

1. In an air conditioning system for a space to be conditioned including a compressor, a condenser, an evaporator, and means connecting said components into a closed refrigerating circuit for circulating a refrigerant therethrough, said means comprising a hot gas line between said compressor and said condenser, a hot liquid line between said condenser and said evaporator, and a cold gas line between said evaporator and said compressor; the improvement comprising constant-pressure expansion valve means in said hot liquid line for reducing the pressure and corresponding temperature of hot refrigerant



en route to the evaporator and for maintaining the pressure and corresponding temperature in said evaporator substantially constant; controll means for varying the capacity of said compressor; and operating means actuating said compressor capacity control means in response to the differential temperature between refrigerant entering said evaporator, i.e. absolute superheat, to maintain said superheat substantially constant.

3,260,065
COLD STORAGE FOR CHILLED PRODUCTS
Jose Miguel Araujo Teixeira, Lisbon, Portugal, assignor to Construcoes Continental Limitada, Lisbon, Portugal
Filed May 13, 1964, Ser. No. 367,031
Claims priority, application Germany, Apr. 1, 1964, C 32,534
4 Claims. (Cl. 62—240)

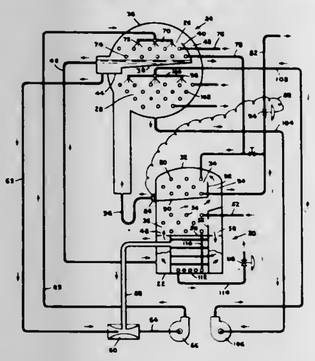


1. A cold storage chamber for chilled products, particularly chilled fish in ships, comprising a heat exchanging system of ducts through which a refrigerant is circulated, said system being arranged inside the walls of said chamber and, as a cooling system, in the interior of said chamber, said system arranged in the walls of said chamber being covered both on the outside and on the inside with a thermally insulating layer, said duct system in said chamber walls comprising a plurality of parallel pipes and intermediate fins formed of a heat conducting material interconnecting said pipes, racks for the storage of products to be chilled in said chamber, said racks having vertical partitions forming part of said cooling system, and said vertical partitions of said racks comprising pipe loops having connections which communicate with the refrigerant system.

3,260,066
HEAT EXCHANGE MEANS FOR AN ABSORPTION REFRIGERATION SYSTEM

David Aronson, Upper Montclair, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Dec. 1, 1964, Ser. No. 415,121
7 Claims. (Cl. 62—489)



1. A closed cycle absorption system in which a saline solution is circulated therein comprising:

(a) a condenser for receiving and condensing refrigerant,

(b) an evaporator for receiving and evaporating refrigerant,

(c) means communicating the condenser and evaporator in an operative group,

(d) an absorber for increasing the refrigerant content of the saline solution therein so that it will constitute weak solution, and adapted to receive refrigerant from the evaporator,

(e) a generator for decreasing the refrigerant content of the saline solution therein so that it will constitute strong solution, and adapted to pass refrigerant to the condenser,

(f) conduit means communicating the absorber and the generator in an operative loop,

(g) heat exchange means disposed in the conduit means wherein strong solution leaving the generator will pass in indirect heat exchange relationship with weak solution from the absorber,

(h) a steam tube bundle disposed in the generator for heating the saline solution therein to vaporize a portion of the refrigerant in said solution,

(i) a steam condensate tube bundle in the heat exchange means to pass the steam condensate in indirect heat exchange relationship with the saline solution in the heat exchange means whereby the condensate will be sub-cooled prior to discharge from the heat exchange means,

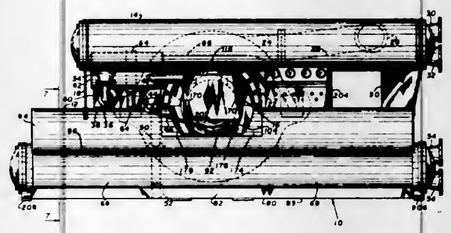
(j) line means connecting the steam tube bundle with the steam condensate tube bundle whereby the steam condensate from the generator will pass through the heat exchange means.

3,260,067
REFRIGERATION MACHINE

Arthur W. McClure, George W. Webster, Chester D. Ware, and Irwin R. Friedman, La Crosse, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed May 4, 1964, Ser. No. 364,369
18 Claims. (Cl. 62—505)

1. A refrigeration machine comprising in combination a refrigerant evaporator; a refrigerant compressor; a refrigerant condenser; means connecting said refrigerant evaporator, compressor and condenser respectively in series; said evaporator including a plurality of tubes for conducting therein a fluid to be cooled by refrigerant and an elongated cyclindrical shell disposed above said tubes for collecting evaporated refrigerant; an electric

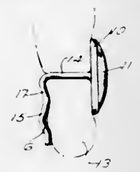


motor having at least a portion thereof in vertical alignment between said tubes and the profile of said cylindrical shell and having an axis of rotation transverse to said elongated cylindrical shell; and means drivingly connecting said motor to said compressor.

3,260,068
PIERCING EARRING HAVING RIGID RETAINING MEANS

Arthur C. Micallef, 158 Pine St., Cranston, R.I.

Filed Mar. 24, 1964, Ser. No. 354,281
1 Claim. (Cl. 63—12)



A piercing earring comprising an ornamental portion, a straight rigid shank extending rearwardly at right angles to said ornamental portion, and means integral with the outer end of said shank for releasably retaining said earring on a pierced ear lobe, said shank being adapted to extend through an ear lobe, the length of said shank being approximately equal to the thickness of the pierced ear lobe at the pierced area, said means including an integral rigid portion extending downwardly at right angles from the end of said shank, said integral portion being provided with undulations, the undulation nearest said shank extending toward the ear lobe to provide an angle of less than ninety degrees with said shank whereby said rigid shank and integral means are adapted to pull said ornamental portion against the lobe.

3,260,069
FLEXIBLE CONNECTION

William J. Neilson, Whittier, and Erskine P. Garrison and Lloyd L. Garner, Long Beach, Calif., assignors to Smith Industries International, Inc., Compton, Calif., a corporation of California

Filed Nov. 18, 1963, Ser. No. 324,410
2 Claims. (Cl. 64—2)

1. A flexible connection comprising a plurality of axially alignable tubular segments having mutually interfitting portions enabling torque to be transmitted from each segment to its neighbor, each segment being capable of having its axis angularly related to that of its neighbor and a plurality of balls and socket members disposed within the segments for transmitting thrust from one endmost segment to the other endmost segment, the balls being solid and the socket members between said balls being solid and having ball contacting opposite ends, a portion of said socket members engaging the inner wall of an adjacent tubular segment to hold the balls along the axis of the tubular segments, another portion of each of said

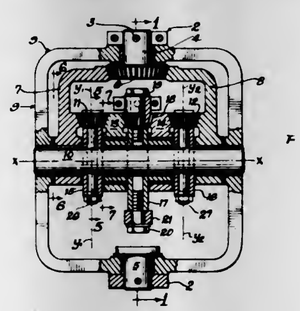


socket members being out of contact with the inner wall of adjacent segments, and said balls being of less diameter than the inner diameter of said tubular segments, whereby lubricant flow passage is provided exteriorly of the balls and socket members and between them and the interior walls of said tubular segments.

3,260,070
UNIVERSAL JOINT

Martin Preston, 300 N. State St., Apt. 5701, Chicago, Ill. 60610

Filed Sept. 24, 1964, Ser. No. 399,644
1 Claim. (Cl. 64—21)

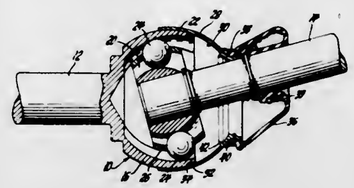


A constant velocity universal joint comprising a first shaft and a second shaft, each of said shafts terminating in a two pronged yoke, the spacing of the prongs of the first shaft being wider than that of the second shaft and the tips of the prongs of the first shaft being pivotally connected to the primary opposite sides of a frame, one of the prongs pivoting on said frame being rigidly connected to a first bevel gear and the tip of the prongs of said second shaft being pivotally connected to the primary opposite arms of a cruciform member, one of the prongs pivoting on said cruciform member being rigidly connected to a second bevel gear; a transverse shaft pivotally mounted through the secondary opposite sides of said frame, the pivot axis through said secondary sides of said frame intersecting at right angles the axis of pivots by which said first shaft is connected to said primary sides of said frame, and said cruciform member being pivotally mounted on said transverse shaft by its secondary arms the pivot axis through which intersects at right angles the pivot axis passing through said primary arms of said cruciform member, the latter pivot axis being the one about which the prongs of said second shaft pivots; two primary bevel gear segments mounted pivotally on said transverse shaft and meshing with said first bevel gear on its opposite sides; two secondary bevel gear segments mounted pivotally on said transverse shaft and meshing with said second bevel gear on its opposite sides; two sets of reversing gears, the first set drivingly connecting one of said two primary bevel gear segments with one of said two secondary bevel gear segments and the second set drivingly connecting the other of said two primary bevel gear segments with the other of said two secondary bevel gear segments.

3,260,071
UNIVERSAL JOINT SEAL

Kenneth L. Westercamp, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 13, 1964, Ser. No. 389,367
4 Claims. (Cl. 64—32)



1. In a universal joint including a housing and driving and driven members extending therefrom, the combination comprising, substantially rigid means slidably and rotatably mounted on said housing and including a portion surrounding one of said driving and driven members, and an elastomeric member secured adjacent one end thereof to said one member and adjacent the other end thereof to said rigid means, said elastomeric member being sufficiently deformable to accommodate angular misalignment between said driving and driven members with a predetermined range, angular misalignment of said driving and driven members beyond said predetermined range causing said one member to engage said portion of said substantially rigid means to move said means relative to said housing.

3,260,072
KNITTING MACHINE

John J. Millar, Laconia, and John A. Currier, Gilford, N.H., assignors to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts

Filed Jan. 10, 1962, Ser. No. 165,379
4 Claims. (Cl. 66—42)

3. A circular knitting machine comprising:

a needle cylinder,

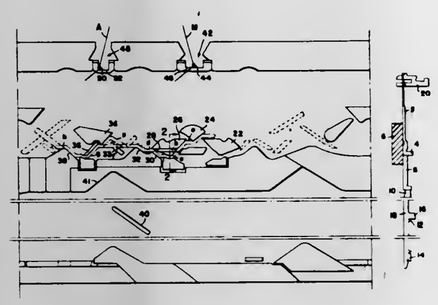
independent needles mounted in said cylinder,

elements cooperating with said needles for the formation of stitches,

said elements including means for feeding yarns at at least two feed points,

and sinkers having nebs movable between the needles, and control means including:

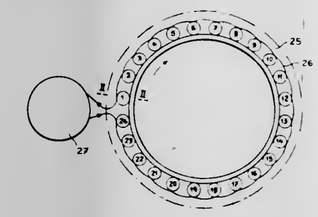
means for effecting yarn drawing movements of selected needles at a first of said feed points to cause said selected needles to draw yarn thereat over the nebs of sinkers but short of cast-off of stitches on said selected needles,



means for raising said selected needles thereafter to a tuck level without clearing of said yarn drawn thereby and

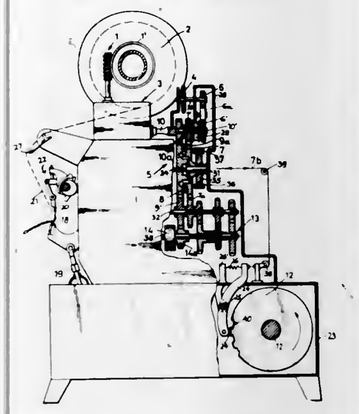
means for then effecting seizure of yarn and yarn drawing movements of said selected needles at the second of said feed points with cast-off of said stitches previously thereon, thereby to effect formation of stitches containing the yarns drawn at both of said feed points.

3,260,073
PATTERNING MECHANISM FOR JACQUARD CIRCULAR KNITTING MACHINES
Fritz Seiler, Corcelles, Neuchatel, Switzerland, assignor to Edouard Dubled et Cie. (Société Anonyme), Couvet, Neuchatel, Switzerland
Filed Sept. 30, 1963, Ser. No. 312,518
Claims priority, application Switzerland, Sept. 28, 1962, 11,463/62
8 Claims. (Cl. 66—50)



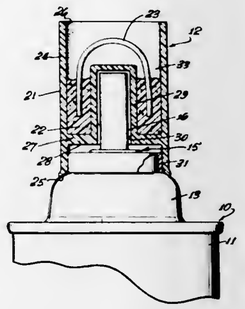
1. A patterning mechanism for Jacquard circular knitting machines comprising a common endless pattern band, selector means including a series of partial selection and storage devices each such device being in the form of a selection wheel, knitting elements which said wheels control, said band having at least four superposed tracks, partial pattern groups on respective tracks, the partial pattern groups of said tracks being disposed in overlapping relationship with the groups of one pair of said tracks controlling odd numbered selector means, and the groups on a second pair of tracks controlling even numbered selector means, and said partial pattern groups providing a complete pattern.

3,260,074
WARP KNITTING MACHINE
Karl Kohl, Offenbacher Landstrasse, Hainstadt (Main), Germany
Filed Nov. 6, 1964, Ser. No. 409,538
Claims priority, application Germany, Nov. 9, 1963, M 58,863
6 Claims. (Cl. 66—86)



1. In combination with a warp knitting machine comprising a knitting mechanism, a warp beam holding a supply of yarn and delivering the yarn to the knitting mechanism, and warp beam rotating means including an infinitely variable speed transmission driving the warp beam at variable speeds whereby the delivery of the yarn to the knitting mechanism is varied: a two-speed transmission arranged in the warp beam rotating means, said two-speed transmission including an input gear train and an output gear train, means for selectively coupling the gear trains for operation at two selected speeds, said coupling means including an overriding clutch means coupling said two gear trains at one of said selected speeds, and means for operating said selective coupling means.

3,260,075
FLARE PROTECTIVE CAP
Norman Weiss, Los Angeles, Calif., assignor to Susco Corporation, Northridge, Calif., a corporation of California
Filed Mar. 16, 1964, Ser. No. 352,275
4 Claims. (Cl. 67—21)



1. A combination warning flare and protective housing for co-operative assembly with a pressurized fluid container having an upstanding discharge valve means, which combination comprises:

a tubular flare housing having a lower opening for tightly receiving the end of said container upon which said valve is mounted, and an upper opening;

a transverse partition in said flare housing, said partition including an upstanding protective valve housing formed to enclose said valve without contacting it;

a flare fuel charge comprised of combustible solid material received in said flare housing above said partition;

and a wick received into the body of said flare fuel.

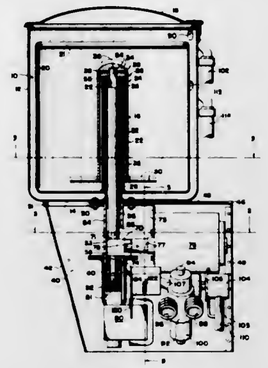
3,260,076
DEFLAGRATING METALLIC CUTTING TORCH
Willi Humberg, 33a Vogelsanger Strasse, Hagen-Haspe, Germany
Filed Feb. 20, 1964, Ser. No. 346,166
Claims priority, application Germany, Dec. 2, 1963, H 51,008
6 Claims. (Cl. 67—34)



1. An open flame torch comprising, in combination, an elongated burner pipe having an inner surface, an outer surface and an axis, said pipe being made from a metallic material, which gradually burns-off when ignited under supply of oxygen; a plurality of elongated burnable metal wires; at least one elongated magnesium alloy rod, said burnable metal wires and said magnesium alloy rod having substantially the same length as said pipe and being arranged inside of said pipe substantially parallel to said axis and with their surfaces at least in part spaced from said inner surface, and from each other, so as to define passage means for the flow of gas through said torch which is bounded by portions of the inner surface of said pipe and of the surfaces of said wires and said magnesium alloy rod, such surface portions together having an area substantially greater than the area of said inner surface of said pipe; oxygen supply means; and connecting means interposed between one end of said pipe and said oxygen supply means for connecting said one end of said pipe to said oxygen supply means, so that oxygen may flow through said passage means along and in contact with all of said portions of said inner surface of said pipe and said surfaces of said wires and said rod so as to have an area of contact with said surface portions which exceeds the area of said inner surface of said pipe, whereby burning of said torch is enhanced.

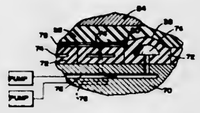
3,260,077
DIAPER LAUNDERETTE
Gomer W. Jones, Wichita, Kans., assignor to Eleanor M. Parsons, Wichita, Kans.
Filed Mar. 23, 1964, Ser. No. 353,921
5 Claims. (Cl. 68—12)

5. A washing apparatus comprising, a tub, a basket rotatably mounted within said tub, means central of said basket and connected thereto for rotatably supporting said basket in said tub, plunger means disposed within said basket having a lower substantially horizontally disposed portion positioned in spaced relation to the bottom of said basket, a drive shaft extending through the bottom of said tub, means connecting said drive shaft and said means central of said basket in rotational driving relationship thereto and allowing vertically slidable movement of said shaft with respect thereto, said basket in the top being unobstructed between the outside thereof and said means central thereof for easy introduction thereinto of material to be washed, means connecting said plunger and said shaft in relationship therebetween to move together in operation, a housing, means mounting said tub on said housing, a first motor power means mounted in said housing, means adapting said first motor power means to vertically reciprocate said shaft, a second motor power means, means connecting said second motor power means



and said shaft in rotatable relationship thereto, inlet means for said tub, valve means for controlling flow of water to said tub through said inlet means, timer means and electrical circuit means associated therewith to control in a predetermined wash sequence said first motor power means, said second motor power means, and said valve means.

3,260,078
PADDERS OR FOULARDS
Leslie L. Balassa, Creighton Lane, Scarborough, N.Y.
Filed Feb. 25, 1963, Ser. No. 260,754
9 Claims. (Cl. 68—202)

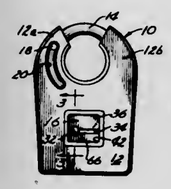


4. In a padder for finishing operations to a fabric, comprising a pair of contiguous rolls adapted to revolve in opposite directions, wherein means are provided for applying a compressive force to said rolls, at least one of the said rolls including a resilient cover adapted to normally compress the edges of the fabric passing between said rolls, the improvement comprising means for causing deformation of said resilient cover adjacent an axial edge of said fabric thereby substantially reducing only the pressure applied to said fabric edge to a value such that the pressure applied by said rolls to said edge is substantially equal to the pressure applied by said rolls to the remainder of said fabric passing between said rolls.

3,260,079
SECURITY DEVICE
Tom J. Caskey, Chicago, Ill., assignor of one-half to Larry I. Kane, Skokie, Ill.
Filed June 5, 1964, Ser. No. 372,915
16 Claims. (Cl. 70—25)

1. In a security device including a housing, a shackle mounted in said housing for movement between locked and unlocked positions, and a tumbler in said housing for retaining said shackle in its locked position, the im-

provement comprising: a plurality of elements disposed in overlying relationship and movable relative to each other, each element having a predetermined-shaped aperture therein and said elements communicating with said tumbler and being adapted to be brought into alignment at



which position said tumbler is released from its shackle retaining position; and means for aligning said elements, said means extending through the apertures in said elements and being adapted for movement through a predetermined pattern to effect alignment of said elements.

3,260,080
LOCKS
John F. Wellekens, New York, N.Y., assignor to Hotel Security Systems Corporation, New York, N.Y., a corporation of New York
Filed Mar. 26, 1964, Ser. No. 355,011
11 Claims. (Cl. 70—364)

6. In a lock, an abutment in the form of a disk provided with spaced notches in its periphery, said abutment being of cup-shape and containing a tumbler, the abutment having a wall disposed round the tumbler, said wall having tangential surfaces and shoulders located at the ends of such surfaces for engagement by the tumbler.

3,260,081
LOCK STRUCTURE
Harry Simon, 9229 S. Bennett, Chicago, Ill.
Filed Apr. 22, 1963, Ser. No. 274,735
1 Claim. (Cl. 70—370)

For use with a mortise lock housing affixed to a door and having an internally threaded opening in alignment with a hole extending from one surface of the door to the housing, the combination which comprises

(A) a lock cylinder including a generally cylindrical body portion adapted to be disposed in the hole of the door,

(1) said body portion having a threaded outer surface proportioned so as to enable one end thereof to be received in threaded engagement within the opening of the lock housing with the other end thereof projecting past the one surface of the door,

(2) said lock cylinder being provided with a flange located at the other end of said cylindrical body portion,

(a) said flange having a diameter somewhat greater than the diameter of said cylindrical body portion and having a given thickness,

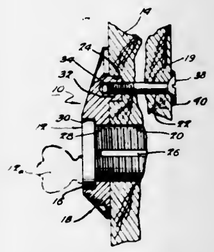
(B) and a guard plate having an inner and an outer surface and an upper and a lower edge,

(1) said guard plate being adapted to be secured to the door in encircling relation to the said flange of the said lock cylinder with its inner surface adjacent the one surface of the door and with its upper end uppermost,

(2) said guard plate including a section having a thickness greater than the given thickness of said flange of said lock cylinder,

(a) said guard plate section defining an opening extending therethrough dimensioned so as to enable it to intimately receive the said flange of said lock cylinder,

(1) said opening being located vertically off center so that the distance between



the upper edge of said plate and the upper edge of said opening is appreciably greater than the distance between the lower edge of said plate and the lower edge of said opening,

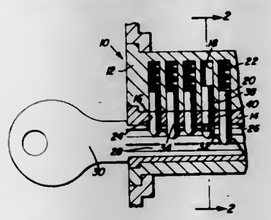
(3) said guard plate including a lip extending into said opening adjacent the inner surface of the plate defining a shoulder intermediate the inner and outer surfaces of said plate adapted to be engaged by the inner surface of said flange of said lock cylinder,

(a) said shoulder being spaced from the outer surface of said plate a distance not significantly less than the given thickness of said flange so that said flange does not project past the outer surface of said plate a distance sufficient to enable its side edges to be grasped within the jaws of a tool,

(4) said guard plate being provided with a retainer block projecting from its inner surface approximately midway between the upper edge of the plate and the adjacent edge of the said opening so as to be spaced appreciably from the upper edge of said plate,

(a) said retainer block being provided with an internally threaded hole adapted to receive an externally threaded bolt extending through the door in the direction of the one surface thereof.

3,260,082
PICK-PROOF LOCK
Ralph Bodek and Bennie A. Di Flavis, Philadelphia, Pa., assignors to Bodek Enterprises, Inc., Upper Darby, Pa., a corporation of Pennsylvania
Filed Nov. 22, 1963, Ser. No. 325,548
8 Claims. (Cl. 70—421)



6. In a lock including a stationary part and a movable part, first lock means interrelated to the parts for locking the parts in relation to each other until the first lock means is correctly manipulated for rendering the first lock means ineffective, and wholly independent second lock means interrelated to the parts and normally ineffective to render the parts locked in relation to each other and rendered effective to lock the parts together when the first lock means is incorrectly manipulated and being continuously effective to lock the parts together even when the first lock means is subsequently correctly manipulated.

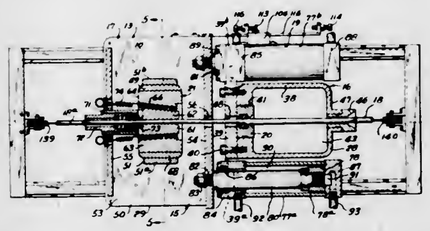
3,260,083
KEY RETAINER
Louis Schumer, 5402 Beverly Road, Brooklyn, N.Y.
Filed May 19, 1964, Ser. No. 368,477
2 Claims. (Cl. 70—456)



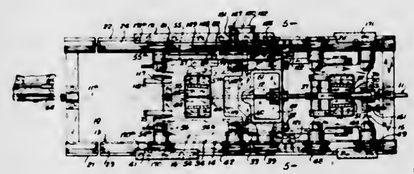
1. A key retainer adapted to removably support key hangers comprising a base plate having a forwardly extending tubular barrel integrally formed at one edge of said plate, said barrel being provided with vertical slots each formed with an enlarged opening through which the headed end of a key hanger can be inserted, the free edge of said barrel forming a narrow longitudinal passageway with said base plate, a closure slide provided with a longitudinal track which enters said passageway and engages the free edge of said barrel to restrict movement of said slide to sidewise travel along said track, said slide being provided with curved projecting arms which coincide with the enlarged openings in the slots of said barrel upon lateral movement of said slide, and said slide embodying a forwardly extending means at the side thereof for activating said slide, and a detention means compressed between said free edge of said barrel and said track comprising an aperture situated on said free edge which is engaged by a projection in said slide, for positively locking said base plate against sidewise movement thereof.

3,260,084
APPARATUS FOR DRAWING LINEAR STOCK
Leo D. Mersek, Euclid, Ohio, assignor to The Ajax Manufacturing Company, Euclid, Ohio, a corporation of Ohio
Filed May 2, 1962, Ser. No. 191,770
21 Claims. (Cl. 72—20)

1. In drawing apparatus for continuous linear wire stock; a support means; drawing means comprising a pair of drawing components on said support means for drawing continuous stock; one of said components comprising a die means for drawing the stock, the other of said components being located at the die-exit or drawn stock side of said one component and comprising during drawing traverse between said die means and the stock, and a grip device for gripping the stock during the drawing traverse; said components having opening and closing relative movements along the axis of the stock for causing said drawing traverse; double-acting hydraulic pressure fluid responsive power means comprising reciprocably co-operable cylinder and piston power members for producing said opening movement and said closing movement; said cylinder member having cylinder chambers therein on opposite sides of said piston member; one of said power members being connected with said component comprising said grip device and the other being connected with said component comprising said die means; and hydraulic pressure fluid supply means connected with said cylinder chambers including a reversing valve means responsive to predetermined relative movement between said cylinder and piston members for reversing the flow of hydraulic fluid into and out of said cylinder chambers; said power means being operable to produce a continuous succession of said opening and closing relative movements between said components and a consequent substantially continuous drawing of the stock.



3,260,085
WIRE DRAWING APPARATUS
Leo D. Mersek, Euclid, Ohio, assignor to The Ajax Manufacturing Company, Euclid, Ohio, a corporation of Ohio
Filed Aug. 2, 1962, Ser. No. 214,292
29 Claims. (Cl. 72—20)



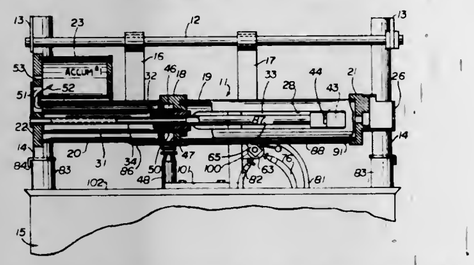
1. In apparatus for drawing linear stock; a support means; a drawing unit comprising a pair of drawing components carried by said support for movement relative to one another for causing a succession of drawing strokes; said pair of components comprising a first mount having a drawing die thereon and a second mount located on the drawn stock or die-exit side of the drawing mount and having a drawing grip device thereon adapted to grip the stock during the drawing strokes; fluid pressure responsive power means operably connected between said first and second mounts for causing the drawing strokes; inching

means at the side of said first mount opposite to said second mount movable along said support and including an inching grip device adapted to grip the stock upon relative movement between said first mount and said inching means toward one another; and means movable to an effective position for connecting said inching means with said power means for effecting relative movement between said first mount and said inching means.

3,260,086
WIRE DRAWING APPARATUS

Howard D. Prutton, Cleveland, Ohio, assignor to The Ajax Manufacturing Company, Euclid, Ohio, a corporation of Ohio

Filed Apr. 20, 1964, Ser. No. 361,022
9 Claims. (Cl. 72—20)

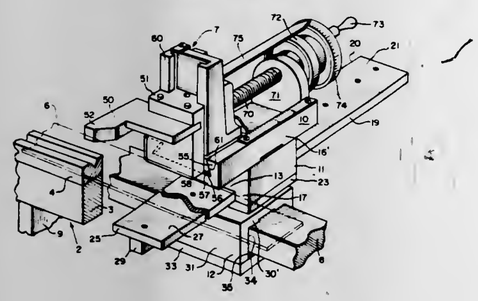


1. Apparatus for drawing wire from stock comprising in combination a wire die and a wire gripper relatively movable with respect to each other, means for applying force between the wire gripper and the wire die for causing the die to pass along the length of stock for producing drawn wire from the stock, whereby drawn wire may be pulled from the apparatus from time to time without regard to the length of stroke of the wire drawing apparatus and unrelated to the rate of repetition of the stroke of the wire drawing apparatus, said gripper and die comprising a floating assembly shiftable in opposite directions with the gripper being located on the die-exit side of said wire die, and means responsive to movement of the gripper and die floating assembly for actuating the first named means to maintain a supply of drawn wire available for pulling from the apparatus.

3,260,087
GAUGE WITH PLURAL ADJUSTING MEANS FOR SHEET METAL WORKING PRESSES

Nicholas A. Guarino, 1825 78th Court, Elmwood Park, Ill.

Filed July 19, 1963, Ser. No. 296,321
5 Claims. (Cl. 72—36)

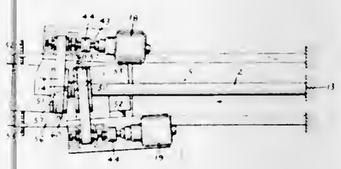


1. In a press brake gauge having a body portion, a keeper interlocked therewith and slidable generally horizontally longitudinally thereof, means for mounting said gauge for movement bodily toward and away from an associated press and comprising a longitudinal beam of T-section having a horizontal portion with top and side edges in a vertical leg, a holder on the body portion having a top wall slidably engaging said top edge and having laterally spaced flanges flanking said horizontal portion, one of said flanges engaging an adjacent side edge, and shock absorbing means interposed between the other flange and other side edge.

3,260,088
APPARATUS FOR CORRUGATING METAL TUBING

Werner K. Gruetter, Tenafly, George J. Gendron, Oradell, Harold M. McCall, Fairlawn, and Henry A. Nelson Holland, Ridgewood, N.J., assignors to Raymond International Inc., New York, N.Y., a corporation of New Jersey

Filed Sept. 20, 1963, Ser. No. 310,229
14 Claims. (Cl. 72—103)

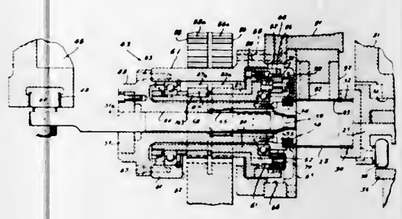


9. Apparatus for corrugating metal tubing, comprising in combination: a mandrel onto which the metal tubing to be corrugated is adapted to be telescoped and to be corrugated as the tubing is rotated and advanced along the mandrel; cooperating corrugating means for rotatably engaging the tubing internally and externally at one side of the mandrel; cooperating supporting means for rotatably engaging the tubing internally and externally at the opposite side of the mandrel for resisting forces reacting against the mandrel at the corrugating means and which would otherwise tend to deflect the mandrel; and power driven means for rotating the external corrugating means and thereby also applying components of force to the tubing for rotating and advancing the same.

3,260,089
METHOD AND APPARATUS FOR FORMING A PERIPHERAL GROOVE IN A TUBULAR BODY

Burton W. Hazelton, Kirkwood, Mo., and Fred R. Kauten, Greenville, Ill., assignors to Pet Milk Company, St. Louis, Mo., a corporation of Delaware

Filed Feb. 17, 1964, Ser. No. 345,219
9 Claims. (Cl. 72—117)



1. A machine for making can bodies having a circumferential inwardly directed groove adjacent to one end comprising

(a) support means,
(b) drive means, and
(c) a pair of timed heads rotated by the drive means and mounted on the support means,
(d) one of the timed heads comprising means for receiving a hollow open ended tubular can body, means for grasping the body, means for urging the body toward the second head, means for retracting the body, and means for releasing the body as the first head is rotated,
(e) the second of the heads comprising means for receiving one end of the can body, means for forming an inwardly directed circumferential groove in the can body adjacent to the end as the head is rotated, and an annular essentially incompressible internal support member for internally supporting the can body during grooving, said member having a peripheral groove into which the can wall is moved during grooving.

3,260,090
METHOD AND APPARATUS FOR REDUCING TUBING

Andrew J. Sofranko, 40 E. 40th St., Reiffton, Reading, Pa.

Filed Apr. 9, 1963, Ser. No. 271,710
13 Claims. (Cl. 72—126)



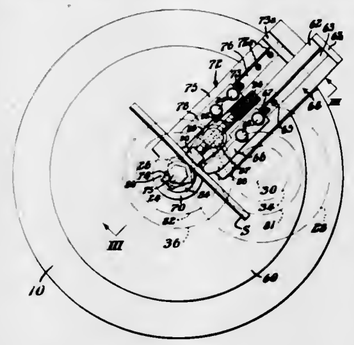
1. A process for reducing tubing or the like comprising the steps of passing the tube centrally between a plurality of tapered work rolls each having a spiral working surface extending along substantially the entire length of the roll and around the circumference of the roll through an arc of less than 360°, rotating said rolls in synchronism at a certain speed about their respective axes, revolving the rolls at a certain speed as a unit about the central axis of the tubing, varying one of said speeds whereby those portions of the working surfaces in contact with the tubing remain stationary with respect to the tubing, and advancing the tubing in increments through the rolls.

3,260,091
BENDING MACHINE

Ralph M. Shaw, Jr., Edgewater Park., N.J., assignor to Pedrick Tool and Machine Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed May 24, 1963, Ser. No. 283,021
13 Claims. (Cl. 72—152)

1. In a bending machine, the combination comprising a spindle mounted for rotation, a die mounted on the spindle for movement therewith, an adjustable clamp fixedly attached to the spindle and positioned to hold the work against the die as the spindle rotates, a moveable support plate mounted coaxially with the spindle but arranged to rotate freely therefrom, a moveable bending arm fixedly mounted on said support means proximate to the spindle so that upon rotation of the support means the bearing surface of the bending arm describes an arc around the spindle, a stationary bending arm fixedly mounted adjacent the spindle and positioned so that when and a gear train connecting the source to both the spindle the spindle rotates the bearing surface of the stationary bending arm describes an arc around the spindle identical to that of the moveable bearing arm, a power source and the support means, said gear train being arranged so

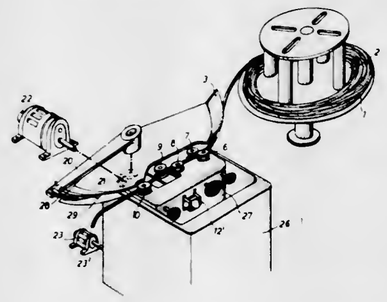


that the spindle and support means rotate in the same direction with the support means rotating at twice the velocity of the spindle.

3,260,092
METHOD AND APPARATUS FOR STRAIGHTENING WIRE FROM A COIL

Johann Greven, Aachen, Germany, assignor to Schumag Schumacher Metallwerke G.m.b.H., Aachen, Germany, a German corporation

Filed Oct. 19, 1962, Ser. No. 231,724
Claims priority, application Germany, Nov. 4, 1961, Sch 30,513
14 Claims. (Cl. 72—161)



1. The method of unbending and straightening wire from a coil wherein the wire has a thickness rendering it incapable of being unbent by hand, which comprises first gripping the wire of the coil by a gripper device near the wire end at the entry to a path defined by a wire-bending segment having a curvature opposed to that of the wire, and pulling the gripper device through said path with the wire from the coil passing over the peripheral portion of said wire-bending segment.

3,260,093
STRIP FLATTENING DEVICE

Natalis H. Polakowski, 500 Kin Court, Wilmette, Ill.

Filed Apr. 1, 1964, Ser. No. 356,530
11 Claims. (Cl. 72—163)

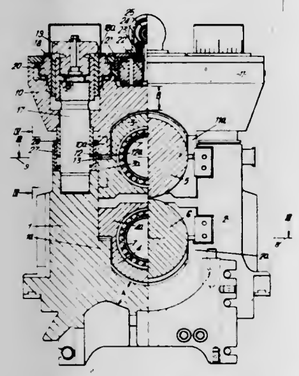
1. A device for the flattening of metal strip comprising a plurality of strip flexing rollers, adjacent flexing rollers being disposed along a generally horizontal plane whereby said strip can be fed through said device in a substantially sinuous path for flexing in alternate directions over consecutive flexing rolls, large support rolls

engaging said flexing rolls on the side opposite the side in contact with the strip, and wherein said flexing rolls are



loosely confined at their ends against displacement in the direction of strip movement.

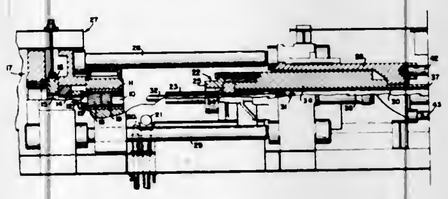
3,260,094
EXPANSION RESISTANT ROLLING MILL FRAME OF REDUCED HEIGHT
Klaus Neumann, St. Ingbert, Saar, Germany, assignor to Moeller & Neumann Verwaltungsgesellschaft Offene, St. Ingbert, Saar, Germany
Filed July 1, 1963, Ser. No. 291,949
Claims priority, application Germany, July 2, 1962, V 22,724
7 Claims. (Cl. 72—237)



1. An expansion resistant rolling mill frame comprising in combination:
opposed pedestals having substantially aligned openings,
pedestal caps mounted for vertical movement on said pedestals and having substantially aligned openings disposed above said pedestal openings,
mounting means disposed in said aligned openings,
bearing means received in said mounting means,
horizontally disposed rollers journalled in said bearing means,
projections extending radially into at least two of said aligned openings,
a corresponding abutment on said mounting means,
and opposed support surfaces on said projections and said corresponding abutment means,
at least one of said support surfaces having a convexly curved face to allow a tilting movement of said mounting means on said projections following deflections of said rollers during the rolling operations.

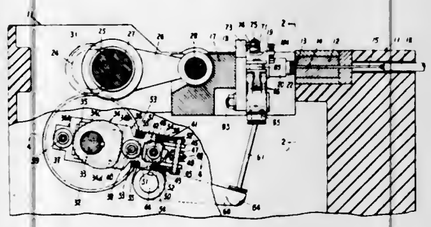
3,260,095
METHOD AND APPARATUS FOR EXTRUDING TUBES FROM SOLID BILLETS
George F. Flanagan, Middlebury, Conn., assignor to Anaconda American Brass Company, a corporation of Connecticut
Continuation of application Ser. No. 158,373, Dec. 11, 1961. This application Dec. 4, 1964, Ser. No. 418,945
4 Claims. (Cl. 72—265)

1. Apparatus for extruding tubes from solid billets comprising:
(a) a billet chamber,
(b) a die positioned at one end of said billet chamber,
(c) an extrusion ram mounted adjacent the opposite end of said billet chamber, said ram having an axial bore extending completely therethrough,
(d) first hydraulic drive means connected to said extrusion ram for moving said ram axially into and out of said billet chamber,
(e) a rotatable piercing mandrel slidable within the bore in said extrusion ram and extensible therefrom and having a mandrel head of substantially circular cross section,
(f) a piercing mandrel stem connected to one end of said mandrel and extensible therefrom away from the billet chamber,



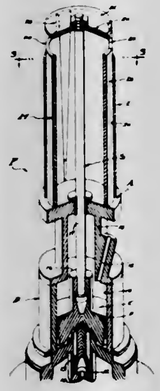
(g) second hydraulic drive means operatively connected to the end of said piercing mandrel stem opposite to the end on which the mandrel is mounted, said second drive means adapted to slide said mandrel in the bore of said ram axially into said billet chamber and said die,
(h) gear means mounted on said piercing mandrel stem for rotating the stem and mandrel independent of said second drive means, and
(i) a second elongated drive gear means connected to said first gear, whereby said first gear is slidable relative to said second gear and said stem and mandrel are continuously rotated thereby independent of said second drive means during the piercing and extruding operation.

3,260,096
DOUBLE BLOW HEADER
Yoshikazu Sakamura, 56 Kita Momodani-cho, Minami-ku, Osaka, Japan
Filed Oct. 4, 1963, Ser. No. 313,805
Claims priority, application Japan, Oct. 6, 1962, 37/44,382
1 Claim. (Cl. 72—391)



In a double blow header including a stationary frame, a gate movably mounted on said frame, a main crankshaft, means between said main crankshaft and gate for reciprocating the gate, a half speed cam shaft driven by said main crankshaft, a punch carrier shiftably mounted on said gate for motion between two alternative work positions laterally spaced from each other, and a punch carrier drive means driven by said half speed cam shaft; the combination of positive stop means for said punch carrier at said alternative work positions, which comprises a pair of stop blocks against which said punch carrier alternatively abuts, each of said stop blocks being adjustably positioned on said stationary frame and having an abutment surface extending in the direction of the stroke of said gate so that on the advance stroke of said gate said punch carrier moves along said abutment surface, with a spring over-travel accommodation device which is inserted in said punch carrier drive means.

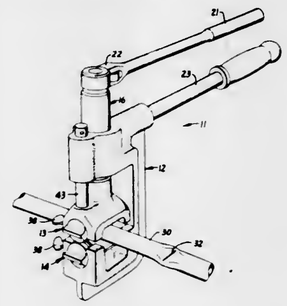
3,260,097
APPARATUS FOR EXPANDING TUBULAR MEMBERS
Ralph W. Hilton, Palos Verdes Estates, Calif., assignor to Harvey Aluminum (Incorporated), Torrance, Calif., a corporation of California
Filed Apr. 8, 1963, Ser. No. 271,403
4 Claims. (Cl. 72—393)



1. Apparatus for expanding tubular members about a central axis and comprising pairs of complementary longitudinally disposed wedge-shaped cylindrical sections, said sections having circumferentially and substantially radially disposed engaged edges for longitudinal sliding movement relative to each other, means at the engaged edges and joining the sections together circumferentially and against separation, and means to move the two sections of each pair of sections longitudinally relative to each other to vary the circumference of said combined sections by shifting the said sections radially.

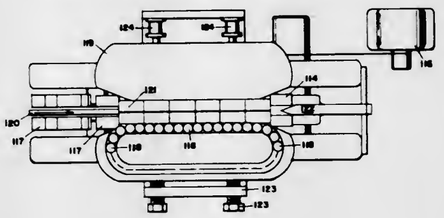
3,260,098
TOOL FOR CLOSING AND OPENING A METAL TUBE
John B. Gill, 20433 Earl St., Torrance, Calif.
Filed Sept. 6, 1963, Ser. No. 307,154
6 Claims. (Cl. 72—416)

1. A shut-off tool for pinching closed and squeezing open a deformable metal tube, comprising a first section containing a first die member rotatably mounted therein, a second section containing a second die member rotatably mounted therein, said first and second die members each containing a pipe closing die surface and a pipe opening die surface on the opposite side thereof, lock means on each of said first and second sections for holding the die surfaces of the die members in operative position for closing the tube and in operative position for opening the tube, mounting means for holding the first and second sections in spaced relation, and screw means engaging the mounting means for moving the first and second section relatively toward each other with a clamping force to provide pinching and squeezing forces on



the tube, said screw means containing a screw in threaded engagement with the mounting means and having a thrust bearing at an end thereof rotatable within a bearing socket carried by said first section for retaining proper alignment of the first section with the second section during pinching and squeezing operations.

3,260,099
TUBE FORMING MACHINE
Filed July 28, 1964, Ser. No. 385,701
3 Claims. (Cl. 72—422)
Frank E. Elge, Main St., Ludlow, Pa.



3. A pull unit for a tubing mill for pulling tubing through said mill comprising
spaced rotating members,
a chain having links around said rotating members,
said chain having cleats supported thereon, said cleats having an intermediate part attached to a link of said chain and two of said cleats being slidably supported thereon being movable laterally of said chain in translation in a line parallel to a diameter of said tube,
means moving said cleats toward each other and forcing them into engagement with said tubing whereby said tube is clamped between said cleats,
reduction means on said machine to reduce the size of said tube,
said reduction means comprising a mandrel supported on said machine and adapted to engage the inside of said tube,
and rollers supported on said machine with their axes extending generally in the direction of said tube and inclined slightly thereto whereby the periphery of said rollers makes forcible engagement with said tube.

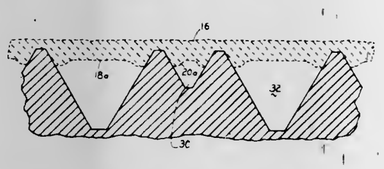
3,260,100

APPARATUS FOR SIMULTANEOUSLY IMPARTING AN ALTERNATE SERIES OF THREAD FORMS ON A WORKPIECE

George L. Wieber, Mount Prospect, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Original application July 30, 1963, Ser. No. 298,766. Divided and this application Jan. 7, 1965, Ser. No. 424,064

14 Claims. (Cl. 72—469)



1. A thread rolling die comprising a die body having a thread rolling surface, said surface being characterized as having a plurality of thread forming grooves therein, a first groove of said plurality of grooves being characterized as being disposed in a predetermined plane and having a predetermined length, said first groove having a predetermined depth in a first portion thereof and a predetermined width at said first portion, said first groove having a second predetermined different depth and second predetermined width in a second portion spaced from said first portion along the length thereof, a second groove in said surface disposed in the plane parallel with said first predetermined plane and immediately adjacent said first groove, said second groove having a width and a depth in the first portion thereof immediately adjacent to said first portion of said first groove which differs from the width and depth of said first groove, said second groove in a second portion thereof adjacent to the second portion of said first groove having a width and depth which differs from the width and depth of said second portion of said first groove whereby threads of different size may be simultaneously rolled on a workpiece by said first and second grooves.

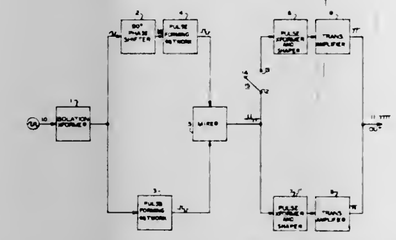
3,260,101

CALIBRATION METHOD

Theodore Ongaro and Eugene R. Lucka, Columbus, Ohio, assignors to Ongaro Dynamic Industries, Inc., a corporation of Ohio

Filed Sept. 4, 1962, Ser. No. 221,158

3 Claims. (Cl. 73—1)



2. In combination a tachometer for indicating the number of events occurring in a unit of time comprising means for detecting said events, means for converting each event into an electrical pulse, means for averaging the current of said pulses, means for converting said current into an indication of the frequency of occurrence of said pulses, and means for varying said indication; a calibration instrument for determining the accuracy of said tachometer comprising, a constant alternating signal source, means for converting said signal into a positive and negative pulse for each cycle, means for doubling said pulses, means for combining said pulses and means for inverting said positive or negative pulses to pulses of like polarity; means for disconnecting said events to said detecting means and for connecting said standard frequency calibration pulses to said detecting means, and means for correlating said tachometer frequency indication with the pulse repetition frequency of said standard calibration pulses.

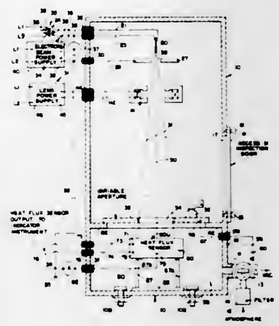
3,260,102

CALIBRATION METHOD AND DEVICE FOR HEAT FLUX SENSORS

Frank D. Werner, Minneapolis, Minn., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota

Filed Dec. 11, 1963, Ser. No. 329,773

9 Claims. (Cl. 73—1)



1. The method of calibrating a heat flux sensor having a signal output circuit and an electrically conductive heat receiving surface which comprises impinging an electron beam upon said heat receiving surface, conducting away from said surface the electric current resulting from said electron beam and simultaneously measuring the power of said electric current for determining the heat input to said heat flux surface and the signal output of said sensor.

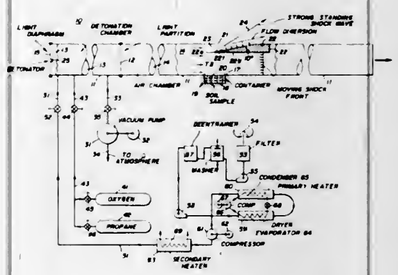
3,260,103

DETONATION SHOCK TUBES

Milton R. Johnson, Chicago, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Dec. 20, 1962, Ser. No. 246,111

18 Claims. (Cl. 73—12)



1. A shock tube comprising an elongated tubular casing, a frangible partition carried by an intermediate portion of said casing and initially dividing said casing into rear and front chambers, said front chamber containing air, a frangible diaphragm carried by the rear end of said casing and initially closing the rear end of said rear chamber, means for supplying a detonable gas into said rear chamber, means for initiating detonation of the gas immediately adjacent to and forwardly of said diaphragm so that said diaphragm is substantially instantaneously ruptured by the detonation of the gas to place the rear end of said rear chamber into communication with the atmosphere in order to prevent substantial recoil forces upon said casing, whereby a detonation wave is initiated in the gas in the rear end of said rear chamber, said detonation wave being characterized by a substantial overpressure and forward travel at supersonic velocity through the gas in said rear chamber, means responsive to said forwardly traveling detonation wave for subsequently effecting rupture of said partition and the consequent production of a blast wave in the air in the rear end of said front chamber, said blast wave being characterized by a substantial overpressure and forward travel at supersonic velocity through the air in said front chamber, the front end of said front chamber communicating with the atmosphere in order to prevent substantial thrust forces upon said casing, and a test station in said front chamber and subject to said forwardly traveling blast wave.

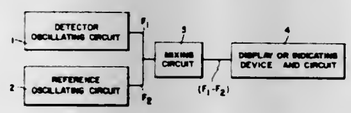
3,260,104

APPARATUS FOR FLUID ANALYSIS

William H. King, Jr., Florham Park, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Oct. 24, 1962, Ser. No. 232,742

13 Claims. (Cl. 73—23)



1. In an analyzer comprising in combination an electronic circuit oscillator means having a piezoelectric element as a resonant element thereof said piezoelectric element being so constructed and arranged as to be in contact with the fluid to be analyzed, said piezoelectric element having a substrate coated thereon wherein said substrate can interact with at least one component of a material to be analyzed, the improvement which permits said analyzer to have a sensitivity independent of any changes in the temperature and pressure under which the analysis may be conducted comprising a second electronic circuit oscillator means having a piezoelectric element as a resonant element thereof said piezoelectric element being so constructed and arranged as to be in contact with the fluid to be analyzed which piezoelectric element has a substrate coated thereon which substrate does not interact with said material to be analyzed, mixing means operatively connected with said first electronic circuit oscillator means and said second electronic circuit oscillator means whereby a net oscillating frequency is obtained and means for detecting said net oscillating frequency.

3,260,105

ULTRASONIC TESTING APPARATUS AND METHOD

James F. McNulty, Westbury, N.Y., assignor to Automation Industries, Incorporated, El Segundo, Calif., a corporation of California

Filed Dec. 21, 1962, Ser. No. 246,517

16 Claims. (Cl. 73—67.9)

1. The method of testing which comprises: directing periodic vibrational pulses of ultrasonic frequency into an object under test; receiving vibrational echoes of portions of said pulses from said object; transforming said vibrational echoes into corresponding electrical signals; establishing a signal reject level proportional to the number of electrical signals exceeding a preselected amplitude level; passing only those portions of said electrical signals in excess of said signal reject level; and actuating an alarm by said passed portions.

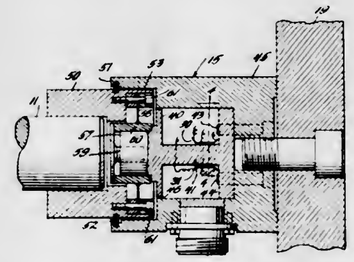
3,260,106

WEB TENSION METER

Richard D. Hull, Durham, Donald G. Hanefeld, Somersworth, and Karl Bye, Dover, N.H., assignors, by mesne assignments, to Moore Business Forms, Inc., Niagara Falls, N.Y., a corporation of Delaware

Filed Feb. 18, 1964, Ser. No. 345,747

5 Claims. (Cl. 73—144)



1. Apparatus for measuring the tension in a continuously moving web comprising in combination, two spaced frame members, a shaft extending between the frame members and having web engaging means rotatably mounted thereon, coupling members connecting opposite ends of the shaft to the frame members, said shaft and coupling members defining at least one area of reduced cross section along the axis of the shaft, means for holding the web in engagement with the rotatably mounted means for producing a web tension load component on the shaft with web tension load components deflecting the shaft and straining the area of reduced cross section, and strain sensing transducing means located at said area of reduced section for conveying therefrom a signal derived from said straining and therefore representative of the tension in the web.

3,260,107

GUN PRESSURE MEASURING DEVICE

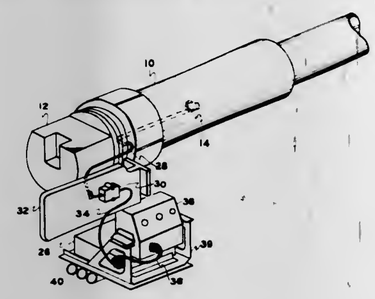
Philip J. Rosen, Oak Park, Mich., assignor, by mesne assignments, to the United States of America, as represented by the Secretary of the Army

Filed Oct. 31, 1963, Ser. No. 320,590

1 Claim. (Cl. 73—167)

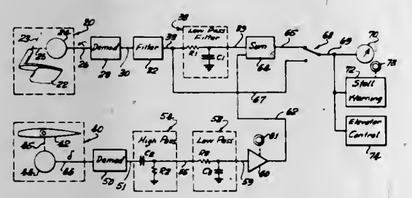
A system for measuring the peak pressure generated in a gun barrel by the firing of a projectile therethrough comprising a bonded strain gage transducer employing a four arm bridge circuit mounted on said gun barrel, said transducer secured in an opening in the wall of said gun

barrel which opening extends entirely through said wall, said transducer positioned so as to be stressed by pressure in said barrel, said transducer supplying a signal to a modulator, said modulator being driven at a rate in the order of 50 kilocycles per second by a magnetic square wave oscillator so as to obtain a high resolution of the peak pressure signal, said pressure signal thereafter fed to an amplifier which produces a demodulated output signal, an analog-to-digital converter circuit operating on a ramp-sweep conversion principle whereby a highly linear



sweep voltage is generated, a peak detector circuit combined with said converter circuit, said demodulated signal output of said amplifier performing the dual functions of charging said peak detector circuit and providing a signal which triggers said converter, whereby said sweep voltage is compared to said demodulated signal, the output signal of said converter providing a pattern of signals for use in a digital readout system whereby the said peak pressure is read out as the first three significant digits.

3,260,108
SYSTEM FOR REPRESENTING ANGLE OF ATTACK AND THE LIKE
Rimvydas A. Kaminskas, Duarte, Calif., assignor to Giannini Controls Corporation, Los Angeles, Calif., a corporation of New York
Filed May 6, 1963, Ser. No. 278,197
7 Claims. (Cl. 73—178)



1. A system for developing a signal representing a flight variable that is a function of angle of attack of an aircraft, said system comprising in combination

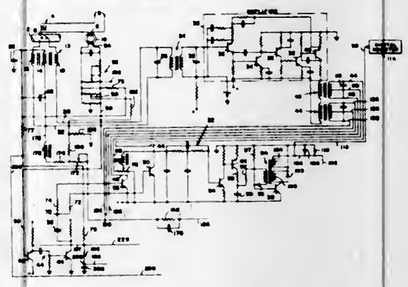
sensing means responsive to said flight variable and acting to develop a primary signal representing the value thereof,

low pass filter means for removing from said signal frequency components above a critical frequency,

means for producing an auxiliary signal representing variations in the pitch angle of the aircraft and including frequency components above said critical frequency,

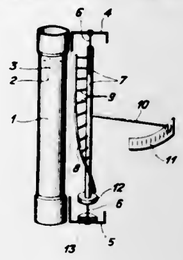
means for summing the auxiliary signal and the filtered primary signal to produce a composite signal that substantially represents the flight variable and includes frequency components on both sides of the critical frequency.

3,260,109
ELECTROMAGNETIC FLOWMETER MEASURING APPARATUS
Roy F. Schmoock, Ivyland, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed Apr. 24, 1962, Ser. No. 189,837
16 Claims. (Cl. 73—194)



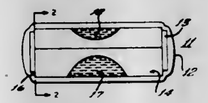
15. A flowmeter comprising a conduit for flowing fluid, electromagnetic means providing a magnetic field transverse to said conduit, means supplying alternating current to said electromagnetic means, electrodes exposed to fluid flowing through said conduit and located on a line extending transversely through said field to pick up signals generated by flow of fluid through said field, means providing an input circuit, connections from said electrodes to provide variable alternating signals therefrom to said input circuit, a variable frequency pulse generator, means responsive to output signals from said input circuit to control the frequency of pulses produced by said generator, means providing a reference signal having the frequency of said current, means responsive to pulses produced by said generator to sample said reference signal at the frequency of said pulses to produce variable pulses of constant duration each of which has an amplitude approximately proportional to the amplitude of said reference signal at the time of sampling, said pulses having a frequency considerably exceeding that of changes of said reference signal, means smoothing said variable pulses and providing to said circuit a second signal in phase with but opposing said variable signal to effect substantial nulling of said variable signal at the output of said circuit, and means counting the pulses produced by said generator.

3,260,110
INDICATOR FOR FLOW METERS WITH FLOATS
Kurt Lutz, Wurttemberg, Baden, Germany, assignor to Rota, Apparate- und Maschinenbau Dr. Hennig KG., Oflingen, Baden, Germany
Filed Mar. 25, 1964, Ser. No. 354,632
5 Claims. (Cl. 73—209)



1. An indicator for flow meters composed of a housing, a float disposed therein, and an indicator linked to said float, said indicator comprising, in combination, a cylindrical indicator housing: a fine wire suspended vertically and substantially centrally therein; a helix rotatably disposed in said indicator housing provided with a hollow axis enveloping said fine wire, said helix being connected to said axis by a plurality of fine ribs; a first magnetic disc having a central aperture for passage of said wire disposed at the lower end of said axis; a second magnetic disc also having a central aperture for passage of said wire disposed at the bottom of said indicator housing; the areas of said magnetic discs facing each other being of like polarity thus holding said helix in a freely rotatable manner without mechanical contact and thereby eliminating friction; a pointer attached to said helix; and scale means opposite the end of said pointer to ascertain the flow to be measured.

3,260,111
DEVICE FOR RECORDING TEMPERATURE
John K. Godbey, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Aug. 5, 1963, Ser. No. 299,954
1 Claim. (Cl. 73—356)



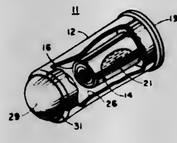
A device for measuring the peak temperature of a drilling fluid at dynamic circulating conditions during the drilling of a well with a fluid-circulating drill bit on a drill pipe comprising:

(a) a casing of an abrasion-resistant material with sufficient strength to prevent the abrasive forces encountered in fluid circulation in a well from damaging a temperature-indicating means carried therein, said casing having at least one dimension of a size sufficient to pass the casing through the circulating openings in a drill bit,

(b) a temperature-indicating means enclosed within the casing, said means providing a permanent change in indicia when subjected to a predetermined temperature, and

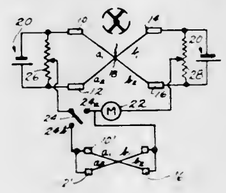
(c) a solid wooden part less dense than water disposed within the casing, said temperature-indicating means carried within said casing adjacent the exterior surface of said part, and said part having a volume sufficient to make the device float in a drilling fluid.

3,260,112
TEMPERATURE-RECORDING DEVICE AND METHOD
John K. Godbey, Hayden D. Hodges, and Ralph F. Burdyn, Dallas, Tex., assignors to Mobil Oil Corporation, a corporation of New York
Filed Aug. 5, 1963, Ser. No. 299,955
10 Claims. (Cl. 73—356)



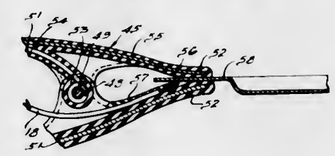
1. A device for measuring the peak temperature of drilling fluid at dynamic circulating conditions during the drilling of a well with fluid-circulating bits comprising a casing of an abrasion-resistant material with sufficient strength to prevent the abrasive forces encountered in fluid circulation in a well from damaging a temperature-indicating means carried therein, and said casing having at least one dimension of a size sufficient to pass the casing through the circulating openings in a drill bit, a temperature-indicating means for providing a permanent change in indicia when subjected to a predetermined temperature disposed within the casing, and means cooperating with the casing for securing the temperature-indicating means within the casing.

3,260,113
HEAT TRANSFER MEASURING APPARATUS
James M. Benson and Charles E. Hawk, Hampton, Va., assignors to Hastings-Raydist, Inc., Hampton, Va., a corporation of Virginia
Filed July 29, 1963, Ser. No. 298,345
6 Claims. (Cl. 73—359)



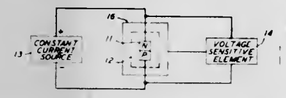
1. Heat transfer measuring apparatus comprising a first pair of dissimilar metal members joined to form a thermocouple junction, a second pair of dissimilar metal members joined to said junction, means for passing heating current through all four of said members, and means connected to the ends of the metal members opposite from the junction for measuring the thermocouple current generated in said junction.

3,260,114
TEMPERATURE INDICATING DEVICE
Walter B. Drolet, Jr., 33027 Allen, Livonia, Mich.
Filed Feb. 19, 1962, Ser. No. 173,966
3 Claims. (Cl. 73—362)



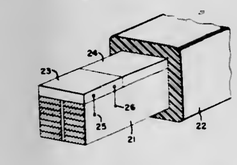
1. In a device for checking the temperature of an article, a circuit comprising temperature indicating means, power means, resistance means, first and second rheostat means and switch means completing a series circuit in the order named, a second circuit in parallel with said second rheostat means of the first said circuit and in series with said first rheostat means and said switch means, said second circuit comprising a separable jack, a conductor having a pair of leads with one end being connected to the separable part of the jack, a thermistor joined to the other ends of said leads, clamping means supporting said thermistor and retaining it in engagement with an article to be tested, and insulating means covering the portions of said clamping means engageable with the article to be tested, said thermistor being located externally of said insulating means at a position to contact the article when the article is engaged by said clamping means.

3,260,115
TEMPERATURE SENSITIVE ELEMENT
Ralph A. Logan, Morristown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 18, 1962, Ser. No. 195,915
8 Claims. (Cl. 73—362)



1. A temperature measuring system comprising a gallium arsenide p-n junction diode having a high dislocation density between 10^5 and 5×10^6 per cm.^{2}, a source of current connected to said diode in a reversed bias sense, the current supplied by said source being within the voltage breakdown range of said diode and a voltage responsive element connected in parallel with said diode.

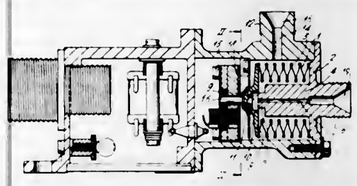
3,260,116
REMOTE READING TEMPERATURE INDICATING SYSTEM
Raymond F. Grady, Jr., Lynn, Mass., assignor to General Electric Company, a corporation of New York
Filed May 15, 1963, Ser. No. 280,664
4 Claims. (Cl. 73—362)



3. In electrical apparatus, the combination of:
(a) a current-carrying conductor subject to temperature change in operation;
(b) oscillator means comprising a network including a resistor, a negative resistance diode and a frequency-determining parallel resonant circuit;
(c) at least one element in the parallel resonant circuit having a temperature-dependent reactance whereby the natural resonant frequency of the circuit changes with variations in temperature;
(d) means supporting said network in a position adjacent the conductor, whereby said element is in good heat exchange relationship with the conductor;
(e) energizing means connected to the oscillator means for supplying power thereto comprising two voltage taps longitudinally spaced along the current-carrying conductor, the taps being connected to respective input terminals of the said network; and
(f) means remote from the oscillator for measuring the frequency of oscillation of the oscillator means to provide an indication of the temperature of said conductor.

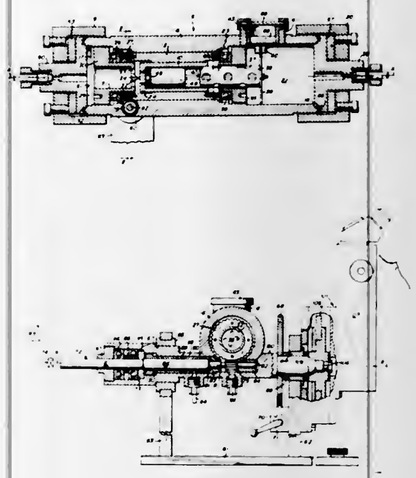
3,260,117
ELECTRIC POSITION DETECTION DEVICES
Derek Anthony Rush, Stroud, England, assignor to S. Smith & Sons (England) Limited, Cricklewood, London, England, a British company
Filed Mar. 2, 1964, Ser. No. 348,353
Claims priority, application Great Britain, Mar. 4, 1963, 8,563/63
7 Claims. (Cl. 73—398)

7. A pressure difference detector comprising a chamber, an expansible and contractible housing disposed within the chamber, said chamber being provided with first inlet means for introducing a fluid into the housing and second inlet means for introducing a fluid into the space in the chamber outside the housing, a member connected to the housing so that as the housing expands and contracts the member moves, a plurality of pieces of a high permeability magnetic material arranged to form a magnetic circuit closed except for a plurality of gaps, a winding wound on one of the pieces so that magnetic flux passes through the pieces and the gaps when an electric current passes through



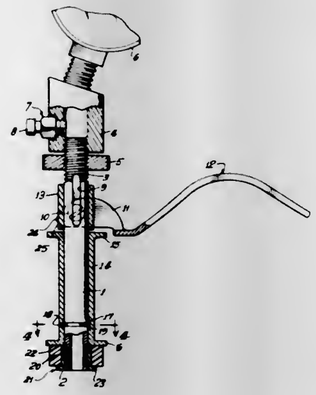
the winding, a further piece of a high permeability magnetic material carried by said member and disposed in one of the gaps so that said magnetic flux changes on expansion and contraction of said housing, a Hall effect device having input terminals and output terminals disposed in another of said gaps, the input terminals and the winding being connected to an alternating voltage source such that currents flow through the Hall effect device and the winding which have a common alternating current component.

3,260,118
INCLINED-PISTON DEAD-WEIGHT PRESSURE GAUGE
Donald R. Douslin, Bartlesville, Okla., assignor to the United States of America as represented by the Secretary of the Interior
Original application Feb. 28, 1963, Ser. No. 261,913, now Patent No. 3,195,354, dated July 20, 1965. Divided and this application Apr. 21, 1965, Ser. No. 469,357
5 Claims. (Cl. 73—419)



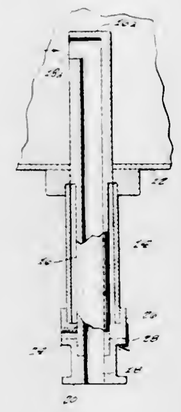
3. A precision gauge for measuring the pressure of a source thereof, comprising a first tubular housing formed as a plurality of contiguous chambers including a central chamber having operatively related therein piston and cylinder structures, means for connecting said cylinder structure to said source, bearing devices supporting the said cylinder structure for rotation about the longitudinal axis of the said first housing, said piston structure being freely movable in said cylinder structure for linear and rotative displacements therein on vacuum pump lubrication coating the mutually contacting surfaces of the piston and cylinder structures, a second tubular housing integrally joined with the said first housing, the respective longitudinal axes of the said housings being positioned thereby at right angles to each other, spaced support elements comprising bearing sleeves in which the said second housing is maintained for rotation about its longitudinal axis, driven shaft means supported on bearing devices in said second housing for rotation about the said axis thereof, and having connected thereto means imparting rotation to said cylinder structure in said first housing, drive means operatively associated with said support elements and said second housing to angularly position the latter about its said axis, and the said axis of the first housing in a vertical plane, a plate mounted on an end portion of the said second housing to be rotatable therewith about its said axis, and having graduated angular indicia on a face thereof, an optical coincidence reading system aligned with the said plate face, and operable to read therefrom the angular displacement of the said axis of the first housing in a vertical plane.

3,260,119
PRESSURE GAUGE CONNECTOR MEANS
Ronald B. Jones, 2341 Luana Lane, Glendale, Calif.
Filed Nov. 22, 1963, Ser. No. 325,535
8 Claims. (Cl. 73—420)



1. A means for quickly connecting and disconnecting a pressure gauge with the spark plug hole of an engine cylinder at a time when the cylinder is subjected only to atmospheric pressure, said means comprising a tubular body member having the interior thereof connected at one end to the pressure gauge and having an axially compressible, radially expandable resilient element and supporting means therefor mounted at the opposite end thereof, said resilient element when unexpanded, being capable of insertion into the spark plug hole of an engine cylinder to which the pressure gauge is to be connected, and manually operable means including a component axially movable on said body member effective in cooperation with said supporting means to apply axial compression on said resilient element with resultant radial expansion of said element into pressure tight connection with the spark plug hole into which it has been inserted.

3,260,120
SAMPLING DEVICE
Dan W. Stilwell, Odessa, Tex., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Feb. 17, 1964, Ser. No. 345,231
1 Claim. (Cl. 73—422)

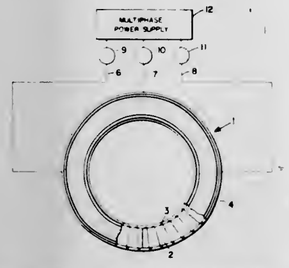


A polyolefin pellet sampling device which comprises:
(a) a conduit for carrying pellets to be sampled,
(b) an open-ended tubular member attached at one end to the wall of said conduit and projecting outwardly from said conduit, said tubular member being in alignment with an opening in said conduit,
(c) a piston reciprocally supported within said tubular member whereby one end thereof can be alternately advanced into said conduit and retracted therefrom, said piston including a passageway adapted to convey pellets from said conduit through the entire length of said piston when said piston is in an advanced position, the end portion of said piston adjacent to said conduit containing a port in fluid communication with said passageway and extending substantially perpendicular thereto, the portion of said piston which forms said port forming a substantially continuous surface with the inner wall of said conduit when said piston is in a retracted position to prevent flow of pellets and the distal end of said piston containing an opening in coaxial alignment with said passageway,
(d) means connected to said distal end of said piston for attaching a receptacle adapted to collect pellets passing through said port, pasageway and opening,
(e) a closure member attached to the end of said tubular member opposite said conduit for retaining said piston within said tubular member and for preventing said piston from overtraveling during retraction and
(f) at least one manually operable spring clip member attached to said closure member for retaining said piston in an advanced position within said conduit.

3,260,121
MOTION SENSING DEVICE
James V. Johnston, 821 Giles Drive NE., Huntsville, Ala.
Filed May 17, 1963, Ser. No. 281,369
10 Claims. (Cl. 73—505)

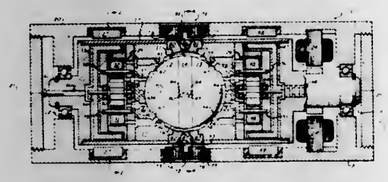
1. A motion sensing device comprising: a hollow toroidal shaped inner tube, partially filled with a conductive liquid, a segmented winding surrounding said inner

tube, a multiphase power supply, means connecting respective phases of said multiphase power supply to respective segments of said winding, means attached to each of



said connecting means for sensing the current supplied to each segment of said winding to thereby indicate the distribution of said fluid in said tube.

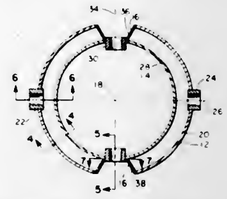
3,260,122
GYROSCOPIC APPARATUS
Eugene S. Rocks, Northport, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed May 13, 1963, Ser. No. 279,889
20 Claims. (Cl. 74—5.4)



1. Inertial apparatus comprising,
(a) rotor means,
(b) rotor housing means having a cavity of substantially the same shape as that of said rotor means within which said rotor means is positionably disposed,
(c) fluid within said cavity for supporting said rotor means,
(d) support means within which said rotor housing means is mounted for rotation about an axis,
(e) means for rotating said rotor housing means about said axis so as to thereby rotate said fluid and said rotor means,
(f) means including fluid pump means within said rotor housing means for introducing said fluid into said cavity under pressure to maintain said rotor means centered within said cavity, and
(g) means responsive to the relative angular movement of the axis of rotation of said rotor means with respect to that of said rotor housing means for providing a signal representative thereof.

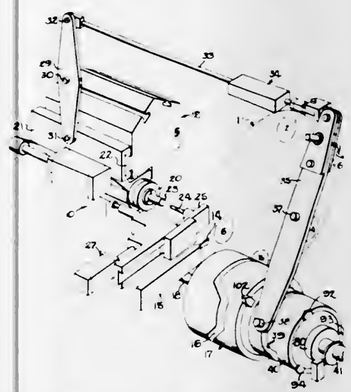
3,260,123
VIBRATION ISOLATING GIMBAL
Robert J. Dickie, Maywood, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Sept. 3, 1963, Ser. No. 305,965
7 Claims. (Cl. 74—5.5)

1. In combination with a gyroscope having a rotor, a gimbal mounting for said rotor comprising a first rigid frame member having a pair of inwardly directed coaxial trunnions on opposite sides thereof defining an inner pivot axis;
a second rigid frame member larger than and circumscribing said first rigid frame member having a pair of outwardly directed coaxial trunnions on opposite



sides thereof defining an outer pivot axis and being coplanar with and substantially at right angles to said inner pivot axis; and
spring means interposed and constituting the sole interconnection between said rigid frame members.

3,260,124
CYCLE SYNCHRONIZING APPARATUS
Ambrose A. Hasselblad and Walter J. Hasselblad, both % Hasselblad Machine Company, 2405 Mason St., Green Bay, Wis.
Filed Oct. 14, 1964, Ser. No. 403,718
4 Claims. (Cl. 74—63)

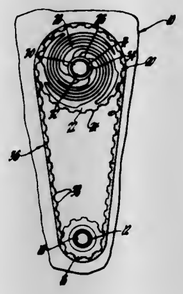


4. In a machine tool, the combination of, a base, first and second drums rotatably mounted on said base in end-to-end coaxial relation, means for rotating said drums in the same direction through concurrent cycles and first advancing said second drum relative to said first drum and then advancing said first drum relative to said second drum to overtake the latter near the end of the concurrent cycles, and opposed abutment surfaces on said drums positioned to become engaged and latch said drums together in a preselected angular relation after said first drum overtakes said second drum whereby said drums begin said concurrent cycles in said preselected angular relation.

3,260,125
GEAR DRIVE ASSEMBLY
John Dolza, P.O. Box 192, Fenton, Mich.
Filed July 8, 1964, Ser. No. 381,173
7 Claims. (Cl. 74—229)

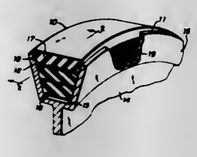
1. In combination, a first gear having circumferentially spaced teeth extending outwardly therefrom, a second gear having circumferentially spaced teeth extending outwardly

therefrom, and a tensioned continuous elongated member having spaced driving means thereon engageable with said teeth, on said first and second gears, like points on



adjacent teeth on said first gear being spaced a distance equal to the spacing of said driving means on said member plus the mean stretch of said member per said driving means.

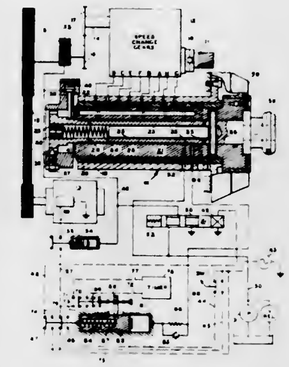
3,260,126
POWER TRANSMISSION BELT
Dale L. Waugh, Springfield, Mo., assignor to Dayco Corporation, Dayton, Ohio, a corporation of Ohio
Filed Nov. 20, 1963, Ser. No. 324,994
9 Claims. (Cl. 74—233)



5. A power transmission V-belt comprising a tension section, an inextensible load-carrying section disposed at the neutral axis of the belt, and a compression section inward of said load-carrying section, said compression section comprising superimposed layers of a series of fabric pleats extending transversely of said belt for the entire width thereof, said pleats having folds which are disposed in a direction from the inner toward the outer surface of said belt and at substantially right angles to the longitudinal axis thereof.

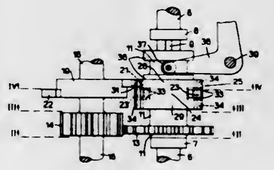
3,260,127
MACHINE TOOL TRANSMISSION
Donald J. Groppe, Lewis A. Dever, and Richard C. Brasington, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 23, 1963, Ser. No. 310,682
4 Claims. (Cl. 74—339)

1. In a machine tool having a motor, a spindle and a set of speed change gears shiftable in selected combinations to connect the spindle to the motor for rotation at preselected rates, a mechanism for synchronizing the meshing of the gears upon shifting comprising in combination:
(a) a pulse generator valve including a plunger shiftable therein and means responsive to the shifting of said plunger to produce a series of energy pulses,
(b) selector means to control the shifting of the set of gears into predetermined combinations,
(c) means responsive to the operation of said selector means to initiate the shifting of said plunger, and



(d) means to connect said energy pulses to the motor for intermittent operation thereof to apply torque pulsations to the set of gears.

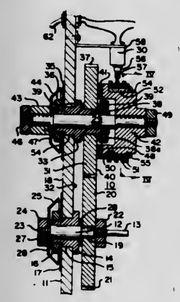
3,260,128
ONE CYCLE DRIVE MECHANISM FOR SELECTIVELY ROTATING A MEMBER OF A BUSINESS MACHINE
Teresio Gassino and Nicolò Giolitti, Ivrea, Italy, assignors to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Jan. 30, 1964, Ser. No. 341,342
Claims priority, application Italy, Feb. 7, 1963, 2,529/63
9 Claims. (Cl. 74—435)



1. A one cycle drive mechanism for selectively rotating a member of a business machine, comprising in combination:
(a) a continuously rotating gear,
(b) a mutilated gear meshing with said rotating gear and secured to said member, said mutilated gear having a portion deprived of teeth and normally facing said rotating gear to prevent said mutilated gear from being engaged by said rotating gear, said mutilated gear being engageable by said rotating gear upon being preliminarily rotated through a predetermined extent,
(c) a first element bodily rotatable with said mutilated gear in correspondence with said portion and axially spaced therefrom,
(d) a second element bodily rotatable with said rotating gear,
(e) and selectively operable means for causing said

second element to engage said first element for rotating said mutilated gear through said extent, whereby the drive mechanism is positively engaged synchronously with the rotation of said rotating gear.

3,260,129
ADJUSTABLE CAM PROGRAMMER
Alfred H. Drain, Richland Township, Allegheny County, Pa., assignor to Heppenstall Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 23, 1964, Ser. No. 362,002
12 Claims. (Cl. 74—568)

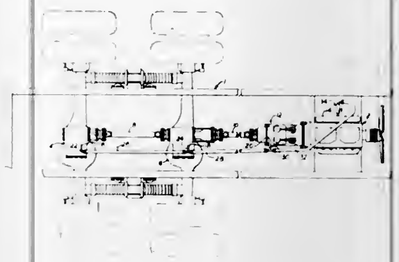


1. An adjustable cam programmer, apparatus comprising, in combination, a panel, an input shaft, a bushing mounted on said panel, said shaft extending through said bushing and panel, a drive gear having peripheral teeth and keyed to said shaft behind said panel, a dial fixed to the front of said panel surrounding said shaft, a knob secured to said shaft in front of said panel, said knob having an index symbol to indicate the angular position of said shaft relative to said dial, at least one output shaft parallel to said input shaft, a second bushing mounted on said panel, said output shaft extending through said second bushing and panel, a cam holder keyed to said output shaft behind said panel, a driven gear having peripheral teeth in mesh with the teeth of said drive gear, said driven gear being freely mounted on an arbor portion of said second bushing, said cam holder being mounted for rotation with said output shaft when in clutched connection with said driven gear, a second dial fixed to the front of said panel surrounding said output shaft, a knob secured to said output shaft in front of said panel and having an index mark to indicate the angular position of said output shaft relative to said second dial, a tightening member connected to the front portion of said output shaft and adapted to place said cam holder in clutched connection with said driven gear when said tightening member is tightened, a clutch facing positioned between said cam holder and driven gear, a plurality of cam rings mounted on the periphery of said cam holder in selected angular positions respectively a plurality of arcuately arranged microswitches having cam followers extending toward a respective one of said cam rings in the plane thereof, and electrical means for deactivating any selected switch or switches not needed in a particular programming operation.

3,260,130
VENTILATION SYSTEM FOR GEAR HOUSINGS
Charlie C. Pitts, P.O. Box 2485, Wichita Falls, Tex.
Filed July 29, 1963, Ser. No. 298,027
4 Claims. (Cl. 74—606)

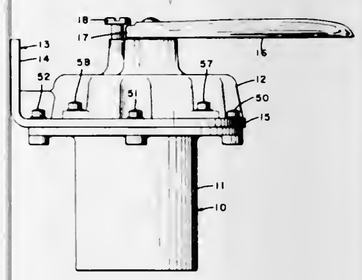
1. A ventilation system for a differential housing of an internal combusion engine powered vehicle, which system comprises;

(a) an air cleaner connected in fluid communication with the internal combustion engine of the vehicle,



(b) a vent conduit connected in fluid communication between the differential housing of said vehicle and the air cleaner.

3,260,131
HOUSING FOR A CONTROL DEVICE
Chester W. Miles, 25989 Dover, Redford, Mich.
Filed Oct. 23, 1963, Ser. No. 318,368
2 Claims. (Cl. 74—608)



1. In combination with a control device including a cam having a journal portion mounted for rotation on a selected axis, said cam having cam contours on a face perpendicular to said axis, said control device also having a plurality of actuator plungers normally engaging said cam contours whereby rotation of said cam induces linear movement of said actuator plungers for control purposes, a body structure for said device comprising:

a lower body member having bores for receiving said actuator plungers and means controlled by said plungers, said lower body member having a mounting face at the normally upper portion thereof;

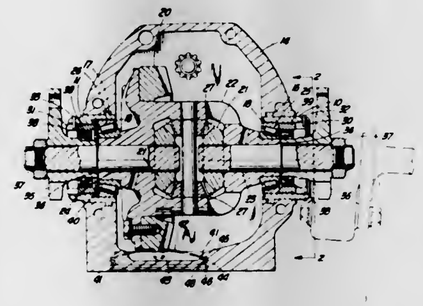
an upper body member having a bearing receiving said cam journal, and having a mounting face at the normally lower portion thereof;

a mounting bracket having a normally horizontal portion provided with a central opening surrounding the said bores, said bracket portion being interposed between said first and second body members;

fastening means securing said lower body member to said bracket portion; and

fastening means securing said upper body member to said bracket portion, said fastening means all being accessible for installation and removal from the side of said bracket portion occupied by said upper body member, said upper body member being adapted to provide clearance and access to the said fastening means securing said lower body member.

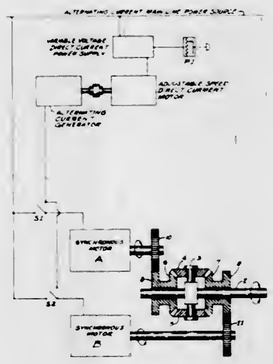
3,260,132
DIFFERENTIAL GEAR MECHANISMS
Adrian William West and John Lewis, Coventry, England, assignors to Humber Limited, Coventry, England, a British company
Filed June 4, 1964, Ser. No. 372,540
2 Claims. (Cl. 74—609)



1. A differential gear mechanism having
(a) a casing composed of two separate parts,
(b) said casing being formed with two axially aligned housings, the two parts of the casing each providing a part of each housing,
(c) two axially aligned sleeves within the housings respectively,
(d) means to fix the two parts of the casing together with the sleeves clamped in the housings,
(e) each sleeve having internally a smooth cyindrical portion and a threaded portion;
(f) combined journal and thrust bearings axially slidable within the cylindrical portions,
(g) the housing being split diametrically of the bearings,
(h) a planet wheel carrier journalled in the bearings which thrust in opposition to locate the carrier axially, and
(i) screw-threaded members making screw-threaded engagement with the threaded portions within the sleeves and thrusting against the bearings whereby to adjust the axial position of the bearings and the carrier.

3,260,133
CONTROLLED DIFFERENTIAL ADJUSTABLE SPEED REVERSING DRIVE SYSTEM
Evert C. Mattson, 135 Western Ave. N., St. Paul, Minn. 55102
Filed April 13, 1964, Ser. No. 359,012
1 Claim. (Cl. 74—675)

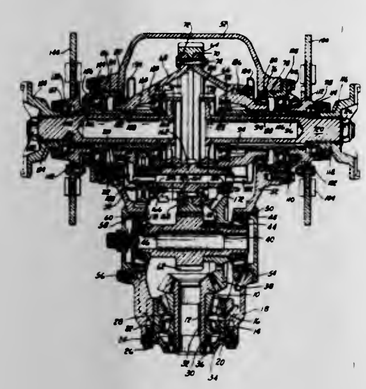
An electrically powered and controlled adjustable speed reversing drive apparatus system with synchronous rotating output shaft infinitely variable in angular velocity of rotation from zero to maximum design speed limits in clockwise or counterclockwise directions of rotation with said system output shaft providing a positive power output value at all design speeds in either direction of rotation and with said system output shaft also being positively locked in a stationary position at zero speed; said drive apparatus system consisting of a single bevel gear differential unit incorporating said system output shaft and including a spider member connected to said system output shaft as a integral part thereof, two bevel pinion gears rotatably mounted one at each end of said spider member at right angles to the longitudinal axis of said system output shaft, two side bevel gears rotatably mounted on said system output shaft in mesh with said bevel pinion gears one at each side of said bevel pinion gears, two end input gears rotatably mounted on said system output shaft one at each end of said side bevel gears with said end input gears connected to said side bevel gears as integral parts thereof; a matched pair of alternating current synchronous electric motors internally arranged to rotate under power in opposite directions driving and controlling said system output shaft differentially through said differential unit, each of said synchronous motors including an output drive shaft with a single pinion drive gear solidly mounted thereon, with said pinion drive gears from said synchronous motors in mesh with said end input gears of said differential unit, said synchronous motors then to deliver positive and negative power inputs to said differential unit and system output shaft and to control negative circulating load power within said differential unit under a driven load; an alternating current constant fixed frequency electric power source driving and controlling one or the other or both of said synchronous motors at a fixed constant synchronous speed; an alternating current variable frequency power supply unit capable of producing electrical alternating current power at variable frequencies driving and controlling one or the other of said synchronous motors at variable speeds over a limited speed range extending above and below the constant speed of said other synchronous motor being powered and controlled from said fixed frequency power source; said variable frequency power supply unit consisting of an alternating current electric power generator or alternator driven at variable speeds from an adjustable speed direct current electric motor, said direct current motor being powered and controlled from an adjustable voltage power supply unit provided with a voltage adjustment potentiometer, said potentiometer then being the control device for output performance of said system output shaft; two electrical selector switches each having first and second electrical contact positions for control of input power to said synchronous motors from said alternating current constant frequency power source and from said variable frequency power supply unit, said selector switches connected one each at input power lines of one and the other of said synchronous motors with said first and second electrical contact positions of said switches connected separately to output power lines of said electrical constant frequency power source and said electrical variable frequency power supply, said selector switches then used to control said system output shaft at zero speed and also used to reverse direction of rotation of said system output shaft.



3,260,134
CONTROLLED STEERING DIFFERENTIAL WITH EXTERNAL BRAKES

Glen L. Bowen, Detroit, and Robert W. Lemon, Farmington, Mich., assignors to G. L. Bowen & Co., Oak Park, Mich., a corporation of Michigan

Filed Sept. 3, 1963, Ser. No. 306,228
4 Claims. (Cl. 74—710.5)



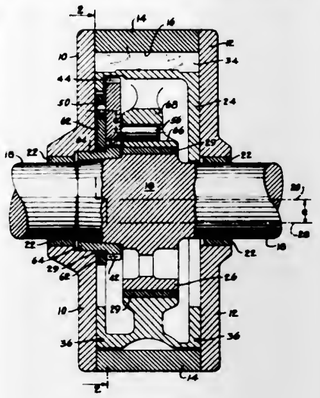
1. A steering differential mechanism comprising a housing, a differential carrier rotatably journalled within said housing, a power input shaft, a driving connection between said power input shaft and said carrier, a pair of differential pinions having first geared portions meshing with each other, said pinions being supported rotatably within said carrier, a pair of differential side gears within said carrier, separate power output shafts connected to each side gear and mounted for rotation about the axis of rotation of said carrier, one pinion having a second geared portion in meshing engagement with one side gear and a corresponding second geared portion of the other pinion being situated in meshing engagement with the other side gear, a separate sleeve shaft surrounding each power output shaft, a steering gear carried by each sleeve shaft within said carrier, a geared connection between each steering gear and a separate one of said pinions, and brake discs connected to said sleeve shaft and rotatably supported by said housing on the exterior thereof whereby controlled geared steering may be accomplished, the first geared portion of each differential pinion being of a pitch diameter that is greater than the pitch diameter of the second geared portion thereof, each geared portion being carried by a common pinion shaft, and pinion bearing means for end supporting said shafts within said carrier.

3,260,135
ROTARY MECHANISM HAVING PLANETARY GEARING MEANS

Hans Eisenhardt, Neckarsulm, Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Gindau, Germany, both corporations

Filed July 8, 1963, Ser. No. 293,317
Claims priority, application Germany, July 26, 1962, N 21,899
5 Claims. (Cl. 74—802)

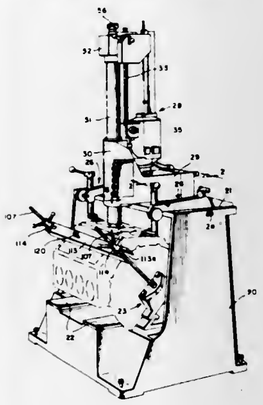
1. A rotary mechanism comprising an outer body having spaced end walls and a peripheral wall forming a cavity therebetween having an axis along which the end walls are spaced; a shaft coaxial with said cavity and having an eccentric portion with an axis spaced from and parallel to said outer body axis and planetating thereabout; an inner body journaled on said eccentric portion for rotation therearound relative to said outer body and having a plurality of circumferentially-spaced apex portions disposed in sealing cooperation with the inner surface of said peripheral wall to form a plurality of working chambers between said bodies which vary in volume upon such relative rotation; gear means interconnecting said inner and outer bodies and allowing said inner body to rotate around said eccentric axis and to planetate therewith about said outer body axis; said gear means comprising a gear secured to said outer body and non-rotatable relative thereto and coaxially disposed about said shaft, a planet-carrier member supported for rotation about said shaft axis, at least one planet pinion disposed in mesh with said gear and journaled by said planet-carrier for rotation about the geometric axis of said pinion, and rotatable journal means supporting said pinion on said inner body on an axis eccentric to said pinion axis, said eccentric journal axis planetating about said pinion axis.



3,260,136
BORING MACHINE

Donald B. Rottler, 1221 Poplar Place, Seattle, Wash.

Filed May 27, 1963, Ser. No. 283,446
3 Claims. (Cl. 77—4)

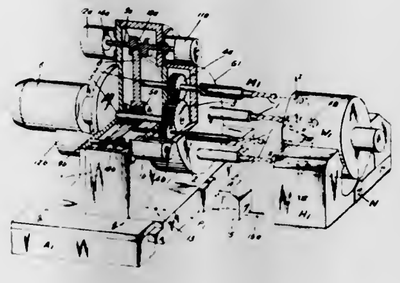


1. In combination, a cantilevered boring bar with a boring head at its outer end having a cutter holder and presenting a round socket with its mouth at the outer end of the head, a centering finger assembly closing said mouth and located closer to the outer end of the head than said holder, a counter-weight disc in said socket, means for limiting turning movement of said counter-weight relative to said socket, and means extending through said boring bar, head, counter-weight, and into said assembly for operating the latter.

3,260,137
DEVICE FOR UNBALANCE CORRECTION OF ROTORS

Georg Obmann, Gross-Zimmern, Germany, assignor to Carl Schenck Maschinenfabrik G.m.b.H., Darmstadt, Germany, a corporation of Germany

Filed June 18, 1964, Ser. No. 376,090
Claims priority, application Germany, June 26, 1963, Sch 33,460
10 Claims. (Cl. 77—5)



1. A machine for correcting previously measured unbalance of a rotor workpiece, comprising a support for a rotor workpiece having an axis, tool means displaceable toward said support in a direction parallel to the axis of the workpiece for balance correction of the workpiece on said support, a disc-shaped tool control member displaceable from a normal position in which it is coaxial with the workpiece, control means engageable with said member for setting and fixing said member in respectively different positions in dependence upon the measured unbalance, and means engaging said tool means with said tool control member for placing said tool means into tooling engagement with the workpiece so that the change of workpiece material effected by said tool means is in accordance with said measured unbalance.

3,260,138
ATTACHMENT FOR A HAND DRILL OR THE LIKE

Harry Kenneth Frizzell, Rockvale, Tenn., assignor to Avco Corporation, Nashville, Tenn., a corporation of Delaware

Filed June 18, 1964, Ser. No. 376,118
6 Claims. (Cl. 77—33.5)

1. An attachment for a pneumatically operated hand machine having a pneumatic rotary drive, the axis of rotation of said drive being disposed at right angles to the axis of rotation of the working tool of said machine, and for actuating said tool toward a fixed workpiece, the combination comprising:

a U-shaped yoke having a base member and two arm members approximately at right angles to said base;

means for clamping one of said arm members to said drive, said tool being parallel to said base member;

a pivot at the junction of said base member and the other arm member;

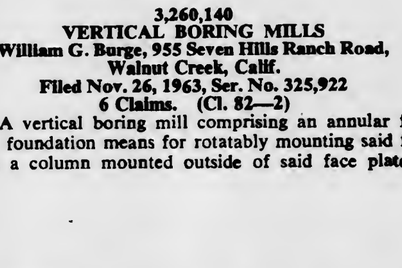
a plunger extending through said other arm member, said plunger being movable along the axis of said tool;

a lever pivoted from between its end on said pivot, one end of said lever being pivotally coupled to said plunger;

a cylinder supported from said base;

a piston, said piston having its head in an initial position in said cylinder;

a piston rod pivotally coupled between said head and the other end of said lever;



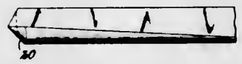
a pneumatic coupling for supplying pneumatic power to said drive, said coupling including an outlet, said outlet being coupled to the head of said piston through a normally closed hand-operated variable valve, whereby the opening of said valve produces pneumatic pressure on said head and causes said piston and said piston rod to move in said cylinder and to rotate said lever on said pivot, thereby driving said plunger toward said tool; and

means for returning said piston to its initial position when said valve is closed.

3,260,139
SELF-CLEARING DRILL

Frank Eugene Sanborn, 2700 Glenview Ave., Park Ridge, Ill.

Filed Aug. 7, 1963, Ser. No. 300,545
7 Claims. (Cl. 77—67)



1. A deep hole drill bit having a cutting end, a shank end and a part intermediate said ends, said bit comprising a round rod, portions of which are removed to form with the hole drilled by the bit, a chamber of progressively larger volume from the cutting end thereof toward the shank end, whereby to promote passage of chips from said cutting end to the exterior of the hole, said removed portions comprising a flute extending from the cutting end to the intermediate portion and defined by intersecting continuous flat walls, the line of intersection being disposed at an acute angle with the axis of the bit.

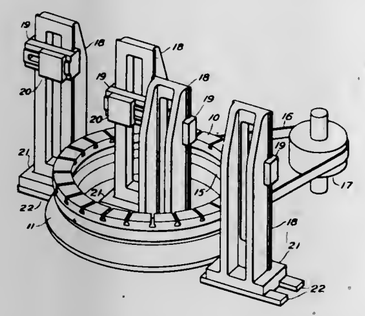
3,260,140
VERTICAL BORING MILLS

William G. Burge, 955 Seven Hills Ranch Road, Walnut Creek, Calif.

Filed Nov. 26, 1963, Ser. No. 325,922
6 Claims. (Cl. 82—2)

1. A vertical boring mill comprising an annular face plate, foundation means for rotatably mounting said face plate, a column mounted outside of said face plate in

predetermined positional relationship thereto and being provided with tool guiding and supporting carriage and cross-slide means, and a second column mounted inside of said face plate in predetermined positional relationship thereto and being provided with tool guiding supporting



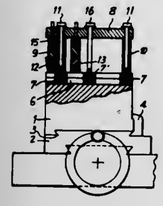
carriage and cross-slide means, said first mentioned column and its said tool guiding and supporting carriage and cross-slide means being mounted independently of said second mentioned column and its said tool guiding and supporting carriage and cross-slide means and vice versa.

3,260,141

TOOL-HOLDER FOR LATHES AND THE LIKE MACHINE-TOOLS

Jules Louis Jeanneret, 17 bis Blvd. Victor Hugo, Neuilly-sur-Seine, France

Filed June 15, 1964, Ser. No. 375,254
Claims priority, application France, June 13, 1963, 938,063
2 Claims. (Cl. 82—36)



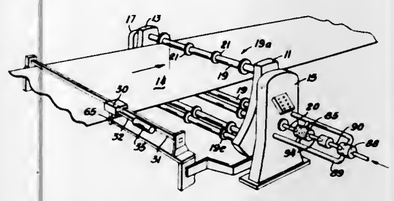
1. A tool-holder for lathes and the like machine-tools provided with a transverse slideway, said tool-holder comprising a shoe adapted to be secured at any desired point of the length of the transverse slideway extending to the front and to the rear of the part to be machined, said shoe being provided with a plurality of transverse T-shaped grooves perpendicular to the slideway, a plate extending above the shoe and provided with openings distributed along parallel lines registering vertically with said grooves, a plurality of vertical headed stays extending through selected openings of said plate and the lower ends of which are threaded, nuts engaging slidingly the transverse grooves of the shoe and screwed over the lower ends of the stays, at least one tool system fitted between the plate and the shoe, shims inserted between the upper ends of the tool systems and the plate to clamp said tool systems in the desired position against the shoe and the shims and plate against the heads of the stays and screws holding the shims in position and extending through the plate.

3,260,142

CONTROL SYSTEM

Charles D. Nitchie, Baltimore, Md., and Thomas H. Paris, Trenton, N.J., assignors to Koppers Company, Inc., a corporation of Delaware

Filed Apr. 10, 1964, Ser. No. 358,886
7 Claims. (Cl. 83—72)



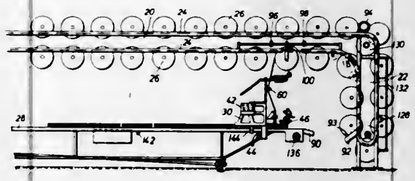
4. A slitter-scorer apparatus comprising a pair of shafts adapted for holding the coacting slitter-scoring device for a web, a first sensor for sensing the position of the web, first hydraulic means for moving said shafts axially from a central position, second hydraulic means for positioning said sensor, electrical means operable by said sensor for controlling said first and second hydraulic means, and independent means for operating said first hydraulic means for moving said shafts independently of said sensing means.

3,260,143

APPARATUS FOR STORING BOLTS OF CLOTH AS WELL AS PAYING OUT OR SPREADING, MEASURING AND CUTTING LENGTHS THEREFROM

Edgar von Rüdgisch, 10 Schinkelstrasse, Cologne-Braunsfeld, Germany, and Erich Cziudaj, deceased, late of Cologne-Bayenthal, Germany, by Irmgard Cziudaj, executrix and legal representative of minors, 2 Brühler Landstrasse, Cologne-Bayenthal, Germany

Filed Aug. 14, 1963, Ser. No. 302,215
Claims priority, application Germany, Aug. 16, 1962, R 33,336
33 Claims. (Cl. 83—86)



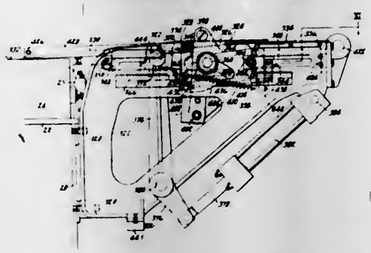
1. Web handling apparatus comprising a conveyor having a flight extending substantially horizontally, means for driving said flight substantially parallel to a horizontal axis, a plurality of supports for bolts of material carried by said flight and extending transversely of said axis, a cutting table disposed below said flight and extending in the direction of said axis, means for securing an end of material from one of said supports to said table, a web spreading device horizontally movable along said table below said flight and engageable with material extending from said one support to said securing means to deflect such material towards said table, means for driving said device in the direction of said axis, and means for actuating said driving means for synchronously moving said flight and device in the same direction.

3,260,144

TENSION RESPONSIVE FEED MEANS FOR DIE CUTTING PRESSES

George C. Barton, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed May 5, 1964, Ser. No. 365,056
4 Claims. (Cl. 83—203)



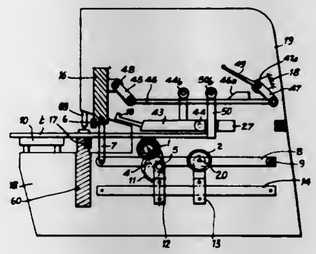
1. Apparatus for feeding a web of sheet material progressively toward a work station comprising, in combination, a bracket for supporting a web of sheet material, means for sensing a pull on said web toward said work station, and power operated means operative in response to the operation of the sensing means in sensing such a pull for gripping the web in the portion supported by said bracket and advancing it toward the work station.

3,260,145

GUILLOTINES FOR SHEARING PLATE MATERIALS

Roger François Giordano, 2 Rue Pasteur, Deuil-la-Barre, France

Filed June 4, 1963, Ser. No. 285,260
Claims priority, application France, June 8, 1962, 900,165; June 14, 1962, 900,719; Mar. 29, 1963, 929,738
10 Claims. (Cl. 83—391)



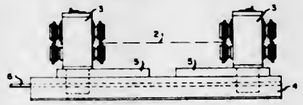
1. In a shearing apparatus, in combination, support means; a first shear blade having a cutting edge and being fixedly mounted on said support means; a second shear blade having a cutting edge and being mounted on said support means movable between an open position in which its cutting edge is spaced from said cutting edge of said first blade to define an opening between said cutting edges so that a blank to be sheared may be fed from one side through said opening with a portion of the blank extending to the other side of said opening, and an operative position in which said cutting edge of said second blade is moved beyond that of said first blade; stop means located at said other side and adapted to engage the leading edge of a blank fed through said opening to limit the feed of the blank through said opening; means mounting said stop means on said support means movable toward and away from said blades, said mounting means including a cross bar extending substantially parallel to said blades and a pair of elongated guide means fixed spaced from and substantially parallel to each other to said support means and respectively engaged by opposite ends of said cross bar for guiding the latter during movement thereof toward and away from said blades said stop means including at least one arm pivotally connected at one end thereof to said cross bar for tilting movement about an axis extending parallel to the elongation of said cross bar, said arm having at the free end thereof an abutment face adapted to abut against the leading edge of a blank fed through said opening between said blades; and moving means operatively connected to said mounting means for moving the latter toward and away from said blades and for maintaining the position of said mounting means and said stop means carried thereby at a selected distance from said blades.

3,260,146

DOUBLE HEAD SIDE TRIMMER

Roland Hilton Child, Downsview, Ontario, Canada, assignor to The Steel Company of Canada, Limited, Hamilton, Ontario, Canada, a corporation of Canada

Filed Nov. 30, 1964, Ser. No. 414,668
6 Claims. (Cl. 83—479)



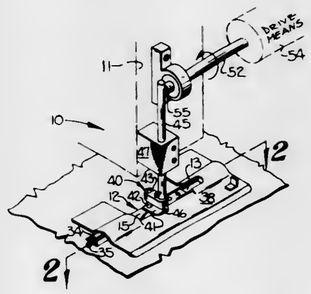
1. A double head side trimmer comprising a housing, a first set of side trimmer knives carried by the housing and disposed at one side thereof, a second set of side trimmer knives carried by the housing and disposed at the opposite side thereof, the housing being mounted for rotation through 180° to respective operative positions to present the respective sets of side trimmer knives selectively to material to be side trimmed, a constantly driven bevel gear and means including opposed bevel gears selectively movable into mesh with the constantly driven bevel gear for respectively driving the opposed sets of side trimmer knives.

3,260,147

RESILIENT CUTTING MECHANISM FOR CUTTING THE TURNED-UNDER EDGE OF A DOUBLE LAYER OF MATERIAL

George W. Farabee, Mooresville, N.C., assignor to Cannon Mills Company, a corporation of North Carolina

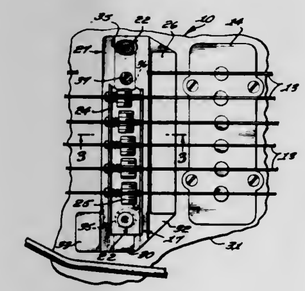
Filed July 30, 1964, Ser. No. 386,176
3 Claims. (Cl. 83—542)



1. A cutting mechanism, adapted to cut the turned-under free edge only of a turned-under double layer of material passing through said mechanism, comprising a stationary frame, a first substantially horizontally extending resilient cutter blade having one end thereof mounted stationary on said frame and having a cutting surface on the other free end thereof which is normally spaced from

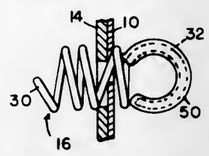
said frame so that the turned-under edge of the turned-under material will pass through the space defined by said cutting surface and said frame, a second substantially horizontally extending cutter blade mounted stationary on said frame and having a cutting surface on one end thereof normally spaced below the cutting surface on said first cutter blade and disposed in mating relationship thereto, and a reciprocating hammer mechanism associated with said first resilient cutter blade and adapted to intermittently apply a downward force thereto to intermittently move the cutting surface of said first cutter blade into engagement with the cutting surface of said second cutter blade for cutting the turned-under edge only of the turned-under material passing through said cutting mechanism.

3,260,148
MUTE OR DAMPER DEVICE FOR A GUITAR
Clarence L. Fender, Fullerton, Calif., assignor, by mesne assignments, to Columbia Records Distribution Corp., New York, N.Y., a corporation of New York
Filed Nov. 12, 1964, Ser. No. 412,875
10 Claims. (Cl. 84—267)



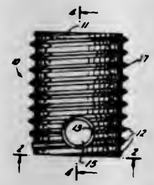
1. A guitar, which comprises
a body having a face,
a plurality of guitar strings,
means operably associated with said body to mount said strings in tensioned relationship over said face and in spaced and generally parallel relationship relative to each other,
said strings lying generally in a plane parallel to that of said face,
bridge means disposed between said face and said strings and operably associated with said face and said strings,
said bridge means including a string-contacting component spaced above said face and leg components extending downwardly to said face,
said bridge means being disposed relatively adjacent one set of ends of said strings whereby relatively long operative playing portions of said strings are defined between said bridge means and the other set of ends of said strings,
an elongated rocker element disposed between said string-contacting bridge component and said face,
said rocker element being rockably mounted on said face beneath said strings and extending transversely to said strings,
said rocker element having openings therein adapted to receive freely said leg components of said bridge means,
a body-supporting element mounted adjacent and parallel to said rocker element and connected thereto;
said body-supporting element being disposed beneath said operative playing portions of said strings,
a soft vibration-damping body mounted on said body-supporting element for engagement with said operative playing portions of said strings,
means to rock said rocker element on said face to shift said vibration-damping body between a first position in operative engagement with said operative playing portions of said strings and a second position spaced therefrom, and
means to maintain said vibration-damping body selectively in said first and second positions.

3,260,149
ELONGATED EXPANSIBLE RESILIENT FASTENER
Harold T. Deaver, 23470 Sherman, Oak Park, Mich.
Filed Feb. 23, 1965, Ser. No. 443,737
1 Claim. (Cl. 85—1)



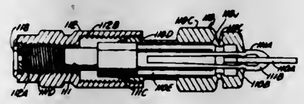
An elongated expansible resilient fastener adapted to pass through preformed openings in adjacent plates to retain said plates in assembled relation, comprising a length of metal wire of circular cross-section, said wire having a main body portion wound in helical form to provide a plurality of connected convolutions, each convolution being spaced from the adjacent convolution along the axis of said body portion a distance substantially equal to but less than the sum of the thicknesses of said plates, and a pair of opposed end portions at the terminal points of said main body portion, one of said end portions providing a guide for threading the fastener into said openings and the other of said end portions providing a handle of semi-circular configuration which lies in a plane containing the longitudinal axis of the fastener, said handle providing means for readily turning the fastener, an elongated tubular plastic element surrounding said handle end portion to provide a yieldable cover on said handle, said element being of semi-circular configuration, said handle having a terminal extremity spaced axially from the convolution nearest said handle and curving towards the longitudinal axis of the fastener and said plastic element being of such a length in relation to the length of the handle configuration as to permit said plastic element to be sleeved on said handle without flexing said handle under a force sufficient to urge the leading end of said plastic element into pressure engagement with the convolution closest to said handle and to thereafter urge the trailing end of said plastic element against the convolution closest to said handle to lock the plastic element on said handle thereby preventing lengthwise movement of said plastic element on said handle, the outside diameter of said handle and tubular plastic element when sleeved on said handle being slightly greater than the outer diameter of said convolutions, the inside diameter of said handle and tubular plastic element when sleeved on said handle being slightly less than the inner diameter of said convolutions, and said one end portion being arranged in the form of a convolution substantially following the circumference of the adjacent convolution of the main body portion while simultaneously flaring axially outwardly at a rate greater than the spacing between the convolutions of said main body portion such that the terminal end thereof is spaced from the corresponding point on the adjacent convolution of said main body portion a distance which is substantially greater than the pitch between the convolutions of said main body portion, the space between said convolutions permitting said main body portion to yield longitudinally.

3,260,150
SELF-TAPPING INSERT WITH CHIP BREAKER
George Colman, Waltham, Mass., assignor to Groov-Pin Corporation, Ridgefield, N.J., a corporation of New York
Filed Jan. 7, 1964, Ser. No. 336,217
4 Claims. (Cl. 85—47)



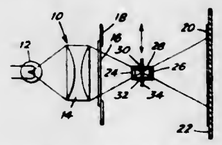
1. A self-tapping insert for installation in an opening formed in a material relatively softer than the material of said insert, said insert comprising an elongated body member having a central threaded bore therethrough extending longitudinally thereof and having a threaded exterior surface with tapping threads formed at one end thereof, said tapping threads having a substantially flat crest portion with the height of the threads gradually diminishing toward said one end, said body member having a circular chip relief aperture extending inwardly from the tapping portion of the threaded exterior surface to communicate with said threaded bore, the severed ends of the threads at the outer periphery of said aperture defining cutting edges to cut a tap chip as the insert is being positioned in the opening of the material, and an obstruction in the path of movement of the chip through the aperture to cause such chips to break into relatively small pieces, said obstruction comprising a substantially right-angle, annular shoulder defined by a reduction in the width of said relief aperture and positioned radially inwardly of said cutting edges, whereby unsevered chips are prevented from entering and blocking said internal threads.

3,260,151
CLAMPING DEVICE
Sterling B. Jones, Torrance, Calif., assignor to Monogram Industries, Inc., Hawthorne, Calif., a corporation of California
Filed Apr. 8, 1964, Ser. No. 358,234
2 Claims. (Cl. 85—31)



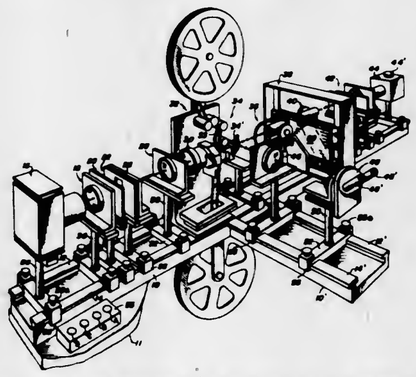
1. A fastener of the character described comprising a sleeve member, a screw, a nut member, said screw and nut member cooperating as a unit for axial movement relative to said sleeve, said sleeve member fixedly carrying a spreader element at one end thereof, said screw carrying a pair of deflectable needles, said spreader being positioned between said needles and cooperating therewith to deflect and spread said needles outwardly from said spreader, said nut member having threads of one hand engaging a threaded portion of said sleeve member and having a second set of threads of the hand opposite to said one hand engaging a threaded portion of said screw member, said sleeve member slidably receiving said screw with means cooperating between said screw and said sleeve member preventing relative rotation therebetween, said screw having a greater number of its threads engaged by said nut member in a first condition when said needles are spread by said spreader element than are engaged by said nut member in a second condition when the ends of the needles are positioned furthermost from said spreader, one of said members being hollow to permit axial movement of the other of said members therein, a stop member rigidly secured to said one member adjacent the end thereof remote from said needles and extending radially inwardly thereof for engagement with a radially enlarged means on a portion of said unit to limit the axial movement thereof, the axial distance traveled by said radially enlarged means as the needle members are moved from said furthermost position to said spread position being less than the axial extent of the threaded engagement between the nut and sleeve members during said movement to prevent accidental disengagement of the parts of the fastener.

3,260,152
COLOR PRINTING APPARATUS
Keith Aston, Epsom, Surrey, England, assignor to The Pavelle Corporation, New York, N.Y., a corporation of New York
Filed Mar. 26, 1962, Ser. No. 182,580
15 Claims. (Cl. 88—24)



1. A color printer comprising a light source providing a light beam directed through a color negative supported on a negative carrier onto an easel, lens means intermediate said color negative and said easel, said light beam having a nodal point formed by said lens means between said color negative and said easel, and filter means mounted closely adjacent said lens means at the nodal point of said light beam so as to be operable within a minimal cross-section of the light beam from said light source.

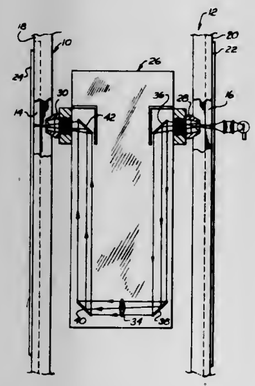
3,260,153
REDUCING CAMERA
Tirey C. Abbott, Jr., Manhattan Beach, Carl O. Carlson, Los Angeles, Henry D. Ives, Hermosa Beach, and Ivan V. Rondas, Redondo Beach, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Mar. 19, 1963, Ser. No. 266,359
15 Claims. (Cl. 88—24)



1. A reducing camera for forming micro-images on a transparent photochromic film, said camera comprising: a longitudinal bed; first means for supporting an original

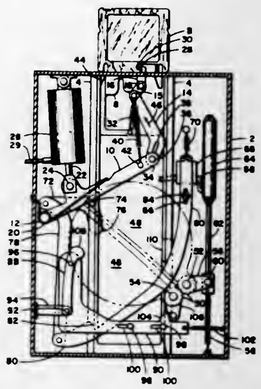
record on said bed; a first optical reducing system having a light source of a first wavelength band and an objective lens mounted on one end of said bed for projecting a reduced image of said original record at a focal plane; a transparent photochromic film disposed at said focal plane; support means mounted on said bed for supporting said photochromic film at said focal plane; second means mounted on said objective lens for jetting a stream of air at a steady rate at said photochromic film and for forming an air pressure in the supply means of said air which pressure is inversely related to spacing between said objective lens and said photochromic film; a servo-system responsive to the pressure of said air of said second means to maintain a substantially constant spacing between said objective lens and said film, said constant spacing being chosen of a length such that a properly focused reduced image of said original record is formed on said film; a second optical reducing system having a light source of a second wavelength band mounted on the other end of said bed opposite from said one end for projecting a light spot onto said film to permit inspection thereof and to permit erasure of said reduced image thereon; and inspection means for intercepting the light of said second wavelength band transmitted through said film, whereby the image formed on said film is visible and is able to be inspected.

3,260,154
OBJECTIVE MOUNTING MEANS FOR PROJECTION PRINTERS
Sarkis K. Tchejeyan and Robert E. Jones, Jamestown, N.Y., assignors to Micro-Line Inc., Jamestown, N.Y.
Filed May 22, 1963, Ser. No. 282,509
5 Claims. (Cl. 88—24)



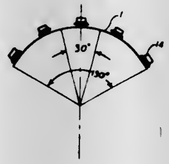
1. A photographic projection printer comprising, in combination,
an original having an elongate scale thereon,
an elongate print-receiving member having a light sensitive surface,
support means for holding said original and said print-receiving member in spaced, parallel and fixed relation to each other,
an optical projection system having three conjugate planes, one at said scale, one at said light sensitive surface, and a third midway between the first two,
means for imparting substantially uniform relative motion between said support means and said optical system in a direction along the length of said scale,
said optical system including a pair of microscope objectives, one focused on said scale and the other focused on said light sensitive surface,
and means movably mounting said objectives along paths perpendicular to the path of relative movement between said optical system and said support means and including means for moving said objectives along their respective paths perpendicular to the path of relative movement between said optical system and said support means in response to relative movement between the optical system and the support means to maintain said objectives in fixed spaced relation to the support means.

3,260,155
PROJECTOR SLIDE CHANGER AND SHUTTER CONTROL
Richard R. Councilman, Garland, Roland A. Freeman, Arlington, and Sol Stromberg, Dallas, Tex., assignors to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware
Filed Aug. 6, 1964, Ser. No. 387,900
4 Claims. (Cl. 88—28)



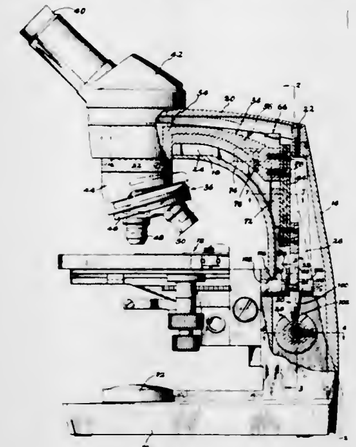
1. Slide changing and shutter control mechanism for slide projectors comprising:
a projection slide having a locking recess formed in one side thereof,
guide means for guiding movement of said slide between a first position and a second position,
shuttle means movable between said guide means for carrying said slide,
bell crank means pivotally mounted on said shuttle and having a hook portion engageable with said recess,
an arm member,
first link means connecting said arm member with said bell crank means,
resilient means biasing said arm member to urge said shuttle to said first position,
actuator means operable to cause said arm member to move said shuttle to said second position,
shutter means movable between a light blocking position and a light passing position,
means urging said shutter means to said light passing position,
second link means having a portion engageable by said arm member and operable by said arm member to cause said shutter means to be moved to and from said light blocking position, and
trigger means responsive to presence of a slide in said guide means to move said second link means to a position where said arm member can engage said portion of said second link means.

3,260,156
PROJECTOR SCREENS HAVING LIGHT REFLECTING ELEMENTS FORMED INTEGRALLY THEREWITH
Seymour Komitor, Rockville Centre, N.Y., assignor to Cinerama, Inc., New York, N.Y., a corporation of New York
Filed Mar. 30, 1964, Ser. No. 355,764
3 Claims. (Cl. 88—28.92)



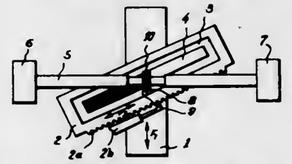
1. A projector screen composed of a plurality of abutting panels, the abutting panels being positioned to form a large screen having a substantially continuous curvature, each of said panels having a surface formed of sheet material and having light reflecting elements pierced from said surface forming material, the light reflecting elements in the panels at the center of said screen being substantially rectangular elements formed from the panel surface forming material and having said material pierced along the sides of the rectangle element and being positioned in protruding disposition by the integral screen material at top and bottom of the rectangle, the light reflecting elements in the panels forming the extension of the screens from the center panels being wedge shaped, each of said elements having the base of said wedge pierced from said screen material and being formed outwardly therefrom with the apex and sides of said wedge integral with said screen material and the base of the wedge protruding outwardly therefrom, each of said elements being positioned with the base of said element toward the center of said screen, the angular inclination of the face of each of said wedge shaped reflecting elements being increased with the separation distance of said panel from the center of said screen so as to reflect the image projected outwardly from the screen and so as to prevent reflection of said image upon other portions of the screen to degrade the image thereon, said pierced openings providing passages for the transmission of sound therethrough.

3,260,157
MICROSCOPE ADJUSTMENT MECHANISM WITH COAXIAL COARSE AND FINE ADJUSTMENT SHAFTS AND DIFFERENTIAL SCREW MEANS
Otin W. Boughton, Williamsville, N.Y., assignor to American Optical Company, Southbridge, Mass.
Filed Aug. 31, 1962, Ser. No. 220,771
2 Claims. (Cl. 88—39)



2. In a microscope,
a frame having a base, an upright portion and an arm portion overhanging said base,
a stage carried by said upright portion,
carriage means within said frame including a generally horizontal arm member received within said arm portion of the frame, and a linkage assembly fixed to one end of said arm member and depending therefrom within the confines of said upright portion,
means supporting said carriage means for vertical sliding motion within said frame,
microscope objective means supported by the free end of said arm member for vertical adjustment therewith relative to said stage,
a bell crank pivotally mounted within said upright portion and engaging said linkage assembly to vertically move said carriage means,
and adjustment mechanism including a cylindrical cam with which said bell crank is engaged; a coarse adjustment quill shaft, means slidably keying said cylindrical cam upon said quill shaft; a fine adjustment shaft projecting through said quill shaft; a first nut member fixed to said quill shaft and threadedly engaging said fine adjustment shaft; a second nut member slidably keyed within said quill shaft, engaging said cylindrical cam and with which said fine adjustment shaft is threadedly engaged,
said nut members being threaded in the same direction but with different pitches.

3,260,158
METHOD OF AND MACHINE FOR CUTTING RECTILINEAR FLANGES
Pierre Albert Chiffolot, Colombes, and Jean Georges Louis Desnoyers, Chatoux, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Nov. 3, 1964, Ser. No. 408,523
Claims priority, application France, Nov. 20, 1963, 954,357
2 Claims. (Cl. 90—11)



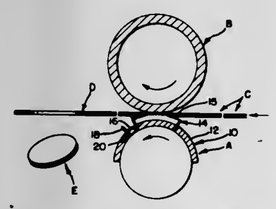
1. A method of cutting rectilinear flanges of rectangular section in a metal workpiece, said method comprising the steps of mounting two milling cutters on at least one rotatable shaft with a fixed axis, perpendicularly thereto, together with a member for supporting a flange during the milling of the flange adjacent thereto, said three members being spaced by a distance equal to the thickness of one flange, the first one of said saw-cutters adjacent said supporting member having a diameter corresponding to the depth of a groove to be cut, the second one of said saw-cutters adjacent said first saw-cutter and said supporting member having a smaller diameter; locating at least one workpiece so as to be movable in a direction perpendicular to the axis of said rotatable shaft, and also so as to be movable step by step in the direction of

the axis of said workpiece, said axis forming with the median planes of said milling saw-cutters, an angle equal to the inclination of the flanges, and also movable in the direction of the flanges to be cut; cutting a first groove by means of said milling cutter having a smaller diameter by shifting said workpiece in the direction of said groove; shifting said workpiece in the direction of its axis by a distance equal to the distance separating two median planes of two adjacent grooves; cutting the first groove which is already partially machined, by means of said milling cutter having the larger diameter cutting a second groove by means of said other one of said milling cutters and so on, until the completion of all the grooves to be cut on a first sector, the said flange-supporting member being engaged in the adjacent groove, during the cutting of the adjacent groove to its final depth; carrying out the same operations on the other sectors for forming flanges in the same direction; and effecting the same operations on the other sectors for forming flanges of opposite directions in order to form a chevron pattern, after reversing the inclination of the axis of said workpiece with the median plane of the said milling saw-cutters.

3,260,159
METHOD AND APPARATUS FOR ASSEMBLING KNIVES INTO A KNIFE SUPPORT

Norman E. Dovey, 3220 W. 25th St., Anderson, Ind. 46013

Continuation of application Ser. No. 213,802, July 31, 1962. This application Sept. 10, 1965, Ser. No. 491,483
10 Claims. (Cl. 90—13)



1. A method of machining a knife receiving groove into the outer cylindrical surface of a rotary knife support adapted to cut sheets moving on a feedline and between said support and an anvil, said cylindrical surface having a radius of curvature r and said knife extending from said surface a distance t, said method comprising the following steps: providing a shape to be cut by said knife, moving a follower along said shape, dividing said relative follower movement into two substantially orthogonal components, the first component being substantially parallel to said feedline and the second component being substantially perpendicular to said feedline, moving a radially disposed cutting tool relative to said cylindrical surface while said tool is in cutting contact with said support, controlling the relative circumferential movement of said tool by said first component, controlling the relative axial movement of said tool by said second component, and multiplying the control of said first component by the ratio $r/(r+t)$.

3,260,160
THREE DIMENSIONAL DUPLICATING MACHINE

Rudolph D. Morrone, 2120 Chapel Ave., Cherry Hill, N.J.

Filed Feb. 25, 1965, Ser. No. 435,217
1 Claim. (Cl. 90—13.1)

A three dimensional duplicating machine including:

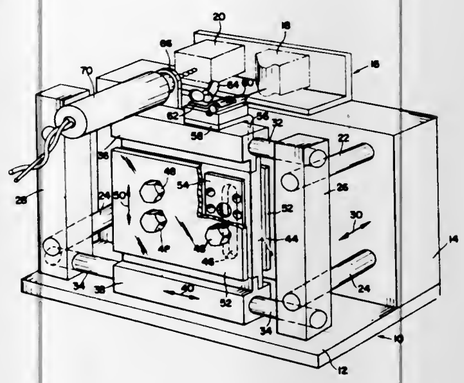
a horizontal base and a vertical wall coacting to form a supporting frame,

means carried by said wall for supporting a matrix and a work piece in identical side by side positions,

a first set of guide rods projecting from said wall and overlying said base,

a first pair of vertical slides movable on said first set of guide rods toward, and away from, said matrix and said work piece,

a second set of guide rods carried by said first pair of slides and disposed parallel to said base and to said wall,



a carriage assembly movable on said second set of guide rods toward either of said vertical slides and parallel to a vertical plane passing through said matrix and said work piece,

a vertically fixed supporting plate forming part of said carriage,

a bracket,

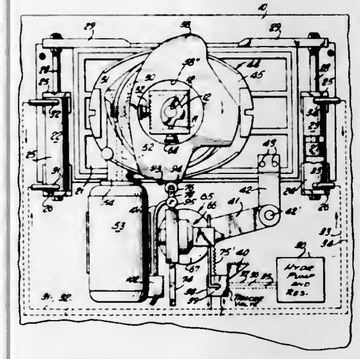
means mounting said bracket for vertical movement relative to said carriage,

means clamping a follower and a cutting tool to the upper end of said bracket.

3,260,161
AUTOMATIC MACHINING APPARATUS

William Schmidt, 42–45 Kissena Blvd., Flushing 55, N.Y.

Filed Nov. 6, 1964, Ser. No. 409,500
10 Claims. (Cl. 90—13.5)

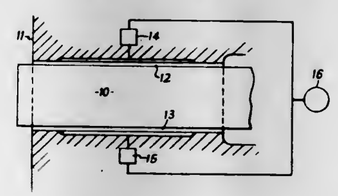


1. Apparatus for machining parts from preformed blanks comprising a first horizontal table, a cutting tool rotatable about a vertical axis and fixed in position relative to said table, a second table slidably mounted on the first table, means between the first and second tables for moving said second table through a linear path relative to said cutting tool, a third table rotatably mounted on said second table, means on said third table for releasably securing a blank to be machined, an annular pattern substantially larger than said blank and having a peripheral contour corresponding to the peripheral contour of the finished part, a tracer carried by said second table and movable horizontally in a plane through said cutting tool axis and parallel to said path, said tracer engaging the edge of said pattern, a motor including power transfer means coupled to said third table for rotation thereof, control means coupled to said tracer and to the first said means, said control means responding to linear displacement of said tracer to produce linear displacement of the second table relative to the cutting tool, the ratio of the table displacement to the tracer displacement being equal to the ratio of the size of the finished part to the size of the pattern, and means for energizing said motor to simultaneously rotate the blank and said pattern.

3,260,162
SLIDE BEARINGS FOR MACHINE TOOLS

John Atherton, Warley, Halifax, England, assignor to William Asquith Limited, Halifax, England, a corporation of Great Britain

Filed Feb. 19, 1964, Ser. No. 345,893
Claims priority, application Great Britain, Mar. 16, 1963, 10,498/63
14 Claims. (Cl. 90—16)



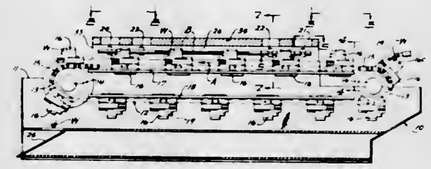
9. A method of compensating for bending of a member having bearing surfaces, supported hydrostatically at said bearing surfaces in a slideway and having an unsupported portion extending beyond said bearing surfaces, said bending being caused by gravity acting upon said unsupported portion, comprising sensing a thickness differential in the fluid film supporting said member at said bearing surfaces, said thickness differential being caused by tilting of said member under the influence of gravity acting upon said unsupported portion, instantaneously compensating for said tilting by equalizing the thickness of the fluid film in response to said sensing of the thickness differential, said equalizing of the fluid film thickness creating a pressure differential in the fluid film, sensing said pressure differential, and instantaneously, in response to the sensing of said pressure differential, producing a differential in the thickness of the fluid film to tilt said member in a direction opposite to the direction of the bending to compensate for the bending.

12. A machine tool comprising a slideway, a member mounted for sliding movement in said slideway, said member having bearing surfaces, hydrostatic support means for supporting said member at said bearing surfaces in said slideway, said hydrostatic support means including means to supply a fluid film between said slideway and said bearing surfaces for the hydrostatic support of said member, said member being slidable so that a portion of said member extends beyond said hydrostatic support means, said portion is therefore unsupported and gravity acting upon said unsupported portion causes bending of said member, means for sensing a thickness differential in the fluid film supporting said member at said bearing surfaces, said thickness differential being caused by tilting of said member under the influence of gravity acting upon the unsupported portion, means for instantaneously equalizing the thickness of the fluid film in response to the sensing of the thickness differential, thereby compensating for said tilting and creating a pressure differential in the fluid film, means for sensing said pressure differential and means for instantaneously acting in response to the sensing of said pressure differential by producing a differential in the thickness of the fluid film to tilt said member in a direction opposite to the direction of the bending to compensate for the bending.

3,260,163
METHOD OF CONTINUOUS INTERNAL BROACHING

Ernest H. H. Graf, Birmingham, Mich., and Albert E. J. Randall, Studley, England, assignors of one-half each to The Detroit Broach & Machine Company, Rochester, Mich., a corporation of Michigan, and B.S.A. Tools Limited, Birmingham, England

Original application Aug. 30, 1963, Ser. No. 305,614, now Patent No. 3,185,039, dated May 25, 1965. Divided and this application Mar. 22, 1965, Ser. No. 441,581
7 Claims. (Cl. 90—64)



1. A method of internal broaching wherein work apertured for telescoping onto the lead end of a broach is moved continuously in longitudinal spaced relationship along a given path,

supporting said broach in alignment with said given path and the aperture in said work at two spaced places at each of the lead and tail ends of said broach,

a sequentially withdrawing and replacing each said support as said work passes the same permitting uninterrupted movement of said work along said broach to broach the same,

and anchoring said broach at all times against longitudinal movement at one or the other of the broach supports at the lead end of said broach while supporting said broach at one or the other of the broach supports at the tail end of said broach.

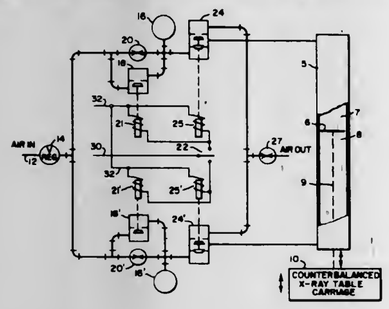
3,260,164
X-RAY APPARATUS

Robert L. Guentner and Eugene P. Thomas, Baltimore, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 16, 1964, Ser. No. 411,476
6 Claims. (Cl. 91—5)

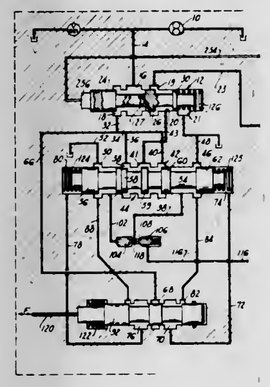
1. A fluid pressure actuator system for high-inertia counterbalanced X-ray table carriages, comprising a regulated-pressure compressed air supply line, a compressed-air storage volume means normally charged at a certain pressure with compressed air from said supply line, a fluid pressure cylinder device having a reciprocable piston in operative connection to an X-ray table carriage, and control means operable to establish a supply communication from said compressed-air storage volume means to said cylinder device for initiating movement of said carriage, the aforesaid being so constructed and arranged that the equalization pressure immediately resultant from estab-

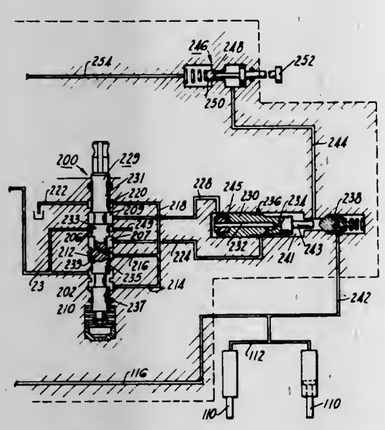
lishing communication between the normally-charged storage volume means and the cylinder device varies accord-



ing to the position of the piston at the time of such establishing.

3,260,165
CONTROL SYSTEM
Lester J. Larsen, Charles M. Barnes, and Harvey E. Wortz, all of St. Joseph, Mich., assignors to The Bendix Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,163
14 Claims. (Cl. 91—33)

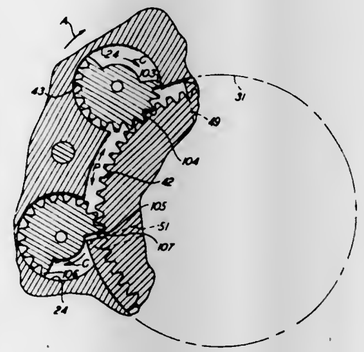




1. A control system comprising: a pressure source, control valve means, lockout valve means, a reservoir, and power operated means; said control valve means being communicated to said pressure source, said power operated means and said reservoir; said lockout valve means comprising a first member which is arranged to close off communication between said power operated means and said control valve means by the pressure at said power operated means and to open communication therebetween by pressure conducted to said power operated means from said pressure source; said lockout valve means comprising a second member communicated with said control valve means arranged to engage said first valve member to open communication between said power operated means and said control valve means in response to pressure communicated to said second member from said pressure source; said control valve means in neutral position communicating said first valve member and said second member of said lockout means to said reservoir, in a first operating position communicating said first valve member to said pressure source while communicating said second member with said reservoir, in a second operating position communicating said second member with said pressure source while communicating said first valve member with said reservoir; said control valve means having a pair of pilot operating chambers; sensing valve means communicated with said pilot operating chambers and with said pressure source, said sensing valve means when in a first and second operating position communicating said pressure source with a respective one of said pilot operating chambers and cutting off said last named communication when in neutral position; said control valve means being responsive to pressure communicated to said pilot operating chambers to move to its first operating position, second operating position, and neutral position when said sensing valve means is in its first operating position, second operating position, and neutral position, respectively; whereby said pressure source will be communicated with said power operated means when said control valve means is in said first operating position and said power operated means will be communicated to said reservoir when said control valve means is in said second operating position; said control valve means having a flow-through port, said control valve means communicating said flow-through port with said pressure source in its said neutral position; an inlet port for said control valve means communicated with said pressure source; directional valve means; said directional valve means being communicated with said pressure source, said reservoir, said inlet port and said flow-through port of said control valve means, and with said sensing valve means; said directional valve means having a power beyond port; said directional valve means in one position communicating said pressure source with said sensing valve means and with said control valve means inlet port and communicating said flow-through port with said power beyond port, and in another position cutting off communication between said pressure source and said sensing valve means, and between said pressure source and said inlet port and communicating said pressure source with said power beyond port and communicating said flow-through port with said reservoir.

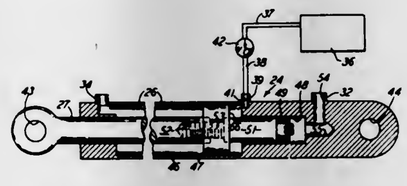
3,260,166
FLUID PUMP OR MOTOR WITH GEARED ROLLER ABUTMENTS
George W. Brand, Philip Hartmann, and Albert A. Schmitz, Racine, Wis., assignors to Hartmann Manufacturing Company, Racine, Wis., a corporation of Wisconsin
Filed Mar. 9, 1964, Ser. No. 350,943
5 Claims. (Cl. 91—82)

1. A fluid motor comprising an inner member and an outer member arranged with an annular space therebetween and said members being relatively rotatable, one of said members having bores therein spaced therearound, rollers rotatably mounted in said bores on said one of said members and extending through said annular space, the other of said members and said rollers both having gear teeth disposed therearound in meshing and fluid-sealing relation across the axial length of said annular space, vanes radially extending on said other of said members in spaced relation therearound and through said annular space and being in fluid-sealing relation with said one of said members, said gear teeth on each of said rollers extending only partly therearound for a selected length of the circumference and with each of said rollers having a pocket therein in the remainder of said circumference for receiving said vanes upon relative rotation of said members, said other of said members having only one fluid inlet passageway and only one fluid outlet passageway for each of said vanes and extending on opposite sides of



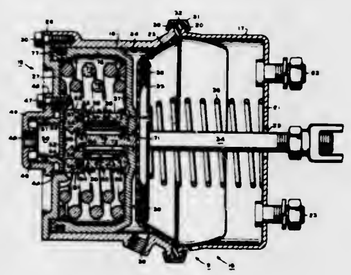
each of said vanes and extending through said other of said members to the exterior of said motor, said selected length of said gear teeth, and the number and location and length of each of said vanes, and the size of each of said pockets, all being sufficient to have one of said rollers fluid seal with said gear teeth on said other of said members and with one of said members in said bore at a location adjacent said annular space and to the side of said one roller in the direction of rotation of said one member until the one of said rollers, adjacent said one roller in the direction opposite said direction of rotation, simultaneously receives one of said vanes in said pocket and makes its fluid seal with said gear teeth on said other of said members.

3,260,167
HYDRAULIC CYLINDER WITH FAST-ACTING MEANS
Carl O. Pedersen and John W. Stix, Jr., Burlington, Iowa, assignors to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Oct. 26, 1964, Ser. No. 406,355
7 Claims. (Cl. 91—395)



1. A fluid actuated power unit comprising a cylinder having two axially spaced and axially extended bores in fluid-flow communication and of different cross-sectional sizes to present a smaller bore and a larger bore, a piston axially slidably disposed in each of said bores and being fluid tight therein and connected together to slide axially with each other and provide a stroke, a piston rod connected to said pistons and extending externally of said cylinder and being movable in accord with the sliding movement of said pistons, said cylinder having a fluid passageway in fluid-flow communication with said smaller bore and at a location to the opposite axial side of said piston therein with respect to said larger bore, the axial extent of said larger bore being greater than the axial extent of said smaller bore, said piston in said smaller bore being fluid tight therein and being axially movable to one position and adapted to block fluid flow toward said larger bore and being axially movable to another position and adapted for the passage of fluid from said larger bore, and said piston in said smaller bore being supported and piloted by the other said piston and being movable out of said smaller bore with the movement of said piston in said larger bore so that fluid from said fluid passageway can flow into said larger bore.

3,260,168
FRICTION DEVICE OPERATING MECHANISM
Oliver B. Cruse, Florissant, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware
Filed May 22, 1962, Ser. No. 196,789
20 Claims. (Cl. 92—24)



1. In a friction device operating mechanism having a housing with abutment means therein, resiliently urged means movable in said housing relative to said abutment means from an inoperative position in a friction device energizing direction, and means for limiting the movement of said resiliently urged means in the friction device energizing direction comprising means connected in lost motion engagement between each of said resiliently urged means and abutment means.

3,260,169
CONVERSION BRAKE CYLINDER
Robert B. Salton, Monroeville, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed July 15, 1964, Ser. No. 382,843
10 Claims. (Cl. 92—59)

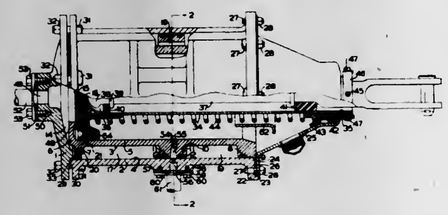
6. In a brake cylinder device of the type having a brake cylinder body provided with a piston bore and closed at one end by a pressure head and with a port opening out of said piston bore for connection to an exterior device, a conversion apparatus comprising:

(a) a hollow sleeve, substantially equal in length to the brake cylinder body and having an outside diameter substantially less than that of the piston bore in the brake cylinder body, coaxially dis-

posed in the piston bore, said hollow sleeve comprising:

(i) an outturned annular flange formed integral with each respective end of said hollow sleeve, one of which flanges is provided on one side thereof with an annular radial recess and the other of which is provided with a peripheral annular groove and a radially extending annular rim to position said sleeve in the bore in the brake cylinder body, and

(ii) a third outturned annular flange formed integral with said hollow sleeve intermediate the ends thereof and so located thereon so as to be in alignment with the port in the brake cylinder body, said third outturned annular flange being provided with two spaced-apart peripheral annular grooves having therebetween a chordal groove of V-shape in cross-section and a passageway opening at one end at the inside wall surface of said hollow sleeve and at the opposite end to said chordal groove,



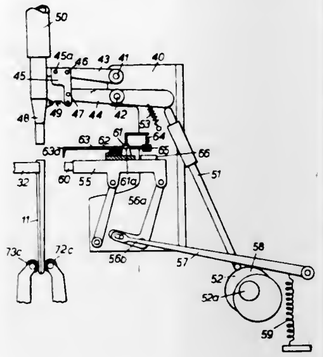
(b) a support ring disposed in said annular radial recess in said one outturned annular flange for supporting the corresponding end of said hollow sleeve in one end of the brake cylinder body,

(c) a plurality of O-rings, one disposed in the peripheral annular groove in the other of said two outturned annular flanges and one disposed in each of the two spaced-apart peripheral annular grooves in said third outturned annular flange for respectively forming a seal with the internal wall surface of the piston bore in the brake cylinder body on the inside of said radially extending rim and a seal on the opposite sides of the port in said brake cylinder body, and

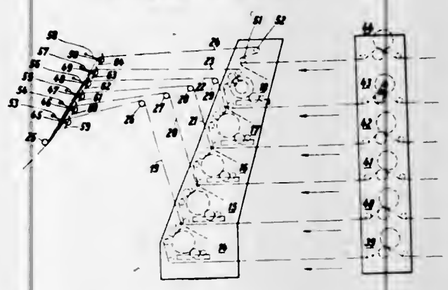
(d) a piston slidably mounted in said hollow sleeve and operated responsively to fluid pressure acting thereon in a chamber formed on one side of said piston, said piston being effective when shifted past the opening of said passageway in the wall of said hollow sleeve to establish communication between the chamber and the port in the brake cylinder body via said passageway.

3,260,170
FORMING OF CONTAINERS FROM BAGS
Ronald William Barraclough, Southport, England, assignor of one-half to R. W. Barraclough Limited, Southport, England, a British company
Filed Dec. 26, 1963, Ser. No. 333,377
Claims priority, application Great Britain, Jan. 5, 1963, 604/63
8 Claims. (Cl. 93—8)

5. In apparatus for forming a container from a length of gusseted tubing having one end closed, the provision of block bottom forming means comprising support means for supporting the length of gusseted tubing in the region of the upper open end thereof, a pair of freely rotatable rollers positioned in parallel relationship to the flat sides of the length of tubing at the lower regions thereof and adjacent the closed end, means for moving at least one of said rollers to grip the length of tubing and means for inflating the length of tubing at the open end thereof to form the container whereby the lower regions of the length of tubing are drawn upwardly between the rotatable rollers to enable a folding action to take place to give a block bottom to the container so formed.



3,260,171
BAG MAKING DEVICE
Friedrich Franz Brockmüller, Lengerich, Westphalia, Germany, assignor to Windmöller & Hölscher, Lengerich, Westphalia, Germany
Filed Aug. 8, 1963, Ser. No. 300,892
Claims priority, application Germany, Aug. 8, 1962, W 32,766
10 Claims. (Cl. 93—19)



4. In a bag tube making device for constructing bags from a plurality of webs of paper material or the like, the improvement which comprises: a collecting roller over which a plurality of separate webs may be collected together; a plurality of first means for applying transverse adhesive stripes to respective paper webs passing therethrough for subsequently joining the webs together in a selected manner, said means all being disposed one above the other and spaced from said collecting roller to provide substantially equal lengths of the webs between said means and said roller; a plurality of second means spaced from said first means and all disposed in alignment one above the other for providing weakening lines disposed transversely to the course of respective webs passing therethrough to define sections to be separated from each web, said second means being spaced from said collecting roller so that the length of each individual web between the collecting roller and the second means is unequal to the length of every other web therebetween, whereby the weakening lines are provided in the respective webs at different times.

3,260,172
METHOD FOR MAKING AN EXPANSIBLE CORRUGATED PAPERBOARD CARTON
Frank L. Young, 1601 N. 72nd St., Philadelphia, Pa.
Original application Aug. 5, 1963, Ser. No. 299,812, now Patent No. 3,144,979, dated Aug. 18, 1964. Divided and this application Apr. 30, 1964, Ser. No. 367,918
1 Claim. (Cl. 93—36)



A method for fabricating an expansible carton from single-faced, fluted corrugated paperboard comprising the steps of:

(a) simultaneously scoring the smooth face of the paperboard and at the same time cutting the paperboard to form a one-piece blank having the following configuration: a rectangular back panel, top and bottom panels integrally connected to the respective upper and lower edges of said back panel along transverse triple scored fold lines, a pair of rectangular wings at the respective lateral edges of said back panel along longitudinal triple scored fold lines, a diagonally-scored gusset portion depending from each panel section intermediate the longitudinally scored fold lines and downwardly projecting to the line co-extensive with the medial transverse fold line at the lower edge of said back panel whereby the diagonal scores of adjacent gusset portions define a "V," a sealing tab depending from each of the interiormost gusset portions only along the medial transverse fold line and projecting downwardly to the line co-extensive with the lowermost of the transverse fold lines, and a pair of corner flaps upwardly extending from the panel sections, which are intermediate the longitudinal fold lines, from a line coextensive with the upper edge of the back panel to the line co-extensive with the uppermost transverse fold line and including an intermediate score line co-extensive with the medial transverse fold line thereat,

(b) folding the wings inwardly, outwardly and then inwardly along the triple longitudinal fold lines respectively so that the marginal edges of the wings overlap and whereby the adjacent panel sections, the adjacent gusset portions and the adjacent corner flaps overlie one another in face-to-face abutting relationship,

(c) sealing the overlapped edges of the wings to define a front panel with a central seam in overlying disposition with the back panel,

(d) pressing that the corrugated flutes on the portions of the top and bottom panels extending outwardly from the respective distal transverse fold lines to define top and bottom sealing flaps,

(e) applying adhesive to the flattened corrugated flutes of the top and bottom sealing flaps as well as to the corrugated flutes of the now upwardly-facing sealing tabs,

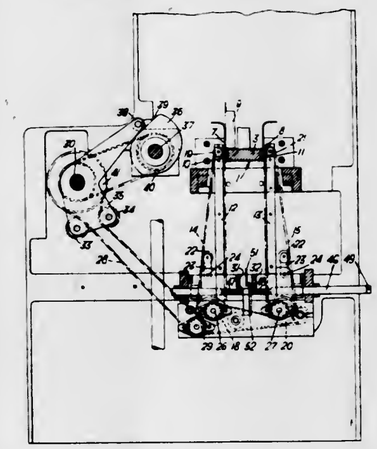
(f) folding the bottom panel upwardly along the corresponding medial transverse fold line so that the bottom sealing flap is adhesively secured to the lower portion of the front panel and the sealing tabs are adhesively secured to the faces of the adjacent exterior gusset portions to define a flat, envelope-like container which is adapted to be expanded into box-like configuration,

(g) expanding the adjacent overlying lateral panel sections along the longitudinal fold lines until the adjacent lateral panel sections define a plane and causing the overlying adjacent bottom panel sections to define a plane simultaneously therewith whereby the respective gusset portions will break along their respective diagonal fold lines to form triangular sections underlying the now flat planar bottom panel sections,

(h) folding the corner flaps inwardly into a common plane perpendicular to the planes of the lateral panel sections, and

(i) sealing the top sealing flap into contact with the upper portion of the front panel so as to form an upper closure for the carton in both collapsed envelope disposition and in expanded box-like disposition.

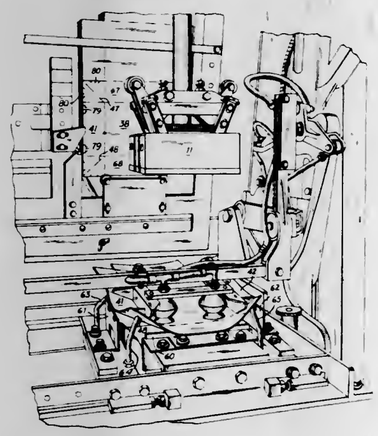
3,260,173
APPARATUS FOR SETTING-UP CARTONS
Richard Wolfgang Emil Mosse, London, England, assignor to The Metal Box Company Limited, London, England, a British company
Filed Aug. 8, 1963, Ser. No. 300,802
Claims priority, application Great Britain, Aug. 10, 1962, 30,775/62
6 Claims. (Cl. 93—51)



1. Apparatus for setting up cartons comprising a die open at opposite ends thereof and having aligned openings formed in opposite sides thereof and extending lengthwise of the throughway of the die, a punch reciprocable relative to the die to move carton blanks into the die, opposed ejector elements movable in paths parallel with said openings in the sides of the die and having carton-engaging faces which diverge in the direction of movement of the ejector elements, guide elements cooperating with said ejector elements and operable to urge the ejector elements towards each other to press against opposite sides of a carton set up in the die thereby to cause the ejector elements to grip the carton and withdraw it out of the die, endless conveyors supporting said ejector elements for movement in said paths, driving means operable to ef-

fect continuous movement of the conveyors, and control means co-operating with said driving means and operable to reduce the linear speed of the conveyors as a carton is engaged and disengaged by the ejector elements.

3,260,174
METHOD OF AND DEVICE FOR SETTING UP GUSSET-CORNERED FOLDING BOXES FROM FLAT BLANKS
Chester J. Pierce, Jr., Palo Alto, Calif., assignor, by mesne assignments, to Kliklok Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 20, 1964, Ser. No. 339,021
11 Claims. (Cl. 93—51)



1. A device for setting up gusset cornered folding boxes from flat box blanks, the device comprising,

a prefolding member whose blank engaging bottom portion is of the general shape of an inverted truncated pyramid and comprises a central flat bottom portion corresponding to the bottom portion of the blank to be folded and defined by at least two spaced parallel folding rules and corner rules arranged in V-shape at corners of the bottom portion, the bottom edges of the corner rules being upwardly slanted from the apex of the V in a direction away from the said bottom portion;

a prefolding die comprising a pair of upright outer side folding elements spaced apart wider than the main side folding elements of the main die hereinafter recited, and a pair of upright outer end folding elements spaced apart wider than the main end folding elements of the main die hereinafter recited;

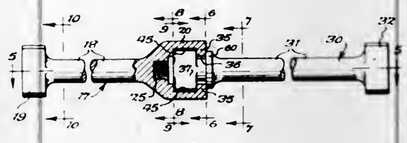
a gusset folding element taller than said outer side folding elements and said outer end folding elements, said gusset folding elements being stationary with respect to said prefolding die and located to engage the gusset portions of the blank within the areas of said V's before the remainder of the blank is engaged by said outer side folding elements and said outer end folding elements;

a main folding die comprising main side folding elements and main end folding elements substantially in line with the borders of the main panel of the blank;

a plunger movable into and out of the main die, said plunger comprising a blank engaging bottom portion corresponding to the bottom portion of the blank;

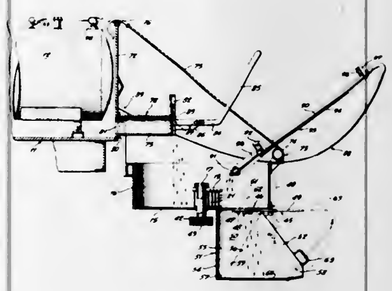
and means for moving said prefolding member into and out of the space between said gusset folding elements, and for moving said plunger into and out of said main die in timed sequence.

3,260,175
LONGITUDINAL JOINT SUPPORT
Alfred F. Crone, Williamsville, N.Y., assignor to Acme Highway Products Corporation, Buffalo, N.Y.
Filed Jan. 11, 1963, Ser. No. 250,940
3 Claims. (Cl. 94—17)



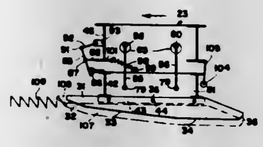
1. A joint support for holding two adjacent strips against movement vertically relatively to each other along their abutting longitudinal edges but permitting movement of one strip lengthwise relatively to the other, said joint support including two anchoring parts to be embedded in two adjacent sections of the two pavement strips, one of said parts having a socket portion with an outwardly facing opening accessible at an edge of one of said pavement strips when said part is embedded therein, the other part having a key adapted to fit into said socket to interlock therewith, flanges on said socket which prevent removal of said key from said socket in the direction of the length of the joint support when said key is turned after entry into said socket, cooperating wedge means in said socket and on said key which force said key into engagement with said flanges to prevent movement of said key in the direction of length of said anchoring parts, and horizontally extending flat faces in said socket with which said key cooperates after being turned into frictional engagement with said flanges, said flat faces extending in a direction of the length of said pavement strips and transversely of the length of said anchoring parts and being of sufficient length to permit sliding movement of said key and flat faces relative to each other to permit corresponding movement of said pavement strips relatively to each other in the direction of the length of said pavement strips.

3,260,176
ROAD REPAIR APPARATUS
Rolland L. Bowers, 3277 Twin Hills NW., Uniontown, Ohio
Filed Nov. 14, 1963, Ser. No. 323,702
4 Claims. (Cl. 94—39)



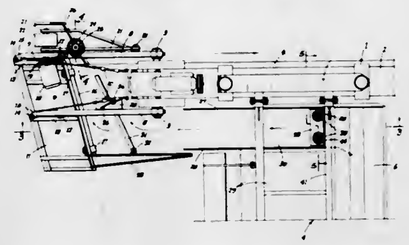
1. A road repair apparatus comprising a vehicle, aggregate supply means mounted on said vehicle, a liquid binder supply means mounted on said vehicle, means mounted on said vehicle for dispensing aggregate in selected amounts from said aggregate supply means, a receptacle having a circular bottom wall and a cylindrical side wall detachably mounted on said vehicle for receiving aggregate from said dispensing means of said vehicle, a liquid binder supply line connected to said binder supply means, said receptacle having means for detachably mounting the discharge end of said liquid binder supply line thereon for introducing liquid binder into said receptacle, a drive shaft journaled in the center of the bottom wall of said receptacle, a diametrically disposed mixing member mounted on said drive shaft and spaced parallel from the bottom wall of said receptacle, one end of said mixing member having a diagonally disposed first carrier member mounted thereon having the leading end thereof disposed a greater distance than the trailing end thereof from the axis of said drive shaft, the opposite end of said mixing member having a diagonally disposed second carrier member having the trailing end thereof disposed a greater distance than the trailing end thereof from the axis of said drive shaft, said first and second carrier members having downwardly extending brushes engaging the bottom wall of said receptacle, one of said carrier members having a member engageable with the side wall of said receptacle for wiping material within said receptacle accumulating on said side wall, drive means mounted on said receptacle operatively connected with said drive shaft, the bottom wall of said receptacle having means for selectively discharging material therefrom, a hopper mounted on said receptacle for receiving material from said discharge means of said receptacle and said hopper having a section hingedly connected thereto for movement in a vertical plane with a bottom wall disposed below said discharge means of said receptacle and an open rearward end when said section is in a lower closed position.

3,260,177
LAYING REINFORCED CONCRETE PAVEMENT
Michael I. Hudis, Brookfield, Wis., assignor to Rex Chainbelt Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 24, 1964, Ser. No. 346,785
7 Claims. (Cl. 94—39)



1. In a mesh positioning machine for depressing reinforcing mesh into newly laid plastic concrete to form a reinforced concrete pavement, a frame adapted to extend transversely over and to be advanced along the site of a slab of pavement being laid, a pair of shafts journalled transversely in said frame in parallel spaced fore and aft relationship, power means mounted on said frame and connected to each of said shafts to rotate said shafts, eccentrics secured on and turning with said shafts, connecting rods journalled on and depending from said eccentrics, and a plurality of mesh depressing runners suspended from and carried by said connecting rods in such manner that each of said runners is suspended fore and aft from the two shafts respectively of said pair of parallel shafts in position to engage reinforcing mesh reposing on newly laid concrete on the site, said runners being caused to move by said eccentrics bodily in a generally up and down direction to tamp the mesh into the newly laid concrete when said shafts are rotated by said power means.

3,260,178
STRIP PAVING DEVICE
Ronald M. Guntert and Wilbur F. Earley, Stockton, Calif., assignors to Guntert & Zimmerman Const. Div., Inc., Stockton, Calif., a corporation of California
Filed Mar. 31, 1964, Ser. No. 356,271
6 Claims. (Cl. 94—46)



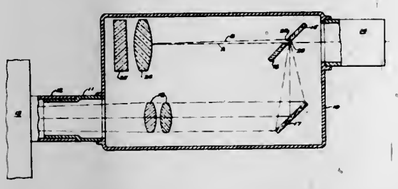
1. In a concrete slab laying machine which includes side supporting units adapted for engagement with and movable along the ground, and a main slab pouring and laying apparatus connected to and extending between the units, said apparatus including a slab smoothing pan terminating at one side short of the adjacent supporting unit to leave a space on the ground therebetween, and a concrete mix supply hopper feeding under the pan and having a portion extending across said space; a pair of transversely spaced, channel forming plates extending rearwardly from under said hopper portion and having top edges above the level of the pan to define the side edges of said space, the laterally outer one of said plates depending to ground level, adjustable cut-off means to feed concrete mix from said hopper portion into the channel in a quantity sufficient to pave said space and the ground area initially engaged by said adjacent supporting unit to the same depth as the slab under the pan, and means rearwardly of said plates and channel functioning with the advance of the machine to deflect sufficient of said quantity of concrete mix laterally outwardly from the space between the plates and into the area behind said supporting unit to the same depth as the mix remaining in such space.

3,260,179
SCRAPER ATTACHMENT
Renán Moreira, Miami, Fla.
(230 Park Ave., New York, N.Y. 10017)
Filed Sept. 3, 1963, Ser. No. 305,951
5 Claims. (Cl. 94—50)



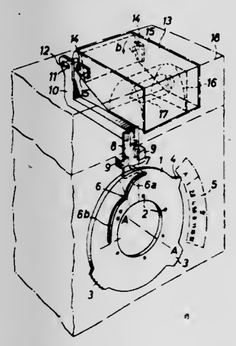
1. In combination, an earth moving apparatus having front and rear sections, means pivotally connecting said front and rear sections for relative, vertical-articulated movement, a scoop unit on said rear section, wheel means supported on said rear section rearwardly of said scoop unit, first power means connected between said front and rear sections for moving said scoop unit between an elevated, transport position to a lower, ground scraping position about the axis of rotation of said wheels, a member mounted for vertical, pivotal movement on said rear unit rearwardly of said wheel means, ground-compaction roller means journaled on said member, and second power means on said rear section and operatively connected to said member for pivoting said roller means from a ground engaging position to an elevated counterbalancing and transport position.

3,260,180
SPECTRAL DISPERSION ATTACHMENT FOR CAMERAS
Lawrence R. Teeple, Jr., Palo Alto, Calif., assignor to Beckman & Whitley, Inc., San Carlos, Calif., a corporation of Delaware
Filed Jan. 27, 1964, Ser. No. 340,455
7 Claims. (Cl. 95—1.1)



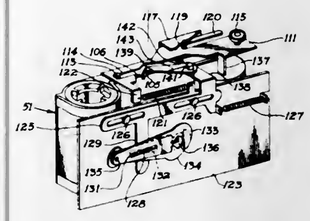
1. Means for use with a camera for producing a framed record of an event which comprises means for simultaneously isolating a portion of radiation from the event, means for producing a spectrograph of said radiation, and means for transmitting light from the spectrograph along the optical axis used in producing the framed record to produce a spectrogram superimposed on the same record.

3,260,181
CAMERAS WITH BUILT-IN FLASH ASSEMBLIES
Fridolin Hennig and Joachim von Albedyll, both of Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed May 15, 1964, Ser. No. 367,735
Claims priority, application Germany, May 18, 1963, A 43,144
15 Claims. (Cl. 95—11)



1. In a camera, in combination, a camera housing; a flash assembly carried by said camera housing for movement along a first predetermined path between rest and operative positions; exposure factor determining means spaced from said flash assembly and movably carried by said camera housing for movement along a second, predetermined path different and spaced from said first predetermined path of movement of said flash assembly, said exposure factor determining means being at least movable between a flash position providing an exposure setting for an exposure with flash illumination and at least one other position providing an exposure setting for an exposure without flash illumination; and moving means operatively connected to said flash assembly and said exposure factor determining means for, only in response to movement of said exposure factor determining means into said flash position thereof, moving said flash assembly from said rest at least partly to said operative position thereof, whereby said exposure factor determining means will provide said exposure setting for an exposure without flash illumination without displacing said flash assembly from rest toward operative position and will displace said flash assembly from rest at least partly to said operative position thereof only when said exposure factor determining means is moved into said flash position thereof.

3,260,182
MAGAZINE AND CAMERA WITH FILM CHARACTERISTIC INDICATING MEANS
Hubert Nerwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 163,843, Jan. 2, 1962. This application Jan. 11, 1965, Ser. No. 424,615
20 Claims. (Cl. 95—31)



1. In a camera having means therein for receiving a film magazine loaded thereinto, and an exposure control element adjustable to a position representing a characteristic of photographic film in said magazine; the combination comprising:

a camera housing having back means movable to an open position for loading said magazine into said camera and to a position for retaining said magazine in said housing;

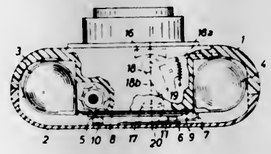
means defining a tactile surface irregularity on said magazine, the position of said irregularity being a function of said characteristic of the film in said magazine;

a sensing member in the camera movable to a first location in response to movement of said back means to said open position, and movable toward a second location in response to movement of said back means toward said retaining position, during which latter movement of said member the latter engages and is arrested by said surface irregularity;

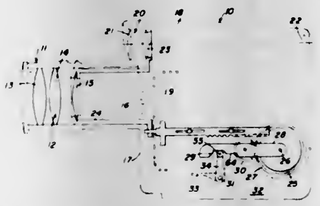
and means operatively connecting said element to said sensing member for moving said element in response to movement of said sensing member toward said second location.

3,260,183
CAMERA WITH FILM BLOCKING DEVICE
Alfred Winkler, Munich, Dieter Engelsmann, Unterhaching, Munich, and Rolf Schröder and Siegfried Zobel, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany
Filed May 5, 1964, Ser. No. 364,944
Claims priority, application Germany, Oct. 1, 1963, A 44,185
8 Claims. (Cl. 95—31)

1. In a camera, in combination, a camera housing having in its interior a space which is adapted to receive a take-up cartridge for receiving exposed film when said cartridge occupies said space; guide means carried by said camera housing for guiding film along a predetermined path to said space to be received in a take-up cartridge when said space is occupied thereby; and blocking means carried by said camera housing for movement between a blocking position extending into said path for blocking movement of film therealong to said space and a non-blocking position displaced from said path to provide unobstructed movement of film along said path to said space, said blocking means engaging a cartridge when the latter is properly positioned into said housing in said space thereof to be held by said cartridge in said non-blocking position, and said blocking means automatically assuming said blocking position thereof when said space is not properly occupied by a take-up cartridge, whereby if said space is not properly occupied by a take-up cartridge movement of film to said space will be blocked by said blocking means.



3,260,184
POWER ZOOM DEVICE FOR MOVIE CAMERAS
Armin B. Pagel, Janesville, Wis., and Hubert Nerwin, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 10, 1963, Ser. No. 286,632
11 Claims. (Cl. 95—45)



1. In a photographic camera having a taking lens system including at least one axially movable lens element for varying the magnification of said lens system, drive means for moving a film strip past an exposure aperture aligned with said lens system, and manually operable control means movable from a neutral position, in which said drive means is disabled, in either of two directions for enabling said drive means, the combination comprising:

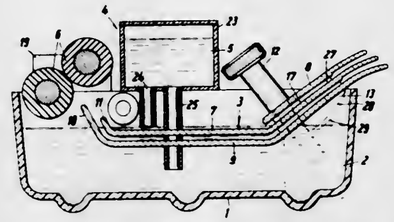
a movable member coupled to said lens element;

resilient means coupled to said movable member and adapted, upon movement of said control means in one of its two directions, to move said lens element in one of two corresponding axial directions;

brake means engaging said movable member, when said control means is in said neutral position, for holding said lens element against movement by said resilient means; and

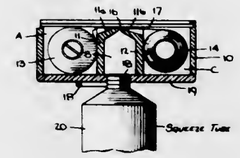
actuating means movable by said control means for releasing said brake member from said movable member when said control means is moved in either of its two directions, and for coupling said drive means to said movable member to move said lens element in the other of said two axial directions only when said control means is moved from said neutral position to the other of its two directions.

3,260,185
DEVELOPING DEVICE FOR MAKING COPIES
Walter Limberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler KG., Hamburg, Germany
Original application Apr. 2, 1959, Ser. No. 803,719, now Patent No. 3,103,153, dated Sept. 10, 1963. Divided and this application July 18, 1963, Ser. No. 296,059
Claims priority, application Germany, Apr. 28, 1958, L 30,301
5 Claims. (Cl. 95—89)



1. A developing device for positive and negative layer carriers each having a sensitive surface comprising, in combination, a container for a liquid developing agent, a liquid developing agent within said container defining a liquid surface, layer carrier contacting, drying and transporting means disposed adjacent said container and above said liquid surface, layer carrier inlet means disposed adjacent said container above said liquid surface and spaced from said contacting, drying and transporting means, first and second elongated, linear layer carrier guiding means disposed within said container intermediate said inlet means and said contacting, drying and transporting means and related to said inlet means for receiving layer carriers therefrom, said first guiding means being parallel to and disposed in substantial alignment with said liquid surface whereby upon a layer carrier being received upon said first guide means with the sensitive surface thereof disposed toward said first guide means the layer carrier is substantially floated on said liquid surface and only the sensitive surface thereof is wetted by said liquid developing agent, said second layer carrier guiding means being disposed parallel to and slightly below said first guiding means, automatic liquid developing agent supply means sensing the position of said liquid surface and maintaining said liquid surface at a predetermined level, and means within said container guiding the layer carriers from said first and second guiding means toward said contacting, drying and transporting means.

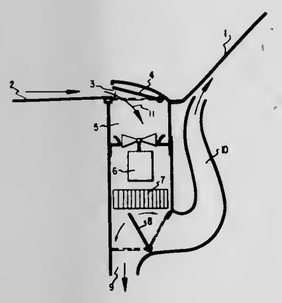
3,260,186
MINIATURE FILM PROCESSOR
Frank Lowell, Huntington Station, N.Y., assignor to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York
Filed July 10, 1963, Ser. No. 293,988
3 Claims. (Cl. 95—90.5)



1. A hand held film processor comprising a housing divided into three chambers and having a removable cover which when closed seals the chambers against light,

the chamber at one end of the housing being adapted to receive a film cassette, the chamber at the other end having a take-up spool therein, means on the exterior of said housing to wind said spool, means communicating with the central chamber to feed a monobath paste therein, said central chamber constituting a reservoir for said paste and having a slit to apply said paste to the surface of film drawn from said cassette across said reservoir onto said take-up spool, said means to feed monobath paste into said central chamber being constituted by a coupling to receive a squeeze tube containing said paste.

3,260,187
HEATING INSTALLATION FOR VEHICLES
Friedrich K. H. Nallinger, 5 Albrecht-Duerer-Weg, Stuttgart, Germany
Filed Feb. 24, 1964, Ser. No. 346,987
Claims priority, application Germany, Feb. 26, 1963, N 22,807
10 Claims. (Cl. 98—2)



1. A heating device for vehicles, particularly motor vehicles comprising:
air inlet means having an air inlet valve,
air duct means to conduct the air from said air inlet means partly to the interior of the vehicle and partly toward the windshield thereof,
a first portion of said air duct means being connected to said air inlet means and extending in a substantially vertical direction,
heat exchanger means within said first portion to heat the air,
reversible fan means within said first portion between said heat exchanger means and said air inlet means to selectively move air through said duct means toward the windshield and into the interior of the vehicle for heating purposes in one direction of rotation thereof, and in the other direction of rotation, move air out of said air inlet means for defrosting said air inlet means.

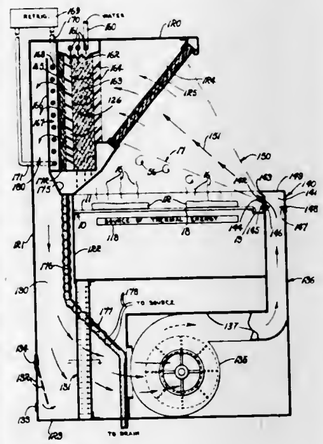
3,260,188
AIR DIFFUSER
Ernest Hjalmar Person, New Britain, Conn., assignor to Allied Thermal Corporation, New Britain, Conn., a corporation of Connecticut
Filed June 5, 1964, Ser. No. 372,776
9 Claims. (Cl. 98—40)

1. An air diffuser, comprising a housing having a pair of relatively long side walls, a pair of relatively short end walls connecting said side walls and a bottom wall, said bottom wall having an elongated slot extending substantially from one end wall to the other end wall and being located substantially midway between said side walls, the portions of said bottom wall on each side of said slot forming an elongated lip, means in said housing for admitting conditioned air under pressure into said housing whereby air will be discharged from said housing through said slot in said bottom wall, and means selectively to alter the pattern of air discharged through said slot comprising an elongated cylindrical deflector element having a diameter approximately equal to one-half the width of said bottom wall, means to mount said deflector element in said housing generally above said slot and shiftable



between a first position in which said deflector element is in substantially sealing contact with one of said side walls and the adjacent lip of said bottom wall and a second position in which said deflector element is in substantially sealing contact with the other of said side walls and the adjacent lip of said bottom wall, said mounting means being arranged to permit manual shifting of said deflector element between said first and second positions and to retain said deflector element in any of said first position, said second position and any intermediate position.

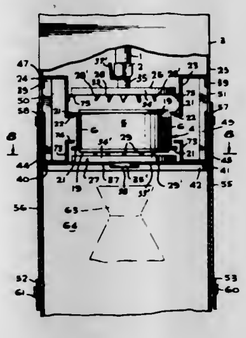
3,260,189
VENTILATION SYSTEM
Donald D. Jensen, 3604 E. Butler, Fresno, Calif.
Filed Oct. 29, 1963, Ser. No. 319,728
1 Claim. (Cl. 98—115)



A ventilation system adapted to remove heat and fumes generating from a localized zone of predetermined dimensions, the zone having marginal edges and a central portion, the system comprising an exhaust hood affording an exhaust opening; a grease filter supported in the hood and adapted to remove vaporized grease from air passing through said opening; means supporting the hood in a position above said zone to receive air directed therefrom; an air supply compartment disposed adjacently of the zone

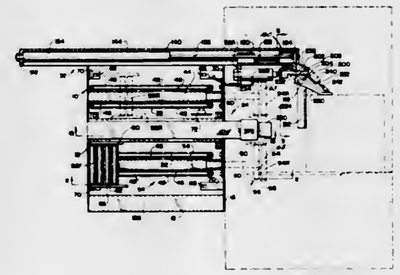
and providing an air sump, said hood providing an exhaust passageway connected to the compartment and disposed in communication with the air sump; an air filter disposed in said hood and adapted to remove fumes and contaminants carried in air flowing through said passageway; cooling means disposed in said hood in heat exchange relationship with air flowing through said passageway to reduce the temperature of said air; an inlet air supply conduit disposed in communication with said sump to receive air therefrom; means supporting the inlet conduit adjacent said zone; a distributing manifold carried on said inlet conduit and providing an elongated narrow discharge aperture having opposite sides and being adjacent and parallel to one of said marginal edges and at least partially surrounding said zone; a flow directing lip carried on said manifold adjacent to one side of the aperture and extended therealong parallel to and in flow directing relationship to air discharged from the aperture; a volume and direction control plate; means mounting the control plate on the manifold adjacent to the opposite side of the aperture from the lip and adapted to allow adjustment of the plate to direct air discharged therefrom toward said exhaust opening of the hood at selected flow rates; blower means mounted in said inlet conduit to motivate air from said sump toward said manifold and to be discharged from the aperture to form a protective barrier overlying said zone and to serve as a vehicle in removing heat and fumes therefrom; and auxiliary air supply means carried by the supply compartment in pneumatic communication between the ambient air and the sump to make up any air losses of the system.

3,260,190
EQUIPMENT ADAPTABLE TO BREWING COFFEE IN THE ORIGINAL SEALED CONTAINER
David J. Levinson, 5738 Van Alden Ave., Tarzana, Calif.
Filed Sept. 23, 1963, Ser. No. 310,799
16 Claims. (Cl. 99—295)



7. In a device that facilitates the positioning of a sealed can in the vicinity of a source of liquid and pierces the can in a plurality of positions whereby fluid from said source may flow through the can: a housing; an outlet within said housing for fluid from said source; a first platten having a first opening therethrough and at least one downwardly directed piercing element integrally secured thereto; means for so releasably connecting said platten to said outlet that fluid from said outlet may pass through said first opening; a carriage mounted for substantially vertical movement toward and from said first platten, said carriage having a second opening therethrough; a second platten disposed between said carriage and said first platten and having at least one aperture therethrough and a plurality of upwardly directed piercing elements integrally secured thereto; a removable receptacle for receiving said can and so holding it by the sides thereof that when the receptacle is inserted between said plattens the top and bottom portions of the can will be engageable by said piercing elements; and manually controllable means for so raising and lowering said carriage that a sealed can interposed between said plattens will be pierced by said elements upon upward movement of said carriage whereby fluid from said outlet may flow through said can and thence through said second opening.

3,260,191
BUNDLE TIE FEEDER
Edward D. Pierson and James C. Wright, Denver, Colo., assignors to Miner Machine Company, Denver, Colo., a corporation of Colorado
Filed Oct. 8, 1964, Ser. No. 402,534
19 Claims. (Cl. 100—4)

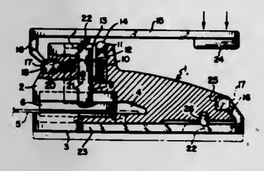


1. A device for feeding stacks of loosely-layered articles to a bundling machine, positioning the stack for application of a tie thereto and ejecting the tied bundle which comprises: conveyor means adapted to accept a stack of loosely-layered articles and deliver same over the discharge end thereof to a bundling machine aligned therewith; retractable stop means spaced beyond the discharge end of the conveyor means operable upon actuation to move into the path of an incoming stack and stop same into position to be tied; stack-feeding means mounted to one side of the conveyor means adapted upon actuation to engage a stack on the conveyor means and push same off the discharge end thereof and up against the retractable stop means when the latter is in extended position, said feeding means including a feeder ram mounted for reciprocating motion and a pusher flap carried by said ram for movement therewith between a retracted position bypassing an incoming stack into an extended position behind the latter; and bundle ejecting means located adjacent the discharge end of the conveyor means operative upon actuation to engage the rear face of the bundle and push same from the bundling machine upon completion of the tie and following retraction of the retractable stop means, said ejecting means including an ejector ram mounted for reciprocating motion and a flipper hingedly attached to the end of the ejector ram operative upon extension of the latter to flip up automatically into position behind the tied bundle.

3,260,192
NOTARY SEAL
William H. Ostenberg, Miami, Fla., assignor to Notary Public Association of the State of Florida, Inc., a corporation of Florida
Filed May 10, 1965, Ser. No. 454,751
6 Claims. (Cl. 101—3)

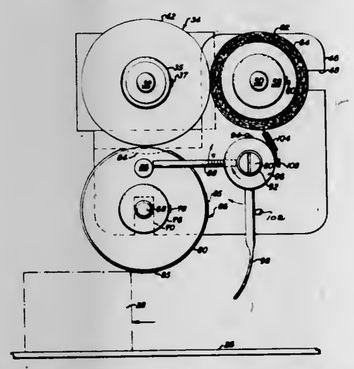
1. A seal of the character described comprising, a body having impression dies, a handle pivoted on t' body for moving one of the dies toward a compar

die, the pivotal connection between the handle and the body being such as to permit the handle to be detached from the body, the bottom of the body and the handle



being provided with interfitting parts by which the handle can be attached in a storage position on the bottom of the body.

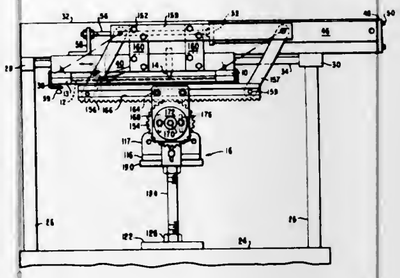
3,260,193
MARKING DEVICE
Max Mann, 232 Palisade Ave. Garfield, N.J.
Filed Aug. 31, 1964, Ser. No. 393,223
7 Claims. (Cl. 101—35)



1. A package marking device comprising a cylindrical rotary marking roller mounted for free rotation and having marking indicia on its cylindrical surface and adapted to rotate in frictional tangentially applied driving contact to impart print to the surface of a package in rolling contact therewith, an aligning roller mounted tangentially for frictional rolling contact with said marking roller said aligning roller being mounted out of the path of movement of said package to be marked, a cut-away portion on said marking roller and adapted to interrupt tangential continuity between said roller surfaces and interrupt frictional driving contact therebetween, means for rotating said aligning roller and thereby rotating said marking roller in frictional rolling contact therewith until alignment with the cut-away portion is reached, thereby aligning the print on said marking roller in marking position for a package brought into rolling contact therewith.

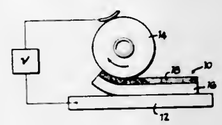
3,260,194
REGISTERING MECHANISM FOR STENCILLING APPARATUS
William M. Karlyn, 18 Merritt St., Marblehead, Mass.
Filed Sept. 20, 1965, Ser. No. 493,610
8 Claims. (Cl. 101—38)

1. Apparatus for stenciling the surface of an article, comprising, in combination:
- a frame adapted to support a silk screen;
- a carriage including rotatable means for holding and rotatably supporting an article to be stenciled;
- means for reciprocating said carriage transversely to said screen between a position engaging the supported article with the surface of said screen, and a position spacing the article from said screen;
- a linkage including a portion of said frame, a rack, and means suspending said rack from said frame portion for freedom of movement transverse to said screen and for guiding said rack in parallel relation to said screen throughout transverse movement of said rack;
- and a pinion rotatably supported by said carriage for transverse movement therewith and drivingly engaged with said holding means for rotation thereof;



said suspending means being constructed and arranged for guiding said rack freely through a transverse movement of a length equal to the reciprocating movement of said carriage, whereby said rack remains intermeshed with said pinion throughout said reciprocating movement, for rotationally driving said article in continuous positively-registered relation to said frame.

3,260,195
ELECTROSTATIC OFFSET METHOD FOR DECORATING HOT ARTICLE SURFACES
George L. Opdycke, Toledo, and Kenneth G. Lusher, Perrysburg, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio
Filed Jan. 4, 1965, Ser. No. 423,286
4 Claims. (Cl. 101—39)



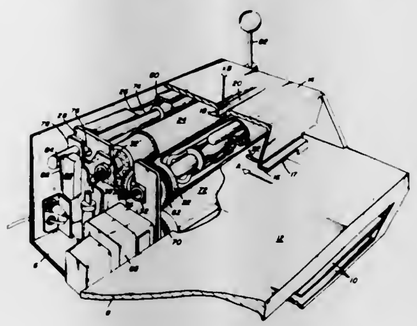
1. In an electrostatic offset process for decorating heated surfaces such as those of hot glass articles residually heated from the article forming operation wherein an image-shaped bed of powdered frit particles is applied to an electrically conductive offset plate, the hot article surface is moved into juxtaposition with the exposed surface of the bed, and an electric potential source is connected to said article and to said plate to establish an electric field between the plate and article surface to assist in the transfer of the bed from the plate to the article surface; the improvement comprising the step of treating the exposed surface of said image-shaped bed prior to the registry of the hot article surface therewith to form a layer at the exposed surface of said bed having relatively high electrical resistivity characteristics as compared to the electrical resistivity characteristics of the frit over the range of temperatures encountered by the exposure of said bed to the hot article during the transfer of the bed thereto.

3,260,196
METHOD AND APPARATUS FOR MAKING ELECTRICAL UNIT
William R. Belko, Jr., Huntington, Conn., assignor to Vitramon Incorporated, Monroe, Conn., a corporation of Delaware
Filed Nov. 21, 1961, Ser. No. 153,970
4 Claims. (Cl. 101—129)



1. The method of forming a predetermined pattern of material having specific electrical characteristics on a surface of a base member having other specific electrical characteristics comprising the steps of providing an adhesive masking means adapted to cover the surface of the base member and capable of deforming upon the application of heat thereto for separating from a surface to which it is applied, forming at least one opening in said masking means corresponding to the desired pattern, aligning the masking means and the base member and adhering the former to a surface of the latter, coating the surface of the base member exposed through the opening in the masking means with the material of said specific electrical characteristics for producing the predetermined pattern thereon, and applying heat to the masking means to deform the same and separate it from the base member.

3,260,197
PRESSURE ROLLER COPY-MAKING MECHANISM
Robert W. Vreeland, John Kuchmy, and Wilbur D. Robinson, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 1, 1964, Ser. No. 364,106
6 Claims. (Cl. 101—132)



1. In a copy-making mechanism for pressing together a two-ply sandwich such as a copy-sheet and matrix to produce a copy upon separation of the two, the combination comprising:
- a frame member having a rigid back plate;
- a first roller rotatably supported by said frame member;
- activatable means for rotatably driving said first roller;
- said activatable means including a motor and a first switch in circuit with said motor for activating or deactivating same;
- a second roller supported by said frame member for rotation about an axis substantially parallel to the axis of said first roller and for transverse movement to and from rolling engagement with said first roller;
- movable means connected to said second roller and movable between an inoperative position, in which said driving means is deactivated and said second roller is held out of rolling pressure engagement with said first roller, and an operative position, in which substantially simultaneously said activatable means is activated to drive said first roller, and said second roller is urged into rolling pressure engagement with said first roller for pressing together and advancing a two-ply sandwich fed into the nip of said rollers;
- said movable means comprising a rotatable shaft, linking elements each having one end loosely mounted on said rotatable shaft and its opposite end secured to one end of said second shaft, a first cam on said rotatable shaft midway of said elements and cooperating with said back plate upon rotation of said rotatable shaft for moving said movable means between said operative and inoperative positions, and a second cam on said rotatable shaft for operating said first switch.

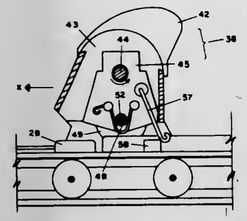
3,260,198
PROCESS FOR THE PRODUCTION OF OFFSET PRINTING PLATES
Albert Petrus Wagemans, Edegem, and Camille Angelina Vandeputte, Schoten, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company
No Drawing. Filed Apr. 24, 1964, Ser. No. 362,462
Claims priority, application Belgium, Apr. 26, 1963, 42,581, Patent 631,557
7 Claims. (Cl. 101—149.2)

1. A process for reversing the printing and non-printing areas of an off-set printing plate comprising a hydrophilic layer consisting essentially of at least one metal of the group consisting of aluminum and zinc and a layer of silver metal superimposed on selected areas of said hydrophilic layer corresponding to an image, which process comprises the steps of:
- (1) Treating said plate with an organic compound adapted to ionize in solution to form a group reactive with ions of the metal of said hydrophilic layer to produce in situ at the surface of said hydrophilic layer a water-insoluble compound repelling water from said layer surface, said reactive group containing oleophilic and acid hydrophilic moieties and reacting through the latter, said organic compound being applied to said plate in solution in a solvent permitting ionization thereof, and
- (2) Thereafter, removing the silver image layer by treating said plate with an oxidizing agent for silver and dissolving the resultant oxidation products in a solvent therefor.

3,260,199
PLATEN MECHANISM FOR PRINTING MACHINES
Keith Gordon Huntley, Fairfax County, Va., and Sydney Roland Stagg, Bristol County, Mass., assignors to Farrington Business Machines Corporation, Springfield, Va., a corporation of Massachusetts
Filed Aug. 28, 1964, Ser. No. 392,749
7 Claims. (Cl. 101—269)

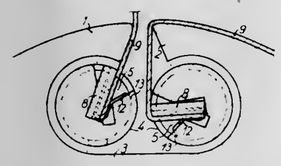
1. In the art of printing machines of the type adapted to use portable printing plates, a machine comprising a base at least a portion thereof forming a plane which defines a printing bed, said printing bed adapted to support a printing means and a document to enable an impression to be transferred, means for providing at least a pair of paths parallel to the plane of the printing bed, carriage means adapted to be moved by way of said paths, a head assembly rockably mounted in said carriage to overlie the printing bed, said head assembly comprising a platen roller

rotatably mounted thereon, a single spring means adapted to rock the head assembly in opposite directions and simultaneously with each direction to position said platen



roller at a different distance from the printing bed, and actuating means for tripping said single spring means to initiate the rocking of the head assembly in at least one direction.

3,260,200
CYLINDER COVER CLAMP
Hans Grünig, Bern, Switzerland, assignor to Maschinenfabrik Winkler, Fallert & Co. A.G., Bern Switzerland
Filed Aug. 21, 1964, Ser. No. 391,125
Claims priority, application Sweden, Aug. 27, 1963, 9,329/63
8 Claims. (Cl. 101—415.1)



1. Apparatus for releasably clamping a flexible covering on a cylinder comprising, in combination, a covered cylinder having a longitudinally and radially inwardly extending slot parallel to its axis, the slot having wall portions diverging radially inwardly; at least one substantially cylindrical clamping spindle mounted in said slot for angular displacement, said clamping spindle being formed with a longitudinally and radially extending groove parallel to its axis to receive an end of the flexible covering to be clamped around said covered cylinder; and a relatively elongated substantially flat tilting bar inserted in said groove with lateral clearance, said bar being tiltable laterally about a longitudinal line thereof; the wall surfaces of said groove having bearing portions cooperable with said bar and spaced laterally at a distance greater than the thickness of said bar so that an end of said flexible cover may be inserted into said groove to overlie a surface of said bar between such surface and a bearing portion of the wall surface of said groove; said barb, upon relative angular displacement of the clamping spindle, tilting laterally about one of said bearing portions to grip the end of the flexible cover engaged therewith against the other bearing surface.

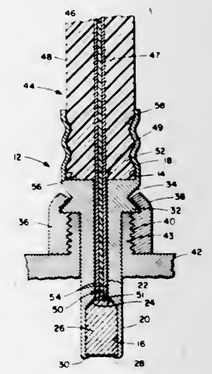
3,260,201
FUSE HAVING CELLULAR PLASTIC SHEATH
Stanley R. Kelly and John M. Smith, Simsbury, Conn., assignors to The Ensign-Bickford Company, Simsbury, Conn., a corporation of Connecticut
Filed Nov. 15, 1963, Ser. No. 323,958
9 Claims. (Cl. 102—27)

1. A fuse exhibiting a uniform burning rate under substantially all operating conditions and improved resistance to both oil penetration and static electricity discharge comprising a central raw core of explosive material and a flexible sheath of plastic material which will not support combustion enclosing said core and providing an effec-



tive barrier to oil penetration, said plastic sheath being of substanitally uniform thickness and having a generally foam structure throughout.

3,260,202
EXPLOSIVE CONNECTOR ASSEMBLY
Theodore Norman Bryla, Glendora, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Feb. 5, 1964, Ser. No. 342,720
8 Claims. (Cl. 102—27)



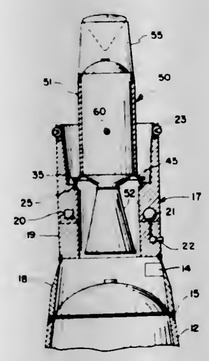
1. A connector assembly for attaching an initiator to a fuse member provided with a casing and a transmitting core extending through the casing and having an end portion extending therebeyond comprising, in combination, a holder provided with a longitudinally extending passage and sockets at its opposite ends connected by the passage, said casing being secured in one of said sockets with said end portion of said core extending through the passage, a charge disposed within the other of said sockets in engagement with said end portion of said core, and fastener means journaled on said holder and adapted to be secured to the initiator.

3,260,203
CARTRIDGE CASES FROM FIBROUS NITROCELLULOSE AND ALKALINE CATALYZED PHENOLIC RESIN
John N. Godfrey, Alexandria, and Myron G. De Fries, Fairfax County, Va., assignors to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia
No Drawing. Filed Feb. 18, 1965, Ser. No. 433,849
12 Claims. (Cl. 102—43)

10. A process for preparing rigid, shaped, felted, fibrous combustible product having high tensile strength comprising the steps of (a) treating a homogeneous aqueous mixture consisting essentially of an aqueous suspension of 1 to about 5 parts of nitrocellulose and about 1 to 2 parts of cellulose fibers, and 1 part of resin binder consisting essentially of an alkaline reaction product of phenol and formaldehyde controlled to yield a resin with a viscosity in the range from about 200 to 400 cps. and about 250–400% water tolerance at about 50–60% solids content, with an amount of halogen salt of a trivalent metal sufficient to precipitate said resin binder, (b) removing excess water from said mixture to deposit a fibrous mass, (c) shaping said mass, and (d) heating said mass at 120–180° F. until dry.

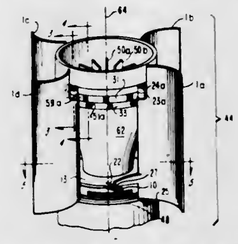
11. The method of making a rigid combustible product comprising homogeneously mixing nitrocellulose fibers, cellulose fibers, water dispersed phenol-formaldehyde resin, precipitant for said resin, and water; removing a major amount of the water to leave a wet fibrous mass; molding said mass; and heating said mass to a temperature in the range of about 120–180° F. until dry.

3,260,204
VELOCITY PACKAGE
John W. Wilkey, Jr., Newport News, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed June 8, 1964, Ser. No. 373,591
9 Claims. (Cl. 102—49)



1. A device for producing high velocities to determine the capability of spacecraft reentry configurations, comprising: a launch vehicle, a velocity package carried by said launch vehicle and having a center of gravity; guidance means for placing said launch vehicle in a predetermined trajectory; means for separating said velocity package from said launch vehicle; means for thereafter controlling the velocity package; spin rocket means located on said velocity package such that it is spin-stabilized after separation from said launch vehicle and utilized to maintain trajectory without additional guidance from said means for controlling the velocity package; propulsion and payload means forming part of said velocity package; and means for separating said propulsion and payload means from the remainder of said velocity package upon reaching a designated reentry trajectory position.

3,260,205
FIN ACTUATED SPIN VANE CONTROL DEVICE AND METHOD
Forrest W. Dietrich, Santa Barbara, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Sept. 28, 1964, Ser. No. 399,481
11 Claims. (Cl. 102—51)

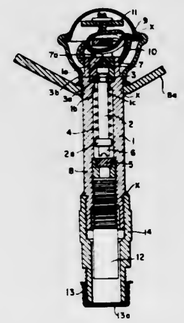


1. In a jet-propelled body including a fuselage, a fluid conducting nozzle portion connected with said fuselage and spin-imparting vane means adjustably mounted within said nozzle portion, said vane means being rotatable between a maximum spin attitude and a minimum spin attitude, the combination therewith comprising:

a plurality of structurally integral stabilizer means adjustably mounted about the periphery of said nozzle portion so as to assume a first attitude in response to a first condition and a second attitude in response to a second condition, and

vane trim means interconnecting said stabilizer means with said vane means so as to change the attitude of said vane means in response to a change in the attitude of said stabilizer means.

3,260,206
DETONATOR
Paul Beermann and Willi Gross-Benne, Menden, Germany, assignors to Firma Richard Rinker, Menden, Sauerland, Germany
Filed Feb. 13, 1964, Ser. No. 344,647
Claims priority, application Germany, Feb. 13, 1963, R 25,550; Mar. 4, 1963, R 25,665; Aug. 9, 1963, R 35,874
8 Claims. (Cl. 102—70)



1. A detonator device, comprising, in combination: a hollow cylindrical detonator housing having an exterior thread on one end for insertion into an ex-

plosive charge and also having an interior thread for threadedly mounting a delayed action tube extending into an explosive charge, and the other end of said housing having an exterior thread;

a firing pin in said housing and mounted for axial movement therein, said firing pin having a flange thereon, and a reduced portion near one end thereof having inclined surfaces directed outwardly from said reduced portion toward said one end of said firing pin;

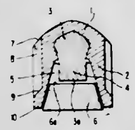
a firing pin spring disposed between said firing pin flange and a portion of said detonator housing;

a firing pin suppressing member disposed in an enlarged cavity in said detonator housing, which cavity opens to the atmosphere, said one end of said firing pin normally projecting into said cavity, said suppressing member including an at least partially divided deformable stopper member engaging the reduced end portion of said firing pin and seated in said cavity in a sealing manner for normally retaining the firing pin with its said reduced portion within said cavity;

a primer in said detonator housing, said primer being spaced adjacent to the other end of said firing pin; and

a firing mechanism at said other end of said housing and including a wing nut and cap threaded to said other housing end for sliding said suppressing member out of said cavity, when actuated, whereby said suppressing member slides along the inclined surfaces of said reduced portion and thereby tension the firing pin spring by retracting the firing pin until said suppressing member comes out of the cavity and releases the firing pin whereby said firing pin spring urges said firing pin to strike said primer.

3,260,207
RIFLE SHELL
Walter Kreuzer, Rottwell, Germany, assignor to Dynamit Nobel Aktiengesellschaft, Troisdorf, Germany
Filed Aug. 19, 1964, Ser. No. 390,596
Claims priority, application Germany, Aug. 23, 1963, D 42,309
21 Claims. (Cl. 102—92.5)



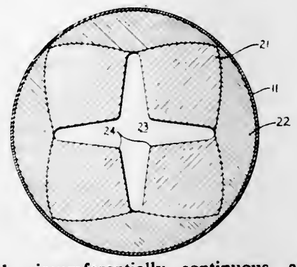
1. A shot-gun bullet for shooting large animals, comprising:

shell jacket means of a size and shape to be fired from a shot-gun, constructed substantially as hollow cylinder and made of a material relatively easily deformable under the impact of being fired from a shot-gun to constrict in diameter during passage through the choke of a shot-gun,

said shell jacket means including bottom means closing off the forward end thereof and projecting outwardly substantially over the entire cross section of the end face thereof, annularly shaped collar means at the rear end of said shell jacket means, and a plurality of substantially uniformly distributed guide vane means along the circumference thereof which pass over into said annularly shaped collar means,

and core means made of a relatively harder material substantially non-deformable under the impact of being fired from a shot-gun and striking a large animal, said core means being arranged within the hollow space of the shell jacket means and secured in said shell jacket means for reinforcing the bottom means so that said bottom means will substantially retain its configuration during firing from a shot-gun and striking a large animal.

3,260,208
SOLID PROPELLANT CHARGE FOR ROCKET MOTORS
Peter Mueller Schluter, Princeton, N.J., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Feb. 26, 1962, Ser. No. 175,844
6 Claims. (Cl. 102—98)

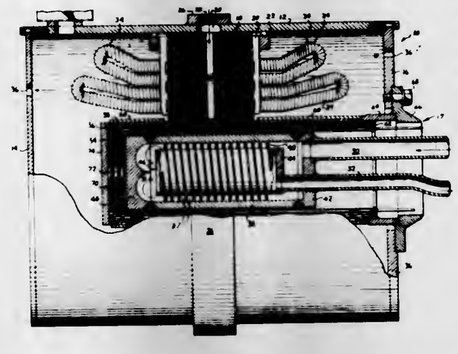


2. A solid, circumferentially continuous, composite propellant grain of generally cylindrical configuration and having a central cavity extending longitudinally therethrough, said composite grain comprising at least two different propellants arranged symmetrically about the longitudinal axis of said grain, each of said propellants being essentially composed of a dispersion of inorganic oxidizer in a cured combustible organic polymer, said propellants having different burning rates, said propellants being contiguous and having interfaces of substantially uniform cross-section longitudinally of said grain, said cross-sections being the loci of intersections of a plurality of sets of closed curves concentric with said grain axis and corresponding in number to the number of said propellants, the curves of each set being located between said cavity and the external surface of said grain and being spaced from one another at intervals proportional to the burning rate of one of said propellants, whereby said propellant grain upon ignition burns outwardly to extinction without residual propellant slivers.

3,260,209
ELECTROMAGNETIC PUMP
Ralph G. Rhudy, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 16, 1962, Ser. No. 166,655
8 Claims. (Cl. 103—1)

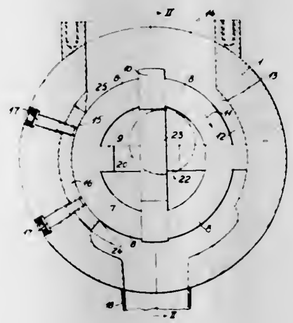
1. An electromagnetic pump comprising a housing enclosing a magnetic core having windings disposed therein, radial and axially extending ducts in said core for permitting the introduction of a coolant for flow through the core and across the end turns of said winding to remove the heat generated when the windings are energized, a hollow cylinder located within an enclosure positioned in the bore of the core, vanes attached at their inner ends on said cylinder and in contact with the inner surface of the enclosure for establishing a continuous passageway through which liquid metal is circulated when the winding is energized, an inlet to said enclosure through which the liquid metal flows to the passageways and an outlet connected with said cylinder, the disposition of the cylinder and enclosure and the inlet and outlet being such that liquid metal introduced through the inlet flows through said passageways and is returned axially through the cylinder for discharge through the outlet which is

located on the same side of the cylinder as the enclosure inlet, and insulation means disposed between the outer surface of the enclosure and the bore of the core for

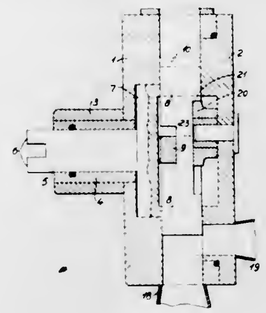


minimizing the transfer of heat from the enclosure to the magnetic core when the liquid metal is moved by electromagnetic action through said passageways.

3,260,210
PUMPS FOR ADMIXING SOLID OR SEMI-SOLID INGREDIENTS TO A VISCOUS FLUID UNDER PRESSURE
Hans Gram, Vojens, Denmark, assignor to Brodrene Gram A/S, Vojens, Denmark
Filed Nov. 12, 1963, Ser. No. 322,640
Claims priority, application Denmark, Nov. 16, 1962, 4,949
3 Claims. (Cl. 103—2)

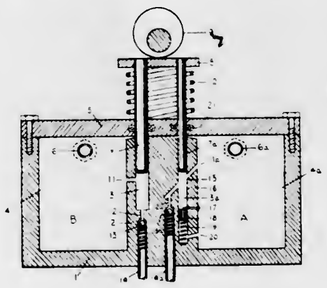


1. A pump for admixing solid or semi-solid ingredients to a viscous fluid under pressure, said pump comprising a pumping chamber having a first inner wall portion shaped as part of a cylindrical surface, a second inner wall portion likewise shaped as part of a cylindrical surface co-axial with, but angularly displaced from said first inner wall portion at the end thereof adjacent said low pressure inlet opening and having a smaller radius of curvature than the latter, a low pressure inlet opening for said solid or semi-solid ingredients between said first and second inner wall portions, said inlet opening having two spaced flat parallel side walls facing each other and extending perpendicularly to an axis coinciding with that of said first and second inner wall portions, inlet and outlet openings for said pressurized fluid in a zone of said pumping chamber remote from said low pressure opening for solid or semi-solid ingredients, a rotor mounted for rotation in said pumping chamber about said axis, said rotor being shaped as a cylindrical body having substantially the same radius of curvature as said second inner wall portion, the direction of rotation of said rotor being from said second inner wall portion via said inlet opening for solid or semi-solid ingredients to said first inner wall portion, two pairs of vanes being freely slidably mounted in mutually perpendicular diametrical slots of said rotor, the width of said vanes being equal to the spacing of said flat parallel side walls, a curved cam being



mounted in said pumping chamber in an eccentric position with respect to said first and second inner wall portions, each vane being constructed with an inwardly facing shoulder for engagement with said cam, the distance between said shoulder of each vane and the end face thereof being equal to the radial distance between said cam and said first inner wall portion, each pair of vanes being interconnected to form a blade having a U-shaped marginal recess, the length of which is equal to the sum of the thickness of one blade plus the radial distance between said first portion of the inner wall of said pumping chamber and the cylindrical surface of said rotor.

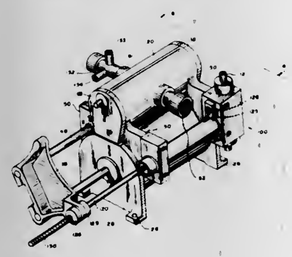
3,260,211
MULTIPLE PUMP APPARATUS
John Springer Bernard, 2060 East 4800 South, Salt Lake City, Utah
Filed Aug. 16, 1965, Ser. No. 479,945
3 Claims. (Cl. 103—4)



1. A dual delivery pump apparatus having a cylinder block, a first cylinder bore in said block, a first reciprocating plunger slideably received in said first bore, a liquid duct through said block and angled through said first bore between the inward and the outward reciprocating limits

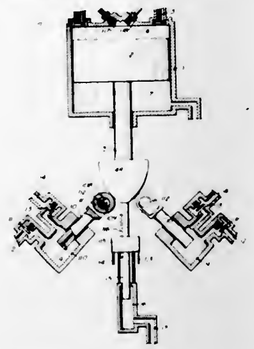
of said first plunger, an obstruction within and partially blocking said first bore below the innermost reciprocating limit of said first reciprocating plunger, an auxiliary free piston mounted for reciprocation within said first bore inward from said obstruction, a compression spring within said bore below said free piston, a relief duct communicating the bottom of said first bore with said first liquid and a second cylinder bore in said block vertically aligned with said first bore, there being a second reciprocating plunger member slideably received in said second bore and a cap means joining the free ends of said plungers outside of said block, said cap engaged with the apparatus reciprocating means.

3,260,212
SELF-POWERED VARIABLE FLUID PROPORTIONER
Carl N. Johnson, 274 McDonald Drive, Wayne, N.J.
Filed Feb. 5, 1965, Ser. No. 430,572
16 Claims. (Cl. 103—38)



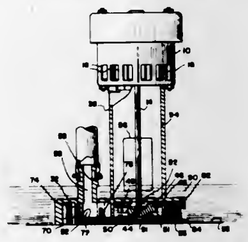
1. A self-powered variable fluid proportioner having a fluid motor and at least one fluid pump, the motor and pump in combination comprising: (1) a fluid motor having a housing providing a fluid inlet and outlet for a main stream of fluid; (2) a reciprocable piston carried in the housing and having rods extending from both ends of the housing; (3) a directional valve carried by the housing and having a movable piston flow control means adapted to receive from the fluid inlet an influent stream under pressure and to selectively feed said influent stream to one of two sides of the piston to cause the piston to move in the motor housing, said piston flow control means selectively feeding the effluent fluid stream from the other side of the piston to the fluid outlet; (4) a pilot valve carried in the motor housing and adapted to receive a portion of the influent pressurized stream of fluid and to selectively feed this influent stream to one of two ends of the directional valve to move this valve to one of two flow control positions; (5) a pair of actuating arms each attached to one end of the rod of the piston to move with the piston, a portion of each arm adapted to engage means to move the pilot valve in the housing to change the selective feed of the influent stream from the pilot valve; (6) at least one positive-displacement chamber pump removably mountable on the motor housing, said pump having a readily removable barrel, piston and piston rod to provide for a change in size, capacity and materials; (7) means for a driving connection between the pump and one of the piston actuating arms; (8) means to vary the driving connection between the piston actuating arm and pump to adjust the pump displacement relative to the motor effluent stream discharge rate; (9) means to receive and conduct a treating fluid to the pump; and (10) means to conduct the treating fluid from the pump for admixture with the main stream of fluid used by the fluid motor.

3,260,213
COMBUSTION ENGINE FOR CONVEYING A HYDRAULIC PRESSURE MEDIUM
Karl Eickmann, 2420 Isshiki, Hayama-machi, Miuragun, Kanagawa-ken, Japan
Original application Aug. 1, 1961, Ser. No. 128,490, now Patent No. 3,174,432, dated Mar. 23, 1965. Divided and this application Feb. 14, 1964, Ser. No. 344,888
Claims priority, application Switzerland, Aug. 12, 1960, 9,162/60
25 Claims. (Cl. 103—54)



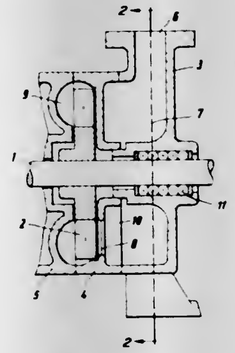
1. A piston engine comprising a main cylinder, a main piston reciprocably mounted in said main cylinder and defining in the same a combustion chamber; means for producing combustion in said combustion chamber whereby said main piston is driven in one direction in an expansion stroke; means acting on or in said main piston on or in a part thereof for moving said main piston in a direction opposite to said one direction in a compression stroke; pump means including a reciprocable pump member or members; force transmitting means operatively connecting said main piston with said reciprocable pump member, said force transmitting means varying the transmission ratio thereof at least during said expansion stroke for providing at least partially the equilibrium of the power delivered by said main piston with the power consumed by said reciprocable pump member or pump members during the said expansion stroke of said main piston.

3,260,214
SUMP PUMP
Adam D. Goettl and Albert B. Goettl, Phoenix, Ariz., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Oct. 25, 1963, Ser. No. 319,023
3 Claims. (Cl. 103—87)



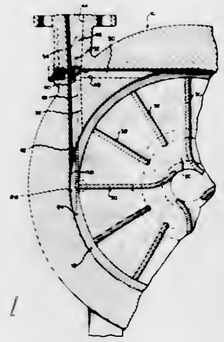
1. In a sump pump the combination of: a motor housing; a rotor rotatably mounted therein; a motor shaft extending axially downward from said motor and said housing; a pump housing coupled to said motor housing and extending downward therefrom and substantially surrounding said shaft; a liquid impeller connected to said shaft; said pump housing having a centrifugal impeller cavity open axially toward the normally lower end thereof and containing said impeller therein; a pair of spaced wall structures of said pump housing surrounding said impeller cavity; an impeller cavity enclosure plate having an upwardly directed flange surrounding said cavity and extending upwardly between said spaced wall structures, said plate having a liquid inlet opening disposed below said impeller; a third wall structure spaced from and surrounding the outermost of said pair of spaced wall structures; a bottom portion of said pump housing open between said outermost wall of said pair and said third wall structure; a lower edge portion of said third wall structure directed downwardly; and a filter element disposed between said third wall structure and said outermost of said pair of wall structures, a lower portion of said filter element normally disposed nearly on a plane with said lower edge portion of said third wall structure; said filter element surrounding said plate and extending below said plate in a direction parallel to the axis of said impeller; a lower portion of said filter disposed to bear on a bottom portion of a liquid containing sump.

3,260,215
PUMPS
Reinhold Lühmann, Walter Hagemann, and Heinz Kath, all of Itzehoe-Tegelhorn, Germany, assignors to Siemen & Hinsch m.b.H., Holstein, Germany
Filed May 20, 1964, Ser. No. 368,777
2 Claims. (Cl. 103—96)



1. A self-priming side channel centrifugal pump comprising:
(a) a casing defining a suction chamber and an impeller chamber;
(b) a shaft journalled for rotation in the casing;
(c) an impeller wheel fixed on said shaft and disposed in the impeller chamber for rotation therein and having radial blades;
(d) a partition in said casing and separating said suction chamber and said impeller chamber;
(e) said blades being radially disposed in said impeller chamber and having radial leading edges facing said suction chamber;
(f) said partition being provided with a suction slot communicating said chambers, said slot having circumferentially spaced radially extending starting and ending edges closely adjacent the radial edges of the impeller blades, the starting edge being the upstream edge with regard to the rotational direction of the impeller wheel and
(g) a covering rib element defining an open pocket adjacent the impeller chamber extending from the upstream edge of the suction slot, said pocket having a cooperating surface that cooperates with the fluid that is recirculated by the impeller wheel and redirects the same back into the radial leading edges of the blades.

3,260,216
VENTURI-CENTRIFUGAL PUMP
John Mann, Philip J. Olmstead, and Vincent D. Buffone, Seneca Falls, N.Y., assignors to Goulds Pumps, Incorporated, Seneca Falls, N.Y.
Filed Aug. 21, 1964, Ser. No. 391,131
9 Claims. (Cl. 103—103)

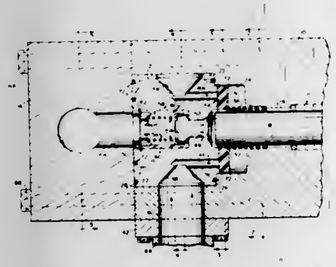


1. A centrifugal pump assembly comprising, in combination,
a casing defining a circular chamber,
an impeller rotatably mounted in said casing concentrically within said chamber and having a peripheral portion spaced radially inwardly of said casing,
said casing having a discharge passage extending substantially tangentially of said chamber, said discharge passage having a first portion of uniform cross section extending directly from and intersecting with said chamber and a second portion forming a diffuser of increasing cross section from said first portion, said first portion of the discharge passage having a length/diameter ratio within the range of from 5/1 to 7/1 and the diameter of said first portion of the discharge passage being not greater than the axial width of said impeller at said peripheral portion thereof.

3,260,217
PUMP HAVING RADIAL DISCHARGE VALVE
Griffith N. Thresher, Tulsa, Okla., assignor to Frank Wheatley Pump & Valve Manufacturer, Tulsa, Okla., a corporation of Oklahoma
Filed Aug. 5, 1964, Ser. No. 387,610
3 Claims. (Cl. 103—153)

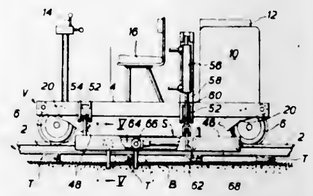
1. A pump comprising:
(1) a fluid end block having,
(a) a cylindrical piston opening therein.
(b) the cylindrical piston opening terminating in a coaxial larger diameter cylindrical valve block cavity,
(c) the cylindrical piston opening having an intermediate coaxial cylindrical intake valve cavity,
(d) the internal diameter of the intake valve cavity being intermediate the internal diameter of the cylindrical piston opening and the valve block cavity;
(2) a piston reciprocally positioned in the cylindrical piston opening;

(3) a cylindrical flat disc intake valve having,
(a) a coaxial opening therein,
(b) the intake valve having an external diameter slightly less than the internal diameter of the intake valve cavity,
(c) the intake valve being reciprocally supported in the intake cavity,
(d) the internal diameter of the opening therein being slightly greater than the diameter of the piston;
(4) a cylindrical valve seat block having,
(a) a forward and a rearward seating face,
(b) the valve seat block postioned in the fluid end valve block cavity,
(c) the forward end of the valve seat block being in sealing engagement with the forward end of the valve block cavity, the forward end of the valve seat block forming a boundary of the intake valve cavity and forming an intake valve seating surface,
(d) the valve seat block having an axial discharge valve opening in the rearward portion thereof,
(e) and a coaxial smaller diameter discharge valve inlet opening in the forward portion thereof,
(f) the intersection of the discharge valve inlet opening and the discharge valve outlet opening defining a discharge valve seating surface,



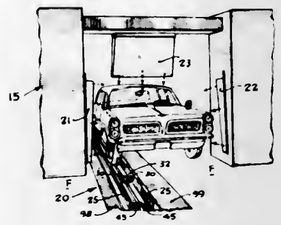
(g) the valve seat block having a deep annular groove formed in the cylindrical surface intermediate the ends thereof,
(h) a multiplicity of discharge passages,
(i) the discharge passages communicating the annular groove with the fluid end block intake valve cavity at the intake valve seating surface,
(j) the intake valve normally closing the discharge passages,
(k) the fluid end block having a fluid intake opening therein communicating with the annular groove in the valve seat block;
(5) a spring means normally urging the intake valve in engagement with the valve seat block intake valve seating surface;
(6) a discharge valve reciprocally supported in the discharge valve opening of the valve seat block;
(7) a spring means normally urging the discharge valve in engagement with the discharge valve seating surface; and
(8) a cylinder head removably affixed to the fluid end block,
(a) closing the valve block cavity,
(b) engaging the valve seat block rearward seating surface,
(c) the cylinder head having a discharge port opening therein communicating with the discharge value opening in the valve seat block.

3,260,218
RAILWAY TIE REPOSITIONING APPARATUS
Albert Edward Pyke, 321 Northcliff, Oshawa, Ontario, Canada
Filed Mar. 20, 1964, Ser. No. 353,563
16 Claims. (Cl. 104—9)



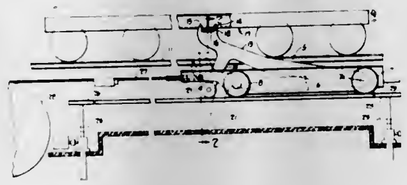
1. Machinery for repositioning ties underlying a railway track and embedded in a bed of ballast, comprising:
a railway vehicle for travelling on said railway track;
an element operable to shift said tie in the direction of the railway track; said element being movable between an operative position in which it is disposed at a side of the tie in engagement therewith and an inoperative position in which it is disengaged from and raised above the level of said tie;
structure carried by said vehicle for moving said element between its two positions aforesaid, the movement of the element into operative position having a terminal component in the direction of the length of the tie;
mechanism for shifting said element in the direction of the railway track preparatory to its movement into operative position and, thereafter, to apply thrust to the tie engaged thereby; and
a brake for restraining travel of said vehicle on said railway track while said thrust is being applied.

3,260,219
CONVEYOR STRUCTURE
James Vani, Midlothian, Ill., assignor to A. J. Industries, Inc., Los Angeles, Calif., a corporation of West Virginia
Filed June 5, 1964, Ser. No. 372,878
12 Claims. (Cl. 104—172)



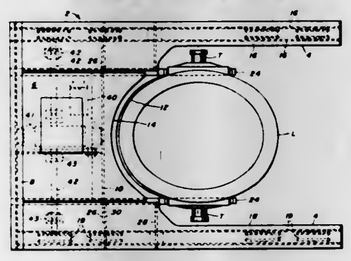
1. In a conveyor having a driven flight for transporting an automotive vehicle in a forward direction through apparatus where work is to be performed thereon, a roller engageable with the rear side of one of the vehicle wheels to urge the vehicle forwardly when the conveyor is actuated, a carriage connected to said driven flight and in which the roller is journaled for rotation with its upper periphery exposed whereby a vehicle wheel can be easily driven thereover to associate the vehicle with the conveyor and whereby the roller will roll idly under the vehicle wheel in the event the vehicle is not in neutral gear with the brakes released, a ramp bar supported by said carriage at the rear side of said roller and inclined upwardly in a forward direction to guide the vehicle wheel over the conveyor roller, and a safety bar supported by said carriage at the front of said roller to prevent the foot of a workman from being trapped under said roller.

3,260,220
RAILROAD CAR MOVER
Carl Ludwig, Cleveland, Ohio, assignor to McDowell-Wellman Engineering Company, a corporation of Ohio
Filed May 5, 1964, Ser. No. 365,050
12 Claims. (Cl. 104—176)



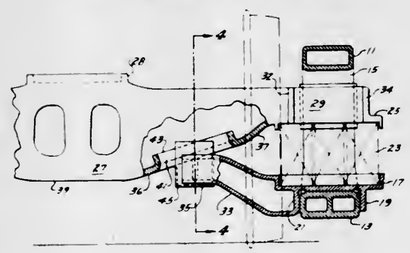
1. A railroad car pushing barney for selectively engaging and moving a railroad car along a trackway, comprising in combination:
(a) a first pair of spaced carriage supporting rails disposed below and parallel to the trackway;
(b) a pushing arm supporting carriage movable along said carriage supporting rails;
(c) a pushing arm pivotally secured to said carriage on an axis transverse to the trackway;
(d) cam following means extending from said arm;
(e) means carried by said arm for thrustingly engaging a railroad car for movement thereof along the trackway in response to movement of the carriage along the carriage supporting rails;
(f) cam means adapted to coact with said cam follower means for selectively maintaining said arm in engagement with said railroad car;
(g) a recess disposed adjacent said cam means for receiving said cam follower means while said car engaging means are out of engagement with said railroad car; and
(h) means for selectively shifting said cam follower between said cam means and said recess by pivoting said arm about said transverse axis.

3,260,221
LADLE TRANSPORT CAR
Glenn W. Blough, Richland Township, Cambria County, and John H. Faunce, Westmont, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Oct. 15, 1964, Ser. No. 404,001
3 Claims. (Cl. 105—148)



1. Apparatus for carrying a hot metal ladle which has downwardly facing lug surfaces located on opposite sides thereof and trunnions mounted on said sides for engagement with an external lifting means, said appartus comprising car having a frame and wheels rotatably mounted on said frame for supporting said car on a track, said frame being U-shaped and having two spaced apart legs located in a common plane substantially parallel to the axes of rotation of said wheels and a rear body portion located between and connected to said legs, and a pair of spaced apart ladle seat members mounted on said frame and adapted to support said ladle on said lug surfaces, said seat members being spaced inwardly from said legs a sufficient distance to permit external lifting means to pass between said seat members and side legs when the ladle is positioned with its lug surfaces on said seat members.

3,260,222
RAILWAY CAR TRUCK SPRING BOLSTER
Richard L. Lich, St. Louis, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 327,992
5 Claims. (Cl. 105—197)

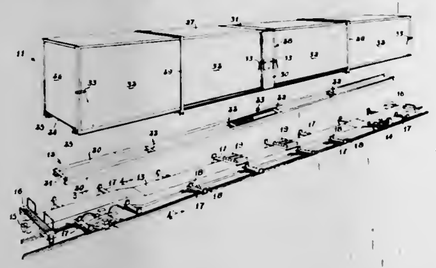


1. A railway vehicle truck comprising transversely spaced, longitudinally extending side frames, longitudinally spaced opposing transverse surfaces on each of said side frames, upright springs supported on said side frames intermediate said transverse surfaces, a transverse bolster supported on said springs and vertically slidably received between said spaced transverse surfaces, downwardly open apertures in said bolster spaced inwardly transversely of the truck from said side frames, and a single bracket rigid with each side frame and extending a substantial distance inwardly transversely of the truck beneath said bolster from the spring supporting portion of the side frames and into the adjacent bolster aperture for vertical sliding engagement between its transverse exterior surfaces and the transverse sides of the adjacent aperture.

3,260,223
CONTAINER CAR AND CONTAINER THEREFOR
James J. Black, Cincinnati, Ohio, Jack E. Gutridge, Dyer, Ind., Ralph B. Bergstrand, Clearwater, Fla., and William Van Der Sluys, Homewood, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Continuation of applications Ser. Nos. 257,383 and 257,384, Feb. 11, 1963. This application June 25, 1965, Ser. No. 467,060
10 Claims. (Cl. 105—366)

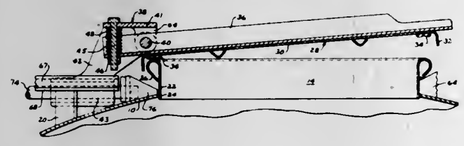
1. A container car comprising a longitudinally deflectable underframe and a container removably mounted on said underframe, said container including a flexible floor portion which is deflectable with said underframe, spaced rigid vertical end walls attached to said floor portion, a flexible roof portion attached to said end walls and extending therebetween, said roof portion being deflectable with said floor portion and said underframe, the attachments of said end walls with said floor and roof portions including limited pivotal connection means operative about axes which are transverse of said container permitting limited pivotal movement of said end walls

relative to said floor portion and said roof portion, rigid pier means extending vertically between said floor and roof portions and interconnecting the same intermediate said end walls to preclude longitudinal displacement and maintain the vertical spacing between said roof and said floor portions under load conditions, whereby said end walls and floor and roof portions at least substantially cooperatively define and maintain a paralleling relation under empty and load conditions, and side closure means suspended by said roof portion along the sides of said container and closing of the space between said end



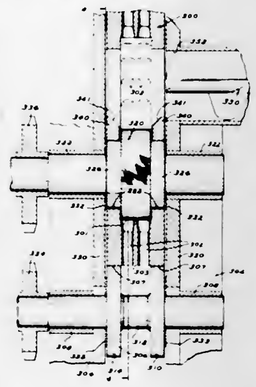
walls, said side closure means being detached from said floor portions, said underframe including container support means extending longitudinally thereof and deflectable therewith, said support means having anti-friction means in engagement with the floor portion of said container for relative longitudinal movement between said container and underframe, and impact force dissipation means interconnecting said floor portion of said container with said underframe to control said relative movement, said container extending substantially the full length of said underframe and being deflectable therewith.

3,260,224
HATCH COVER STRUCTURE
Harry W. Pettit, Bridgeton, and John L. Carney, Jr., St. Louis, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Oct. 7, 1964, Ser. No. 402,253
4 Claims. (Cl. 105—377)



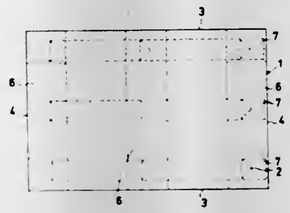
1. A hopper structure comprising a hopper roof having an elongate hatch opening therein, a hatch frame extending around said opening and projecting upwardly from the roof, an elongate hatch cover over the hatch opening adapted to seat on the hatch frame in a closed position and to be removed from the hatch opening in an open position to permit access to the hatch opening, a pair of spaced arms supporting the hatch cover, means mounted on the roof supporting the arms and the hatch cover thereon for sliding movement in a direction transversely of the longitudinal axis of the hatch cover to an open position of the cover laterally of the hatch frame, pivotal means mounting the hatch cover on the arms for limited pivotal movement relative to the arms about a generally horizontal axis, resilient means connected between the arms and cover biasing the hatch cover relative to the arms about said pivotal means to an upward pivoted position away from the closed position of the hatch cover, and releasable holddown means to secure the hatch cover in closed position on the hatch frame and to release the hatch cover from the hatch frame for sliding movement with said arms transversely of the longitudinal axis of the elongate hatch opening, said resilient means immediately biasing the hatch cover to an upward pivoted position upon release of the holddown means so that the hatch cover may be moved laterally to open position and clear the hatch frame without any additional upward movement.

3,260,225
WAFERING MACHINE
Thomas W. Cunningham, Chicago, Ill., assignor, by direct and mesne assignments, to Cunningham & Sons, Chicago, Ill., a partnership
Filed Sept. 5, 1961, Ser. No. 136,071
9 Claims. (Cl. 107—8)



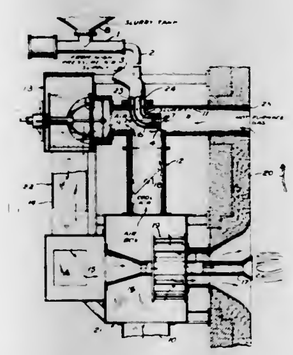
5. A machine for compressing and pelleting a cut crop comprising a rotatable ring rotatable about a horizontal axis along its center and having circumferentially spaced holes extending generally radially therethrough, a plurality of rolls mounted for rotation on axes parallel to but spaced from the axis of said ring, said plurality of rolls providing the sole means for rotatably supporting said ring, said plurality of rolls including a pair of laterally spaced back-up rolls, the distance between said back-up rolls being less than the diameter of said ring, the peripheries of said back-up rolls contacting the radially outer convex surface of said ring at circumferentially spaced points, said plurality of rolls also including a presser roll for forcing crop material through the holes in said ring, said presser roll being mounted inside said ring, the periphery of said presser roll contacting the radially inner concave surface of said ring at a point between the points of contact of said back-up rolls with the radially outer surface of said ring and which is on the shorter of the two arcuate portions of said ring between said back-up rolls, means for positively driving at least one of said rolls, said ring being rotated by its contact with the positively driven roll, and means for delivering crop material into the space within the radially inner surface of said ring, said holes being formed in a central portion of said ring spaced inwardly from the axially opposite sides thereof, said presser roll having a central portion opposed to the central portion of said ring to force crop material through the holes therein, said ring having axially spaced ribs extending radially inwardly beyond and on opposite sides of said central portion of said ring, said central portion of said presser roll extending between and being axially confined by said ribs, said presser roll having end portions of reduced diameter on opposite sides of its central portion in contact with the radially inner edges of said ribs.

3,260,226
LIGHT-WEIGHT PALLET
Hugo Östen Nordgren, Bergsunds Strand 31, Stockholm, Sweden
Filed June 1, 1964, Ser. No. 371,341
Claims priority, application Sweden, June 11, 1963, 6,428/63
3 Claims. (Cl. 108—51)



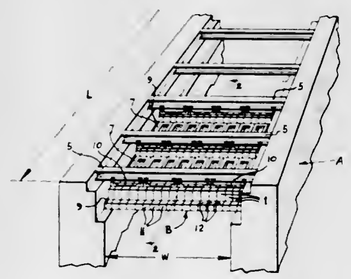
1. A pallet for conveyance by fork lift trucks and similar transport vehicles, comprising a rectangular load supporting platform of corrugated light-weight material, a plurality of support means arranged at the under side of said load supporting platform to maintain said platform at a predetermined height from a supporting surface, said support means being so dimensioned and spaced to permit insertion of lifting means beneath said platform, said platform having flaps projecting from opposite platform sides located opposite said support means, said flaps being bent from the side of the platform obliquely downwardly and inwardly towards said support means and secured thereto to form stays therefor, said flaps being constituted by the ends of strips of light-weight material arranged at the underside of said platform at spaced intervals, said strips being substantially as broad as said flaps.

3,260,227
SYSTEM FOR DRYING AND BURNING WET COAL
Ernest L. Daman, Westfield, N.J., and Gilbert C. Whitney, Jr., Dansville, N.Y., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Aug. 24, 1964, Ser. No. 391,576
6 Claims. (Cl. 110—7)



1. A system for drying a slurry of coal and water with furnace combustion gases comprising,
- conduit walls defining a gas conduit having a conduit inlet end adapted to receive combustion gases and a conduit outlet end,
- a coal burner in communication with the conduit outlet end,
- a fan disposed in the conduit at a position remote from the conduit inlet end, the fan establishing a fan suction region adjacent the fan extending upstream thereof for drawing hot combustion gases through the conduit,
- atomizer means for supplying a slurry under pressure into the conduit for mixture with the combustion gases, said atomizer means including an atomizer disposed in the conduit in the fan suction region and oriented to direct the slurry into the conduit in a direction opposite to the flow of the combustion gases through the conduit,
- baffle means disposed in the conduit between said atomizer and said fan immediately adjacent the fan for causing the mixture to flow through a tortuous path adjacent thereto,
- a cooling channel communicating with the gas conduit upstream of said baffle means adjacent the atomizer for attemperating the combustion gases,
- a valve located within said cooling channel to control the degree of attemperation.

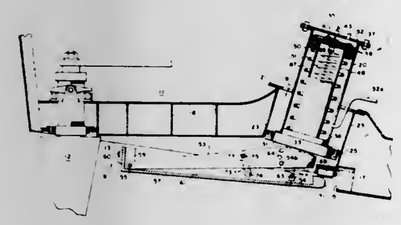
3,260,228
CEILING CONSTRUCTIONS FOR FURNACES
Hans Lingl, Finningerstrasse 70, Neu-Ulm (Danube), Germany
Filed May 17, 1965, Ser. No. 456,079
Claims priority, application Germany, Nov. 23, 1962, L 43,514
5 Claims. (Cl. 110—99)



1. In a tunnel kiln, in which the length of the furnace is many times its width, and having a main supporting structure, a gas-tight ceiling construction comprising a plurality of abutment bricks hung from the supporting structure of the furnace by their upper ends and arranged in rows which are disposed transversely of the furnace and spaced from each other longitudinally thereof, a plurality of suspended bricks arranged in rows between said rows of abutment bricks and supported thereby, said abutment and suspended bricks having mutually engaging, substantially vertical and planar side faces facing transversely of said furnace, said side faces constituting the sole surfaces of engagement in the transverse direction, flexible means for maintaining said bricks in said transverse engagement to gas seal with each other, said suspended bricks having along both sides adjacent said abutment bricks downwardly facing, horizontal, engagement surfaces, said abutment bricks having correspondingly upwardly facing, horizontal support surfaces adjacent their lower ends disposed for cooperative engagement by said engagement surfaces of said abutment bricks, said horizontal engagement surfaces of each suspended brick being in continuous surface-to-surface gas sealing engagement with said horizontal support surfaces of said abutment bricks in the rows on opposite sides thereof, said abutment bricks and suspended bricks having mutually facing, substantially vertical side-surfaces adjacent said

horizontal surfaces and facing longitudinally of the furnace, said bricks being disposed when said furnace is initially constructed such that said mutually facing, vertical side-surfaces are spaced from each other by an amount substantially equal to the expansion of said bricks between their centers of gravity from row to row when said furnace is heated to operating temperature, so that the center of gravity of each individual brick remains substantially undisturbed in the longitudinal direction of said furnace, while said continuous surface-to-surface sealing engagement is maintained between said horizontal surfaces of said abutment bricks and said suspended bricks, respectively, despite relative movement between said horizontal surfaces during expansion or contraction of said bricks.

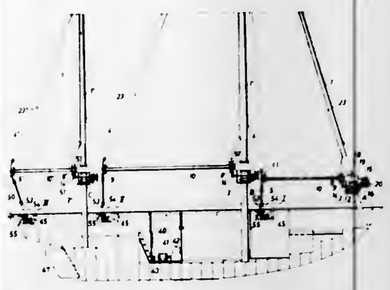
3,260,229
AUTOMATIC STABILIZER FOR WATERCRAFT
John Plum, Montgomery County, Md.
(5402 Tuscarawas Road, Washington 16, D.C.)
Filed Feb. 25, 1965, Ser. No. 435,383
15 Claims. (Cl. 114—66.5)



1. Stabilizing apparatus for a planing craft of the type having a stepped hull comprising:
a stabilizing element positioned on the afterbody;
said stabilizing element having on its underside a planing surface;
movable body means located in the craft above the location of the stabilizing element;
said movable body means being arranged for movement along, and rotation about, an axis in the longitudinal plane of the craft extending thru a forward portion of said stabilizing element;
said axis being canted whereby the upper end of said axis is forward of the lower end thereof;
a longitudinally disposed elongated body member rigidly connected at its forward end to said movable body means and rotatably connected at its aft end on a transverse axis to the aft end of said stabilizing element;
whereby upon movement of said movable body means the afterbody of said stabilizing element pivots about a transverse axis located approximately at the leading edge portion of the stabilizing element;
said stabilizing element thereby being retractable to negative trim angles and extendable to positive trim angles responsive to movement of said movable body means.

3,260,230
SAIL CONTROLLING MEANS
Walter Kauert, Hektorstr. 2, Berlin, Germany
Filed Oct. 12, 1964, Ser. No. 403,304
11 Claims. (Cl. 114—102)

1. Control gear for sailboats having a plurality of sails and a mast and a boom for each of said sails, comprising a drum rotatable on each of said booms and secured to the foot of the respective sail, said sail being wound on said drum by rotation of the drum to reef the sail, a first windlass adjacent the forward end of each said boom, a halyard attached to the peak of each said sail and running over a pulley on the respective mast and down to the respective windlass for hoisting said sail, a first electric motor mounted adjacent the forward end of each said boom, driving connections between said motor, drum and windlass for each said sail such that as the sail is hoisted by said windlass, it is unwound from said drum and vice versa while at all times being kept tight, a second windlass mounted below the rear end of each said boom, a sheet attached to the



rear end of each said boom and running to the respective second windlass whereby the angular position of said boom to the longitudinal center line of the boat is controlled by winding said sheet on said second windlass, a second electric motor for reversibly driving said second windlass to control said angular position of said boom and control circuitry including a control panel for selectively controlling all of said motors to control the height and angular position of each of said sails.

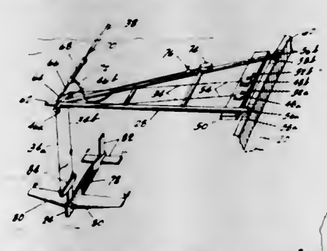
3,260,231
ROLL STABILIZATION SYSTEM FOR TANKERS
Bryant A. Hilliard, Norwalk, Conn., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 31, 1964, Ser. No. 356,286
2 Claims. (Cl. 114—125)



1. A roll stabilization system for a liquid cargo vessel, such as a tanker, comprising in combination, a hull, means within said hull defining a pair of wing cargo tanks extending for substantially the entire height of said hull at each side of said vessel, said means including a longitudinal bulkhead for each wing cargo tank forming an interior side thereof, said bulkheads together forming a substantially unrestricted intermediate cargo chamber therebetween extending for substantially the entire height of said hull for the passage of air and liquid between said wing tanks, said intermediate cargo chamber and wing tanks being adapted to contain a quantity of liquid cargo at a predetermined level and a quantity of air above said level, each of said bulkheads including in a lower portion thereof at least one first opening for placing the liquid cargo within said intermediate cargo chamber in fluid communication with the liquid cargo in the adjacent wing tank, each of said first openings being located at all times entirely below the surface of said liquid cargo during normal rolling movement of said vessel, each of said bulkheads further including at least a second opening communicating with said intermediate cargo chamber and

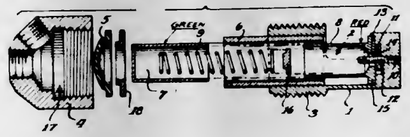
one wing tank, said second opening being located at all times entirely above the surface of said liquid cargo during normal rolling movements of the vessel, said bulkheads further including a liquid impervious central portion extending above and below the surface of the liquid cargo between said first and second opening so that upon rolling of said hull a portion of the liquid cargo from the lower portion of one wing tank is transferred solely through said first opening, mixed with the liquid in a lower portion of said intermediate cargo chamber and thence solely through said second opening into a lower portion of the opposite wing cargo tank, the mixing with the liquid in said intermediate cargo chamber being effective to provide a temporary reservoir for the liquid transferred between said wing tanks and to introduce a time lag to such transfer of liquid cargo between said wing tanks.

3,260,232
HYDROSTABILIZER
Donald W. Douglas, Rolling Hills, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Sept. 28, 1964, Ser. No. 399,609
20 Claims. (Cl. 114—126)



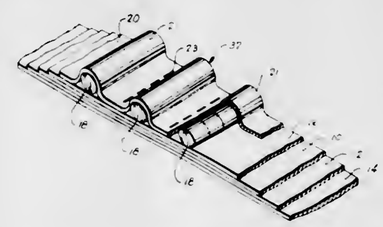
1. A suspended hydrofoil stabilizer system for stabilizing boats and the like, comprising:
a pair of hydrostabilizers each having a center of gravity located on a longitudinal axis and adapted to be submersed in a fluid medium supporting a craft;
a pair of booms adapted to be mounted to respective sides of the craft;
two sets of lines connecting said pair of hydrostabilizers respectively to said pair of booms, each set of lines including at least two lines connected to a corresponding hydrostabilizer at connection points located on normally vertical transverse planes which intersect the longitudinal axis at points respectively forward and aft of the center of gravity thereon; and
means for lowering and raising said hydrostabilizers in the fluid medium.

3,260,233
AIR PRESSURE GAUGE FOR PNEUMATIC TIRES
Roy Bergunder, Palos Hills, Ill., assignor of one-half to Richard Jousma, Chicago, Ill.
Filed Dec. 5, 1963, Ser. No. 328,286
9 Claims. (Cl. 116—34)



7. In combination, an air pressure indicating gauge for pneumatic tires, including:
(a) a casing having a window therein and one end open and its other end substantially closed,
(b) a tubular first indicator in the casing adjacent its substantially closed end viewable through its window,
(c) a transparent sleeve received by and within the casing and about the first indicator engaging the inner end thereof,
(d) a tubular second indicator slideably received by and within the sleeve and over and about the first indicator,
(e) spring means within the first and second indicators bearingly engaged with each thereof,
(f) a cup-like ported fitting engaged with and closing the open end of the casing,
(g) air pressure actuatable means within the fitting engaging the adjacent end of said second indicator,
(h) a mounting bracket receiving and supporting the casing, and,
(i) said bracket having the upper end lower portions thereof arranged in planes at substantially right angles to each other whereby the casing will be supported and positioned in a plane parallel to the side of the pneumatic tires.

3,260,234
DESICCANT TYPE
Roger R. Serrano and Edward E. Keller, San Diego, Calif., assignors to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Dec. 11, 1964, Ser. No. 417,546
6 Claims. (Cl. 116—114)

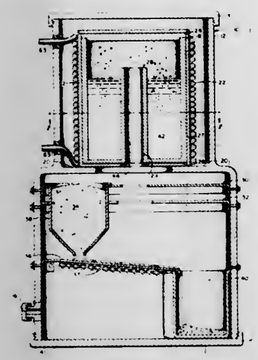


1. A moisture removing device comprising a composite flexible tape, including:
a supporting strip of flexible strong material;
a layer of adhesive on the bottom of said supporting strip for affixing said tape to a structure;
a plurality of pellets of desiccant material fixed in place on top of said supporting strip;
a strip of strong flexible, porous material positioned closely over said pellets and fixed to said supporting strip to form corrugations and hold said pellets to said supporting strip; and
closure means along the ends of said corrugations.

3,260,235
APPARATUS FOR COATING MATERIAL WITH METAL
Samuel Witz, West Covina, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed July 25, 1961, Ser. No. 128,301
7 Claims. (Cl. 118—49.1)

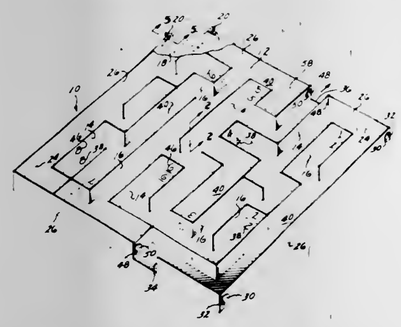
3. An apparatus for encapsulating high energy propellant particles in metal comprising in combination a housing, a closure for said housing to provide access to the interior of the housing, means for evacuating the interior of said housing, a resistance furnace mounted in said housing, a crucible mounted in said resistance furnace, said crucible including a lower base and side wall means, and outlet tube extending up through said base to a level higher than the iiquid level of the metal to be melted in the crucible, said outlet tube concentric with and in spaced relation to the side wall means of said

crucible, and collimating means positioned below said outlet tube and defining a path in vertical alignment therewith for substantially confining the vaporized metal leaving said crucible through said outlet tube to a relatively



narrow metallic vapor beam for direction against particles of high energy propellant, whereby condensation of the vaporized metal prior to contact with the particles of high energy propellant is substantially reduced.

3,260,236
ANIMAL MAZE
Grant C. Jones, 1617 Maple Ave., Torrance, Calif.
Filed Apr. 6, 1964, Ser. No. 357,473
1 Claim. (Cl. 119—1)



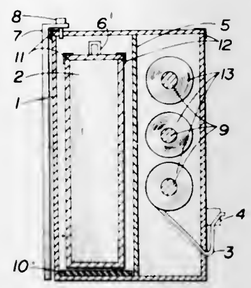
An animal maze comprising:

a multi-sided bendable base having indicia thereon defining a network of intercommunicating paths, said base including openings therethrough spaced along said indicia, said base further including creases spaced from and parallel to the sides of said base, respectively, and cut-out portions adjacent the extremities of said creases whereby said base is bendable along said creases to form upstanding side walls for said base, said cut-out portions defining complemental tabs and notches for securement together to maintain said side walls in upstanding relationship to said base, a pair of said side walls including, respectively, a pair of openings providing entry to and exit from said paths;

a plurality of elongated bendable inserts having projections along the lower edges thereof adapted for insertion into said openings along said indicia whereby said inserts define walled passageways coextensive with said paths, the extremities of those of said inserts adjacent said pair of entry and exit openings and at least one of the side wall edges of said pair of entry and exit openings being provided with complemental tabs and notches for securement together thereof;

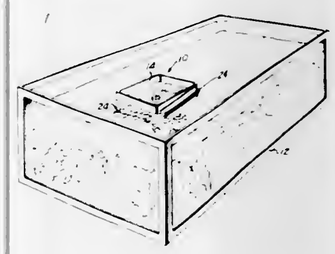
and a perforated sheet adapted to be fixed to the upper edges of said side walls to prevent escape of animals from said passageways.

3,260,237
PORTABLE DOG TOILET
Stanley T. Atterbury, 9745 S. Ingleside Ave., Chicago, Ill. 60628
Filed Sept. 18, 1964, Ser. No. 397,438
1 Claim. (Cl. 119—1)



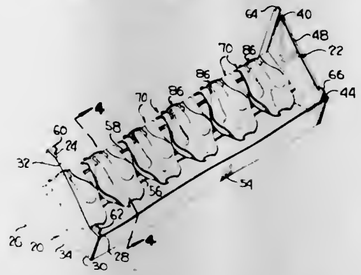
A portable device for use as a dog toilet comprising an outer container having partition means positioned therein forming two compartments, one compartment having at least one roll of paper mounted therein and the other compartment having a removable container, said outer container provided with an opening whereby sheets of paper may be withdrawn from said roll of paper, a removable pan mounted on and exteriorly of the outer container and adapted to be removed to provide a holder for a withdrawn sheet of paper whereby after a dog has used the sheet of paper for deposit of body waste thereon, the sheet of paper and waste may be stored in the removable container.

3,260,238
AUTOMATIC FISH FEEDER
Edward F. Holden, 602 Eberwhite Blvd., Ann Arbor, Mich.
Filed Dec. 9, 1964, Ser. No. 417,015
6 Claims. (Cl. 119—5)



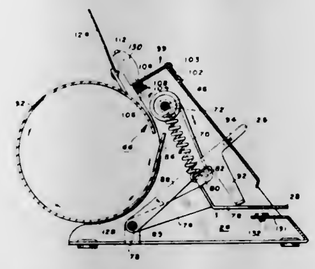
1. An automatic fish feeding device comprising a floatable container shaped to contain a liquid, means on said container for admitting water to the interior thereof at a predetermined rate, and feed means mounted on the exterior of said container and adapted to contain fish food.

3,260,239
APPARATUS FOR SHIPPING LIVE BIRDS
Dickerson H. Sanders, Laurel, Md.
(55 Jefferson Circle, Athens, Ga. 30601)
Filed Oct. 21, 1964, Ser. No. 405,354
16 Claims. (Cl. 119—97)



1. Apparatus for shipping live birds comprising a container, a bird support means having forward and rear end portions supported by said container for receiving and supporting a live bird, said support means being disposed in a permanently fixed relationship with respect to said container such that the support means is positioned to slope downwardly from the rear end portion to the forward end portion when the container is in normal operative shipping position whereby a bird supported thereby is held in a position such that it is sloping downwardly with its head below its normal position, and means adjacent said rear end portion for directing a bird's legs in a downwardly extending position so as to hold the bird substantially immobile during shipment.

3,260,240
COPYHOLDER AND PAPER SUPPORT
August A. Holfelder, North Caldwell, and Frederick E. List, Upper Montclair, N.J., assignors to G & H Mechanical Laboratory, Inc., a corporation of New Jersey
Filed Feb. 9, 1965, Ser. No. 431,253
13 Claims. (Cl. 120—32)



1. A copyholder and paper support in combination comprising: (1) a housing having spaced sides and a front face; (2) a paper drive mechanism having a shaft rotatably carried by the housing, said drive including a pair of spaced rollers mounted on the shaft; (3) a one-way ratchetless clutch drive carried on the shaft; (4) a lever, link connected to the clutch providing means for activating the clutch by manipulation of the lever; (5) a paper holder adapted to hold a sheet of copy, the holder having a paper slide surface disposed in front of the spaced rollers of the paper drive mechanism; (6) a support beam rotatably mounted in and carried by the sides of the housing, the beam arranged to carry the paper holder and as the beam is rotated in the housing, the paper holder is caused to be carried toward and away from the rollers; (7) a spring adapted to urge the paper holder toward the rollers and provide a bias whereby the paper holder is normally retained against the rollers and when the paper holder is moved away from the rollers the bias of the spring is overcome; (8) a pivot connection of the paper holder to the support beam to provide self-aligning means for the rollers and slide surface to accommodate any uneven thickness of paper and to enable the spring pressure on the paper holder to be applied equally to each of the rollers; (9) means for moving the paper holder away from the rollers to provide a path for inserting the paper into the holder; (10) a sight guide mounted on and extending from the top of the housing; and (11) means for supporting the portion of the paper copy disposed above the sight guide to maintain this portion in viewing position.

3,260,241
WRITING TOOL
Helmut Bross, Altenberg, Germany, assignor to Jacob Ritter K.G., Brensbach, Germany
Filed Mar. 15, 1965, Ser. No. 439,734
Claims priority, application Germany, June 1, 1964, B 77,004
20 Claims. (Cl. 120—42.03)



1. A writing tool comprising a casing having an opening in its front end, as least one rod-shaped lead or ink carrier axially slidable within said casing, an actuating member on the rear end of said casing, and a spring member of a resilient plastic secured to said actuating member and forming an axial extension thereof and adapted to be compressed when said actuating member is depressed to move said carrier forwardly within said casing and also adapted to act upon said carrier to retract the same when said actuating member is released.

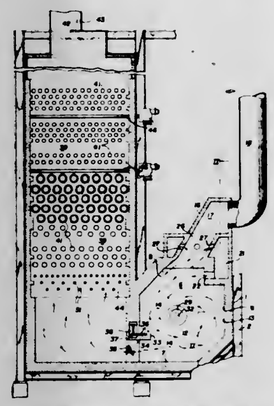
3,260,242
MULTI-COLOR RETRACTABLE PEN
Alfred T. Liguori, 60 Hillcrest Drive, Pelham Manor, N.Y.
Filed Jan. 5, 1965, Ser. No. 423,531
14 Claims. (Cl. 120—42.13)



1. A writing implement comprising a longitudinally extending barrel having an aperture at its leading end and openings in the trailing wall thereof and having formed thereon relatively fixed first latching sections, a plurality of elongated writing elements housed in said barrel and

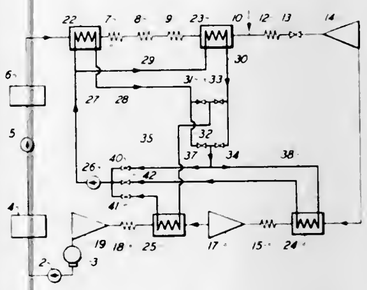
each being individually longitudinally movable between an advanced position projecting through said leading aperture and a retracted position, spring means normally urging said writing elements toward their retracted positions, a transversely movable follower connected to each of said writing elements and projecting through a corresponding wall opening and longitudinally movable with said writing element and provided with a second latching section transversely movable with said follower into releasable engagement with said first latching section when said follower is in advanced position, and a release member positioned on said barrel and movable between a retracted position and an advanced position in engagement with a follower in its advanced position to urge said follower transversely to a released position.

3,260,243
HEATER AND PROCESS SUITABLE FOR LEAN GASEOUS FUELS
Peter Von Wiesenthal, New York, and Carmelo J. Iacono, Yonkers, N.Y., assignors to Alcorn Combustion Company, New York, N.Y., a corporation of Delaware
Filed Oct. 13, 1964, Ser. No. 403,621
7 Claims. (Cl. 122—7)



1. A combustor suitable for a lean fuel occurring in a predominantly inert gas mixture, the combustor comprising—
- a setting which includes opposed end walls, and a bridge wall and a floor and a roof as well as an outward wall arranged opposite the bridge wall with all of the aforegoing cooperating to enclose a combustion chamber therewithin,
- the bridge wall having a lower edge depending a substantial distance downward from the roof toward the floor,
- gas inlet means for introducing a lean fuel occurring in a predominantly inert gas mixture into the combustion chamber,
- a lip formed on the lower edge and projecting into the combustion chamber with the bridge wall and lip of sufficient size and positioned to conduct the gas mixture in a vertical path which washes the bridge wall, the floor, the outer wall and the roof in that sequence,
- at least one auxiliary burner penetrating through the setting and adapted to fire an alternate fuel for heating the lean fuel above its kindling temperature,
- air inlet means for introducing air into the combustion chamber to form at least one air jet,
- the air inlet means organized relative the gas inlet means so that each gas stream is intersected by an air jet for mixing of the lean fuel with oxygen,
- refractory lining the interior of the combustion chamber so that heat is stored therein to stabilize combustion of the lean fuel,
- the volume of the combustion chamber sufficiently large so that substantially all of the lean fuel is burned therein,
- the bridge wall spaced from the floor to define at least one outlet passage suitable for exhausting gases from the combustion chamber,
- the bridge wall and the lip organized above the outlet passage so that combustion gases washing down the bridge wall are directed by the lip back into the combustion chamber to oppose the exit of combustion gases via the outlet passage so that turbulence is developed to increase the residence time of gases in the combustion chamber.

3,260,244
VAPOR GENERATOR STEAM TEMPERATURE CONTROL
Henry J. Blaskowski, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,518
14 Claims. (Cl. 122—33)

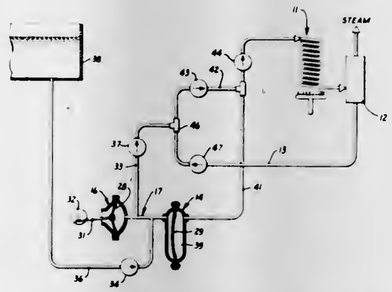


1. In a vapor generator having a plurality of heating sections, each section having at least one heating stage located within the vapor generator, and having supply means to each stage located outside the vapor generator, the improvement comprising: heat exchange means located in at least three of the sections in the supply means outside of the vapor generator; means for conveying a heat exchange fluid through one of said heat exchangers to establish a cold stream of heat exchange fluid; means for conveying heat exchange fluid through a second of said heat exchangers to establish a hot stream of heat exchange fluid; means for selectively supplying heat exchange fluid from the first and second heat exchangers to the third of said heat exchangers; and means for effecting circulation of the heat exchange fluid.

3,260,245
SELECTIVE FEED WATER SUPPLY SYSTEM
Carlyle O. Telford, Hayward, Calif., assignor to Malsbary Manufacturing Company, Oakland, Calif., a corporation of California
Filed Apr. 10, 1964, Ser. No. 358,910
7 Claims. (Cl. 122—451)

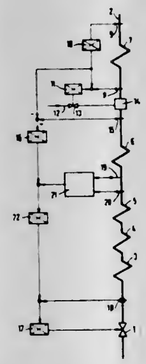
1. In a pumping system for supplying liquid at a constant rate to an apparatus, a liquid separator providing an intermittent supply of liquid and vapor under pressure, a liquid supply means for providing the liquid at a lower pressure, a first pump having an intake conduit connected to said separator and an output conduit connected to said

apparatus, and a second pump having an intake conduit connected to said liquid supply means and an output conduit connected to the intake conduit of the first pump, said first pump containing a first reciprocating plunger means and a first pump chamber associated therewith for drawing liquid into said chamber through the pump intake con-



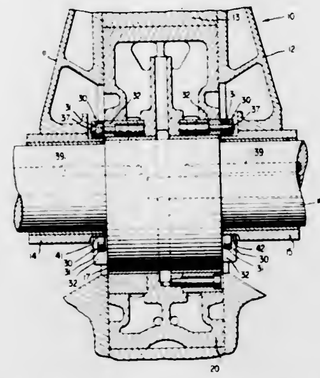
duit and expelling liquid from the chamber through the pump output conduit, and said second pump containing second reciprocating plunger means and a second pump chamber in fluid coupled connection with said first pump whereby reciprocating motion on the second pump is operative to actuate the reciprocating plunger means on the first pump.

3,260,246
REGULATING ARRANGEMENT FOR FORCED FLOW TYPE BOILER
Herbert Zwetz, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Mar. 10, 1965, Ser. No. 439,524
Claims priority, application Germany, Mar. 13, 1964 S 89,998
3 Claims. (Cl. 122—451)



1. In a regulating system for a boiler of the forced flow type wherein said boiler comprises feed valves for supplying feed water to said boiler, a preheating stage for heating said water to steam and for slightly superheating said steam, a superheating stage for superheating said slightly superheated steam and an intermediate section between said preheating and superheating stages and wherein said regulating system includes means for monitoring the quantity of water flow in said preheating stage, the temperature of the steam produced from said superheating stage; means for regulating the feed water input and means for regulating the temperature of the output steam in response to the values of the monitored entities; means for continually monitoring the pressure and temperature of said slightly superheated steam at said intermediate section to derive respective values therefrom for continually calculating the enthalpy of said slightly superheated steam, and means responsive to said calculated enthalpy values for effecting an auxiliary control of said feed water input.

3,260,247
ROTARY PISTON ENGINE
Johannes Gassmann, Altbach, near Esslingen (Neckar), and Eberhard Braun, Waiblingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 8, 1961, Ser. No. 115,800
Claims priority, application Germany, June 11, 1960, D 33,532; Sept. 13, 1960, D 34,241; Oct. 11, 1960, D 34,483
22 Claims. (Cl. 123—8)

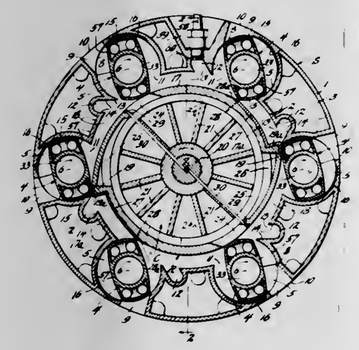


1. In a rotary piston-internal combustion engine of trochoidal construction including a housing provided with epitrochoidally shaped internal surfaces defining a chamber and having inlet and outlet means, a polygonal piston carrying out a rotary movement within said chamber about an eccentric arranged on the engine shaft substantially as internal envelope of the epitrochoid of said internal surfaces, the improvement essentially consisting of means for imparting said rotary movement to said piston including at least approximately trochoidally-shaped cam means separate from said epitrochoidally shaped internal surfaces and cam follower means cooperating with said cam means, said cam means being arranged at one of the two parts consisting of said housing and said piston, and said cam follower means being arranged at the other of said two parts.

3,260,248
ROTARY ENGINE AND METHOD OF OPERATING SAME
Samuel P. Lyle, Washington, D.C. (218 Spring St., Huntingdon, Tenn. 38344)
Filed Aug. 21, 1963, Ser. No. 303,639
37 Claims. (Cl. 123—13)

1. A rotary internal combustion engine comprising a stator member having generally the form of a hollow cylinder, a generally cylindrical rotor member mounted for rotation coaxially within the stator member, said stator and rotor members respectively presenting opposed wall members disposed in radially spaced relation and defining between them an annular chamber generally concentrically

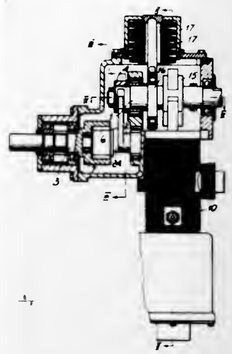
disposed with respect to the axis of rotation of the rotor member, a centrifugal compressor within the rotor member for charging a compressed gaseous fuel mixture into said annular chamber and radially through inlet ports in said wall of the rotor member, valve cavities provided in said stator member spaced circumferentially thereof, a valve member in each valve cavity, the valve cavities being each provided with first port means opening into said annular chamber and an exhaust port means, each of said valve members being mounted for rotation within the respective cavities about an axis generally parallel to the axis of rotation of the rotor to thereby control fluid flow through said first port and said exhaust ports, said valve members each including a pair of diametrically opposed portions radially dimensioned to extend successively through said first ports and into said annular chamber when the valves are rotated, piston means projecting from said ported wall of said rotor into said annular chamber and sealingly engaging the opposed wall of the stator between successive valve cavities and sealingly



engaging successively the portions of the valve members projecting through said first ports, and means for interconnecting the valve members and said rotor member for rotation in timed relation to position simultaneously in said annular chamber the projecting portions of adjacent valve members successively thereby to segregate successive gaseous charges within said annular chamber between pairs of adjacent valve members when so positioned, cut-off abutment means on said rotor spaced rearwardly from the respective piston means and engageable by said valve members respectively prior to opening said exhaust port means, thereby trapping a volume of burning gas between said abutment and the next adjacent piston in the direction of rotation of said rotor whereby to maintain continuous combustion and a working pressure on said piston during the exhaust period and to perform a complete gas cycle comprising admission, compression, combustion-expansion and exhaust on the thus segregated gaseous charges successively within each of said segregated portions of the annular chamber.

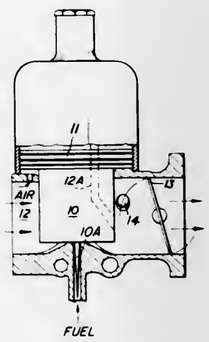
3,260,249
INTERNAL COMBUSTION ENGINE
Alfred Ernst, Via Magenta 10, Varese, Italy
Filed Feb. 18, 1964, Ser. No. 345,628
Claims priority, application Italy, Feb. 27, 1963, 3,920/63
10 Claims. (Cl. 123—46)

5. An internal combustion engine comprising, in combination, a cylinder; a piston in said cylinder; means for causing combustion of fuel in said cylinder and thereby reciprocation of said piston at a selected number of drive strokes per time unit; a rotary drive member; means connecting said piston with said drive member for oscillating the same at said selected number of drive strokes; rotary means; transmission means connecting said drive member with said rotary means, and including means for increasing the transmission ratio of said transmission means during each said drive stroke so that said



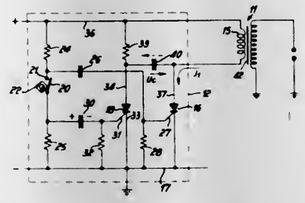
rotary means turns in a rotary oscillatory motion and moves during each alternate stroke thereof at an increasing angular speed; an output shaft; and unidirectional clutch means connecting said rotary means with said output shaft so that the same rotates in one direction at a rotary speed independent of said selected number of drive strokes of said drive member.

3,260,250
INTERNAL COMBUSTION ENGINES
John Swaine, Coventry, England, assignor to The Rover Company Limited, Solihull, England, a British company
Filed Apr. 16, 1964, Ser. No. 360,243
Claims priority, application Great Britain, Apr. 18, 1963, 15,252/63
6 Claims. (Cl. 123—119)



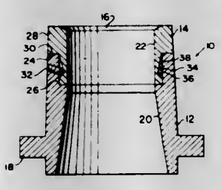
1. In combination, an internal combustion engine, an induction system feeding said engine, a carburetter of the constant-depression type connected to said induction system, a variable air valve in said carburetter, a throttle valve disposed between said air valve and said induction system, and a breather pipe, one end of said pipe communicating with the interior of said engine and the other end of said pipe communicating with the interior of said carburetter at a point between said air valve and said throttle valve.

3,260,251
BATTERY IGNITION SYSTEM FOR INTERNAL COMBUSTION ENGINES
Gerhard Lange, Stuttgart-Vaihingen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Aug. 10, 1964, Ser. No. 388,497
Claims priority, application Germany, Aug. 31, 1963, B 73,335
2 Claims. (Cl. 123—148)



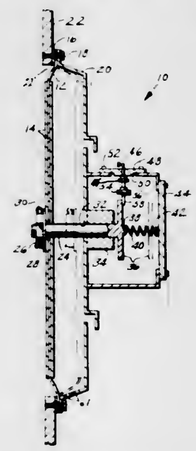
1. In a battery ignition system for internal combustion engines including an ignition coil having a primary winding and a secondary winding, and a source of direct current voltage, in combination, first controllable semiconductor rectifier means having its main electrodes connected in series with the primary winding of the ignition coil; second controllable semiconductor rectifier means having its main electrodes and a first resistor connected in series between the poles of said source; circuit interrupter means operated by the engine in synchronism therewith and cooperating with both said semiconductor rectifier means for alternatingly rendering one conductive and the other non-conductive, and vice versa; and circuit means comprising a series-combination including a second and a third resistor with said circuit interrupter means therebetween being connected between the poles of said source, a connection from one end of said second resistor to the control electrode of said first semiconductor rectifier containing a first capacitor, and a connection from one end of said third resistor to the control electrode of said second semiconductor rectifier containing a second capacitor, and a reversibly chargeable third capacitor being connected between that main electrode of said first semiconductor rectifier which is connected with said primary winding of said ignition coil, on one hand, and that main electrode of said second semiconductor rectifier which is connected with said first resistor, on the other hand.

3,260,252
VALVE SEATS
Karl V. Morris, 6708 W. County Road, Odessa, Tex.
Filed Aug. 20, 1964, Ser. No. 390,874
5 Claims. (Cl. 123—188)



1. A two part valve seat adapted for use with a valve into a cylinder of an internal combustion engine comprising:
(a) an outer cylindrical body,
(b) means on the outer body for attaching the valve seat to the engine,
(c) an inner ring partially telescoped in the outer body,
(d) said outer body having an annular notch in the inside of one end in which the inner ring fits,
(e) the inside bore of the outer body and inner ring being about the same so that the valve seat has a smooth bore extending from one end to the other,
(f) a radial shoulder on the end of the outer body adjacent to the annular notch,
(g) the inner ring having an external peripheral annular lip at one end thereof,
(h) the lip on the inner ring having a radial shoulder which mates with radial shoulder on the outer body to form a seal between the parts, and
(j) a plurality of screws extending through the outer body to bear at their point against
(k) an annular groove in that part of the inner ring which is telescoped within the outer body.

3,260,253
CRANKCASE EXPLOSION SHUTDOWN UNIT
George Desaulniers, Box 639, Moosomin, Saskatchewan, Canada
Filed Aug. 31, 1964, Ser. No. 393,298
9 Claims. (Cl. 123—198)



1. A crankcase explosion shutdown unit for two and four stroke engines which include an engine shutdown system; comprising in combination pressure responsive reciprocable means secured to the wall of said crankcase and extending movably therethrough, a hollow cover secured externally to said crankcase and enclosing said reciprocable means, spring means reacting between said reciprocable means and said hollow cover normally biassing said reciprocable means inwardly of said crankcase against normal operating crankcase pressures, and means mounted on said cover operatively connected to said engine shutdown system, said last mentioned means extending into said cover, said last mentioned means being operable by said pressure responsive reciprocable means when explosive pressure occurs in said crankcase.

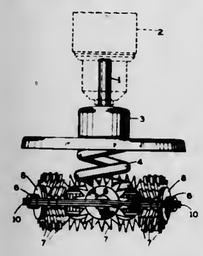
3,260,254
ABRADING TOOL
Robert C. Collins, 746 NE. 67th St., Miami, Fla.
Filed Mar. 1, 1965, Ser. No. 436,120
3 Claims. (Cl. 125—5)

1. A rotary abrading tool comprising a body member having a bore therein for retaining a coupling means,
a helical spring coupling secured by one end portion thereof in said bore coaxial therewith and the opposite end thereof terminating in a straight shank substantially coaxial with said bore,

a plurality of shafts retained in and projecting from said body member with the axes thereof in equi-spaced radial relation to the said axis of said bore and in a plane normal thereto,

each of said shafts having a transverse slot in the outer end thereof,

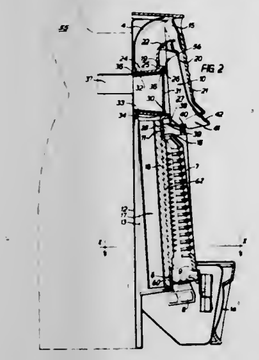
a circular multi-turn spring means retained in each of said slots for retaining each of said shafts in each



corresponding said bore said spring means comprising a pre-tensioned edgewise spring guard having a pre-determined dimension smaller than a circle described by the inner sides of said slots,

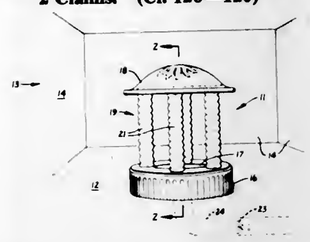
a like plurality of like abrading discs journalled for rotation on each of said shafts whereby the latter will rotate and abrade a substantially planar surface in contact therewith when said shank is rotated.

3,260,255
INCANDESCENT GAS FIRES
Arthur Frederick Oatley, Wilton Lodge, Wergs Road, Tettenhall, Staffordshire, Wolverhampton, England
Filed Feb. 6, 1964, Ser. No. 342,925
Claims priority, application Great Britain, Mar. 9, 1963, 9,471/63
7 Claims. (Cl. 126—92)



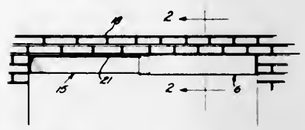
1. A radiant and convector gas-fired, room heater comprising in combination a body; a gas-heated radiant panel at the front of the body; at least one vent adapted to be connected to a draught-inducing flue; a heat-exchanger having separated paths in thermal transferring relationship for products of combustion and for convection air, the products path having an entry disposed to receive products from the radiant panel and an exit open to the vent, and the convection air path having an outlet from the body; means for admitting inducted air through the room heater to the vent and means for diverting such inducted air from the products path and directly into the vent.

3,260,256
OPEN FIREPLACE
Juliana S. Dandini, 1157 The Strand, Reno, Nev.
Filed Mar. 27, 1964, Ser. No. 355,262
2 Claims. (Cl. 126—120)



1. A fireplace construction adapted for use in a position spaced from the walls of a room, comprising a hollow hearth and a flue structure including a top wall, bottom wall and side wall means, said top wall, bottom wall and side wall means defining a hollow section under said top wall, said top wall having an upper border portion and a depressed central fuel receiving portion disposed completely within said upper border portion, said depressed central fuel receiving portion serving as an open fire box and arranged to be surrounded by the hollow section, a concave hood disposed in vertical relation above said hearth, a plurality of hollow posts extending between the peripheral portions of said hearth and having their hollow interiors in open communication with the interior of the hood and the hollow section of the hearth, said posts being symmetrically disposed around the center of the fireplace construction and extending upwards from positions at the upper border portion of the top wall of the hearth to positions near the periphery of the hood with the posts providing the sole support for the hood, the cross-sectional area of said posts being substantially less than the corresponding area of the hearth to provide a substantially greater open area between the posts than the area of obstruction created by the posts to afford an open view of a fire in the fire box from all sides, a discharge duct extending through the bottom wall of the hearth and communicating with the hollow section of the hearth, and forced draft means for moving gases from the hood through the posts into the hollow section of the hearth and out through the discharge duct.

3,260,257
SMOKE SENTRY FOR FIREPLACE
Stanley E. Mason, Cleveland, Tenn., assignor to Smoke Sentry, Ltd., Washington, D.C.
Filed June 25, 1964, Ser. No. 378,010
5 Claims. (Cl. 126—138)



5. A smoke sentry for fireplace, comprising a pair of U-shaped members slidably connected by having one end of one U-shaped member receiving one end of the other U-shaped member and the two U-shaped members being held together by having the outer lower longitudinal edge of one of the said U-shaped members slidably fitting into the longitudinal recess formed by the outer lower longitudinal edge of the other said U-shaped member terminating in a U-shaped member, and the two said U-shaped members being together to form one continuous member that is secured in the front opening of any fireplace by an

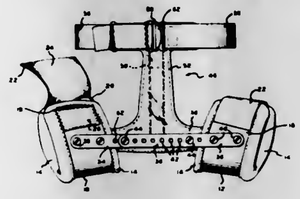
end plate mounted on one end of a horizontally disposed tube that is located within the confines of the said smoke sentry, and the other end of the said tube being secured to a threaded coupling adapted to receive one end of a threaded round bar that has its other end secured to a second end plate, the said second end plate being located within the confines of the opposite end of the said smoke sentry, thereby providing a means of firmly holding the said smoke sentry in place when the said tube is so rotated as to force the two end plates apart and up against the sides of the said fireplace, and the said U-shaped members being adapted to deflect the smoke, that normally enters the room, up into the chimney of the said fireplace.

3,260,258
NASO-PHARYNGEAL-ESOPHAGEAL DEVICE
Robert A. Berman, Far Rockaway, N.Y., assignor to Medical Plastics Inc., Jamaica, N.Y., a corporation of New York
Filed June 10, 1963, Ser. No. 286,809
2 Claims. (Cl. 128—29)



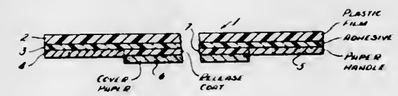
1. An elongated naso-pharyngeal esophageal device for insertion through a nasal passageway to penetrate into the upper trachea and esophageal passageway, said device having an elongated body section of inert plastic material, said body section having in cross section pairs of latterly extending convexially arcuate portions and a connecting web portion integrally connected at its side edges to said arcuate portions, the interior of the respective concave sides of said arcuate portions forming passageways on each side of the web portion, the ends of the arcuate portions being spaced apart and having beads formed thereon and a tubular end piece fitted about the end of said body section, said end piece having such outer diameter as to fit into a nostril and said end piece having a circumferential outwardly extending circular flange which acts as a stop to prevent undue penetration of said end piece into a nostril, said device enabling gases to be introduced into the lung of a person.

3,260,259
ABDUCTION SPLINT
Nicholas C. Connelly, Eaton Rapids, Mich., assignor to S. H. Camp & Company, a corporation of Michigan
Filed Oct. 8, 1962, Ser. No. 229,040
3 Claims. (Cl. 128—87)



1. An abduction splint for the treatment of hips of infants comprising, in combination, a pair of thigh-receiving cuffs each having front and rear portions, a formable anterior crosspiece interposed between and affixed to said front portions of said cuffs, a formable posterior crosspiece interposed between and affixed to said rear portions of said cuffs, said crosspieces maintaining the spacing and angular relationship between said cuffs, said crosspieces each including first and second rigid strap elements, said first element being affixed to one of said cuffs and said second strap element being affixed to the other cuff, and adjustment means affixing said first and second strap elements together in predetermined relation whereby the spacing between said cuffs may be adjusted, a backpiece rigidly mounted upon said posterior crosspiece and substantially perpendicularly extending thereabove having an upper portion vertically spaced above said posterior crosspiece and a chest-embracing strap attached to the upper portion of said backpiece.

3,260,260
SURGICAL DRAPE OR LAMINATE
John M. Questel, Cuyahoga Falls, Ohio, assignor to Morgan Adhesives Company, Stow, Ohio, a corporation of Ohio
Filed Sept. 16, 1964, Ser. No. 396,826
6 Claims. (Cl. 128—132)



1. A surgical laminate comprising

a polyvinyl film having a layer of pressure sensitive adhesive on the center portion of one face thereof,

strip layers of a cover means on a pair of opposed margins of said film and adhesively attached thereto,

a cover sheet for the center portion of said film, and

a layer of release material on one face of said cover sheet, said cover sheet being attached to the center portion of said film with said release material being between said film and cover sheet whereby the laminate can be grasped by said strip layers and be attached to a person by said adhesive layer after said cover sheet has been removed.

3,260,261
ANTI-CHAFING DEVICE AND METHOD
Matilda L. Gallovich, 11544 S. Knox Ave., Alsip, Ill.
Filed Mar. 23, 1964, Ser. No. 353,820
3 Claims. (Cl. 128—149)



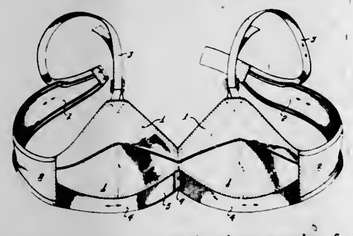
1. The method of obviating erythematous inflammation of the skin produced by the rubbing of two adjacent moist body parts together, said method comprising:

packaging a desiccant within a moisture-permeable container,

carrying said container on the person in a region proximate but out-of-contact with contiguous skin areas susceptible to chafing in the presence of relatively high moisture concentration,

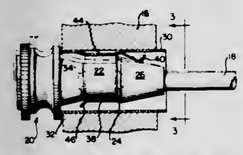
carrying said container on the person adjacent said region but out-of-contact with and spaced from and free from direct and indirect abutment against said skin areas, to reduce thereby moisture concentration in atmosphere contacting said skin areas and to reduce surface moisture on said skin areas to prevent thereby chafing of skin surfaces contacting and rubbing one against another without interposing any intervening article between said skin surfaces.

3,260,262
BRASSIERE
Enrico Bruno, Brooklyn, N.Y., assignor to Maidenform, Inc., New York, N.Y., a corporation of New York
Filed Aug. 20, 1964, Ser. No. 390,941
1 Claim. (Cl. 128—494)



In a brassiere, and in combination, a pair of cups and two backband members, each backband member being secured to an appropriate cup, the cups being seamed together at their meeting line centrally of the brassiere, two longitudinally-elastic sleeves, each sleeve being seamed to an appropriate cup at the lower margin of the latter and also seamed to an appropriate backband, means for joining the sleeves at the median line between the cups, and a cushioning strip within each sleeve, one end of each cushioning strip being seamed to an appropriate backband and the opposite end of each strip being free, the end portions of the sleeves at the median line between the cups being turned inwardly upon the sleeve fabric and held by seams passed through the sleeves, and a stiffening member enclosed within said sleeve inturned portions.

3,260,263
LIBRARY INDEX CARD FILE KNOB AND ROD RETAINER
Robert C. Bencene and Malcolm T. Phelps, Jamestown, N.Y., assignors to Weber-Knapp Company, Jamestown, N.Y.
Filed July 22, 1964, Ser. No. 384,473
2 Claims. (Cl. 129—16)



1. In an index card file of the type having a container including a front wall provided with an aperture and a holder rod extending through said aperture into the interior of the container,

a rod retainer disposed within said aperture, said rod retainer comprising a cylindrical holder fixed to said front wall within said aperture and a separate spring member disposed within said holder,

said holder including an inwardly projecting and axially extending ridge between its opposite ends and a pair of spaced, opposed abutment members projecting inwardly adjacent the opposite ends of said ridge,

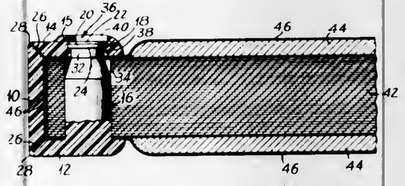
said spring member comprising an elongate strip of spring material of generally U-shaped form having a flat intermediate portion bridging the interior of said holder in chordwise relation thereto, said spring member also having arcuate opposite end portions engaged in contiguous relation with inner surface portions of said holder and terminating in spaced opposite end edges straddling said ridge to orient said spring member with respect to said holder and preclude relative rotation therebetween, said spring member being disposed in captive relation between said abutment members to axially orient said spring member within said holder,

said spring member also including a pair of spring fingers extending from that side edge of the spring member facing the interior of the container and adjacent respective ones of said end edges of the spring member, said spring fingers being inclined inwardly toward the axis of said holder,

said holder rod terminating in a knob limiting inward axial disposition of the rod, said rod including a cylindrical neck of a diameter to be received, with radial clearance, within the confines of said spring member and a bulbous head joined to said neck and presenting a radially disposed annular abutment face at the juncture of said neck and bulbous head,

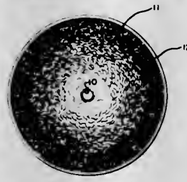
said spring fingers being engaged with said bulbous head to normally maintain said neck against said flat intermediate portion of the spring member when said rod is in its limited position of axial inward displacement, and said annular abutment surface being spaced from said knob to position the abutment surface inwardly of but closely adjacent to the inner edge of said flat intermediate portion of the spring member when the rod is in such position.

3,260,264
BINDING FOR BOOKS
William McKowen, Des Moines, Iowa, assignor to Meredith Publishing Company, Des Moines, Iowa, a corporation of Iowa
Filed Mar. 15, 1965, Ser. No. 439,539
4 Claims. (Cl. 129—23)



1. A permanently bound book having a binding for the leaves thereof comprising a spine, a pair of flanges along opposite sides thereof and solid binding posts extending from one of said flanges toward the other and having heads, said heads being of less diameter than said posts, said spine, flanges and binding posts being integral and formed of plastic material taken from the group consisting of polypropylene and polyallomer, the junctions between said flanges and spine being of thin section to permit said flanges to be flexed relative to said spine, the thickness of said thin sections being entirely inside said spine and flanges whereby said spine and flanges provide a channel-shaped binding element having substantially square and slightly rounded outer edges, the other of said flanges having openings therein to receive said heads, said openings each comprising a completely circular cone-shaped entrance portion and a counterbore portion beyond said cone-shaped entrance portion which forms a completely circular flat shoulder facing outwardly, said heads being of greater diameter than the outer end of said cone-shaped entrance portions, and of lesser diameter than the inner end of said cone-shaped portion, said heads being aligned with said inner ends when the flanges are brought together to permit forcing said heads through said outer ends when connecting said other flange to said binding posts, said heads having completely circular inwardly facing flat shoulders coacting with said counterbore shoulders to permanently retain said heads relative to said other flange upon reception of said heads in said counterbore portions.

3,260,265
TOBACCO MANUFACTURE
Thomas H. Oster, 156 S. Franklin St., Dearborn, Mich.
Filed Nov. 1, 1957, Ser. No. 693,809
9 Claims. (Cl. 131—8)



5. A prepared tobacco product from the group consisting of cigars and cigarettes, said prepared tobacco product being characterized by a non-uniform distribution of tobacco, the concentration of tobacco being greatest on the exterior and progressively continuously decreasing radially from said exterior to the central portion of the product, said product having a longitudinally uniform distribution of tobacco.

3,260,266
CIGARETTE HOLDER
Anthony P. Miller, Pleasantville, N.J.
(% Achilles Corp., 3333 Arctic Ave., Atlantic City, N.J.)
Filed Nov. 24, 1961, Ser. No. 154,533
1 Claim. (Cl. 131—187)



A cigarette holder comprising a one-piece elongate member having a smoke passage extending lengthwise therethrough, one end of said member being a bit adapted to be held in the smoker's mouth, the portion of said passage at the extreme other end of the member being generally cylindrical in form to receive and securely hold the end of a cigarette, and means imposing a limit to insertion of a cigarette in said cylindrical bore portion, and said member having therein a plurality of circumferentially spaced openings providing communication between the outside of said member and a portion of said smoke passage inwardly beyond said limit of cigarette insertion for the purpose of admitting air, each of said openings being formed by a longitudinally extending groove in the external wall of said member and a hole communicating with said groove and extending radially through said member.

3,260,267
PIVOTAL STACKING HAIR CURLER
Dina G. Rubenstein, 18610 Mendota Ave., Detroit 21, Mich., Lena B. Hoffman and Grace K. Goodman, Detroit, Mich.; said Goodman and said Hoffman assignors to said Rubenstein
Filed Oct. 8, 1962, Ser. No. 229,019
2 Claims. (Cl. 132—40)



2. In a hair curler, the combination of,

a generally cylindrical member with a single split which extends along the entire length thereof;

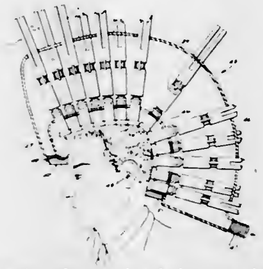
pivotal means opposite said split and extending along the entire length thereof;

a plurality of meshing teeth circumferentially disposed on the opposed edges of said member adjacent said split;

said meshing teeth adapted to engage the ends of a number of strands of hair, and means to clamp the remaining hair when rolled around the outside of said cylindrical member;

said curlers adapted to be opened and stacked with like curlers when not in use to conserve space.

3,260,268
HAIR CUTTING APPARATUS WITH ROTARY HAIR CUTTERS HAVING OVERLAPPING PATHS OF MOVEMENT
William E. Reynolds, Riverside, John Balla, Argo, and John A. Dlouhy, Oak Park, Ill.; said Reynolds and said Balla assignors to IIT Research Institute, a corporation of Illinois
Filed Nov. 28, 1962, Ser. No. 240,580
4 Claims. (Cl. 132—45)



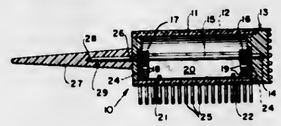
2. A mechanism for cutting hair comprising,

a plurality of cutters each adapted for cutting hair,

a support carrying said cutters in spaced positions so that they will be spaced over the surface of an individual's head, and

drive means on said support simultaneously moving each of said cutters synchronized with respect to each other so that they do not collide in a predetermined orbital path of movement with said paths causing each cutter to cut an area of hair larger than the cutter and with said paths overlapping to cut the area between said cutters so that an overall combined area will be cut by said plurality of cutters to simultaneously effect a complete haircut.

3,260,269
HAIR DRESSING DEVICE WITH RETRACTABLE COMB
Esther E. Morris Zurndorfer, 37 St. Mark Place, Brooklyn, N.Y.
Filed Feb. 20, 1964, Ser. No. 346,158
3 Claims. (Cl. 132—123)

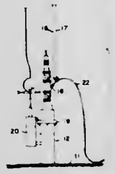


1. A hair curling device, comprising a ribbed cylindrical housing, said housing having a longitudinal slot extending through the wall of the housing in an axial direction, a pair of opposed spaced end pieces attached to the respective ends of the housing, each of said end pieces being provided with a transverse slot in alignment with said longitudinal slot, an actuating rotatable rod centrally located in the housing and inserted at one end into one of the end pieces and extending at the other end through the opposed end piece, said rod having a pair

of spaced toothed gear members rigidly secured thereto within the housing, a comb in said housing having end rack teeth in meshing engagement with the toothed gear members, said comb being slidable in and out of the longitudinal slot and guided by said transverse slots of the end pieces, and tapered handle means fixed to said rod and in alignment therewith for rotating said rod.

3,260,270
REMOTELY CONNECTING FLOWLINES
Bruce J. Watkins, Palos Verdes, and Glenn D. Johnson, Downey, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Original application Sept. 14, 1962, Ser. No. 223,696. Divided and this application Dec. 30, 1964, Ser. No. 422,349
7 Claims. (Cl. 137—15)

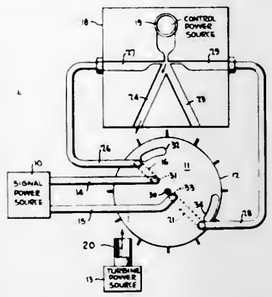




1. A method of remotely connecting a pair of conduits submerged within a body of water the major portion of one of said conduits normally lying along the ocean floor, comprising:
- locating an operating station at the surface of the body of water;
- extending a flexible line from said operating station into slidable engagement with and past one of said conduits;
- fixedly securing a portion of said flexible line which extends past said one conduit to a substantially rigid portion of the other of said conduits at a point above the water surface; and,
- applying tension to said flexible line from said operating station to move the other of said conduits through the water and to pull said conduits into axial abutting engagement.

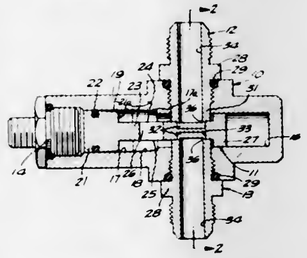
3,260,271
SPEED SENSOR AND REGULATOR FOR PRIME MOVERS
Silas Katz, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Mar. 27, 1963, Ser. No. 268,504
5 Claims. (Cl. 137—36)

1. In an on-off discontinuous control device, a rotating means, means for rotating said rotating means, means for producing a control signal, means for receiving and reproducing said control signal, means for collecting said control signal, sampling means on said rotating means for selectively applying said control signal to said means for receiving and reproducing, sensing means on said rotating means for selectively passing said control signal from said reproducing means into said collector when the velocity of said rotating means deviates from a selected rate, a velocity correcting power source, fluid amplifier means having control means therein, said correcting power source connected to said fluid amplifier, said collector means connected to said control means whereby



said control means selects the correction of the velocity of the rotating means in response to control signals collected by said collector means.

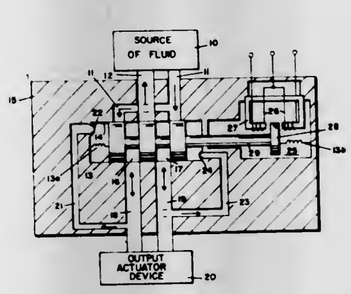
3,260,272
NORMALLY-CLOSED EXPLOSIVE-ACTUATED VALVE
Hans F. Eckardt, 18161 Allegheny Drive, Santa Ana, Calif.
Filed July 13, 1962, Ser. No. 209,734
3 Claims. (Cl. 137—68)



1. A normally-closed explosive-actuated valve, which comprises
- an elongated valve body having a straight elongated valve chamber formed longitudinally therein,
  - the wall of said chamber being a surface of revolution about a central axis,
- an elongated ram mounted longitudinally in said chamber for longitudinal movement therein,
  - said ram having at least one end portion thereof a surface region which is slidably and rotatably associated with said wall of said chamber,
  - said ram being shaped at an intermediate portion thereof with at least one planar surface which is parallel to the axis of said chamber and is spaced away from said wall of said chamber,
- first and second elongated nipple elements fixedly mounted in said valve body on diametrically opposite sides of said chamber,
  - said nipple elements having frangible blind inner ends extending transversely of said planar surface into recess means in said intermediate ram portion,
    - said frangible blind inner ends being adapted to be sheared off in response to shifting of said ram from normal position to actuated position,
  - at least one of said nipple elements having an outer portion adapted subsequent to shearing-off of said blind inner ends to engage said planar surface and thereby prevent rotation of said ram about the longitudinal axis thereof,
- squib means communicating with said chamber and adapted when fired to shift said ram longitudinally of said chamber from normal position to actuated position,
- means to stop said ram at a predetermined actuated position and to prevent shifting of said ram away from said predetermined actuated position, and
- port means formed in said intermediate ram portion in spaced relation from said recess means,
  - said port means being so located in relation to said stop means that said port means is registered with the outer portions of said nipple elements when said ram is in actuated position,

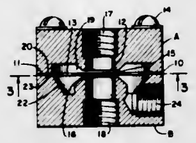
whereby a straight-through flow passage is formed through said outer portions of said nipple elements and through said port means when said ram is in actuated position.

3,260,273
MOTOR VALVE HAVING DIFFERENTIAL PRESSURE FEEDBACK
Paul F. Hayner, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Apr. 4, 1960, Ser. No. 19,651
9 Claims. (Cl. 137—85)



1. A hydraulic servo valve having feedback, comprising: a valve body, a source of fluid under pressure; pilot-valve means in said valve body including at least one variable pressure chamber coupled to said source of fluid under pressure, said variable pressure chamber having a nozzle opening coupling said variable pressure chamber to a low pressure chamber, the fluid under pressure in said nozzle producing a fluid jet-stream in the low pressure chamber along an axis, a movable member with at least one planar face reciprocatably mounted in said low pressure chamber and projecting into the fluid jet stream to restrict the effective nozzle opening and vary the pressure in said variable pressure chamber in accordance with an input signal, the planar face of the movable member forming a constant angle with the axis of said fluid jet stream independent of the position of the movable member; control valve means in said valve body and coupled to said variable pressure chamber, said control valve means having first and second output conrtol outlets, said control valve means being adapted to control the application of fluid under pressure through said outlets in accordance with variations in pressure in said variable pressure chamber; an output actuator means coupled to said outlets; a differential pressure existing between said outlets and across said actuator means; feedback-pressure means coupling the differential pressure developed across said outlets and actuator means, and said movable member to vary the position of said movable member in accordance with said differential pressure and provide said feedback.

3,260,274
SELECTOR VALVE
Jesse P. Morgan, Jr., Knoxville, Tenn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Dec. 15, 1961, Ser. No. 159,587
3 Claims. (Cl. 137—113)

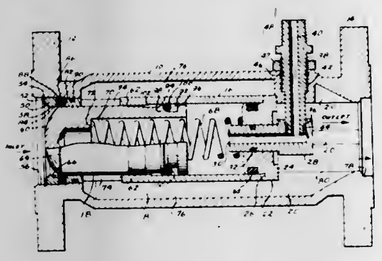


1. A selector valve comprising:
- two body members;
- each of said members having opposed cavities having walls with rim portions;
- means for securing said body members together with their respective cavities contiguous in the provision of a chamber;
- an inlet port formed in each body member, each inlet connecting with suitable positive pressure lines having positive fluid sources of relative low and high pressure;
- a vented outlet port formed in one of said body members leading from said chamber,
- said inlet ports when said body members are secured together being in spaced alignment,
- the terminus of each inlet port being defined by an annular countersunk portion in the provision of vertically spaced valve seats below the rim of the walls of each respective opposed body cavity; and
- a pressure responsive flexible diaphragm clamped between said body members at a peripheral portion thereof extending between said opposed cavities and said vertically spaced valve seats,
- said diaphragm having a central valve portion for selective seating on said valve seats by differential pressures across said diaphragm to cut off the inlet port having the lower pressure,
- and a plurality of openings formed in said diaphragm adjacently spaced with respect to said central valve portion radially outward of the respective valve seats,
- said openings permitting discharge of control pressure from the said venter outlet port regardless of which inlet port is cut off by said valve.

3,260,275
REGULATOR
Donald L. Armstrong, Sheridan, Ark., and William L. MacFadden, Anderson, Ind., assignors, by mesne assignments, to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 144,734, Oct. 12, 1961. This application May 18, 1964, Ser. No. 370,148
(Filed under Rule 47(a) and 35 U.S.C. 116)
6 Claims. (Cl. 137—219)

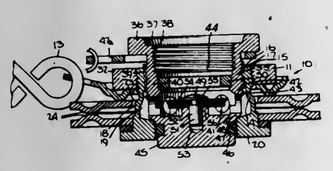
1. A fluid regulator comprising a casing having inlet and outlet openings at opposite ends, a cylinder member secured within said casing so as to provide a passage between the casing and the cylinder in constant communication with said outlet opening, a seat ring in said inlet opening, a piston slidable between axially spaced apart positions within said cylinder and having a closed end, an annular end area formed on said closed end and engageable with said seat ring when said piston is displaced to one of said positions within said cylinder, resilient means within the cylinder biasing said piston toward said seat ring, means for admitting a control fluid pres-

sure into said cylinder, means defining an external annular groove in said piston adjacent the end remote from said closed end, said annular groove having a peripheral bottom wall surface and an axially inclined annual surface forming an axial continuation of said bottom wall surface and defining a groove region of reduced depth, a resilient sealing ring seated in said groove and having one of its sides facing away from said inclined surface and exposed to said control fluid pressure, the other side of said sealing ring facing toward said inclined surface and being exposed to the fluid pressure at said outlet opening when said piston is in engagement with said seat ring, the combined of axial length of said inclined surface and said bottom wall surface being greater than the relaxed cross-sectional diameter of said sealing ring, said control fluid pressure when greater than the fluid



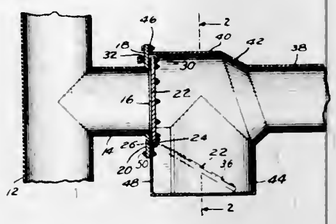
pressure at the other side of said sealing ring being effective to establish a pressure differential for axially shifting said sealing ring into said groove region in engagement with said inclined surface to radially outwardly expand said sealing ring into sealing enagagement with the internal periphery of said cylinder when said piston is in engagement with said seat ring, and means providing fluid communication between said inlet opening and said other side of said sealing ring when said control fluid pressure is reduced and said piston is moved to open said inlet opening to axially urge said sealing ring into the region of said groove delimited by said bottom wall surface, the depth of said groove in the region of said bottom wall surface being sufficiently great that said sealing ring is out of contact with the internal periphery of said cylinder.

3,260,276
DUNNAGE MATTRESS VALVE
Carl P. Stasiunas, Stratford, Conn., assignor to National Distillers and Chemical Corporation, Richmond, Va., a corporation of Virginia
Filed Oct. 14, 1963, Ser. No. 316,056
1 Claim. (Cl. 137—234.5)



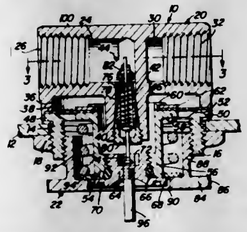
A dunnage mattress valve assembly comprising a valve plug member, and a valve receptacle member adapted threadably to receive said valve plug member axially therein, said valve receptacle member being of greater radial width than axial length and having internal and external threaded portions at its outer end, an intermediate enlarged internal chamber portion and inner cylindrical seat portion of lesser diameter than said chamber portion and said receptacle having a relatively thick inner end, peripheral clamping means on said receptacle member including a threaded retaining member overlying said clamping means and engaging the external threaded portion of said receptacle for adjustment of said clamping means, said retaining member being of substantially the same relative thickness as said inner end of said receptacle seat portion and having a radius substantially greater than said receptacle and said plug member to provide increased protection for said receptacle member including said clamping means against mechanical damage due to excessive forces applied in a generally axial direction relative to said assembly, said valve plug member having internal and external threaded portions thereon, said external threaded portion adapted to engage the internal threaded portion of said receptacle member, an internal check valve means axially operable in said plug member with associated fluid ports in the wall of said plug member alignable with said chamber in the open condition of said valve assembly for permitting air flow through said assembly from outer end to inner end of said receptacle, an adjusting flange on the outer end of said plug member for manual adjustment of the threaded engagement of said plug with said receptacle, a cylindrical inner end portion of reduced radius on said plug member including gasket means retained in the outer surface thereof engageable with said seat portion in the closed condition of said valve assembly, and an intermediate shoulder portion on said plug member at the juncture of said inner end portion with said plug wall, the axially innermost edge surfaces of said flange, said shoulder portion and said inner end portion of said plug member lying in a plane outward from said external threaded portion, said fluid ports and said gasket means on said plug member, thereby constituting a three-point protective ground support for said plug member when removed from said receptacle member.

3,260,277
CATALYTIC CRACKING AND FLUID COKING FLUE GAS DUCTS
George Kratsios, Verona, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Apr. 28, 1964, Ser. No. 363,217
4 Claims. (Cl. 137—317)



1. A duct arrangement comprising in combination an existing duct defining an open end;
a closure;
fastening means securing the closure in sealing engagement with the existing duct to close said open end;
a new duct also defining an open end;
means for securing the new duct to the existing duct so that the open ends are in register, the new duct enveloping the existing duct closure;
the fastening means having portions thereof exposed to the outside of the existing duct when the new duct is secured to the existing duct adapted for release of the closure from sealing engagement.

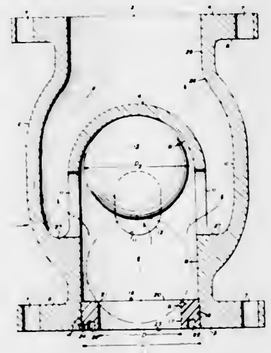
3,260,278
REGULATING VALVE HAVING REMOVABLE VALVE UNIT
Jens Lund, Carl G. Nilsen, and Rudolph Vetere, all of Staten Island, N.Y., assignors to Scope Industries, Inc., a corporation of New York
Filed June 14, 1963, Ser. No. 287,880
11 Claims. (Cl. 137—343)



1. A regulator valve assembly comprising, a valve body having inlet and outlet portions, mounting means, diaphragm means mounted on the mounting means, crimping means fixedly securing the diaphragm means and the mounting means to the valve body, tubular housing means secured to said diaphragm means for enclosing an expansible regulator chamber projecting from the valve body, said regulator chamber being in fluid communication with the outlet portion, valve means mounted in said valve body for establishing fluid communication between said inlet portion and the regulator chamber in response to displacement of the housing means in one direction, and adjustment means operatively mounted by the mounting means in enclosing relation to the housing means for imposing an adjustable bias on the housing means in said one direction opposed by the fluid pressure developed in said regulator chamber, said tubular housing means including an annular flange secured to said diaphragm means in enclosing relation to the valve means, and a removable end closure portion exposed through said adjustment means for engaging the valve means to establish said fluid communication between the inlet portion and the regulator chamber, said valve body including an annular recess portion and a passage portion projecting axially from said annular recess portion into said tubular housing means, said valve means being replaceably mounted in said passage portion for withdrawal from the housing means upon removal of the end closure portion thereof, said diaphragm means and said housing means presenting movable surfaces spaced from the recess portion and the passage portion for expansion of the regulator chamber, said adjustment means comprising, adjustably positioned means operatively mounted by the mounting means for accommodating movement of the housing means relative thereto and biasing means operatively mounted in surrounding relation to the valve means between the adjustably positioned means and the housing means for imposing said adjustable bias regulated in accordance with the position of the adjustably positioned means to open said valve means when the pressure in said regulator chamber decreases below a regulated value.

3,260,279
FLUID FLOW CONTROL VALVE
Henry J. Liebmann, Barberton, Ohio, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 25, 1963, Ser. No. 253,929
1 Claim. (Cl. 137—533.15)

A ball check valve for controlling the flow of fluid comprsing a generally hollow valve housing of streamlined configuration, said valve housing having an inlet portion and an outlet portion oppositely disposed and lying about a longitudinal axis through said valve housing, a removable valve seat mounted in the inlet portion a cage extending into said valve housing from the inlet portion, a spherical ball member received within said cage and having a diameter to cage diameter ratio of approximately 0.9, said cage terminating remote from said inlet portion in a hemispherical closed portion and having a plurality of apertures therein adjacent said hemispherical closed portion, thereby permitting uninterrupted fluid flow through the valve when the ball is in contacting relation with the cage, said ball nearly filling the hemispherical closed portion and held therein by a greater amount of forces acting on its more exposed portion than on its confined portion, and preventing the back flow of fluid when



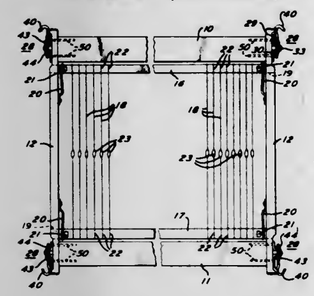
the ball and the valve seat are in fluid sealing relation, said valve seat being annular and constructed of a synthetic material having a substantial stiffness and hardness, said material having at least 15% glass fibers therein, said valve seat having a vertical inner face at its internal diameter, a vertical outer face at its external diameter, said outer face and said inner face having a top and a bottom, an annular top surface extending outwardly and radially and connecting the vertical inner face and the vertical outer face at the tops thereof, an annular bottom face connecting the vertical inner face and the vertical outer face at the bottoms thereof, said bottom face having a plurality of spaced indentations therein.

3,260,280
EXPENDABLE MOLD AND METHOD FOR SEALING JOINTS IN GAS MAINS
George S. Buczala, 306 Church Road, Abington Township, Pa., Walter E. Rosengarten, Jr., 2895 Gradyville Road, Broomall, Pa., and Lynn L. Copeland, Philadelphia, Pa.; said Copeland assignor to said Buczala and said Rosengarten, jointly
Filed Mar. 27, 1963, Ser. No. 268,388
16 Claims. (Cl. 138—97)



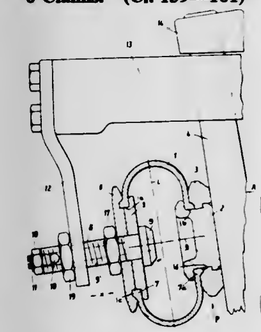
1. A one piece collar for enclosing the periphery of a cylindrical object such as a conduit or the like which comprises an elongated flexible body portion having an axial lap joint, said body portion being of one piece and adapted to extend 360 degrees around a conduit, means for clamping said collar to and around the conduit in spaced relation at each side of the portion of the conduit to be sealed, and an inlet in the collar, for introducing a sealing compound around the conduit in said portion to be sealed.

3,260,281
LOOM HARNESS
Frank H. Kaufmann, Huntingdon Valley, Pa., assignor to Steel Heddle Manufacturing Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 3, 1964, Ser. No. 342,039
5 Claims. (Cl. 139—88)



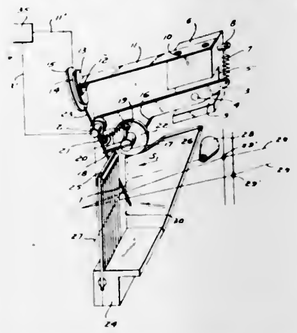
1. In loom harness, a heddle frame having top and bottom rails, side struts connecting said rails at each end thereof, said side struts having oppositely disposed vertical outer faces, at least one of said side struts having a recessed portion on the outer face thereof aligned with a rail end, a bracket member having spaced vertical portions disposed in said recessed portion and engaging said strut, said bracket member having offset outwardly of the recessed portion a portion provided with a slot and extending vertically along the outer face of the strut beyond the recessed portion, said bracket member having connected horizontal portions interposed between said spaced vertical portions, a hook having a portion in engagement in said slot and a threaded shank extending through said horizontal portions, and a positioning member on said threaded shank.

3,260,282
BUFFER FOR LOOMS
Walter Haag, Weil der Stadt, Germany, assignor to Albert Haag KG, Weil der Stadt, Germany
Filed Apr. 27, 1964, Ser. No. 362,871
Claims priority, application Germany, May 7, 1963, H 49,072
6 Claims. (Cl. 139—161)



1. In a buffer for looms: air bellows of yieldable elastic material, impact plate means connected to one side of said bellows to be impacted upon by a picker stick, said impact plate means comprising an inner member extending from the inside of said bellows to the outside thereof, said impact plate means also comprising an outer annular member engaging that portion of said inner member which protrudes outwardly from said bellows and is connected thereto, supporting means connected to the other side of said bellows for supporting the same, and conduit means communicating with the interior of said bellows and the outside thereof for permitting air to escape from and enter said bellows.

3,260,283
WEFT THREAD CONTROL DEVICE
Vladimír Svatý and Miloslav Pavlu, Liberec, Czechoslovakia, assignors to Elitex Sdruzeni podniku Textilniho strojirenstvi, Liberec, Czechoslovakia
Filed Dec. 23, 1963, Ser. No. 332,800
Claims priority, application Czechoslovakia, Dec. 23, 1962, 7,243/62
10 Claims. (Cl. 139—370)

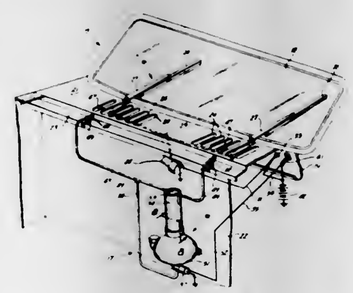


1. In a loom including heddle means for forming warp sheds, and a reciprocating slay having reed means for beating during a forward stroke a weft thread inserted into a warp shed, in combination, a weft thread stop motion comprising, in combination, carrier means mounted on the loom and being operated by said slay to reciprocate between first and second positions; and contact means for controlling a circuit including means for stopping the loom, said contact means including a stationary first contact member, a second contact member mounted on said carrier means for movement relative to the same between an operative position for engaging said first contact member in said first position of said carrier means and an inoperative position spaced from said first contact member in said first position of said carrier means, said second contact member being spaced from said first contact member in said second position of said carrier means, and means urging said second contact member into said operative position, said second contact member located partly in the path of movement of a properly inserted weft thread beaten by said reed means during the forward stroke of said slay so as to be engaged and moved by a properly inserted weft thread from said operative into said inoperative position thereof while said second contact member remains in said operative position if the weft thread is not properly inserted so that during movement of said carrier means from said second to said first position thereof said second contact member in said operative position thereof will engage said first contact member and thus stop said loom.

3,260,284
WINDSHIELD WASHER
Willis L. Kibler and Robert H. Opdyke, both of Detroit, Mich., assignors to The Delman Company, Cookeville, Tenn., a corporation of Tennessee
Filed Mar. 5, 1964, Ser. No. 349,775
25 Claims. (Cl. 141—3)

1. A windshield washer system for a vehicle having a windshield comprising:
(a) enclosed reservoir means mounted on the vehicle for storing cleaning liquid,
(b) means including at least one nozzle and a control valve, said means operable on actuation of the control valve to transmit cleaning fluid from the reservoir means to the windshield,
(c) container means for storing liquid solvent under gaseous pressure,
(d) a first valve means on said container means for releasing the gaseous pressure,
(e) second valve means on said container means for controlling the flow of solvent therefrom,
(f) coacting means on said container means and reservoir means for connecting in a fluid sealed relationship the container means with the reservoir means,
(g) means on said reservoir means engageable with said first and second valves to sequentially open said valves in response to the connecting of said coacting means to first release the gaseous pressure into the reservoir and subsequently allow the liquid solvent to flow into said reservoir, and
(h) means for holding said container means on the reservoir means.

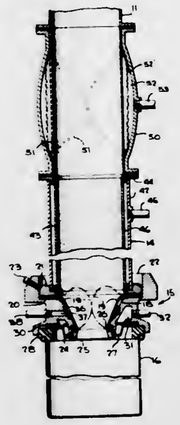
8. In a windshield washer system:
(a) enclosed reservoir means for storing cleaning fluid,
(b) container means for storing liquid solvent under gaseous pressure,
(c) first valve means on said container means for releasing the gaseous pressure,



(d) second valve means on said container means for controlling the flow of solvent therefrom,
(e) coacting means on said container means and reservoir means for connecting the container means and reservoir means in a fluid sealed assembly relation,
(f) first tubular means on said reservoir means engageable with said first valve means in response to the connection of said coacting means to open said first means to release gaseous pressure into the top area of the reservoir, and engageable with the second valve means to open said second valve means, and valve means, and
(g) second tubular means secured to said reservoir means and extended into the reservoir means terminating adjacent the bottom thereof, said second tubular means directing the liquid solvent into the bottom area of the reservoir means.

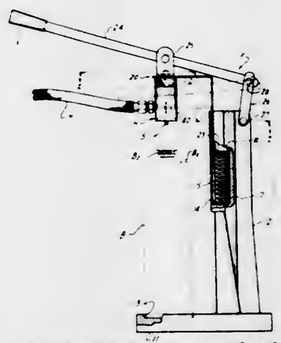
18. A method of establishing a gaseous pressure in a reservoir having a stored quantity of water comprising the steps of:
(a) absorbing a quantity of carbon dioxide in methanol in a closed container to establish a preselected superatmospheric gaseous pressure in the container,
(b) coupling the container in a fluid sealed relationship with the reservoir, and
(c) discharging the methanol and absorbed carbon dioxide in the container into the reservoir, said methanol and absorbed carbon dioxide mixing with the water in the container and releasing gaseous carbon dioxide from the methanol thereby raising the gaseous pressure in the reservoir and container.

3,260,285
APPARATUS AND METHOD FOR FILLING CONTAINERS FOR PULVERULENT MATERIAL
Clarence W. Vogt, Box 232, Westport, Conn.
Filed Aug. 5, 1963, Ser. No. 299,696
13 Claims. (Cl. 141—8)



10. A method of filling a container with pulverulent material from a supply source utilizing a filler of the gaseous pressure differential type and having a magazine, the method comprising the steps of loosely flowing pulverulent material from the supply source through the filler into the container and generally filling the container with loose pulverulent material, sealing off the supply source from the filler, and then topping off the container with more of the material under pressure utilizing the filler while maintaining said seal.

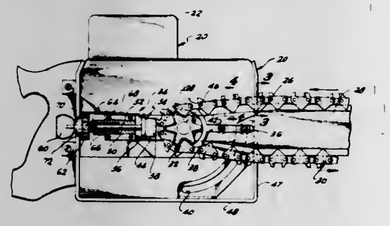
3,260,286
PRESSURE BOTTLE FILLING APPARATUS
John A. Groves, Rochester, Pa., assignor to Adams Brothers Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 3, 1964, Ser. No. 342,018
12 Claims. (Cl. 141—21)



1. In apparatus for filling pressure bottles and the like of the type having a self-contained, normally closed, force

actuated valve mounted centrally of an outwardly extending flow-line fitting from a bulk source of supply material, a filling head comprising: an elongated hollow pentle for operatively engaging a normally closed bottle valve and defining a flow passageway thereinto, means defining a flow path between the bulk supply source and said flow passageway, means for selectively interrupting said flow path to prevent the outflow of supply liquid through said pintle, and control means, responsive to the proper positioning of said pintle in a pressure bottle, for actuating said flow path interrupting means from an interrupting position to a non-interrupting position and responsive to disengagement of said pintle from a pressure bottle for actuating said interrupting means back to a flow path interrupting position; said control means including a feeler that is generally coaxial with and is flexibly-positioned with respect to said pintle and is adapted to align with an upper edge of a bottle flow fitting when said pintle is in proper filling engagement with the bottle valve.

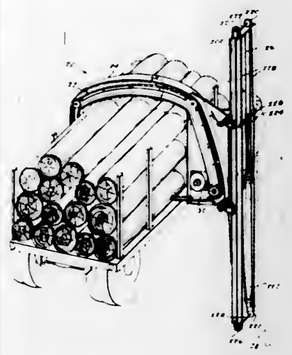
3,260,287
CHAIN SAW WITH SAW CHAIN SHARPENER
John W. Oehrli, Pacific Palisades, Calif., assignor, by mesne assignments, to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed May 17, 1962, Ser. No. 195,519
13 Claims. (Cl. 143—32)



1. In a chain saw having a frame, a saw bar attached to said frame, a saw chain trained about said bar including a multiplicity of cutters spaced along the chain, and rotary means for driving said saw chain around said saw bar, the improvements comprising a rotary sharpener mounted on said frame for turning on an axis approximately parallel to the plane of the saw bar and approximately intersecting the axis of rotation of said driving means, said sharpener including a hone having an end sharpening face disposed transversely to said axis of said sharpening means for contact with said cutters to sharpen the latter as they travel past said sharpener.

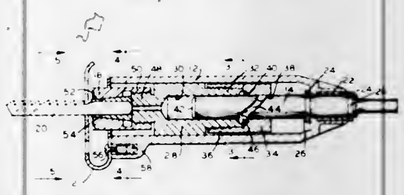
3,260,288
POWER OPERATED CHAIN SAW
Robert L. Currie, 604 W. 20th St., Lumberton, N.C.
Filed Nov. 12, 1963, Ser. No. 322,997
6 Claims. (Cl. 143—32)

1. A large capacity, power operated, chain saw capable of cutting through a large stack of logs or other material in a single pass, said saw comprising an elongated standard, a saw chain supporting frame mounted on said standard for movement therealong and having a generally rectangular recess of substantial breadth transverse to the direction of movement and substantial depth parallel to the direction of movement with an open end facing in the direction of movement for receipt of logs or other material therein, a drive sprocket rotatably mounted on said frame laterally offset from said recess open end, an endless saw chain supported on said frame for circuitous movement in an endless path extending across said recess open end, around said offset drive sprocket and around said frame outwardly adjacent said recess for cutting of logs or other material at said recess open end and return around said frame outwardly of said recess, a chain drive motor mounted on said frame be-



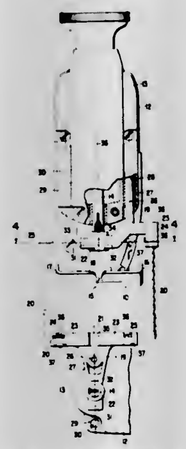
tween said recess and the portion of the chain path offset by the drive sprocket and drivingly connected to said sprocket for driving of said saw chain, and power means for moving said frame along said standard to advance and retract said saw frame with respect to the logs or other material to be cut.

3,260,289
SABER SAW ATTACHMENT
Richard S. Whitten, Jr., Fort Worth, Tex., assignor to Liberty Manufacturing Co., Inc., Fort Worth, Tex., a corporation of Texas
Filed Feb. 5, 1964, Ser. No. 342,641
8 Claims. (Cl. 143—68)



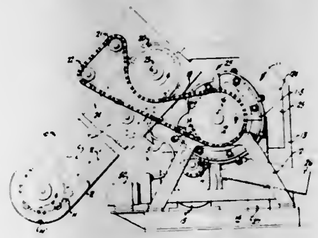
1. A saber saw attachment comprising:
a hollow housing member open at each end;
a piston member slidably and non-rotatably supported within said housing, said piston member having means at the first end for removably receiving a saber saw blade or the like, said piston member having a central, longitudinal opening in the second end thereof, said opening having a substantially semi-circular, cross-sectioned bearing raceway formed therein, said raceway positioned substantially in a plane perpendicular the longitudinal axis of said piston member,
a shaft member rotatably supported in said housing member, said shaft member having a portion thereof extending exteriorly of one end of said housing and having the other end thereof extending slidably within said longitudinal opening in said piston member, said shaft member having a circumferential substantially semi-circular, cross-sectioned raceway formed in the exterior surface thereof, said raceway positioned substantially in a plane at an angle to the axis of said shaft;
and a ball bearing positioned within said piston raceway and said shaft raceway.

3,260,290
ATTACHMENT FOR SABRE SAW FOR FLUSH CUTTING AND SIDE CUTTING
Reynold Happe, Greenville, and Daniel M. Burris, Anderson, S.C., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 16, 1964, Ser. No. 360,374
5 Claims. (Cl. 143—68)



1. An attachment for a sabre saw of the type having a saw bar mounted for reciprocatory motion in a line substantailly normal to a work-contacting base plate and having auxiliary guide means paralleling said line of motion, comprising: a blade-holding member, an apertured hub portion formed on one end of said member for mounting said member on the saw bar, saw-blade receiving means formed in the opposite end of said member, and means formed on said blade-holding member between said apertured hub portion and said saw-blade receiving means for cooperative guiding engagement with said auxiliary guide means.

3,260,291
APPARATUS FOR PITTING DRUPACEOUS FRUIT
John D. Cantoni, Alfred W. Gerrans, and Robert W. Selleck, San Jose, Calif., assignors to Sunsweet Growers, Inc., San Jose, Calif., a corporation of California
Filed Mar. 18, 1964, Ser. No. 352,814
22 Claims. (Cl. 146—17)



1. Apparatus for pitting drupaceous fruit comprising:
a pitting plunger; mounting means therefor including a plunger guide and stripping die, a plunger sleeve reciprocally mounted in said guide for limited travel, a plunger rod coaxially mounted within said sleeve and having a spring abutment and a sleeve contact, a coiled spring disposed coaxially relative to said rod and seated against said abutment and one end of said sleeve, said spring urging said sleeve toward said sleeve contact; a complementary resilient pitting die having its center disposed coaxially with the axis of said plunger; means for supporting a piece of fruit with pit between said die and plunger and with the pit axis substantially aligned with the center of said die; and means for imparting limited relative movement of said die and plunger to compress a supported piece of fruit therebetween and force the greater portion but less than the whole pit through the die.

3,260,292
COMBINED SCARF, BAG AND BABUSHKA
Jeannette M. Costello, 106 Linton Ave., Lindenhurst, Long Island, N.Y.
Filed Oct. 22, 1964, Ser. No. 405,714
7 Claims. (Cl. 150—1.7)



1. A body structure having a substantially triangular-shaped body of two plies of flexible sheet mesh material, the edges of the plies being attached to each other along two sides of the body, the edges of the plies at the other side being attached along the base for a short distance inwardly thereof, adjacent each corner, the remainder of the material of the plies being unattached.

3,260,293
THREADED LOCK WASHER
Howard C. Gohs, Syosset, N.Y., assignor to Electrical Fitting Corporation, East Farmingdale, N.Y., a corporation of New York
Filed Sept. 3, 1964, Ser. No. 394,160
4 Claims. (Cl. 151—37)



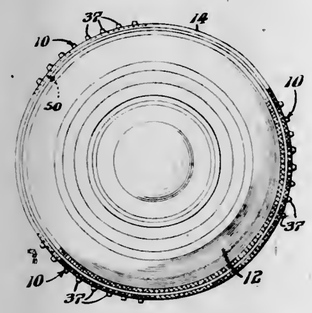
1. A threaded lock washer comprising a plurality of turns of continuous lengthwise material forming a circular lock washer having a central opening, said turns being wound side-by-side in accordance with a screw thread convolution, said turns abuting each other but being free for slight relative sliding movement, the lengthwise edge of the material forming the bore of said central opening having a beveled V-shaped edge to provide a screw thread along said opening, and a series of tabs extending radially from the outer periphery of said turns and being extended past the end one of said turns to provide biting edges at an angle with respect to a plane perpendicular to the axis of said central opening.

3,260,294
CONVERTIBLE TIRE
Rosana Camplon, 204 Evans Ave., Willow Grove, Pa.
Filed Jan. 19, 1965, Ser. No. 426,547
7 Claims. (Cl. 152—176)

1. A convertible tire comprising
a recess formed in the periphery of the tire tread,
a support tape fixedly attached to the tire within the recess,

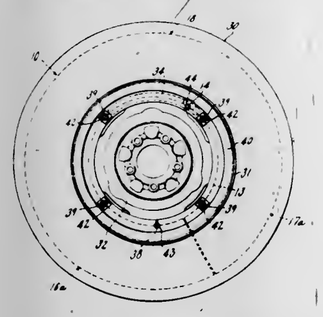
a manually removable cleat tape mounted within the recess and separably attached to the support tape, said cleat tape having a plurality of cleats fixedly mounted on its outwardly-directed surface, said cleats extending radially outward beyond the normal surface of the tire tread, and

separable means for attaching the two tapes within the tire recess comprising a multiplicity of shaped threads extending from the surface of one tape and a multiplicity of complementary shaped hooks extending from one surface of the other tape, said shaped



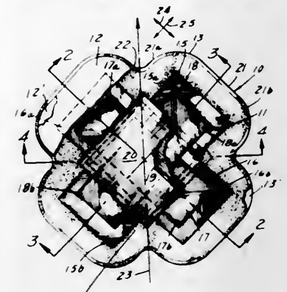
threads being so complementary shaped that upon pressing the tape surfaces into contact with each other the threads engage the opposing threads in a manually removable relationship and are separable from each other by progressively peeling the tapes apart.

3,260,295
AUTOMOBILE WHEEL AND INNER TUBE
Thomas J. Rhodes, Kinnelon, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed June 5, 1964, Ser. No. 372,782
13 Claims. (Cl. 152—330)



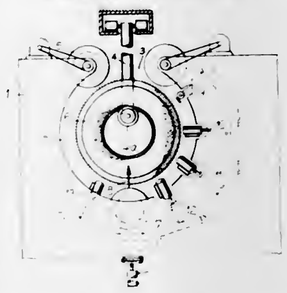
10. In combination, a tubeless pneumatic tire mounted on an annular rim, said rim having an opening for providing access to the interior of said tire; a first inflation valve mounted on said rim in communication with said tire interior; a discontinuous inflated inner tube substantially filling said tire interior; a second inflation valve carried by said tube in communication with the interior thereof, said second valve extending through said opening; and an annular retaining ring having a contour similar to the contour of the outer portion of said rim and overlying and secured to the outer portion of said rim and covering said opening to prevent bulging of said tube therethrough, said retaining ring having an aperture for receiving said second inflation valve.

3,260,296
TIRE REPAIR UNIT
Sherry Springer Claxton, Los Angeles, Calif., assignor to Tru-Flex Rubber Products Company, Los Angeles, Calif., a corporation of California
Filed July 13, 1964, Ser. No. 382,110
2 Claims. (Cl. 152—367)



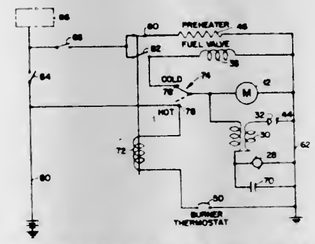
1. A tire repair unit, comprising: a reinforcing body structure including a plurality of elongate rubber coated ply members having embedded cords transversely extending on a bias to their elongate axis, said members being centrally superimposed upon each other with projecting ends in angularly spaced relation so that the cords of said individual ply members extend at an angle to each other; at least one additional centrally superimposed rubber coated ply member having embedded parallel cords, and having corners respectively extending into the areas between said angularly spaced ends; and a bonding cushion of rubber intimately secured to said reinforcing body structure extending beyond the entire area defined by said body structure.

3,260,297
APPARATUS FOR REMOVING THE SQUEEZE-OUT ON RUBBER TIRES
Heinz Ebers, Seelze, Germany, assignor to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Dec. 11, 1964, Ser. No. 417,748
Claims priority, application Germany, Dec. 13, 1963, C 31,674
9 Claims. (Cl. 157—13)



1. An apparatus for removing the squeeze-out on vulcanized tires, which includes: frame means with a substantially horizontal passage therethrough having a vertical cross-section transverse to its axial direction greater than the diameter of the tire from which the squeeze-out is to be machined to thereby permit passing a tire to be machined through said passage in axial direction thereof with one broad side of the tire facing in the axial direction of said passage, said frame means also having an opening therethrough communicating with said passage and extending in axial direction thereof to thereby permit supporting means for a tire to be machined to be introduced in the axial direction of said passage through said opening into said passage to convey a tire to be machined into said passage, first roller means rotatably but normally stationarily journalled in said frame means on opposite sides of said opening and extending into said passage, second roller means rotatably and displaceably supported by said frame means at that side of said passage which is opposite to that side thereof where said opening is located, said second roller means being movable in a direction transverse to said axial direction of said passage and selectively toward and away from said first roller means to thereby selectively lift a tire from its supporting means and rotatably hold the tire between said first and second roller means and to release the tire therefrom to said supporting means, drive means for driving at least one of said roller means in rotation thereby to cause a tire held between said first and second roller means to rotate, and cutting means arranged at the peripheral portion of said passage and movable selectively in a direction toward and away from the axis of said passage for cutting off the squeeze-out of a tire rotatably held by said first and second roller means, and rotated by said drive means.

3,260,298
CONTROL APPARATUS FOR HEATERS
Richard C. Spooner, Fairview Park, Ohio, assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Sept. 28, 1964, Ser. No. 399,703
3 Claims. (Cl. 158—28)



1. Control apparatus for a fuel burning heater having a motor driven blower for supplying combustion air, a normally closed solenoid operated fuel valve, an electric igniter, a combustion chamber having a fuel distributer and a pre-heater for said fuel distributer, said control apparatus comprising a main switch connected in series with a power source said pre-heater, said valve, said motor and said igniter, a normally closed contact in series with said pre-heater, a normally open contact in series with said valve, said motor and said igniter, a relay coil for closing said normally open contact and opening said normally closed contact, a normally open thermostat in series with said relay coil, said thermostat being subject to the temperature of said combustion chamber in the region of said pre-heater whereby when said main switch is closed, said pre-heater will be energized and thereafter said pre-heater will close said thermostat to energize said relay to de-energize said pre-heater and simultaneously energize said fuel valve, motor, and igniter to establish combustion in said heater.

3,260,299
TRANSISTOR IGNITION SYSTEM
George H. Lister, Cleveland, Ohio, assignor to Hunter Manufacturing Company, Solon, Ohio, a corporation of Ohio
Filed Oct. 20, 1964, Ser. No. 405,063
6 Claims. (Cl. 158—28)

1. A semi-conductor ignition system comprising:

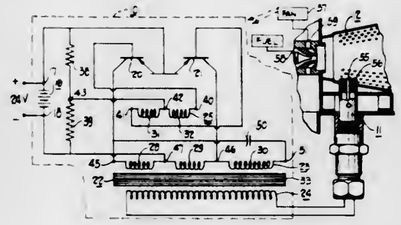
first and second semi-conductors each having output, control, and common electrodes, said common electrodes being inter-connected and returned to a point of fixed potential;

a source of potential;

a transformer including at least a first, a second, and a third winding and a magnetic core, said first winding being connected between said control electrodes, said second winding being connected between said output electrodes;

means including at least a portion of said second winding inter-connecting said output electrodes and said source of potential;

starting means including a pair of impedance elements connected in series across said source;



means including said first winding inter-connecting said control electrodes and said starting means;

means including said second winding and a capacitor connected to define a parallel resonant circuit;

a fuel combustion chamber;

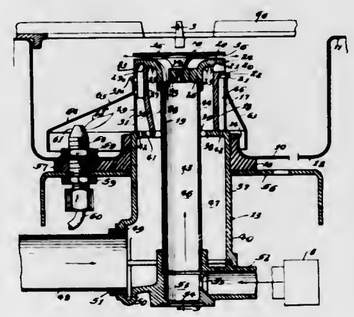
a spark plug positioned with its electrodes within said chamber and connected to said third winding;

means for feeding fuel to the interior of said combustion chamber;

heat sink means mounting said semi-conductors; and

means for feeding air under pressure to the interior of said combustion chamber, said last-mentioned means including means for supplying cooling air to said semi-conductors and said heat sink means.

3,260,300
FLUID FUEL BURNER ASSEMBLY
James W. Lannert and Howard E. Brehm, Jr., St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Apr. 29, 1960, Ser. No. 25,793
3 Claims. (Cl. 158—116)



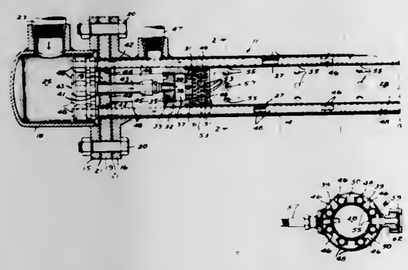
3. A fluid fuel burner assembly comprising: a burner head defining a main passage, an auxiliary passage, and a secondary air passage, said burner head having a closed end, said passages each having an exit opening facing

away from the longitudinal axis of the burner head and being located adjacent said end, the main passage exit opening being disposed between the auxiliary passage exit opening and said end, and the secondary air passage exit opening being disposed between said main passage exit opening and said end; means for supplying combustible fuel-air mixture to said main and auxiliary passages to provide a main flame at said main passage exit opening and an auxiliary flame at said auxiliary passage opening; means for supplying secondary air under gauge pressure to said secondary air passage; and flow control means for causing the rate of flow of fuel-air mixture from said auxiliary passage exit opening to be less than the rate of flow of fuel-air mixture from said main passage exit opening thereby to prevent extinguishment of said auxiliary flame, the secondary air being directed by said secondary air passage exit opening to maintain the fuel-air mixture passing from said main passage exit opening in igniting association with the auxiliary flame, said burner assembly further including structure defining a free space surrounding the burner head outwardly of said exit openings and upwardly open to atmosphere and extending to below the level of said auxiliary passage exit opening to provide atmospheric air from below upwardly to the auxiliary flame.

3,260,301
IGNITER

Robert J. Zoschak, Rutherford, and Robert E. Sommerlad, Cranford, N.J., assignors to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed Feb. 20, 1964, Ser. No. 346,315
5 Claims. (Cl. 158—115)

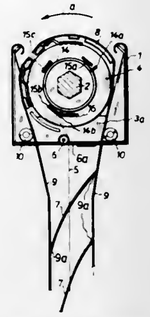


1. An igniter for fuel burners comprising:
an outer partition defining a flame port at one end,
an inner partition with apertures therein located within said outer partition so that an annular space is formed between said inner partition and said outer partition and a pilot chamber is formed within said inner partition,
conduits occupying a portion of said annular space,
means for introducing combustible gas to said conduits and to said pilot chamber,
means for limiting the portion of combustible gas flowing into said pilot chamber so that a major portion of said combustible gas flows through said conduits to said flame port and a minor portion of said combustible gas flows into said pilot chamber,
an air inlet for introducing air, said air flowing through said annular space around said conduits, a major portion of said air being discharged from said annular space at said flame port and a minor portion entering said pilot chamber through said apertures, and
a sparker in said pilot chamber to cause a pilot flame to burn in said pilot chamber, said pilot flame causing the combustible gas flowing from said conduits to burn at said flame port.

3,260,302
VENETIAN BLIND AND THE LIKE

Friedrich Griesser, Aadorf, Switzerland, assignor to Griesser A.G., Aadorf (Thurgau), Switzerland

Filed May 22, 1964, Ser. No. 369,560
Claims priority, application Switzerland, May 24, 1963, 6,494/63
4 Claims. (Cl. 160—170)

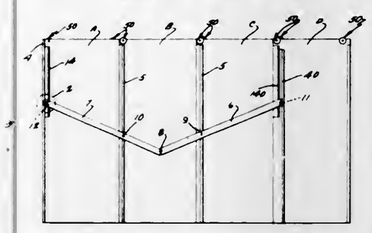


1. Venetian-type blind comprising a plurality of slats provided with openings for a lifting tape; a drivable wind-up shaft; a wind-up drum rigidly supported by said shaft and including a hub; a lifting tape engageable with the lowermost one of said slats extending upward through said openings and windable upon said drum; swivel frame means seated for frictional contact upon said shaft through the agency of said drum; carrier means engaging said slats and operably connected with said swivel frame means; stop means for arresting said swivel frame means in its terminal position during further rotation of the shaft; a locking mechanism for locking the swivel frame means to the shaft, comprising a spiral spring wound upon said hub and having a pair of angularly spaced ends; stationary stop means for engaging one or the other of said pair of ends, during said further rotation, in a direction causing said spring to open up around the hub to permit turning thereof while the spring is held at rest; and two angularly spaced further stop means, rigid with said swivel frame means and pivoting therewith, and located adjacent respective ones of said pair of ends, for bearing on the respective end in a direction causing said spring to tighten and lock about the hub, when the swivel frame means is pivoted independently of the shaft, whereby the swivel frame means is locked to the shaft.

3,260,303
MULTI-PANEL SLIDING DOOR STRUCTURE

John Pipe, Grand Rapids, Mich., assignor to Steelcase Incorporated, Grand Rapids, Mich., a corporation of Michigan

Filed Jan. 17, 1964, Ser. No. 338,505
2 Claims. (Cl. 160—197)

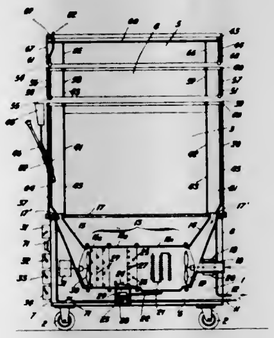


1. A partitive structure comprising: a plurality of panels; means for slidably supporting the said panels individually in substantially the same plane with at least one side edge of each panel adjacent a corresponding side edge of the next panel; means for interconnecting the panels in such a manner as to provide for their progressive sliding one behind the other while the plane of each panel remains substantially parallel to those of the other panels, said means consisting of a pair of substantially rigid structural members, each pivotally mounted at a point between its ends upon a different fixed pivot carried by one of two different panels, each pivotally mounted at one of its ends upon a different movable pivot carried by one of two other panels, and each of said members having its remaining end connected solely to the like end of the other in a pivotal manner.

3,260,304
AIR-CONDITIONED CHAMBER AND ITS APPLICATIONS

Henri Rabéchault, Le Perreux, France, assignor to Etablissement Public: Office de la Recherche Scientifique et Technique Outre-Mer, Paris, France, a corporation of France

Filed June 11, 1964, Ser. No. 374,526
Claims priority, application France, June 29, 1963, 939,892
6 Claims. (Cl. 165—12)

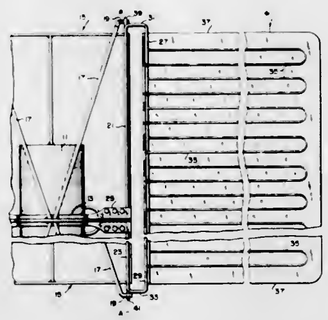


1. In an air-conditioned chamber a lowest element having the form of a box open at the top, with vertical walls and closed at the bottom; at least one main middle element having an exterior form corresponding to the lowest element, vertical walls, open at the top and closed at the bottom, two openings in the bottom placed near the vertical walls of the element; means of fixing the lower part of the middle element onto the upper part of the lowest element in such a manner that it is airtight but may be detached; at least one airtight door in the vertical wall of the middle element; two vertical partitions each enclosing one of the openings in the bottom of the middle element and rising through the said element; adjustable sized holes set in the said vertical partitions; and upper element, closed at the top and open at the bottom; the walls of the upper element are prolonged vertically above its closed upper end; means for fixing the upper element on top of the middle element in an airtight manner; two vertical partitions pierced with adjustable holes and fixed in the upper element in such a way that they continue the vertical partitions of the middle element; an opening in one outer wall of the lowest element, a closed assembly fixed in the lowest element and more or less parallel to the bottom of this element, having two ends and a lower part; in one end of this assembly there is a first opening, with piping covering it to connect it to the opening in the wall of this element; a second opening with piping covering it to connect it to one of the openings in the main middle element; in the other end of this assembly there is a opening with piping covering it connecting it in the other opening in the bottom of the main middle element; in the bottom of the lowest element is an opening and, sealed to the bottom, a tank the same size as this opening and containing a certain quantity of water; means of heating this tank; means of controlling the level of water in this tank; a hole in one wall of the said tank and a hole in the bottom of the lowest element, a pipe between the latter hole and the hole in the wall of the tank, this pipe does not protrude into the interior of the assembly; in the interior of the assembly, starting from the end where the two holes are situated, a fan drawing in air through the two holes at the end; a refrigerating element; means of measuring the temperature; means of heating; means for water to enter the tank; fixed in the lowest element, the middle element and the upper element and connectable one to the other, means to bring the water from the tank to above the level of the closed top of the upper element, and means to make the water flow over the said closed top from one side and means to drain away the water which has run over the top; outside the airtight door of the main middle element dry thermometers and moisture thermometers which pass through the door in such a way as to show the temperatures inside the element; means of lighting, placed on at least one edge of the upper element; on the lowest element a motor for the fan, and inlet for electrical current; means of connecting the said motor to the said inlet as required; controllable means to carry the current to the heating system contained in the said assembly; controllable means to carry the current to the means of heating the water in the above mentioned tank; controllable means to carry lighting current to the upper element; an operational programer; means of connecting current to the programer; means of connecting the programer to the measuring thermometers inside the assembly and those in the door of the middle element, to the refrigerating element and to the heating system placed in the assembly, to the fan for drawing in air, to the water inlet system and to the lighting system, means to switch the current independently on and off the various apparatus connected to the programer.

3,260,305
FOLDED RADIATOR DESIGN

Rex D. Leonard and Karl Gilbert Soder, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

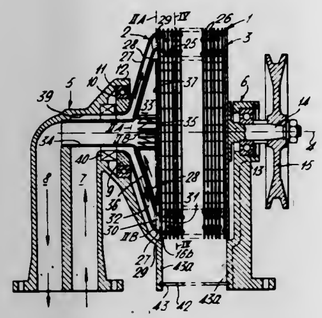
Filed Nov. 13, 1963, Ser. No. 323,460
6 Claims. (Cl. 165—67)



1. A rotatable heat exchanger comprising a support structure including a journal member; fluid supply means including a fluid carrying torque tube having a portion fixed to said support structure and a spaced portion rotatably supported in said journal member to define an axis of rotation; flexible fluid system heat transfer means

rotatable about said axis from a flat position extending from said structure to a folded position about said structure, said means including a fluid manifold rigidly connected to and in fluid communication with said torque tube and lying in a plane containing said axis whereby rotation of said heat transfer means about said axis relative to said support structure from said flat position to said stored position torsionally stresses said torque tube.

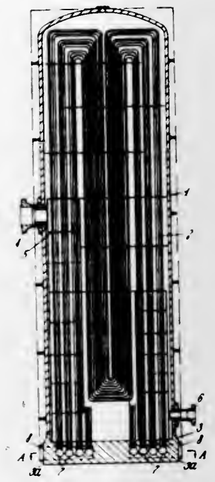
3,260,306
HEAT EXCHANGERS
Nikolaus Laing, 24a Rosenbergstr., Stuttgart, Germany
Filed Jan. 2, 1963, Ser. No. 249,064
9 Claims. (Cl. 165—89)



1. A heat exchanger to effect exchange of heat between a first fluid stream and a second fluid stream comprising a rotor including hollow blade portions and support means mounting the blade portions to extend generally longitudinally and in a ring about the rotor axis and providing inlet and outlet ducts intercommunicating with the interiors of said hollow blades; means mounting the rotor for rotation about an axis; non-rotating means providing inlet and outlet passages and cooperating with said support means for flow of said first fluid stream through the inlet passage to the inlet duct of the support means and thence through the hollow blade portions to the outlet duct of the support means and to the outlet passage; non-rotating guide means cooperating with the blade portions to induce on rotation of the rotor a flow of said second fluid from one side of the rotor through the path of the rotating blade portions to the interior of the rotor and thence once again through the path of the rotating blade portions to another side of the rotor.

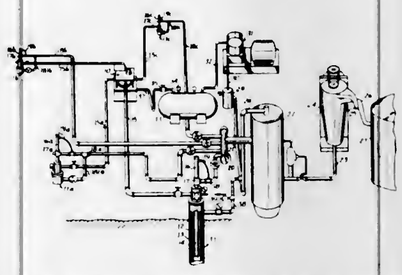
3,260,307
TUBULAR HEAT EXCHANGERS
James W. W. Dawson, Newcastle upon Tyne, England, assignor to C. A. Parsons & Company Limited, Newcastle upon Tyne, England
Filed July 28, 1964, Ser. No. 385,571
Claims priority, application Great Britain, Aug. 2, 1963, 30,697/63
3 Claims. (Cl. 165—158)

1. A boiler feed-water heater comprising a casing, tubes located within said casing, the axes of said tubes extending for the greater part of the length of the tubes in directions at least substantially parallel to the longitudinal axis of the casing, said tubes having inlet and outlet ends, a flat tube plate at one end of the casing, said tube plate having opposed end faces disposed transversely with respect to the longitudinal axis of the casing, both inlet ends and outlet ends of the tubes being joined to one end face of the tube plate, said tube plate having holes therein arranged co-axial with the tubes and extending from said one end face to the opposite end face of the tube plate, some of said holes communicating with the inlet ends of the tubes while the remainder of said holes communicate with the outlet ends of the tubes, sealing means in the ends of the holes opening into the said opposite end face of the tube plate, said tube plate having ducts therein extending transversely of and communicating with said holes, some of said ducts communicating with holes that are co-axial with the inlet ends



of the tubes and the remainder of said ducts communicating with holes that are co-axial with the outlet ends of the tubes, inlet means for feed-water communicating with ducts connected to the inlet ends of the tubes, outlet means for feed-water communicating with ducts connected to the outlet ends of the tubes, inlet means for steam communicating with said casing remote from said tube plate and outlet means for condensed steam communicating with said casing at the end thereof adjacent said tube plate.

3,260,308
METHOD AND APPARATUS FOR GAS LIFT PRODUCING OF OIL WELLS
Del Cryer, 257 Pierremont Road, Shreveport, La. 71105
Filed Dec. 4, 1964, Ser. No. 416,030
13 Claims. (Cl. 166—8)



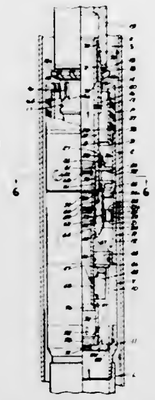
3. In an automatic pressure relief valve, a tubular upper housing, a valve body operatively connected to the lower end of said housing, a tubular reservoir housing, and means operatively connecting said reservoir housing to the lower end of said body, said valve body being provided with two parallel through-bores comprising a valve receiving bore and a tubing receiving bore, said valve body being provided with an intercommunicating port between said valve receiving bore and said tubing receiving bore, a piston slidably mounted in said piston guide for controlling the flow of gas through said intercommunicating port, a piston rod depending from said piston, a ball guide sealed in said valve receiving bore and being provided interiorally with a downwardly tapering cone shaped ball seat having a substantially horizontal inturned ledge provided with a sharp peripheral seat, a ball arranged to seat on said seat, a push rod mounted to slide through said ball seat, said valve body also being provided with a relief port below said seat for the passage of gas under pressure outwardly from the valve receiving bore, and means in said valve receiving bore operable at a predetermined pressure to urge said push rod against said ball to unseat it and push said ball against said piston rod to move said piston above said intercommunicating port for the passage of gas from said tubing receiving bore through said intercommunicating port and thence through said seat and outwardly through said relief port.

9. In apparatus of the type for automatic gas lift operation of a plurality of oil wells, each of said wells having an outer casing, intermediate tubing within said casing, inner tubing within said intermediate tubing and a gas lift valve between said inner tubing and said intermediate tubing, an indexable multiple outlet valve with outlets communicating respectively with each of said gas lift valves in each of said wells for selectively supplying thereto operating gas under pressure, motive power means and timer means operatively connected to said valve for indexing said multiple outlet valve to supply operating gas under pressure to said wells according to a predetermined program, and each of said gas lift valves having means therein for equalizing the pressure between said outer casing and said intermediate tubing.

12. A method of pumping liquid from a plurality of wells each having an outer casing, intermediate tubing within said outer casing and inner tubing within said intermediate tubing, said method comprising periodically supplying operating gas under pressure from a common source to said intermediate tubing of each of said wells according to a prescribed program to lift fluid from said wells, separating gas and liquid from the fluid lifted from said wells, recycling a portion of said gas, temporarily storing another portion of said gas within the casing of one of said wells, and equalizing the pressures between said inner tubing and said intermediate tubing and the pressures between said inner tubing and said outer casing during each period.

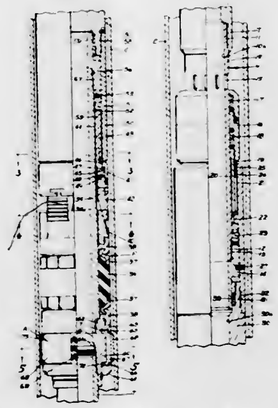
3,260,309
LINER CEMENTING APPARATUS
Cicero C. Brown, % Brown Oil Tools, Inc., P.O. Box 19,236, Houston, Tex. 77024
Original application Sept. 9, 1963, Ser. No. 307,659, now Patent No. 3,223,159, dated Dec. 14, 1965. Divided and this application May 14, 1965, Ser. No. 455,840
7 Claims. (Cl. 166—124)

1. A liner setting and cementing tool for wells, comprising, a tubular extension connectible to a liner, means carried by said extension for anchoring the liner to a surrounding well casing, a tubular mandrel having radial ports through the wall thereof connectible to an operating pipe string and insertable in said extension, connector means releasably securing said mandrel to said extension and operable in response to rotation of the mandrel relative to said extension to release the mandrel, annular packer means carried on said extension about said mandrel, said packer means being expansible by axial compression transmitted from said operating string to seal off the annular space between the liner extension and said casing, cross-over means rotatably positioned about the mandrel having radial passages communicating the interior of the mandrel through said radial ports to the exterior of said extension below said packer means and having by-pass passages extending around said radial passages communicating the exterior of the extension above said packer means with the annular space between the mandrel and said extension, sleeve valve means slidably disposed in the bore of said mandrel for longitudinal movement therein between a first position closing off said radial ports and a second position opening said radial ports, plug means receivable in the bore of said sleeve



valve means, said sleeve valve means when its bore has been plugged being shiftable from said first to said second position in response to fluid pressure applied thereto through said operating pipe string, port means positioned in said sleeve valve means to communicate the interior of the sleeve valve means with said by-pass passages upon shifting of said sleeve valve means from said first position to said second position, and means initially releasably securing said sleeve valve means to said mandrel in said first position.

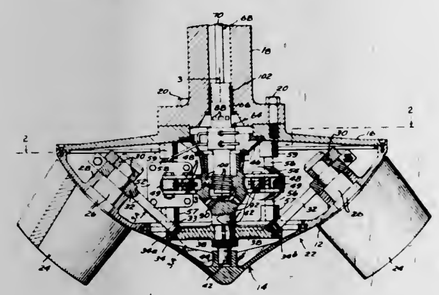
3,260,310
SCREW-SET HIGH-PRESSURE PACKER
Cicero C. Brown, % Brown Oil Tools, Inc., P.O. Box 19,236, Houston, Tex.
Filed May 27, 1963, Ser. No. 283,504
7 Claims. (Cl. 166—131)



1. A screw-set well packer, comprising, a tubular packer mandrel, a by-pass valve assembly connectable to an operating pipe string, means forming a rotatable connection between the valve assembly and the upper end

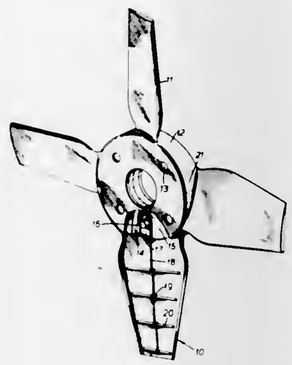
of the packer mandrel, a radially expansible slip-and-seal assembly mounted about the mandrel for operative engagement with a surrounding well casing, slip actuating sleeve means surrounding said mandrel and having screw connection thereto constructed and arranged to actuate said slip-and-seal assembly in response to rotation relative to the mandrel, said rotatable connection including a setting sleeve extending about said slip actuating sleeve means and having a longitudinally slidable non-rotatable connection thereto whereby to transmit rotation of said by-pass valve assembly to said actuating sleeve means, and anchor means carried by the lower end of said mandrel for engaging said well casing to hold said mandrel against rotation during actuation of said slip-and-seal assembly.

3,260,311
VANE ADJUSTING DEVICE FOR PUMP IMPELLERS AND TURBINE WHEELS
Andre Kovats, Livingston, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed July 5, 1963, Ser. No. 292,940
2 Claims. (Cl. 170—160.31)



1. A runner assembly comprising:
a runner shaft;
a runner housing on said shaft having a cover plate and a removable bottom plate affixed to the cover plate;
vane means supported from said housing bottom plate;
linkage means in said housing for rotating said vane means comprising a second shaft coaxial with said runner shaft, a rotatable disc supported on said second shaft, lever arms extending between said disc and vane means;
a motor mechanism also in said housing for rotating said second shaft comprising reversible hydraulic cylinder means having a normally resultant force acting in one direction on said second shaft, spring means arranged to act on said second shaft exerting a force in a direction opposite to that of said cylinder means, said spring means and vane means being dimensioned whereby an increase or decrease in torque on said vane means effects a corresponding and substantially equal increase or decrease in the force exerted by said spring means such that only a small change in the resultant force exerted by said cylinder means is required to rotate said vane means;
means for transmitting a hydraulic pressure to said cylinder means;
and a valve positioner means comprising a cylindrical valve casing coaxial with said runner and second shafts, a control rod means movable within and relative to said valve casing means and operatively associated with the valve casing means for regulating said pressure transmitted to the hydraulic cylinder means, and means operatively engaging said valve casing with said second shaft for longitudinal movement of the valve casing to an equilibrium position following a change in position of said vane means, whereby for each position of the control rod there is also a position for the said second shaft and the vane means;
said above-mentioned means being accessible by removal of said bottom plate.

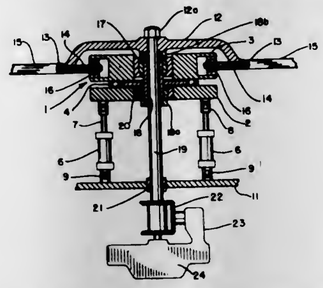
3,260,312
BLADED ROTORS
Arthur E. H. Elmer, Painswick, England, assignor to Dowty Hydraulic Units Limited, Cheltenham, England, a British company
Filed Sept. 28, 1964, Ser. No. 399,623
Claims priority, application Great Britain, Oct. 1, 1963, 38,704/63
4 Claims. (Cl. 170—160.5)



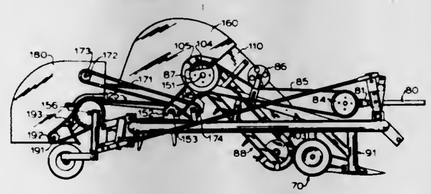
1. A bladed rotor comprising:
(a) a rotative hub,
(b) a plurality of generally-radially disposed blade frames, each of which includes a single longitudinal backbone member that is resiliently yieldable in torsion, anchored to the hub, and including also a number of weight bars which are fastened to the backbone member, disposed transversely of the blade and spaced at intervals along the backbone member, each weight bar being of predetermined mass,
(c) flexible blade sheaths, one for each blade, enclosing the corresponding blade frames to form the working surfaces of the blades, and anchored in the radial sense with respect to the hub, and,
(d) each longitudinal backbone member and sheath being arranged to twist torsionally throughout the blade's length under moments applied to the backbone member by the weights of predetermined mass, such twisting being thereby variable in accordance with the magnitude of centrifugal twisting moments inherent in the blade structure and acting on the mass of the blade frames at different rotational speeds.

3,260,313
HELICOPTER FLIGHT CONTROLS
Harold H. Reuther, 1157 Cleveland Ave., Wyomissing, Pa.
Filed May 28, 1964, Ser. No. 370,943
2 Claims. (Cl. 170—160.25)

1. A helicopter having a rotor hub and rotor blades carried thereby, the root of said blades being hinged to said hub on an axis oblique to the axis of the blade, a swash plate adjacent said hub, extensions on the roots of said blades forming means of attachment to said swash plate; said swash plate comprising a coaxially arranged tiltable, rotatable upper member, a tiltable non-rotatable lower member and a low friction bearing means positioned between said members; hydraulic means for inducing vertical movement of said lower member and inclining said last named member to a horizontal plane; said hydraulic means comprising a plurality of hydraulic pistons affixed to a supporting plate mounted on the frame of the helicopter; said cylinders having piston rods extending therefrom and into contact with the lower side of said lower member of said swash plate; hydraulic control means for selectively moving said piston rods in a substantially vertical direction; said hydraulic control means including a series of valve means operatively connected to a flight control stick; said control means further including levers pivotally connected at one of their ends to said valve means and pivotally connected at the other of their ends to an operating crank extending from said flight control stick; said levers being supported for rotation in fulcrums positioned between their said ends; and means connecting each of said fulcrums with its respective piston rod to move directly therewith and with said swash plate.



3,260,314
PEANUT DIGGER, SHAKER, RESHAKER, AND INVERTER
Charles L. Edwards, 306 E. Park Ave., Tarboro, N.C.
Filed Feb. 11, 1964, Ser. No. 344,058
6 Claims. (Cl. 171—101)



1. In a combined tractor pulled and driven peanut digger and shaker of the type having plow means for severing and unearthing peanut vines and guiding the unearthed vines into a row, a first endless open bar belt type conveyor means for picking up the vines with the peanuts attached and moving them up a substantially steep incline to be discharged rearwardly therefrom; a reshaker and vine inverter comprising a second endless open bar belt type conveyor means longitudinally aligned with said first conveyor means for receiving the vines discharged therefrom and moving them up a substantially shallow incline to be discharged at a point rearwardly therefrom, the receiving end of said second conveyor means together with the axis supporting such end being located a substantial distance and directly below the discharge end of said first conveyor means, said distance enabling said vines to be turned approximately ninety degrees while in free fall and subjecting them to being abruptly stopped from said free fall and to being positioned on said second conveyor means in an array adapted to being finally discharged with the peanuts turned up; rotatable beater bar means disposed across the width of said second conveyor means, rearwardly and below the discharge end thereof, and coordinated to the movement of the second conveyor means to strike said vines and nuts from beneath while in free fall after they are discharged from said second conveyor means; means for driving said second conveyor means and beater bar means from said tractor; deflecting means disposed across the width of said second conveyor means adjacent the discharge end thereof and being effective to direct said vines downwardly towards said beater bar means after leaving said second conveyor means, said vines thereby being discharged substantially vertically and deposited in windrow fashion with substantially all of the uprooted peanuts left uppermost.

3,260,315
SPRING-TOOTH HARROW
Leon E. Day, West Memphis, Ark., assignor of fifty percent to Callahan Industries, Inc., Memphis, Tenn.
Filed Jan. 7, 1965, Ser. No. 424,465
13 Claims. (Cl. 172—413)

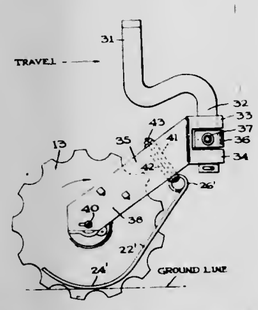


1. A spring-tooth harrow implement comprising a frame having a forward end and a rearward end, means for supporting and moving said frame over the ground, a dual-ganged harrow unit mounted from said frame; said harrow unit including a first transversely disposed bar, a second transversely disposed bar arranged rearwardly of said first bar, a first gang of spring-teeth with the teeth thereof being transversely spaced and fixedly secured to said first bar, a second gang of spring-teeth with the teeth thereof being transversely spaced and fixedly secured to said second bar, a pair of side members spaced transversely and extending longitudinally of said frame, and means fixedly securing said first bar to said second bar and said pair of side members; bearing means pivotally securing said pair of side members from said frame with the pivot axis thereof extending transversely of said frame and disposed substantially half-way between said first bar and said second bar whereby said first bar, said second bar, said pair of side members, said first gang of spring-teeth, and said second gang of spring-teeth are pivotable together about said pivot axis; and link means articulatingly securing said pair of members and said frame for pulling said pair of members while permitting limited pivotal movement of said harrow unit about said pivot axis.

3,260,316
COULTER SPRING TRASH HOLDER
Francis B. Ryan, Chariton, Iowa
Filed May 5, 1964, Ser. No. 364,905
1 Claim. (Cl. 172—516)

In an improved trash holder means for coulter wheels of ditching and analogous machines, a forward section comprising a spring wire member centrally looped into a horizontally disposed bight and extending laterally to each side of said central bight, doubly curved circular spring sections vertically disposed equidistant at each side of said center bight, elongate parallel and closely disposed spring wire arms extending downwardly and rearwardly from the outer laps of each of said vertical spring

sections and upwardly curved in parallel at their lower extremities whereby said arms will lie closely adjacent the sides of a coulter wheel when said bight is affixed forwardly thereof and the apices of said curved arm sections

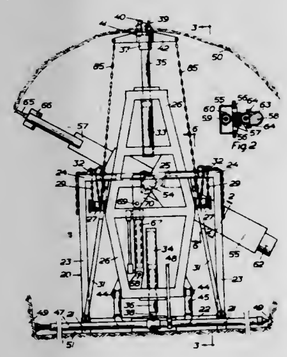


will bear against the ground adjacent the entry point therein of said coulter wheel, the downwardly extending arms acting to force upstanding obstructions progressively downwardly to be held closely to the ground under the apices of the arms for cutting by the coulter wheel.

3,260,317
RING DRILLING APPARATUS AND METHOD

Waldemar Meyer, Stockholm, Carl Otto Lennart Ottosson, Farsta, and Karl-Erik Qvarnström, Vendelso, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden

Filed Sept. 16, 1963, Ser. No. 309,010
16 Claims. (Cl. 173—35)

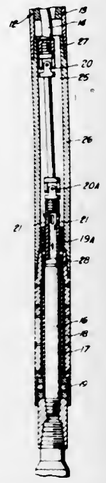


5. In a drilling apparatus particularly adapted to drill a ring or fan of drill holes transversely of and in a row peripherally around an underground drift, a support adapted to be moved along said drift to successive ring drilling locations, an elongated frame, a pair of coaxial trunnions in opposed transverse disposition centrally on said frame, a rock drill, an elongated feed bar for slidably carrying said rock drill, feeding means on said feed bar for feeding and retracting said rock drill along said feed bar, pivot means on said elongated frame for mounting said feed bar rotatably on an axis perpendicular to said trunnions and extending transversely to said frame, fluid pressure operated means mounted on said frame and having operative connection with said feed bar for turning said feed bar about said pivot means, flexible member means connected to said support and to said trunnions for carrying said frame by said trunnions with said trunnions suspended in substantially horizontal position thereby to give said frame a certain freedom of movement in all directions for adjusting purposes, and means on said frame adapted to engage in erect position of said frame portions of said drift for immobilizing said frame in adjusted erect position in said drift during drilling of said ring or fan of drill holes.

3,260,318
WELL DRILLING APPARATUS

William J. Neilson, Whittier, Erskine P. Garrison, Long Beach, and Gayle D. Smith, Norwalk, Calif., assignors to Smith Industries International, Inc., Compton, Calif., a corporation of California

Filed Nov. 12, 1963, Ser. No. 322,596
1 Claim. (Cl. 175—75)

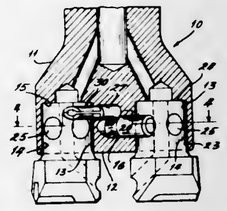


Well drilling apparatus including a straight pipe assembly constituting a drill string, a down hole motor comprising a housing, rotor and a stator in axial alignment with the straight pipe assembly, a rotary bit below the motor including a bearing support therefor, a rigid bent pipe section closely connecting said motor housing to said bit bearing support, and a flexible driving connection between the rotor of the motor and the bit such that the axis of rotation of the bit is disposed at an angle to the axis of rotation of said motor.

3,260,319
DRILL BIT AND LOCKING MEANS

Robert E. Conover, North Canton, Ohio, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio

Filed June 11, 1964, Ser. No. 374,492
6 Claims. (Cl. 175—382)

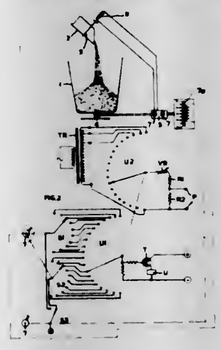


1. A cluster bit comprising a bit holder having a plurality of sockets in the working face thereof, a plurality of insert bits having cutting edges and having shanks positioned in said sockets, said shanks being provided with notches in the periphery thereof, said bit holder having a first transverse passage therein aligned with the insert bit shank notches, said passage engaging each of said sockets, said bit holder having a second transverse passage intersecting said first transverse passage, a first locking pin positioned in said first passage and engaging said insert bit shank notches to restrain all of said insert bits from rotating in the holder during drilling, said first locking pin having means for receiving a second lock pin in interlocking engagement, a second lock pin positioned in said second passage and engaging said first pin to lock said first pin to said bit holder, and means retaining the second lock pin in said holder in interlocking engagement with the first locking pin.

3,260,320
BATCH WEIGHING OF FLOWABLE MATERIAL WITH SUPPLY CUT-OFF TIMED TO ANTICIPATE FALLING MATERIAL IN TRANSIT

David Warwick Lloyd Clamp, Cwmbran, Monmouthshire, England, assignor to Girling Limited, Tyseley, Birmingham, England, a British company

Filed Mar. 5, 1964, Ser. No. 349,647
3 Claims. (Cl. 177—1)



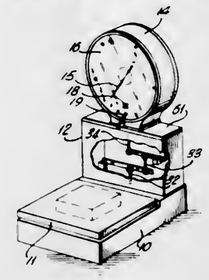
1. A method of batch weighing flowable material comprising allowing the material to fall in a stream into a weighing hopper, cutting off the flow of material to the hopper ahead of the instant at which the weight of material in the hopper attains the desired value so as to allow for the weight of the stream of material in transit at the instant of cut-off, inversely varying the degree of advance of the instant of cut-off in accordance with the weight of material weighed and consequently directly with the length of the stream and further varying the instant of cut-off inversely with the density of the material being weighed.

3,260,321
DUAL CAPACITY SCALE WITH DISENGAGEABLE COUNTERWEIGHT ON LOAD TRANSMISSION ROD

Roger H. Damon, Jr., and John B. Rolfe, both of St. Johnsbury, Vt., assignors, by mesne assignments, to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 21, 1964, Ser. No. 361,368
8 Claims. (Cl. 177—176)

1. In weighing apparatus having a load responsive lever system, a counter-balance indicator mechanism and coupling means operatively connecting the mechanism and lever system, said lever system being adapted and arranged to produce in the no-load condition thereof an unbalance force of given force value in the coupling means, force means of predetermined force value normally connected to the coupling means for increasing said unbalance force to a predetermined total unbalance force value, said counter-balance indicator mechanism being adapted and affording the sole means to counter-balance said total unbalance force value in the no-load indicating condition of the mechanism, and operating responsively to lever system loading to indicate load weight up to a

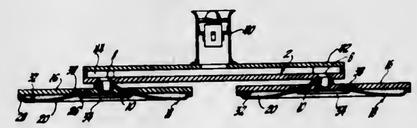


predetermined maximum weight value defining the initial capacity limit of the weighing apparatus, and means operable to disconnect said force means from the coupling means, thereby conditioning said counter-balancing indicator mechanism for weight indication upon lever system loading in a range above said initial capacity limit.

3,260,322
MULTIPLE PAD AIR CUSHION SUPPORT

Harry A. Mackie, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 10, 1962, Ser. No. 165,417
9 Claims. (Cl. 180—7)



1. A ground proximity air cushion supported vehicle comprising a load supporting superstructure having a plurality of apertures formed adjacent the perimeter thereof, a plurality of rigid platforms underlying said superstructure, each platform having a central aperture aligned with one of said apertures in said superstructure, a flexible tubular element connecting said aligned apertures, means forming a radially outwardly deformed flange on said tubular element between and in contact with the undersurface of said superstructure and upper surface of said platform acting to maintain said platform and superstructure in vertically spaced relation, air bearing means formed on the underside of said platform, and blower means mounted on said superstructure connected in communicating relation with said plurality of apertures in said superstructure for introducing air under pressure into said air bearing means.

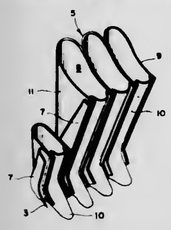
3,260,323
PLEATED JET SKIRTING FOR GROUND EFFECT MACHINES

John Henry, Cowes, Isle of Wight, England, assignor to Westland Aircraft Limited, Somerset, England

Filed July 29, 1963, Ser. No. 298,382
9 Claims. (Cl. 180—7)

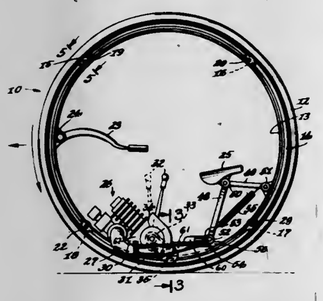
1. A ground effect vehicle provided with a fluted or pleated flexible jet skirting system through which air under pressure is discharged downwardly to build up and maintain the air pressure of the ground effect air cushion, the

system forming also a flexible barrier to the dissipation of pressurised air constituting the ground effect air cushion associated with the barrier, and comprising an assembly of flexible tubular components formed of a flaccid impervious material so as to be flexible in all lateral directions and arranged in side by side relationship to depend downwardly from the base of the vehicle, said tubular components being open at both ends for passing pressurized air downwardly therethrough, adjacent pairs of flexible



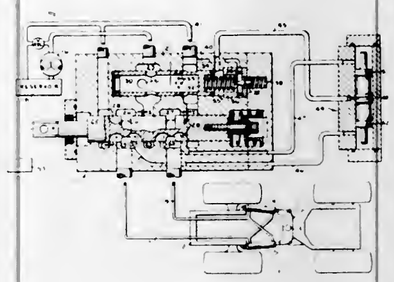
tubular components being connected by flexible folded webs, said flexible tubular components being funnel shaped with the larger orifice at the top and tapering toward the bottom to form a jet orifice, the jet orifice being inwardly inclined to impart an inward component to the jet discharge, the inflationary pressure of the air or gas flowing through said flexible tubular components providing an element of inherent rigidity maintaining and biasing said flexible jet skirting system to assume or remain in the downwardly extended position.

3,260,324
MOTORIZED UNICYCLE
Caesar R. Suarez, P.O. Box 5702 Annex Station, Tucson, Ariz.
Filed Nov. 12, 1963, Ser. No. 322,700
1 Claim. (Cl. 180—10)



A unicycle of the class described comprising in combination an outer wheel, and an inner wheel, said outer wheel comprising a circular rim having a baloon tire mounted thereupon, said inner wheel being contained within said outer wheel, said inner wheel comprising an inner rim having a plurality of radially outwardly extending brackets integrally formed on each lateral side of said rim, said brackets protruding radially outwardly and being adjacent each lateral side of said outer wheel rim, thereby retaining said inner wheel within said outer wheel, each of said brackets on each of said lateral sides being in alignment with a corresponding bracket on the opposite lateral side, a shaft between said brackets and a roller mounted rotatably free upon said shaft, said roller being in contact engagement with the inner edge of said outer wheel rim, an internal combustion engine secured to said inner rim, a gear drive on the output of said engine, a drive pulley connected to said gear drive connected by an endless chain to a drive pulley on a wheel shaft, said wheel shaft having a wheel at each end straddling said inner wheel, said wheels being in frictional contact with said tire of said outer wheel to provide drive means of said inner wheel respective to said outer wheel, a handle bar and a seat secured to said inner wheel for control and support respectively for a driver.

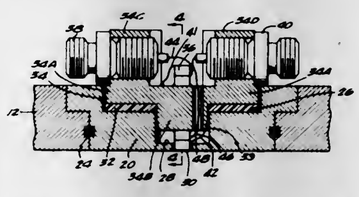
3,260,325
HYDRAULIC STEERING SYSTEM
Mackenzie P. Brown, New Lenox, and John A. Junck and James E. Scheidt, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Aug. 19, 1963, Ser. No. 302,897
14 Claims. (Cl. 180—79.2)



1. A steering system in combination with an articulated vehicle having two frames pivotally attached to each other, said system comprising hydraulic jack means arranged between the frames to pivot one frame relative to the other frame upon actuation thereof, a control valve arranged to selectively communicate a pressurized fluid source to actuate said jack means, said fluid source including a reservoir, said control valve comprising a spool reciprocally mounted therein having axially spaced variable passage means formed thereon arranged to communicate fluid to the jack means through either of said variable passage means depending upon the direction of spool movement at a rate which is directly proportional to the extent of such movement, control means, including a chamber arranged to communicate with the pressurized fluid in said jack means, for maintaining a predetermined pressure differential across the variable passage means when the pressure in said jack means is increased due to turning of the vehicle, said control means comprising vent means for venting the pressurized fluid in said chamber to said reservoir directly when said spool is in a neutral position preventing fluid flow through either of said variable passage means.

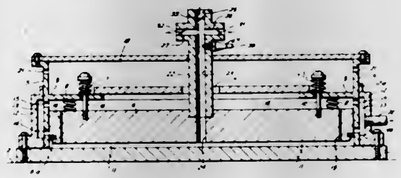
3,260,326
WIND-TUNNEL MICROPHONE STRUCTURE
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of William S. Chen and Samuel Wheeler
Filed July 25, 1962, Ser. No. 212,497
6 Claims. (Cl. 181—.5)

6. The improvement in a transducer for measuring the pressure on a solid surface arising as a result of a turbulent boundary layer produced by airflow past said solid surface comprising a first and second transducer, a flat plate having an opening therein, means for supporting said first transducer within said opening with a sensitive surface thereof flush with the surface of said flat plate and for supporting said second transducer extending from the other side of said means opposite to said first transducer, said means for supporting also including extension members disposed on either side of said second transducer for providing a protective well for said second transducer, a differential amplifier, and means



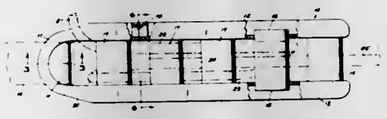
for connecting the outputs of said first and second transducers to said differential amplifier for eliminating undesired components of said acoustical environment from said differential amplifier output.

3,260,327
SHORT WAVE SEISMIC PULSE RADIATOR
Burton McCollum, Houston, Tex.; P. R. Rowe and Bank of the Southwest National Association, Houston, executors of said Burton McCollum, deceased
Filed Feb. 6, 1963, Ser. No. 256,560
15 Claims. (Cl. 181—.5)



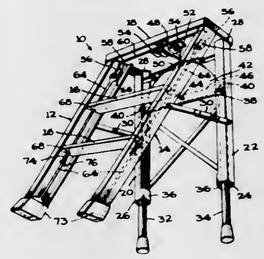
1. A device for radiating seismic waves in substantial proportion of predetermined wave length comprising a casing having a bottom for coupling with a wave energy transmitting medium, an inertia member reciprocable in said casing and forming a firing chamber therein, means for causing a detonation in said firing chamber to apply an impulse to said casing and the coupled medium and propel said inertia member in one direction, and reaction means between said member and said casing and disposed to be actuated by said member upon movement thereof in said direction to apply to said casing a second impulse opposite in sense to said first impulse and thereby substantially damp the effect of said first impulse upon said casing and the coupled medium.

3,260,328
LINE DESCENT BRAKING DEVICE
Robert P. McGowan, Bel Air, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed June 9, 1964, Ser. No. 373,897
2 Claims. (Cl. 182—5)



1. In a cargo or personnel lowering device of the type wherein a frame has a tortuous passage therethrough through which a rope is rove and wherein a load carried by said frame descends therewith along said rope at a retarded rate of speed, the improvement comprising said frame being of inverted U-shaped configuration and including a bright and legs, said legs being of channel shape and including webs and spaced flanges, said webs being adjacent each other, said flanges of one leg extending laterally outwardly thereof in the opposite direction to said flanges of the other leg, vertically spaced hollow rungs connecting said legs together to provide said tortuous passage, said rungs being open at both ends to provide air passages therethrough, said frame and rungs being formed of lightweight metal having a high rate of heat conductivity, and said webs and flanges providing cooling fins for dissipating heat generated in said rungs by the friction of the passage of the same along said rope.

3,260,329
ADJUSTABLE LEG SAFETY LADDERS
Thomas K. Zevely, College Park, Md., assignor to Campbell Sand Co., Inc., College Park, Md., a corporation of Maryland
Filed Aug. 17, 1964, Ser. No. 389,882
7 Claims. (Cl. 182—202)



1. In combination with a ladder of the class described having interconnected, reciprocably adjustable leg extensions movably housed within a pair of side frame members of said ladder, means responsive to application of the user's weight on said ladder for locking said extensions in predetermined positions relative to said side frame members, comprising:

(a) an arcuate shaped equalizing plate pivotally mounted between said ladder side frame members and having a plurality of locking teeth on the arcuate periphery thereof;

(b) said equalizing plate being pivotally connected at opposite sides to the adjustable leg extensions;

(c) a detent finger disposed on said ladder frame and adapted for releasable engagement with said locking teeth;

(d) a pair of bell cranks operably connected to said detent finger and pivotally carried by said ladder frame; and

(e) means responsive to application of the user's weight on said ladder for actuating said bell cranks.

3,260,330
AUTOMATIC DOORS FOR A DUMBWAITER SYSTEM
Charles Francis Stewart, Poughkeepsie, N.Y., assignor to Sedgwick Machine Works, Inc., Poughkeepsie, N.Y., a corporation of New York
Filed Feb. 10, 1965, Ser. No. 431,547
6 Claims. (Cl. 187—3)

1. In a dumbwaiter system including

a hoistway structure and an enclosure therefor having a plurality of doorways therein,

a normally closed door in each enclosure doorway adapted for movement relative to the enclosure to an open and to a closed aspect,

an electrical door aspect circuit adapted to be completed when all doors in the system are closed,

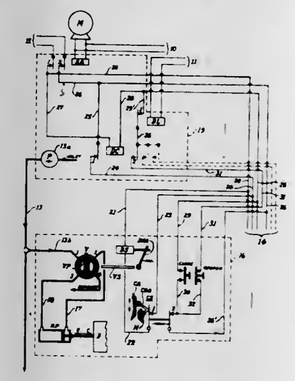
a car having a cam arranged thereon and adapted to travel along the structure within the enclosure therefor between a position remote from each doorway to a specific position at each doorway, and

means for moving the car,

the improvement comprising, in combination,

a fluid pressure system including a pressure operated reciprocating means, and a solenoid operated control valve therefor, arranged within the enclosure adjacent each doorway therein,

each reciprocating means being operatively connected to the door at that doorway and adapted

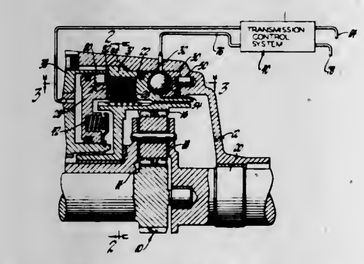


to move the said door between its open and closed aspect,

means arranged adjacent each enclosure doorway preventing movement of the door thereat to its open aspect except when the car is at rest in the said specific position at that doorway, and

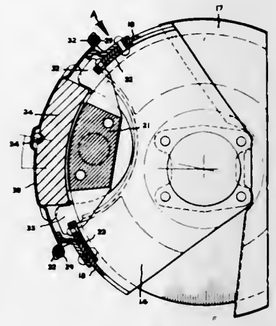
a detection means responsive to the deactivation of the car moving means for activating the solenoid operated control valve to initiate movement of the reciprocating means at that doorway whereat the car is at rest in the specific position to automatically move that door to its open aspect.

3,260,331
DRIVE SUSTAINING DEVICE
August H. Borman, Jr., Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 9, 1963, Ser. No. 328,902
3 Claims. (Cl. 188—72)



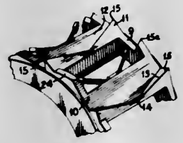
1. In a drive sustaining device, the combination of a series of friction elements, reaction motor means for providing a movable abutment for the friction elements, the reaction motor means being operative to change the device from an inoperative and neutral state to an operative state, energizing means operative to urge the elements against the reaction motor means and into torque transmitting engagement thus establishing the operative state of the device, the energizing means including a pair of races each having a recess therein, a cam element positioned within each recess, the recesses both having a cam angle so formed that the energizing means can cause the drive sustaining device to sustain an applied torque due to the camming action alone between the recesses and the cam element, and initiating means including a motor means remotely positioned from one of the races and having an element biased into engagement with the one race at a certain radial distance from the rotational axis thereof so as to apply a certain relatively constant tangential force thereto for causing the one race to be revolved enough to render the energizing means capable of sustaining torque in one direction, and control means operable for supplying fluid pressure to the motor means selectively for supplementing the constant tangential force thus rendering the energizing means capable of also sustaining torque in the opposite direction and for overcoming the constant tangential force thereby rendering the energizing means incapable of sustaining torque.

3,260,332
SPOT TYPE DISC BRAKES
Kenneth John Wells, Castle Bromwich, England, assignor to Girling Limited, Birmingham, England, a British company
Filed Nov. 23, 1962, Ser. No. 240,209
Claims priority, application Great Britain, Nov. 23, 1961, 41,880/61; Mar. 21, 1962, 10,789/62; June 30, 1962, 25,189/62
6 Claims. (Cl. 188—73)



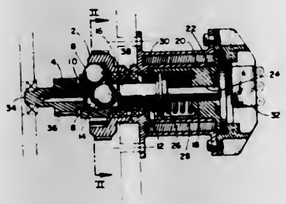
1. A disc brake comprising a rotatable disc, braking surfaces on opposite sides of the disc, a stationary torque-taking plate adjacent to one side of the disc, said plate having an outer peripheral edge part extending radially beyond the periphery of the disc and having a gap in said edge part, said plate also having a stationary guiding member on each side of said gap positioned wholly radially beyond the periphery of said disc and extending axially and freely across the plane of the disc beyond the other side thereof, all parts of said guiding members being wholly radially outwardly of the periphery of said disc, braking pads on opposite sides of the disc including rigid backing plates having opposite ends in direct sliding engagement with said guiding members for movement towards and away from the disc, said guiding member taking the torque on the braking pads when the latter are applied to the disc, a rigid clamping member straddling said friction pads and being movable away from said gap entirely independently of said friction pads, releasable means cooperating with said plate and said clamping member for slidably supporting said clamping member for movement in an axial direction with respect to the disc, and means carried by said clamping member for applying at least one of said braking pads to said disc.

3,260,333
CAGE FOR OVERRUNNING CLUTCH ROLLERS
Carl F. Benson, Torrington, and John H. Cowles, Forestville, Conn., assignors to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed June 4, 1963, Ser. No. 285,314
16 Claims. (Cl. 192—45)



2. A retainer for clutch rollers comprising a hollow prismatic body having outer facets meeting in peaks, selected facets being extended forwardly of the peaks to form teeth, said body being cut away in relation to adjacent facets to provide roller receiving chambers having substantially radial front walls with inner ledges, backwardly sloping rear walls and means on said rear walls for resiliently supporting a bearing rollers.

3,260,334
OVERRIDEABLE BALL CLUTCH
Richard M. Johnson, Dallas, Tex., assignor to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,043
3 Claims. (Cl. 192—56)



1. A clutch assembly comprising a driving member, a driven member, a plurality of balls and pins releasably coupling said driving member and said driven member for simultaneous movement, resilient means for applying predetermined pressure to said balls to urge said balls to engage said pins to transmit rotational motion between said driving member and said driven member, electromagnet means for releasably retaining said resilient means, and means responsive to pressure on said balls and pins in excess of said predetermined pressure to deenergize said electromagnet means for releasing said resilient means to cause said balls to disengage from said pins to uncouple said driven member from said driving member.

3,260,335
CONVEYOR TRANSFER ASSEMBLY
Robert L. Verreault, River Road, Lewiston, Maine
Filed Jan. 21, 1965, Ser. No. 426,730
3 Claims. (Cl. 193—36)

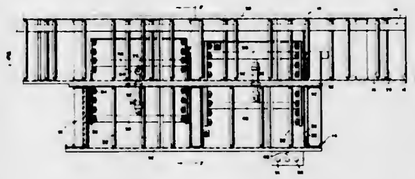
1. In a conveyor of the type supporting a plurality of spaced rollers within a pallet conveying plane, a conveyor transfer assembly supported within said conveyor and comprising:

(A) a frame positioned beneath said conveying plane and extending laterally thereof;

(B) a pool cradle supported in said frame and having a plurality of track and engaging wheel elements transversely aligned with respect to said conveyor spaced rollers, said cradle being pivotable transversely through said conveying plane to a position above said plane so as to gravity feed laterally a work piece pallet out of said conveying plane; a return cradle adjacent said pool cradle and having track and engaging wheel elements transversely aligned so as to pivot said return cradle to a point above yet laterally spaced from said conveying plane so as to return a pallet onto said conveying plane;

(C) means pivoting said pool and return cradles;

(D) a plurality of idler rollers extending laterally and

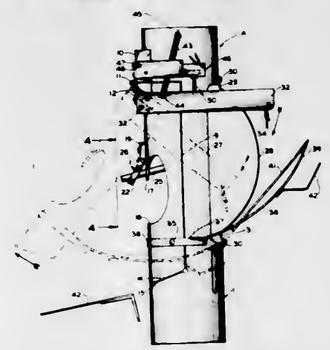


in parallel with said conveyor rollers, said idler rollers being positioned above said pool cradle and above said return cradle so as to longitudinally advance a work load pallet parallelly with said conveying plane;

(E) a transfer limit switch positioned at the conveying plane end of said pool cradle and extending onto said conveying plane, so as to pivot said pool cradle upon advance of a work piece pallet above said pool cradle; and

((F) a pool load switch positioned at the pool end of said pool cradle apart from said conveying plane and extending upwardly into said pool so as to prevent pivoting of said pool cradle while a work piece pallet is supported in said pool cradle.

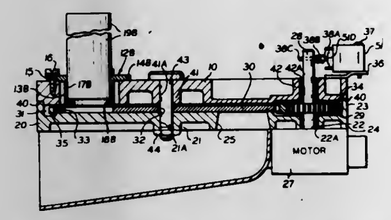
3,260,336
CUP STACKING APPARATUS
Richard K. Shelby, Downers Grove, Ill., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Aug. 26, 1964, Ser. No. 392,185
12 Claims. (Cl. 193—43)



1. A device for orienting open-ended containers and the like, said device comprising a direction reversing housing, means connected to said housing for feeding a plurality of direction oriented containers into said housing, a pin-like member extending into said housing and in the pathway of the containers, said pin-like member extending in a direction where it is adapted to engage

the rim forming open end portion of said container and extend partially into said container and thereby flip the same to reverse its direction, and means for withdrawing each of said containers which are oriented in the opposite direction from said housing.

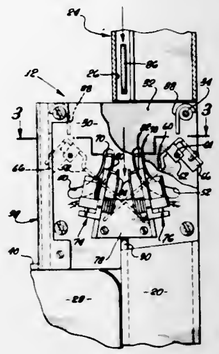
3,260,337
COIN CHANGING MECHANISM
Harry Greenwald, Whitestone, N.Y., Jack H. Malek, Parsippany, N.J., and George Avlon, New York, and Robert Tuppo, Elmhurst, N.Y., assignors of one-third interest to Harry Greenwald, Whitestone, N.Y., one-third to Louis Wolff, Brooklyn, N.Y., and one-third to Harry Silberglait, Brooklyn, N.Y.
Filed Nov. 18, 1964, Ser. No. 411,976
7 Claims. (Cl. 194—10)



1. In a coin dispensing mechanism, a first and a second plate each having a plurality of circumferentially spaced bores in one-to-one correspondence therethrough:
- means for connecting said first and second plates together with the bores in said plates out of alignment;
- stacking means for stacking coins of preselected denominations removably received in respective bores in said first plate;
- a coin dispensing disc having a plurality of circumferentially spaced bores therethrough equal to the plurality of bores in said first plate;
- means for rotatably mounting said coin dispensing disc between said first and second plates for movement between a first position wherein the bores in said coin dispensing disc underlie the respective bores in said first plate to receive coins from the respective stacking means, and a second position wherein the bores in said coin dispensing disc overlie the respective bores in said second plate to dispense all the coins carried by said coin dispensing disc therethrough;
- a motor having a rotatable output shaft;
- motor energizing means responsive to the insertion of a coin of a preselected denomination for energizing said motor;
- disabling means connected to said motor shaft for deenergizing said motor at least once during one revolution of said output shaft;
- and connecting means interconnecting said output shaft and said coin dispensing disc for moving said coin dispensing disc between said first and said second positions at least once during the interval of time said motor is energized.

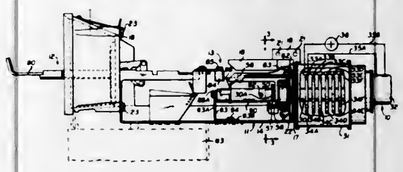
3,260,338
SWITCH CLOSING COIN ESCROW VANES
Louis P. La Barge, Newport Beach, Calif., assignor to Teletek, Inc., Costa Mesa, Calif., a corporation of California
Filed Aug. 13, 1964, Ser. No. 389,263
19 Claims. (Cl. 194—16)

1. Coin control mechanism comprising a housing having a coin inlet opening and a plurality of coin outlet openings below the inlet opening, a plurality of vanes pivotally mounted in the housing, each vane being disposed generally above a respective one of said outlet openings, the vanes being pivotal from an uppermost position wherein the vanes form a closed bin below the inlet opening for receiving coins entering through the inlet opening and wherein each of the vanes provides a closure above its respective outlet opening, and a lowermost position of each vane wherein the vane exposes its respective outlet opening so that coins may drop down therethrough, means biasing the vanes toward their said uppermost positions with a force less than the weight of a coin which the vanes are adapted to receive, and latch means



releasably engageable with each vane at a position of the respective vane intermediate said uppermost and lowermost positions, the bin formed by the vanes remaining closed when the vanes are in said intermediate position, whereby the weight of a coin deposited on the vanes through the inlet opening will move the vanes from their uppermost positions to their intermediate, latched positions, and release of the respective latch means of a vane will permit the weight of the coin to swing that vane downwardly to its lowermost position and thereby permit the coin to drop through the respective outlet opening under that vane, said biasing means returning the vanes to their said uppermost positions.

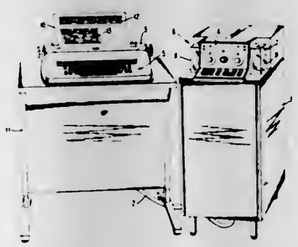
3,260,339
WIPE-OUT MECHANISM
Harry Greenwald, Whitestone, N.Y., Jack H. Malek, Parsippany, N.J., and Isadore Schleber, Bronx, N.Y., assignors of one-third to said Greenwald, one-third to Louis Wolff, Brooklyn, N.Y., and one-third to Harry Silberglait, Brooklyn, N.Y.
Filed Feb. 1, 1965, Ser. No. 429,221
9 Claims. (Cl. 194—92)



1. In a coin-operated switching arrangement for controlling a plurality of respective operations in an associated device including in combination, a frame, a shaft rotatably mounted on said frame, said shaft normally being in a first position, a plurality of switches adapted to control respective operations in the associated device, a like plurality of operating means fixed on said shaft and rotatable therewith respectively associated with said

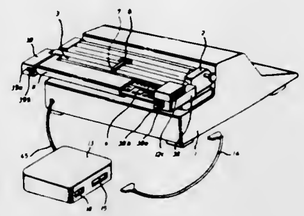
switches and positioned and arranged to operate the associated switches in a predetermined sequence as said shaft is rotated through respective different angles of rotation from said first position, a coin slide having a coin receiving member operable to traverse a predetermined path of travel when a preselected amount of money is inserted into said coin-receiving member, the extent of travel of said coin-receiving member being limited to a portion of its path of travel when said preselected amount of money is not inserted into said coin slide and advancing means on said shaft engageable with said coin slide when said coin slide is operated in response to the deposit of a predetermined amount of money for rotating said shaft from said first position to a second position whereby said plurality of operating means operates at least one of said plurality of switches, the invention comprising wipe-out means mounted on said shaft and responsive to the operation of said coin slide for rotating said shaft past said second position to by-pass the operation controlled by said one of said plurality of switches.

3,260,340
REVISION SYSTEM FOR DATA RECORDING AND PRINTING APPARATUS
Henry C. Locklar and Donald E. Sims, Lexington, Ky., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 25, 1964, Ser. No. 377,850
23 Claims. (Cl. 197—19)



1. Data recording and printing apparatus, comprising:
- a printer, said printer having a plurality of informational and functional character keys;
- means in said printer responsive to depression of any informational character key for printing the related character;
- means in said printer responsive to depression of any function key for performing the related function;
- recording apparatus interconnected with said printer, said recording apparatus having facilities for recording characters on and reading characters from a revisable record media;
- means in said recording apparatus responsive to depression of a printer key to record a coded character in said record media representing the key depressed;
- means for relatively moving said responsive means and said record media as characters are recorded so that each character occupies an increment of space of predetermined size in said record media;
- and means in said recording apparatus automatically operative upon depression of a particular one of said function keys to operate said relative moving means and record the related character in said record media and to immediately thereafter operate said relative moving means again so that at least one redundant character space beyond that normally allotted during recording of characters is established in said record media for expansion of recorded information during subsequent revision of said record media.

3,260,341
OPERATION CONTROL CIRCUIT ARRANGEMENT FOR TYPEWRITERS OR THE LIKE
Friedrich Bräunig and Dieter Folkens, Wilhelmshaven, Germany, assignors to Olympia Werke A.G., Wilhelmshaven, Germany
Filed Nov. 27, 1964, Ser. No. 414,226
Claims priority, application Germany, Nov. 27, 1963, O 9,804
19 Claims. (Cl. 197—19)



1. An operation control circuit arrangement for a typewriter unit or the like having a keyboard having a plurality of keys and a plurality of key operated typewriter switches, said circuit arrangement comprising
- a control member removably affixed to said typewriter unit;
- a plurality of spaced position contacts on said control member;
- a plurality of spaced contact terminals on said control member;
- a plurality of exchangeable flexible electrically conducting leads for electrically connecting selected ones of said position contacts to selected ones of said contact terminals;
- a control unit having a plurality of input contact terminals, a plurality of operation contact terminals adapted to be connected to equipment for performing a desired process, a plurality of control switches connected between said input contact terminals and said operation contact terminals, and selection and control means for controlling the operation of said control switches to select a desired control process by closing selected ones of said control switches;
- first connecting means electrically connecting the contact terminals of said control member to the input contact terminals of said control unit; and
- second connecting means electrically connecting selected ones of the typewriter switches of said typewriter unit to the selection and control means of said control unit in a manner whereby operation of said selection and control means is controlled by operation of said typewriter switches to close selected ones of the control switches of said control unit to electrically connect selected ones of the position contacts of said control member to selected ones of the operation contact terminals of said control unit thereby to energize said selected ones of said operation contact terminals in accordance with the operation of selected keys of said typewriter keyboard.

3,260,342
CARRIAGE ARRESTING DEVICE
Theodore N. Madison, Thompsonville, Conn., assignor, by mesne assignments, to Royal Typewriter Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 10, 1965, Ser. No. 431,631
6 Claims. (Cl. 197—65)

1. A device for arresting the return movement of a typewriter carriage on a powered typewriter having an

engageable and disengageable carriage return clutch mounted on a constantly rotating power shaft, in combination,

a frame,

a center stop mounted on said frame,

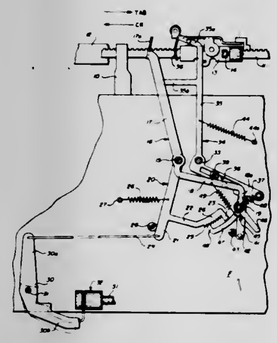
a fulcrum pin mounted on said frame,

a left hand margin stop mounted on said carriage, said center stop lying in the path of travel of said margin stop,

a center stop lever pivotally mounted on said fulcrum pin,

a clutch knock-off arm pivotally mounted on said pin,

a clutch knock-off link connected to said arm and said clutch and operable upon actuation of said lever to disengage said clutch,



a sensor lever pivotally mounted on said frame and including an abutment face lying in the path of travel of said margin stop and spring biased in opposition thereto,

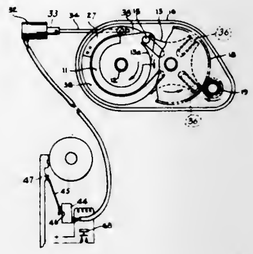
a spring interconnecting said sensor lever and said frame to bias said sensor lever oppositely to the direction of carriage return movement,

means forming a resilient driving connection between said sensor lever and said stop lever,

and means forming a separable connection between said stop lever and said knock-off arm effective upon engagement of said abutment face by said margin stop during carriage return movement to cause said sensor lever to rock said center stop lever to move said knock-off arm and accordingly said clutch knock-off link in knock-off direction.

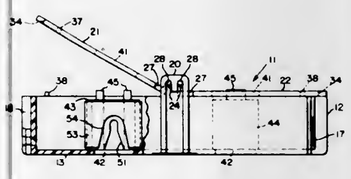
3,260,343
SPACING MECHANISM FOR POWER OPERATED TYPEWRITERS
Maurice D. McCormick, 308 N. Maple Lane, Prospect Heights, Ill.
Filed Dec. 26, 1961, Ser. No. 162,173
13 Claims. (Cl. 197—82)

1. In a machine of the class described and having a pair of cooperating printing components, a spacing mechanism for moving one component transversely of the machine relatively to the other comprising a Geneva movement including a continuously driven Geneva driving wheel and a coacting star wheel, gear means adapted for incrementally spacing one component transversely of the other, means rotatable with the intermittent rotation of the star wheel for actuating said gear means, an eccentrically disposed axially slidable pin carried by the driving wheel selectively projectable to and retractable from a position at which it will operatively engage the star wheel, cam means adapted for engaging one end of the pin for projecting the other end of the pin, and means engageable with the other end of the pin for retracting the pin, said cam means being mounted at one side of



the driving wheel and normally retracted but projectable for projecting said other end of the pin outwardly from the other side of the driving wheel.

3,260,344
TYPEWRITER RIBBON CARTRIDGE
Joseph Carroll Doyle, Pittsford, N.Y., assignor to Kee Lox Manufacturing Company, Rochester, N.Y., a corporation of New York
Filed Feb. 24, 1964, Ser. No. 346,897
6 Claims. (Cl. 197—151)



6. A ribbon cartridge for typewriters and the like, comprising

(a) a casing closed at its bottom and open at its top and having a perimetric side wall,

(b) a pair of covers hinged to said casing to cover, when closed, the top opening of said casing,

(c) said casing having a pair of openings in its bottom, and

(d) each of said covers having an opening through it,

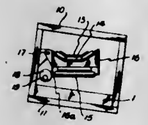
(e) the openings in the two covers aligning with the bottom openings in said casing when the covers are closed, and

(f) means for mounting a pair of ribbon spools in said casing, each spool being in axial alignment with the hole in one cover and the aligned bottom hole.

3,260,345
BUCKET WHEEL BOOM WITH MOVABLE CONVEYOR BELT
Gerhart Scholler, Bad Schwartau, Germany, assignor to Orenstein-Koppel und Lubecker Maschinenbau AG., Lubeck, Germany
Filed Jan. 29, 1964, Ser. No. 340,867
Claims priority, application Germany, Feb. 7, 1963, O 9,224
17 Claims. (Cl. 198—9)

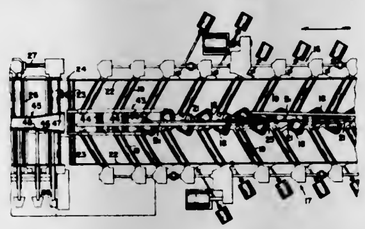
1. In the combination of a bucket wheel digger boom with a bucket digger wheel and rollers carrying a boom conveyor belt mounted in said boom, the improvement

comprising frame means mounting said rollers in said boom for pivotal movement about an axis extending in the



general direction of the longitudinal axis of said boom to counteract for a sidewise tilt of the digger boom.

3,260,346
METHOD OF AND APPARATUS FOR HANDLING WORKPIECES
Frank J. Gleve, Pittsburgh, Pa., assignor to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 28, 1962, Ser. No. 247,907
3 Claims. (Cl. 198—31)



3. In an apparatus for handling and gathering articles, including:

a guide engageable by the articles,

a plurality of horizontally spaced rotatable rolls over which workpieces are conveyed, the axis of rotation of each of which is disposed at an angle such that articles passing thereover are urged away from said guide,

a plurality of longitudinally spaced rotatable rolls having at least a portion thereof of greater diameter than and interspersed between said first-mentioned rolls,

the axis of rotation of each of said rolls being disposed at angles such that articles passing thereover are urged towards said guide,

a workpiece deflecting means arranged as a continuation of said guide, the improvement comprising:

said deflecting means comprising a workpiece deflecting member having a portion projecting into the conveying plane of said second-mentioned rolls, said portion arranged so as to be engageable by the leading end of articles to deflect articles being carried in a first direction of travel over said second-mentioned rolls onto said first-mentioned rolls at which time the articles assume a second direction of travel, and

means for moving said deflecting member to a nondeflecting position so as to permit an article transferred over said second-mentioned rolls to continue to pass in the first direction of travel.

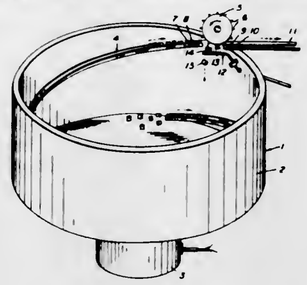
3,260,347
MACHINE FOR ORIENTING SMALL PARTS
Robert H. Barnes, Burbank, Calif., assignor to Pharmaseal Laboratories, Glendale, Calif., a corporation of California
Filed Dec. 9, 1963, Ser. No. 329,156
13 Claims. (Cl. 198—33)

1. A machine for orienting small parts comprising:

(a) an air floor,

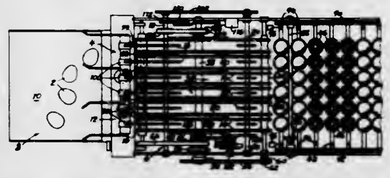
(b) means for moving said parts single file across said air floor, and

(c) a spiked carrier wheel rotatably mounted over



said air floor, said carrier wheel being capable of engaging and transferring only oriented parts across the air floor.

3,260,348
AUTOMATIC ROTARY EGG ARRANGING MEANS
Otto C. Niederer, Bear Tavern Road, and Herbert O. Niederer, Church Road, both of Titusville, N.J.
Filed June 8, 1964, Ser. No. 373,495
9 Claims. (Cl. 198—33)



1. Egg arranging means having an inlet end and a delivery end, elements defining a plurality of channels extending from the inlet end to the delivery end of the egg arranging means and including egg moving means for moving eggs along said channels, egg orienting means located adjacent said channels between the ends thereof and presenting egg engaging surfaces spaced apart a distance less than the diameter of the eggs to be arranged, said surfaces being inclined downwardly and inwardly on opposite sides of the channels, means associated with each of said channels and operable in response to the presence of an egg in each of said channels for controlling the movement of eggs through said channels, and means for moving at least a portion of said eggs orienting means upward and downward with respect to said egg moving means to raise eggs from the egg moving means and support them at opposite sides thereof while permitting the eggs to rotate between the inclined surfaces of the egg orienting means to positions wherein the long axes of the eggs extend vertically and thereafter to lower the eggs again onto said egg moving means.

3,260,349
CODED CARRIER CONVEYOR SYSTEM
Clayton H. Vander Meer, Wyoming, Mich., assignor to The Rapids-Standard Company, Inc., Grand Rapids, Mich., a corporation of Michigan
Continuation of application Ser. No. 98,137, Mar. 24, 1961. This application Oct. 4, 1965, Ser. No. 496,245
5 Claims. (Cl. 198—38)

1. In a materials handling system having a recirculating main conveyor, at least one feed conveyor feeding thereinto, a plurality of branch conveyors exiting therefrom, a plurality of material carrying trays, and means for selectively diverting said trays from said main con-

veyor to said branch conveyors, the combination comprising:

a longitudinally protruding flange on the side of each said tray, said flange having a plurality of bistable magnetic slugs imbedded in its surface at predetermined intervals;

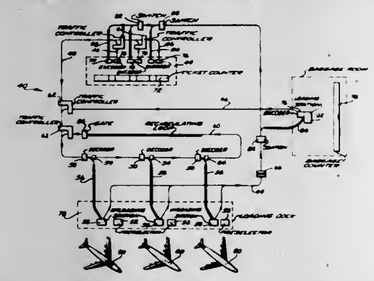
an encoding station positioned along said feed conveyor having a write head with a longitudinal guide slot adapted to receive said flange and having a plurality of electromagnetic winding means positioned therealong in such a manner that one such winding means spatially matches each of said slugs on each said tray;

means for guiding said flange into said write head slot;

means for selectively arming certain of said electromagnetic winding means according to a predetermined code which is indicative of some characteristic of the material contained in one of said trays;

means for activating said armed electromagnetic winding means only when said winding means and their respective matching slugs are adjacent each other whereby the slugs on said one of said trays have a magnetic signal impressed thereon which is indicative of a characteristic of the material in that tray;

a decoding station positioned along said recirculating



conveyor, said decoding station having a read head with a longitudinal guide slot adapted to receive said flange and having a plurality of electromagnetic sensing elements positioned therealong in such a manner that one such element spatially matches each said slug on each said tray;

means for guiding said flange into the read head slot;

means for activating said sensing elements only when said elements and their respective matching slugs on a given tray are adjacent each other, whereby a signal which is indicative of a characteristic of the material in that tray is obtained;

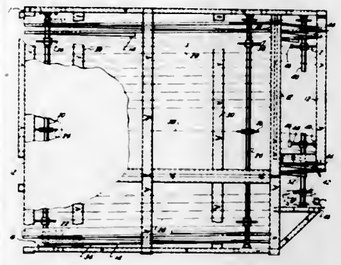
means associated with each said branch conveyor for generating an exit signal indicative of the particular type of material which it is desired to divert from said main conveyor onto that particular branch conveyor;

means for comparing the decoded signal from said decoding station with the signals generated by said generating means; and

delay means for activating the diverting means associated with the branch conveyor whose exit signal bears a predetermined relationship to said decoded signal whereby said given tray is diverted when it passes adjacent that branch conveyor.

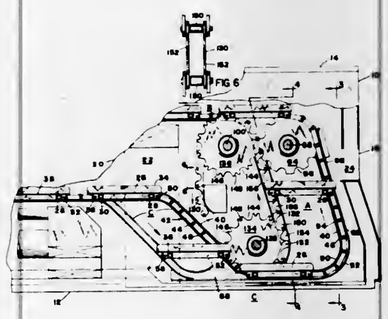
3,260,350
PARTS STORAGE AND HANDLING DEVICE
Anthony J. Martin, Livonia, Mich., assignor to Ajem Laboratories, Inc., Livonia, Mich.
Filed Jan. 8, 1964, Ser. No. 336,494
9 Claims. (Cl. 198—136)

1. A storage and feeding apparatus for articles comprising an inlet thereto, an outlet therefrom, a guide track for supporting articles, said track forming a passage between said inlet and said outlet, a frame, on the inner periphery of which said track is mounted, an article-propelling means carried by said frame comprising at least two vertical support means and a continuous conveyor loop rotatably mounted thereon and wipers forming article-contacting means for urging articles along said track, said wipers being attached to said conveyor loop, means for actuating said conveyor, a guide track comprising a frame, two lengths of perforated flexible metal strip including an outer strip and an inner strip, a slotted brace connect-



ing said metal strips, rollers rotatably mounted on said strips, respectively, with the uppermost circumferential part of said rollers rising above the strips to provide a low-friction rolling surface for said guideway, adjustable angle supports having slots for accommodating adjustment, mounted on said frame and connected to said outer strip and said slotted brace by fastening means passing through said slots of said adjustable angle support and said brace, and having a perforation in said outer strip, and fastening means attaching said inner strip to said slotted brace.

3,260,351
TRAVELING TRAY CONVEYOR STABILIZING MEANS
Daniel W. Miller, Spring Grove, Pa., assignor to Read Corporation, York, Pa., a corporation of Delaware
Filed July 9, 1964, Ser. No. 381,433
3 Claims. (Cl. 198—138)



1. A stabilized tray conveyor for an oven, including a first and second endless chain disposed adjacent opposite sides of said oven, each including spaced upper and lower runs and a connecting upright run,

the upright run of said second endless chain being disposed in parallel rearwardly offset relation with respect to the upright run of said first endless chain,

a plurality of equidistantly spaced trays each pivotally attached at one front corner portion to said first endless chain and at its diagonally opposite rear corner portion to said second endless chain,

a series of end to end pivotally connected links forming a third endless chain offset laterally inward of and adjacent said first endless chain and being trained over an upper and a lower sprocket, said sprockets being respectively disposed adjacent the upper and lower runs of said first endless chain in a common longitudinal plane and positioned to dispose the upright forward run of said third endless chain in a common transverse plane with the upright run of said second endless chain,

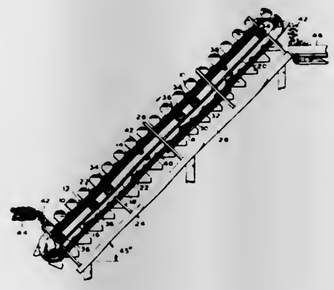
means for driving said first, second and third endless chains in the same direction and at the same speed,

each of the links of said third endless chain being substantially U-shaped between their pivotally connected ends with the open side thereof facing outwardly of said third endless chain,

an outboard roller carried by the unattached rear corner portion of each tray adapted to be snugly received in a said U-shaped link to cooperate with said pivotal attachments of said trays to said first and second endless chains to secure said trays against tilting as said trays move from said lower run to said upright run, along said upright run and from said upright run to said upper run, and

said sprockets having a plurality of equidistantly spaced arcuate circumferential recesses registering with said U-shaped links for transient reception of said outboard rollers in said U-shaped links and said sprocket recesses as said trays move from said lower run to said upright run and from said upright run to said upper run.

3,260,352
RAILWAY ELEVATOR FOR TRANSPORTING MATERIAL UP AN INCLINE
Leslie M. Sheridan, 13 Chicago St., Butte, Mont.
Filed Sept. 25, 1964, Ser. No. 399,240
11 Claims. (Cl. 198—140)



1. Elevator apparatus, comprising:

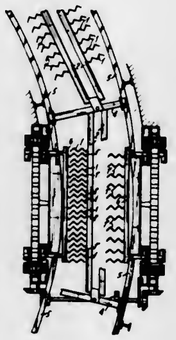
a plurality of container members,

connection means for connecting said container members together in succession to enable movement of said container members together in a common closed path having upward and downward inclined portions and including lost motion connections to permit slack movement between at least some of said container members,

drive means supported along the upward inclined portion of said common path to provide a drive at the upward inclined portion for moving said container members along said common path, and

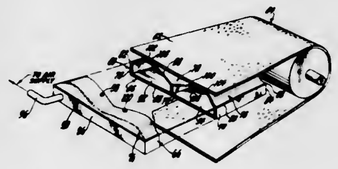
attachment means for releasably attaching said container members to said drive means so that the container members are moved upward attached to the drive means and are moved downward by gravity to produce slack in the lost motion connections at the beginning of the drive means.

3,260,353
CARRYING ELEMENT
Roger Bajulaz, 13 Chemin Pierre Grisse, Genthod, Geneva, Switzerland
Filed May 25, 1964, Ser. No. 369,991
Claims priority, application Switzerland, May 30, 1963, 6,774/63
1 Claim. (Cl. 198—156)



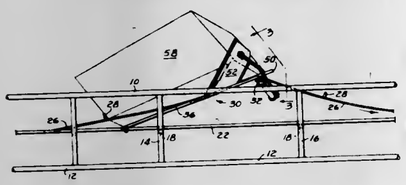
A car storage installation comprising a first and second support having interfingering portions, means for vertically moving one of said supports to transfer a load from either support to the other support, said interfingering portions when seen in plan view having a general shape of zigzag line.

3,260,354
CONVEYOR APPARATUS
Jerry L. Chiddister, Warren, Mich., and David R. Snoeyenbos, Santa Barbara, Calif., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 15, 1964, Ser. No. 367,679
3 Claims. (Cl. 198—184)



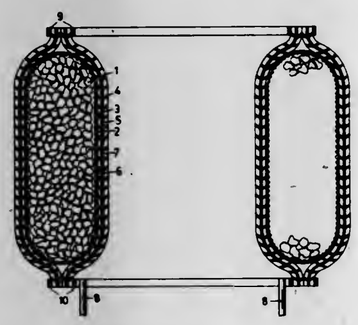
1. Conveyor apparatus comprising an endless belt entrained over spaced rollers, power means for driving said belt along a path defined by said rollers, low unit loading air bearing means extending between said rollers in surface proximate relation to said belt, said bearing means including an elongated rigid pressurized duct and an elongated strip of flexible material hermetically attached along its side and end margins to said duct, means attaching the mid portion of said flexible material to said duct along a path spaced midway between said side margins, and means forming longitudinally spaced apertures in said flexible material laterally adjacent the path of attachment of said mid portion.

3,260,355
SELECTIVE UNLOADER FOR BALE CONVEYOR
Martin Mayrath, Dallas, Tex., and Samuel K. Stauth, Compton, Ill., assignors to Mayrath Company, a corporation of Illinois
Filed June 24, 1964, Ser. No. 382,681
1 Claim. (Cl. 198—185)



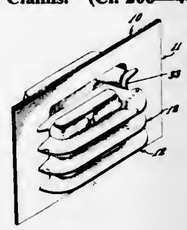
A bale conveyor comprising a generally elongated frame including side rails spaced apart crosswise of said frame, a diverter carriage mounted on said frame for sliding movement lengthwise thereof, said carriage including a transverse bar having its ends resting slidably upon said rails, an inclined ramp structure supported at one end on said bar and providing a rising floor for articles such as bales being conveyed along said conveyor, a pair of diverter sections hingedly connected to the right and left halves of said ramp structure upon hinge axes passing diagonally across said halves, whereby said diverter sections form essentially coplanar continuations of said ramp's surface when in their lowered positions, but form diagonally canted upward extensions of said surface when in their respective raised positions, a cylindrical shaft secured parallel to and beneath said bar, a sleeve slidable on said shaft, a pair of diverter-control arms connected to said respective diverter sections and both pivotally connected to said sleeve, the lengths of said arms being such as to alternately raise and lower the respective diverter sections as said sleeve traverses from end to end of said shaft, and a pair of control ropes extending from said sleeve through guides at the opposite ends of said transverse bar for controlling the position of said sleeve.

3,260,356
GETTER CONTAINER
Siegfried Garbe, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 21, 1963, Ser. No. 325,296
Claims priority, application Germany, Dec. 7, 1962, N 22,452
10 Claims. (Cl. 206—.4)



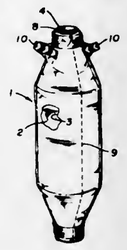
10. A getter device for a vacuum vessel comprising a sealed envelope containing a getter material, said envelope comprising two apertured metal layers separated by a foil of an imperforate metal having a lower melting point than that of the metal of the apertured metal layers, said envelope opening upon beating by melting of the foil which forms a residue at the edges of the apertures.

3,260,357
DISPLAY-DISPENSER FOR PACKETS
George C. Sparks, 101 Rorer St., Erdenheim, Pa.
Filed Nov. 18, 1964, Ser. No. 412,019
10 Claims. (Cl. 206—44.12)



1. A display-dispenser for packets, comprising a bottom wall; side walls upstanding from opposite sides of said bottom wall; a back wall upstanding from the back of said bottom wall extending between said side walls; a top wall extending across the top of said back and side walls; said side walls each having a plurality of inwardly facing forwardly opening superposed grooves in respective alignment with the grooves of the other side wall; a plurality of packets each extending between and having opposite edge margins engaged in a pair of aligned grooves; and a front wall extending across the front of said bottom, side and top walls; said front wall having a thru opening of a lateral dimension slightly less than the lateral extent of said packets, to removably retain the latter in said grooves.

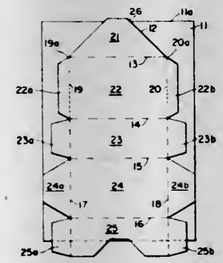
3,260,358
SHRINK WRAPPED TEXTILE SHIPPING PACKAGE
Arthur L. Gottily and John L. Thomas, Pensacola, Fla., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Jan. 27, 1964, Ser. No. 340,434
8 Claims. (Cl. 206—46)



1. A shrink wrapped textile package comprising in combination,
(a) an elongated yarn holder having windings of filamentary material thereabout,
(b) indicia means mounted at one end of said holder,
(c) a thermoplastic shrink film envelope, open at one end and closed at its opposite end thereof, and being of larger dimension than said holder wound with filamentary material,
(d) an aperture formed in the closed end of said envelope,
(e) a plurality of spaced perforate lines formed in said envelope, each line extending from said aperture substantially along the length of said envelope.

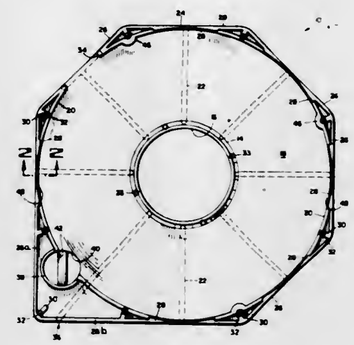
(f) tab means for preventing shrinkage of an associated portion of said shrink film envelope to form a grip, said tab means being joined to said envelope adjacent said aperture and between said plurality of perforate lines thereof,
(g) said envelope being drawn over said holder so that said aperture surrounds said indicia means and then being shrunk tightly around said yarn holder to totally encapsulate all but said one end of said holder with said indicia means thereon.

3,260,359
PACKAGE IMPROVEMENT
William J. Willhite, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
Filed June 9, 1965, Ser. No. 462,693
5 Claims. (Cl. 206—46)



1. A package enclosing an article, said package comprising a liner and a superposed outer wrapper, said liner comprising a cut and scored paperboard member divided into a plurality of side-by-side panels including successively a tear tab panel and four face panels including a top panel, a back panel, a bottom panel and a front panel, a pair of end tabs extending from both sides of said back and front panels, a pair of long end tabs extending from one of the fact panels adjoining the back panel, the length of each of said long end tabs being more than half the full width of the back panel, a pair of short end tabs extending from the other face panel adjoining the back panel, the length of each of said short end tabs being substantially less than half the full width of the back panel, the sum of the lengths of one short and one long end tab being slightly less than the width of the back panel, a line of cut perforations dividing the top panel from each of the end tabs extending therefrom, each of said lines of cut perforations having spaced cuts through the liner the sum of the lengths of which are at least 50% of the total lineal length of each cut perforation line, said outer wrapper being superposed with the liner so that the end portion of the tear tab panel is exposed to provide a tear tab, each of said face panels being positioned at right angles with respect to each of its adjoining face panels thereby forming a rectangular tube around the article, the said end tabs extending from the front and back panels being infolded with the superposed portion of the outer wrapper and positioned at substantially right angles to said face panels, the long end tabs being infolded with the superposed portion of the outer wrapper material to a position substantially at right angles to said face panels, said short end tabs being infolded with the superposed portion of the outer wrapper material so that the outer wrapper extending beyond the short end tabs overlaps the outer wrapper material superposed with said long end tabs to provide wide areas of overlap at the ends of the package, said wide areas of overlap being adhered to form broad end seal areas for said finished package.

3,260,360
CONTAINER
James E. Davis, Longmeadow, Mass., assignor to American Saw & Mfg. Company, East Longmeadow, Mass., a corporation
Filed Sept. 27, 1965, Ser. No. 490,417
3 Claims. (Cl. 206—52)



1. A self-contained package unit receiving a coil of continuous-length flexible resilient metal strip such as hardened and tempered saw-band and steel rule and storing such strongly expansive coil subject to pay-out dispensing of the strip therefrom, said package unit comprising:
(a) a base member having a flat bottom wall;
(b) a central upstanding hub on said bottom wall about which the coil is wound;
(c) an upstanding outer circumferential wall on said bottom wall concentric to said hub against which the outer convolution of the coil bears;
(d) a plurality of upright outer wall sections integral with said bottom wall tangentially related to and reinforcing said circumferential wall;
(e) a plurality of upright studs extending upwardly from said circumferential wall and from said upstanding hub;
(f) a top cover member complemental to said base member and having a plurality of openings therethrough alignable with the studs on said base member whereby the cover member can be permanently secured to the base member by heading over the studs;
(g) a knock-out plug releasably secured within said base member by a rupturable rib spaning an opening in said bottom wall and bearing on the coil to maintain the coil under tension during storage and shipment; and
(h) a strip intake and tangential pay-out port opening radially from the base member through the solid mass of the circumferential wall and one of said outer wall sections and of restricted but sufficient angular extent for automatic snap-out projection thereat of a finger-graspable length of the free end of a contained strip coil when said end is trailed into exposure at said port under center-winding of the coil.

3,260,361
MULTI-UNIT CARRIER PACKAGE FOR CYLINDRICAL CANS
Francis A. Chidsey, Jr., Devon, and William C. Hasselo, Berwyn, Pa., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed May 17, 1965, Ser. No. 456,168
6 Claims. (Cl. 206—65)

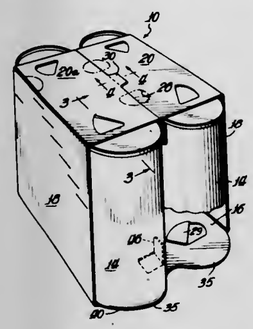
6. A multi-unit package including a wraparound carrier formed of a unitary blank of foldable paperboard holding, in two parallel rows, a plurality of cylindrical

cans each of which has a chimed top with a recessed end and a chimeless bottom with a rounded edge, said carrier comprising in combination;

(a) opposed pairs of top and bottom walls and side walls hingedly interconnected to form a tubular structure with open ends;

(b) said side and top walls each having a length which is less than the length of a row of cans to expose side and top portions of the end cans of each row;

(c) retaining means integral with certain walls of the



carrier for preventing the accidental removal of the cans from the open ends of the carrier;

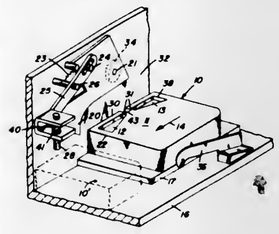
(d) said bottom wall having end portions projecting beyond the ends of the top and side walls with end edges contoured to correspond to the generally circular contour of the bottoms of the end cans to completely cover the bottoms of the end cans to prevent their accidental removal from the open ends of the carrier when the carrier is lifted by grasping the top and bottom of an end can.

3,260,362
SUSPENSION PIECE
Carl Edward Schwinne, Decatur, Ga., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 24, 1965, Ser. No. 458,492
6 Claims. (Cl. 206—59)



3. A one piece integrally molded plastic suspension piece for film rolls comprising: a circular hub having a hollow central portion; ribs positioned on the outer surface of said hub which keep said film roll from turning on said hub; a flange extending outward from one end of said hub, said flange having a recess portion on the under surface adjacent the hub; an essentially octagonal channel-shaped outer periphery section, said periphery section having four flat opposite sides and four rounded diagonally opposite sides; channel-shaped radial support members extending from the flange end of said hub to the center of each side of said outer periphery section; reinforcing ribs on the interior of said hub integral with the sides of said radial support members and fillets positioned on the sides of said radial support members and connecting and reinforcing said members to said flange and to said outer periphery section.

3,260,363
ORIENTATION DETECTOR
Robert S. Vukosic, Cleveland, Ohio, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Mar. 10, 1965, Ser. No. 438,688
5 Claims. (Cl. 209—90)



1. An orientation detector for a container moveable along a preselected path and having an exposed recess in a preselected location on a surface, comprising:

a follower positioned along the preselected path to engage an exposed surface during passage of the container thereby, and to move into the recess during a preselected orientation of the container;

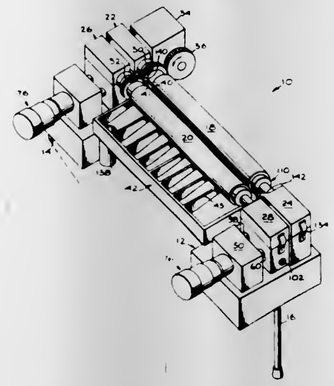
a no-go pin drivable to a position in front of the leading edge of the exposed surface in response to outward movement of said follower, said pin and said follower being spaced so that when said follower is in the exposed recess, during and only during the preselected orientation of the container, the leading edge of the container will be free to pass under said pin; and

resilient means compressible between said follower and said pin by engagement on the surface to allow said follower to be driven upwardly from the exposed recess without driving said pin to the no-go position.

3,260,364
ARTICLE HANDLING AND SIZING APPARATUS
Harold England, Los Angeles, Calif., assignor to Ampex Corporation, Culver City, Calif., a corporation of California
Filed Dec. 12, 1963, Ser. No. 330,137
8 Claims. (Cl. 209—107)

1. Apparatus for sizing articles comprising first and second cylindrical rollers having axes disposed in a common plane extending at an acute angle with respect to a horizontal reference plane; first mounting means rotatably supporting said first roller in a fixed position; second mounting means rotatably supporting said second roller, said second mounting means including means for selectively moving said second roller and for restricting movement of said second roller axis to said common plane; means for selectively locking said second roller in position; and means for rotating said rollers in opposite directions with said roller surfaces between said rollers moving away from one another immediately above said common plane; a base plate; said first mounting means including first and second blocks secured to said base plate supporting said first roller therebetween; third and fourth blocks fixed to said base plate; a first pair of parallel rods

secured between said first and third blocks and a second pair of parallel rods secured between said second and fourth blocks; said second mounting means including fifth

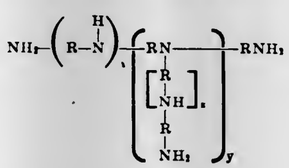


and sixth blocks respectively slidably supported on said first and second pairs of parallel rods and supporting said second roller therebetween.

3,260,365
FROTH FLOTATION PROCESS WITH BRANCHED POLYALKYLENEPOLYAMINES
Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation
No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,147
6 Claims. (Cl. 209—166)

1. A froth flotation process for beneficiating ore containing siliceous materials comprising the step of subjecting the ore to froth flotation in the presence of a minor amount, sufficient to effect satisfactory removal of the siliceous materials, of a collector selected from the group consisting of

(1) a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

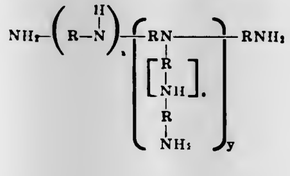
R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

(2) an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,

y is an integer of 1 to 6, and

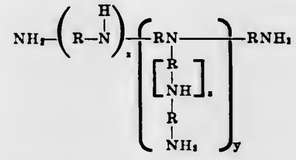
z is an integer of 0–6,

formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

(i) a carboxylic acid having 7–39 carbon atoms and

(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(3) an oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

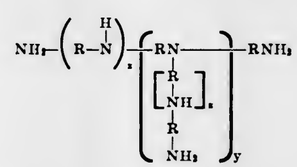
x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms,

(4) an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

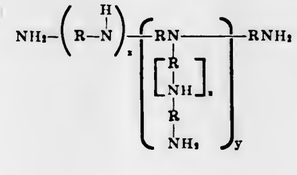
x is an integer of 4 to 24,

y is an integer of 1 to 6, and

z is an integer of 0–6,

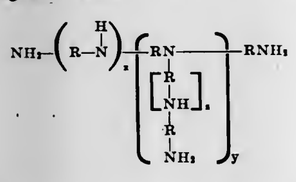
formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

(5) an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,
formed by reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylene polyamine with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones,

(6) a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein
R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0–6,
formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(7) an acylated, then oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(8) an oxyalkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) is a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(10) an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(11) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least thre primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of form about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(12) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

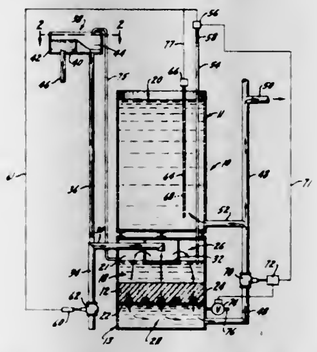
(13) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primaryamino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i., to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(15) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent seelcted from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

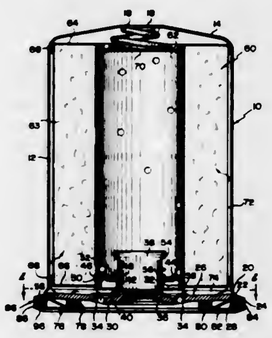
3,260,366
FILTER
Joseph H. Duff, Basking Ridge, and Alfonse J. Soriente, Gillette, N.J., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 30, 1963, Ser. No. 320,149
14 Claims. (Cl. 210—80)



9. A filtering apparatus comprising a tank forming a filter chamber having a filter bed therein, means to transfer liquid to be treated into said filter chamber, said liquid transfer means communicating with said filter chamber above said filter bed, means for entraining gas in said liquid prior to said liquid entering said filter chamber, vent means coacting and communicating with said filter chamber above said filter bed and below where said liquid transfer means communicates with said filter chamber to define a gas space formed from released entrained gas in said liquid above said filter bed in said filter chamber, said vent means controlling the size of said gas space, and means for passing a scouring gas into said filter chamber below said filter bed.

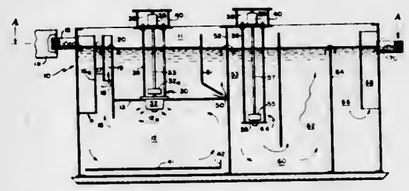
11. A method of filtering a liquid and cleaning the filter which comprises entraining gas in said liquid, passing said liquid with said entrained gas into an enclosed filter chamber having a filter betd therein, releasing entrained gas from said liquid to form a gas space in said filter chamber above said filter bed, passing said liquid downwardly through said filter bed in said filter chamber, withdrawing treated liquid from said filter chamber, terminating the flow of said liquid with entrained gas to said filter chamber, passing a scouring gas upwardly through said filter bed and into said gas space, and withdrawing scouring gas from said filter chamber.

3,260,367
OIL FILTER WITH REMOVABLE HOUSING
William Herbert Hultgren, Mount Carmel, Ill., assignor to Champion Laboratories, Inc., West Salem, Ill., a corporation of Connecticut
Filed Dec. 5, 1963, Ser. No. 328,303
11 Claims. (Cl. 210—130)



1. A spin-on type filter for screwing onto an engine block or filter base mounted on the engine block comprising a cylindrical housing closed at its end opposite said engine block, a separate circular bottom member adapted to fit in said open end to close off the housing, threaded means on said bottom member for threading it onto an engine block, inlet and outlet port means in said bottom member for passing oil to be filtered through the housing, resilient sealing means disposed on the outside of said bottom member to form a liquid-tight seal when said bottom member is secured to the engine block, annular means formed integral with said housing and disposed adjacent the edge of said open end and extending outwardly of said housing, annular resilient sealing means carried by said bottom member, said annular resilient sealing means being disposed in vertical alignment with said integral annular means and positioned beyond the circumference of said bottom member and being of a diameter substantially the same as said integral annular means to form a liquid-tight seal therewith, and clamping means for compresssing said integral annular means and annular resilient sealing means together to secure said bottom member to said housing.

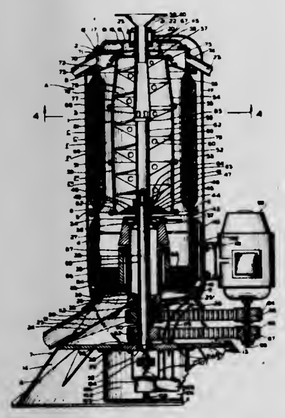
3,260,368
SEWAGE DISPOSAL SYSTEM
William H. Wagner, Montoursville, and David H. Eberly, Jr., York, Pa., assignors to Avco Corporation, Williamsport, Pa., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,523
7 Claims. (Cl. 210—195)



1. In a sewage disposal system for the continuous bacteriological treatment of raw sewage and having an inlet and outlet, the combination of: (1) a tank comprising a lower chamber and an upper chamber separated from one another by a baffle having an opening therein, (2) means for inducing the flow of sewage influent into and

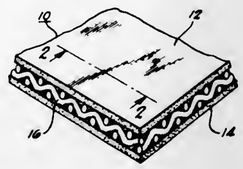
around said lower chamber for anaerobic digestion therein, (3) means for directing anaerobically digested sewage upwardly from said lower chamber into the top of the upper chamber for aerobic digestion therein, (4) means between the two chambers associated with said baffle for (a) discharging oxygen in the form of minute bubbles of air into the upper chamber to promote aerobic digestion therein, (b) discharging a lesser amount of oxygen in the form of minute bubbles of air into the lower chamber, and (c) discharging small amounts of liquid from the upper chamber to the lower chamber downwardly through said opening for facultative digestion of sewage in the immediate region of the point of discharge of air in said lower chamber.

3,260,369
MEANS FOR CENTRIFUGALLY CLARIFYING WATER CONTAINING SEWAGE SLUDGES AND THE LIKE
Lou A. Gruenewaelder, 6917 Pershing Ave., University City, Mo.
Filed Dec. 14, 1962, Ser. No. 244,754
12 Claims. (Cl. 210—297)



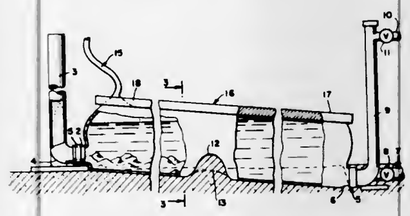
4. A device for clarifying water and similar liquids containing solid matter, said device comprising base means, a rotatable vertical shaft operatively mounted on said base means, a rotatable quill shaft operatively mounted on said base means and extending axially along said rotatable vertical shaft, a rotatable casing operatively mounted on said quill shaft and being rotatable therewith, a helical conveyor element mounted on said rotatable vertical shaft and being located within said casing, said helical conveyor element having an outer margin located in close proximity to the inwardly presented surface of the casing and an inner margin located in outwardly spaced relation to said rotatable vertical shaft so as to form a vertical channel therebetween, said rotatable vertical shaft having an upwardly opening internal bore and being provided with apertures which establish communication between said bore and said channel, an outer housing operatively mounted on said base means and enclosing said casing and rotatable shafts therein, liquid intake means mounted on said housing and communicating with said internal bore for injecting liquids containing solid matter through said apertures and into said casing, where said solid matter will be separated from the liquid by the rotating action of said helical conveyor element, said inner margin of the conveyor element being substantially unobstructed and in continuous communication with said channel along its entire length so that the clarified liquid can spill off of said element into said channel, said casing having discharge apertures at its upper and lower ends for ejecting solid matter out through the discharge apertures at its upper end and liquid through the discharge apertures at its lower end, means for rotating said rotatable vertical and quill shafts, and a bacteriostatic filter mounted on said rotatable quill shaft in close proximity to the discharge apertures at the lower end of the casing so that liquids passing therethrough will also pass through said filter.

3,260,370
DRYCLEANING FILTER ELEMENT
Karl Schwartzwalder, Holly, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 5, 1963, Ser. No. 306,812
7 Claims. (Cl. 210—489)



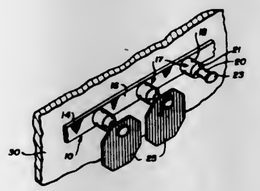
7. A composite fluid treating element comprising means forming first and second layers for filtering fluid, means interposed between said first and second layers and permanently sandwiched therewith for spacing said layers and including means forming voids, and granular means in loose granular form in said voids retained by said last named means for conditioning fluid, said voids being of a size relatively larger than said granular means.

3,260,371
DISPOSAL SYSTEM FOR DECOMPOSABLE ORGANIC WASTES
Byron T. Wall, 143—20 Franklin Ave., Flushing, N.Y.
Filed Sept 6, 1963, Ser. No. 307,241
8 Claims. (Cl. 210—533)



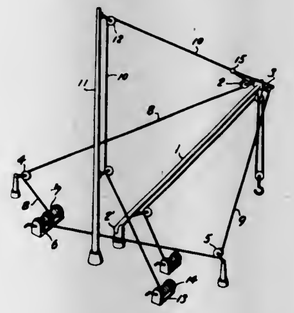
1. A disposal system for decomposable organic wastes comprising an elongated flexible plastic container adapted to hold a substantial quantity of liquid, said container having an inlet for introducing organic waste and water at one end below the upper surface of said liquid, an outlet for withdrawing liquid and sludge at the other end below the upper surface of said liquid, an outlet for gases produced in decomposition of said wastes having communication with said container above the upper surface of said liquid whereby said gases flow from said container through said outlet for gases and not through said inlet and outlet for liquids, and means to maintain the contents of said container under super atmospheric pressure to cause said gases to flow out through said outlet for gases.

3,260,372
REFLECTOR STRIP
Alfred Jauslin, 310 E. 13th Ave., Vancouver, British Columbia, Canada
Filed Aug. 17, 1964, Ser. No. 389,911
Claims priority, application Canada, Sept. 4, 1963, 883,772
2 Claims. (Cl. 211—13)



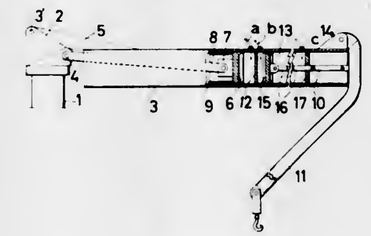
1. A reflector strip comprising a thin flat flexible base member, a plurality of integrally formed hangers equi-distantly spaced along a face of the base member, said hangers each having a body portion, a cylindrical neck and a preformed oval shaped flange at the extreme end of said neck, said flange being disposed in a plane normal to the longitudinal axis of the hanger, and a plurality of flexible light reflecting discs adapted to be supported by the hangers, said discs each having an opening through which the neck of a supporting hanger extends, said disc opening being circular with a diameter less than the major diameter of the oval-shaped flanges whereby the disc material is momentarily distorted as the flange is passed through the openings to freely support the disc on the cylindrical neck.

3,260,373
MARINE DERRICK WITH SLACK-FREE GUY RIGGING
Sadatomo Kuribayashi, 21—11 2-chome, Kakinokizaka, Meguro-ku, Tokyo, Japan
Filed Feb. 10, 1965, Ser. No. 431,579
Claims priority, application Japan, July 17, 1964, 39/40,163, 39/40,164
2 Claims. (Cl. 212—3)



1. A marine derrick arrangement comprising a derrick boom, a pair of guy pendant deflecting sheaves aligned with and located at an equal distance on both sides of the base of said derrick boom, a common winch designed for winding two guy pendants, a topping lift wire, said guy pendants being wound around said common winch at one end thereof and led through said guy pendant deflecting sheaves and then through another pair of sheaves mounted on the derrick boom at the top end thereof both then being connected to said topping lift wire, and a winch for taking in said topping lift wire.

3,260,374
CRANE BOOM CONSTRUCTIONS
Martin Haganes, Caixa Postal 6498, Sao Paulo, Brazil
Filed June 29, 1964, Ser. No. 378,856
3 Claims. (Cl. 212—35)

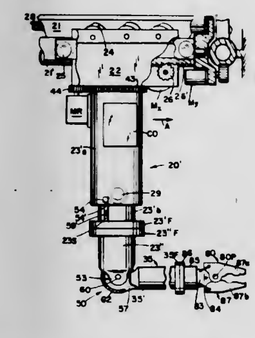


1. In a crane boom comprising a main body adapted to be pivotally mounted on the top of a crane column for vertical and horizontal movement, an outer arm articulated to the outer end of said main body for vertical movement relative to said main body, a first hollow cylinder defined in the inner part of said main body, a first piston mounted for axial movement in said first cylinder, a first piston rod connected at one of its ends to said first piston and adapted to be operatively connected at the other of its ends to said crane column, fluid-tight partition means disposed in said main body forwardly of the most forward point of travel of said piston, and first hydraulic fluid inlet means communicating with the inside of said first cylinder at a point between said fluid-tight partition means and said most forward point of travel of said first piston, the improvement comprising a second hollow cylinder, said second hollow cylinder being defined in the outer part of said main body, a second piston, said second piston being mounted for axial movement in said second cylinder, said fluid-tight partition means fluid-tightly separating said second hollow cylinder from said first hollow cylinder and being disposed rearwardly of the most rearward point of travel of said second piston, a second piston rod connected at one of its ends to said second piston and connected at the other of its ends to said arm, and second hydraulic fluid inlet means communicating with the inside of said second cylinder at a point between said fluid-tight partition means and said most rearward point of travel of said second piston.

3,260,375
ADJUSTABLE MANIPULATOR
Jerome H. Lemelson, 8B Garfield Apts., Metuchen, N.J.
Filed Jan. 14, 1963, Ser. No. 251,411
17 Claims. (Cl. 214—1)

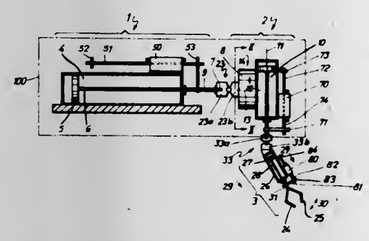
1. A rotatable assembly for use in article manipulators and the like comprising in combination with a first assembly including manipulator elements, a second assembly including a carriage, guide means for guiding said carriage along a predetermined path, first power means for driving said carriage along said predetermined path, rotational coupling means between said second assembly and said first assembly, second power means for rotating said first assembly on said second assembly about a predetermined rotational axis, means for controlling said power means and starting and stopping movement of said carriage along said predetermined path, and rotation of said first assembly between selectively predetermined positions, said control means including first limit switch means and cooperating actuator means, one of which is mounted on said carriage and movable therewith and the other of which is mounted along said predetermined path of carriage travel, such that said first limit switch means is activated upon a selectively predetermined extent of

movement of said carriage along said predetermined path, said first limit switch means operatively connected to said first and second power means for stopping the movement of said carriage and permitting the rotational movement of said arm assembly upon the actuation thereof, second limit switch means mounted on one of said assemblies, a plurality of cooperating actuation means mounted on



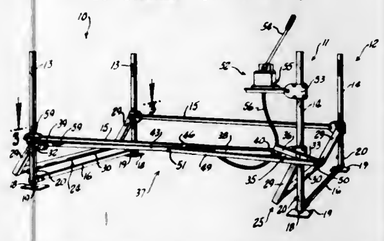
the other assembly in positions to activate said second limit switch means upon rotation of said rotatable assembly to selectively predetermined positions relative to each other when said first assembly rotates on said second assembly whereby said first assembly is stopped at selectively predetermined rotational angles relative to said second assembly as defined by said actuator means when activating said second limit switch means.

3,260,376
DEVICE FOR POSITIONING AND CONVEYING WORK PIECES
Kurt Stoll, 48 Schanbacherweg, Esslingen-Hegensberg, Germany
Filed July 23, 1963, Ser. No. 297,136
5 Claims. (Cl. 214—1)



1. In a positioning and conveying device for positioning and conveying work pieces between a working position and a second position spaced therefrom, a hydraulic cylinder having a piston therein with a piston rod extending through one end of the cylinder, a part carried by the piston rod outside the cylinder, means mounting said part on the piston rod for movement and for moving said part in a direction substantially transverse to the longitudinal axis of the piston rod, and pneumatically operated gripping means carried by said part, said piston rod constituting the sole support for said part, means mounting said part on said piston rod for turning movement about the longitudinal axis of the piston rod, and pneumatic means operatively connected to the piston rod and to said last mounting means for producing turning movement of the said part around the longitudinal axis of the piston.

3,260,377
LIFTING DEVICE
Thomas R. Vilter, Oconomowoc, Wis., assignor to Hydraulic Unit Specialties Company, Waukesha, Wis., a corporation of Wisconsin
Filed Oct. 28, 1964, Ser. No. 407,113
13 Claims. (Cl. 214—1)

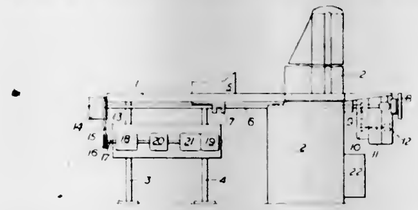


1. In a lifting device of the character described:
(A) a rigid frame structure comprising opposite spaced apart front and rear side frames each having upright posts at its opposite ends, said side frames defining an elongated stall;
(B) first and second crank units jointly supported by the posts at the ends of the stall for swinging motion between lowered and raised positions about fixed horizontal axes extending transversely of the stall, each of said crank units comprising a load engaging bar which extends crosswise of the stall and is spaced a distance from the crank axis;
(C) a lever connected with said first crank unit and constrained to swing therewith along a path parallel and adjacent to one of said side frames;
(D) lever means connected with the second crank unit and constrained to swing therewith along a path parallel and adjacent to said designated side frame;
(E) link means connecting said lever and lever means to constrain the crank units to swing in unison between their lowered and raised positions;
(F) means defining a lengthwise extensible and retractible link;
(G) means operatively connecting said extensible and retractible link with said lever and with said lever means so that extension and retraction thereof effects raising and lowering of the crank units in unison;
(H) and means for effecting extension and retraction of said last named link.

3,260,378
CONTROL APPARATUS
John A. Jackson, Southend-on-Sea, Essex, England, assignor to E. K. Cole Limited, Southend-on-Sea, Essex, England
Filed June 30, 1964, Ser. No. 379,077
Claims priority, application Great Britain, July 4, 1963, 26,478/63
4 Claims. (Cl. 214—1.6)

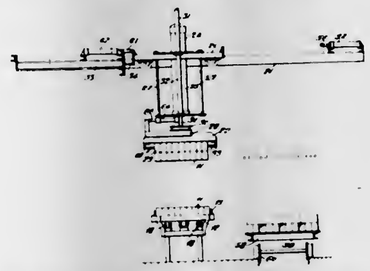
1. In a machine of the type in which the step by step advance of a body to a position where an operation is to be performed thereon is adapted to be controlled by a magnetic track movable step by step in synchronism with said body, discrete programme signals recorded on said track, a magnetic head operatively positioned to react to said signals, means for advancing the body at a slow speed, means for advancing the body at a relatively faster speed, means for moving the head from a first position towards a second position in a backwards direction along the track, means for initiating the movement of the head prior to the advance of the body, means for using a signal received by said head during its backwards movement to initiate the advance of the body at the slow speed, means for bringing said head to rest in the second position, means

for retaining said head in the second position in the event of no signal being received by said head during its backwards movement, means for advancing the body at the fast speed when said head is in the second position, means for using a signal received by said head when in the second position to advance the body at the slow speed,



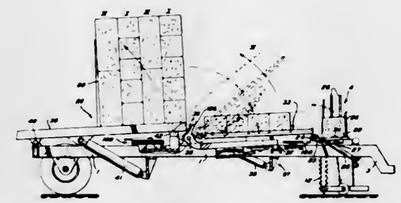
means for returning said head to the first position, means for returning said head at a speed in excess of that of the track, means for initiating the said return when the body is advanced at the slow speed, means for stopping the body and means for effecting said stoppage on a signal being received by said head when in the first position.

3,260,379
MECHANICAL HANDLING APPARATUS
James Munro Bason, Stockport, England, assignor to Bason and Sons Limited, a British company
Filed Apr. 24, 1962, Ser. No. 189,853
4 Claims. (Cl. 214—6)



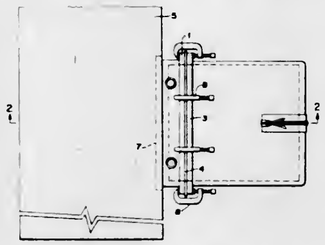
1. An apparatus for the handling of bricks and similarly shaped articles comprising, a receiving platform adapted to accommodate a predetermined number of such articles in juxtaposed rows, a carrier including a plurality of suction nozzles arranged in rows corresponding to the articles engaged thereby, said nozzles suctionally engaging the faces of and gripping the entire assemblage of articles, means for lifting or lowering the carrier, means for bringing the carrier while elevated to a position above a delivery platform, means for producing automatic separation of the articles to arrange them into divided groups with spacing between them once the carrier has been raised from the receiving platform and has moved laterally thereto, means for releasing the articles from the suction nozzles after the assemblage of the articles carried thereby has been lowered to rest upon the delivery platform or upon a previously deposited layer of similar articles, the carrier including a supporting frame, carrier bars slidable laterally of the supporting frame, the rows of nozzles being mounted on the carrier bars, pneumatic rams connected to the outermost of the carrier bars and serving to hold the said carrier bars in mutual contact while the carrier is applied to the receiving platform, rotative shafts mounted in the carrier and extending in the direction of sliding movement of the carrier bars, said shafts having pegs which release the bars for outward movement either in groups or individually according to the angular position of said shafts.

3,260,380
BALE WAGON
Lawrence H. Skromme, Lancaster, and John P. Tarbox, Philadelphia, Pa., assignors to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Jan. 28, 1964, Ser. No. 340,772
2 Claims. (Cl. 214—6)



1. A bale wagon comprising: a chassis structure; a receiving bed, a transfer bed, and a load-carrying bed arranged in tandem on said chassis structure; means for depositing a row of bales on said receiving bed; means for tilting said receiving bed to deliver rows of bales to said transfer bed to form a horizontal layer of bales thereon; means for tilting said transfer bed to an upright position at an end of said load-carrying bed to arrange said layer in a stack on said load-carrying bed; trunnion means journaling said transfer bed on said transfer bed tilting means; means for turning said transfer bed ninety degrees about said trunnion means after formation of a horizontal layer of bales on the transfer bed; and control means for selectively actuating said turning means.

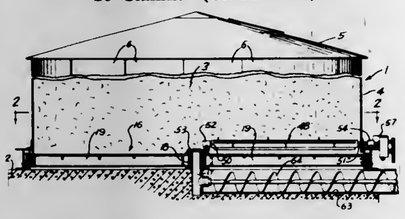
3,260,381
APPARATUS AND METHOD FOR TRANSFERRING OBJECTS INTO A CONDITIONED ATMOSPHERE
Robert N. Wagner and George K. Ford, both of Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 29, 1964, Ser. No. 364,068
5 Claims. (Cl. 214—17)



1. A method of transferring objects from a normal atmosphere to a conditioned atmosphere comprising the steps of sealably securing a collapsible bag about the closed door of a compartment containing conditioned atmosphere, introducing an object into the collapsible bag, filling the bag with conditioned atmosphere and collapsing it to remove gases trapped therein, and then opening the door to insert the object into the compartment having conditioned air.

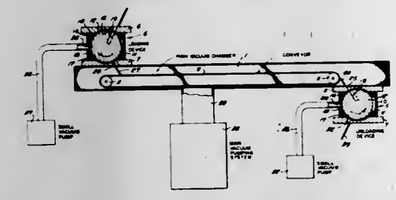
2. A structure for introducing an object into the controlled atmosphere of a work area comprising an enclosure defining a work area having a conditioned atmosphere, a door for sealing off the work area, a collapsible bag secured to the enclosure and enclosing the door, a sealable opening in the bag for passage of an object, and means for supplying conditioned air to the bag while venting the contents to the atmosphere.

3,260,382
APPARATUS FOR REMOVING MATERIAL FROM A STORAGE STRUCTURE
Wybrant J. Klover, Elmhurst, Ill., assignor to A. O. Smith Harvestore Products, Inc., Arlington Heights, Ill., a corporation of Delaware
Filed June 22, 1964, Ser. No. 376,755
10 Claims. (Cl. 214—17)



1. An unloading mechanism for removing a stored material from a storage structure mounted on a base, comprising a turntable mounted for rotation above the base and having a plurality of openings therein, means for rotating the turntable within the storage structure, conveying means located beneath the turntable for conveying stored material passing through the openings to the exterior of the structure, elongated means disposed above the turntable and extending from adjacent the axis of the turntable to the periphery thereof and the axis of said elongated means being substantially horizontal, said means being fixed with respect to the turntable and disposed to dislodge the material when the turntable is rotated to thereby aid in discharging the material through the openings in the turntable to the conveying means.

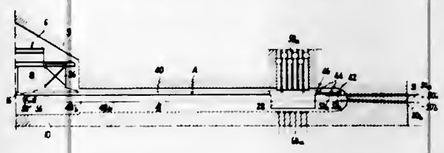
3,260,383
METHOD AND APPARATUS FOR LOADING AND UNLOADING A HIGH VACUUM PROCESS CHAMBER
John J. FitzGerald, Dallas, Tex., assignor to Vacuum Processes, Inc., Dallas, Tex., a corporation of Texas
Filed Aug. 4, 1964, Ser. No. 387,401
10 Claims. (Cl. 214—17)



6. The method of passing an article into or out of a vacuum chamber comprising, depositing the article in a recess below the surface of a carrier; rotating the surface of the carrier within which the article is disposed past a seal into an enclosed chamber; rotating the surface of the carrier within which the article is disposed past another seal at the other side of the enclosed chamber; removing the article from the carrier; and drawing a vacuum on the enclosed chamber while the surface of the carrier is being rotated therethrough.

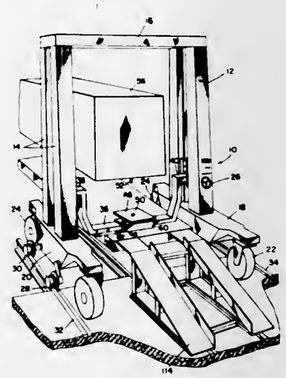
7. In a device for passing an article into or out of a vacuum chamber comprising, an evacuated area having an entry passage and an outlet passage thereinto at separated points; a resilient seal surrounding each passage; a rotary carrier rotatable through the evacuated area and past the passages, with the surface of the carrier being in slidable sealing contact with the seals; and an article receiving recess in the surface of the carrier in position to be rotated past the seals and through the evacuated area.

3,260,384
NUCLEAR REACTOR REFUELLING FACILITY
Georges Lemesle and Roger Martin, Paris, Pierre Rouge, Gif-sur-Yvette, and Jean Vivien, Versailles, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Nov. 26, 1963, Ser. No. 326,154
Claims priority, application France, Dec. 11, 1962, 918,262
8 Claims. (Cl. 214—18)



1. Device for the introduction of fuel elements within a nuclear reactor servicing chamber within the pressure vessel and biological shield of the reactor and for the withdrawal of the elements from the chamber, said device comprising a servicing chamber, a lock chamber, an inlet between said servicing chamber and said lock chamber, an outlet from said lock chamber to the exterior, a conveyor in said lock chamber, fuel element compartments in said conveyor, said conveyor being movable so as to displace said fuel element compartments between a position in which said compartments are located opposite said inlet providing admission to said lock chamber from said servicing chamber and a position in which said compartments are located opposite said outlet, isolating valves for said inlet and said outlet, storage locations in said servicing chamber for the fuel elements, first fuel elements storage magazines for transfer between a location opposite said inlet of said lock chamber and said storage locations, second fuel element magazines for location opposite said outlet of said lock chamber, fuel elements compartments for said magazines and means for exchange of fuel elements between said compartments of said conveyor and said compartments of said magazines.

3,260,385
APPARATUS FOR LOADING AND UNLOADING RAILWAY CARS
Joseph J. King, 195 Kleber Road, Glenshaw, Pa.
Filed Feb. 19, 1964, Ser. No. 346,048
10 Claims. (Cl. 214—38)



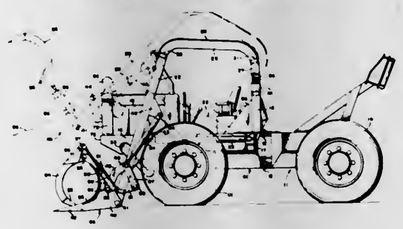
1. A loading apparatus for transferring trailers having king pin members onto flat cars for transportation comprising: two upright wheel supported members spaced apart by an amount greater than the width of a railroad flat car and adapted to provide vertical support for at least a portion of the weight of the trailer; a cross member extending between and operatively connected at its opposite ends to said upright members and having a transversely movable connection which is releasably secured to the king pin of said trailer, means for actuating said transversely movable connection means for raising and lowering said cross member as the trailer is pulled into the flat car from the end thereof, and power means for moving said wheel supported members and thereby translating the attached trailer onto the flat car.

3,260,386
TRACTOR-MOUNTED SCOOP
William J. Engstrom, 5608 E. Mt. Tacoma Drive, Puyallup, Wash.
Filed Oct. 15, 1963, Ser. No. 316,223
16 Claims. (Cl. 214—140)



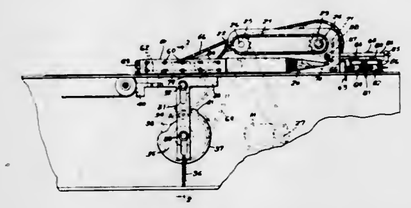
5. In combination with a tractor and with a scoop, a pair of lift arms pivotally mounted at opposite sides of the tractor for swinging in upright planes, and rearwardly directed from their pivot mounts, jack means carried by the tractor and operatively connected to said lift arms, so to swing the latter, a transverse bar pivotally connected at its ends to the swinging ends of the lift arms, a coupler element supported by said transverse bar intermediate its ends, a pair of extension arms joined at their forward ends and extending rearwardly, the scoop being supported at the rearward ends of said extension arms, a coupler element complemental to and interengageable with said first-mentioned coupler element, and supported at the joined forward ends of the extension arms, whereby when the coupler elements are interengaged the extension arms are pivotally supported by said transverse bar upon the swinging ends of the lift arms, and a second jack means mounted upon the extension arms, and including a further coupler element at its forward end, and a coupler element carried by the tractor, offset above the pivot axis of the lift arms, and interengageable with the further coupler element, to enable the second jack means to react from the tractor to elevate the extension arms.

3,260,387
VEHICLE MOUNTED MATERIAL-HANDLING EQUIPMENT
Dwight A. Garrett, Enumclaw, Wash., assignor to Garrett Enumclaw Co., a corporation of Washington
Filed Dec. 21, 1964, Ser. No. 419,932
5 Claims. (Cl. 214—147)



1. In combination with the frame of a tractor vehicle, a boom pivoted thereto for vertical swing movement about a transverse horizontal axis which lies to the rear of a driver's station at the approximate head level of a driver occupying the station, a material-handling head pivotally supported from the outer end of the boom for vertical swing movement about a transverse horizontal axis, a grasshopper linkage pivotally attached by its two ends one end to the boom and the other end to the head at points thereon proximal to but offset from the pivotal axis of the head, and independent double-acting hydraulic jacks for operating said boom and for operating the head one jack extending between the vehicle and the boom and the other jack extending between the boom and the elbow joint which connects the two links of the grasshopper linkage, the boom comprising companion matching arms one lying at one side and the other at the other side of the vehicle, said arms, when the boom occupies a lowered position, extending forwardly from the pivot axis in a generally horizontal plane elevated above the driver's station and thence reaching downwardly on a steep inclination to contact the ground at a point closely adjacent to a perpendicular dropped from the forward extremity of the frame, said boom having its two side arms joined by cross-members located at each of the two ends of said horizontal portion of the boom arms and having a canopy extending between said cross-members in spanning relation to the side arms.

3,260,388
MACHINE FOR REMOVING CARTONS FROM PACKAGES
Andrew W. Anderson, West Caldwell, N.J., assignor to Scandia Packaging Machinery Company, North Arlington, N.J., a corporation of New Jersey
Filed July 11, 1963, Ser. No. 294,313
7 Claims. (Cl. 214—310)



1. Apparatus for removing cartons from a plurality of packages enclosed therein comprising means for supporting the loaded cartons, suction means above the support for holding the individual packages and means operable, while the packages are being held, for directing air blasts into the carton above and below the packages therein for flexing the upper and lower walls of the carton and freeing them from frictional contact with the packages for more effectively blowing the cartons away from the packages.

3,260,389
CONTAINER-EMPTYING CLAMP STAND WITH GAS-FLUIDIZING CAP
Hamilton Neil King Paton, Bellevue, Wash., assignor to Granu-Flow Equipment Ltd., Vancouver, British Columbia, Canada, a corporation of British Columbia, Canada
Original application Mar. 23, 1962, Ser. No. 181,981. Divided and this application Oct. 8, 1964, Ser. No. 402,585
12 Claims. (Cl. 214—310)

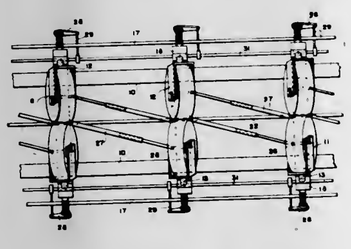
1. A gas-fluidizing container cap comprising a pan having a bottom, a peripheral wall with one edge encircling said bottom and an open side opposite said bottom, a gas-permeable partition in said pan spaced from the bottom of said pan for defining a chamber therebetween, means connected to the periphery of said pan

for supplying gas under pressure to such chamber, an outlet conduit projecting from the peripheral wall of said pan at a location between the bottom of said pan and its open side for receiving material from the container fluid-



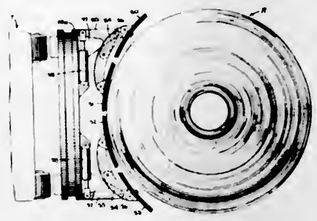
ized by gas emanating from said partition, a valve in said outlet conduit adjustable to vary the flow of such material through said outlet conduit, and a baffle partially covering the opening from the open side of said pan into said outlet conduit.

3,260,390
PIPE CONVEYOR FOR WRAPPING MACHINES AND THE LIKE
Clifford F. Morain, Burgett Road, Youngstown, Ohio
Filed July 30, 1964, Ser. No. 386,179
3 Claims. (Cl. 214—339)



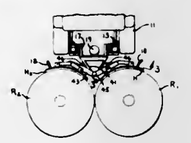
1. In a conveyor for simultaneously imparting longitudinal and rotational movement to a length of pipe a longitudinally extending base, a plurality of supports extending transversely of said base at longitudinally spaced points, means at the transverse outer ends of each of said supports to slideably and rotatably support an upwardly and inwardly extending shaft, a pipe supporting roll journaled on the inner upper end of each of said shafts and adapted to have their axes of rotation skewed upon rotation of said shafts, first shaft means extending along said base to rotate said rolls about their axes, second shaft means extending along said base to advance said first mentioned shafts axially toward and away from each other whereby the pair of rolls carried thereby will be moved toward and away from each other, and third shaft means extending along said base to rotate said first mentioned shafts about their axes whereby the relative skew of the axes of said pair of rolls may be varied, each of said rolls having a supporting and driving spindle, said first shaft means comprising a continuous shaft journaled on and extending longitudinally of said base below said rolls, a longitudinally extending but short secondary shaft journaled on at least certain of said transverse supports and driven from said continuous shaft, and extensible drive rods each having a universal joint at either end interconnecting the ends of said secondary shafts and said spindles.

3,260,391
TRUCK WITH POWER MEANS FOR MOVING VACUUM GRIPPING DEVICE
Earl A. Horton, Philadelphia, Pa., assignor, by mesne assignments, to Eaton Yale & Towne, Inc., a company of Ohio
Filed May 24, 1962, Ser. No. 197,432
6 Claims. (Cl. 214—650)



4. In a truck of the class described having a load carriage mounted for lifting movement,
a load gripping vacuum device, means for supporting said device on said load carriage, said device having load contacting surfaces that are adapted for vacuum sealing contact with a load,
a first portion of said device secured to said supporting means for movement with the truck so as to contact the load as the truck moves bodily into a particular position relatively to the load,
second portions of said vacuum device arranged at opposite ends of said first portion and adapted for movement relative to said first portion to change the relative positions between the load contacting surfaces of the said device, said load contacting surfaces extending on each of said first and second portions of the device,
power means for actuating said second portions of the vacuum device to move said portions relative to said first portion, and means for controlling the power means to move the second portions of the device to positions matching the contour of a load after the first portion has moved into contact with the load in said particular position of the truck, so that said surfaces may easily establish sealing contact with load surfaces of varying shapes.

3,260,392
LOAD ENGAGING MECHANISM OF INDUSTRIAL LIFT TRUCK
Donald A. Harris, Vancouver, Wash., assignor to Hyster Company, Portland, Oreg., a corporation of Nevada
Filed Dec. 16, 1963, Ser. No. 330,854
13 Claims. (Cl. 214—652)



11. In a lift truck having an upright mast and a carriage movable along said mast,
an upright forwardly directed suction cup disposed forwardly of said carriage,
mounting means connected to said carriage for mounting said cup, said mounting means being rotatable at its connection to said carriage about a first upright axis,

universal joint means connecting said cup to said mounting means at points on laterally opposite sides of said first upright axis establishing a second upright axis oblique to said first upright axis,
said oblique axis being swingable relative to said first upright axis upon rotation of said mounting means such that pivoting of said mounting means about said first axis enables both a forwardly and rearwardly tilting movement of the upper and lower portions of said cup, and a lateral pivoting movement of said cup so that said cup can conform its position to that of a load upon engagement with said load.

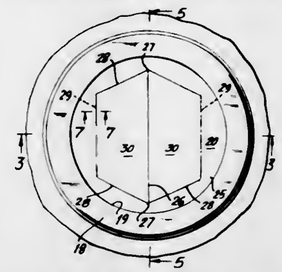
3,260,393
SAFETY CAP FOR CONTAINERS
Simon Roberts, 20177 McIntyre, Detroit, Mich., and Joseph D. Rankin, Jr., 54180 Dequindre, Rochester, Mich.
Filed May 10, 1965, Ser. No. 454,403
21 Claims. (Cl. 215—9)



1. A safety cap for a container, comprising:
(a) an inner cap member provided with means for sealing engagement with a container;
(b) an outer cap member telescopically mounted over said inner cap member and normally rotatable independently thereof and movable longitudinally thereof;
(c) a plate mounted in said outer cap member;
(d) means for releasably connecting said plate to one of said cap members;
(e) drive clutch mechanism for connecting said cap members together for positive drive action for rotation of the inner cap member when the outer cap member is rotated in one direction to remove the safety cap from a container, and for torque limiting, releasable drive action for rotation of the inner cap member when the outer cap member is rotated in another direction to attach the safety cap to the container, and including,
(1) clutch driven means on the other of said cap members, and
(2) clutch drive means on said plate selectively engageable with said clutch driven means; and,
(f) spring means mounted between said cap members for normaly biasing the clutch drive and driven means apart to inoperative positions to allow independent rotation of the outer cap member relative to the inner cap member.

3,260,394
CLOSURE MEMBERS
Albert E. Karp, Flushing, N.Y., assignor to Chanal Plastics Corporation, Rego Park, N.Y., a corporation of New York
Filed Apr. 22, 1965, Ser. No. 449,938
14 Claims. (Cl. 215—37)

1. A one-piece closure member comprising an annular outwardly extending flange, an annular wall extending downwardly from the inner periphery of said flange, a bottom wall at the lower end of said annular wall, said bottom wall being curved transversely about a line in the plane of said flange and passing through the axis of said flange, said bottom wall being formed with a pair of trap



doors hingeable about parallel hinges and swingable downwardly away from each other, said hinges lying in parallel planes perpendicular to said line.

3,260,395
BOTTLE CAP
Nicholas D. Ellis, Ladue, Mo., assignor to Anheuser-Busch, Incorporated, St. Louis, Mo., a corporation of Missouri
Filed June 5, 1964, Ser. No. 372,969
7 Claims. (Cl. 215—46)

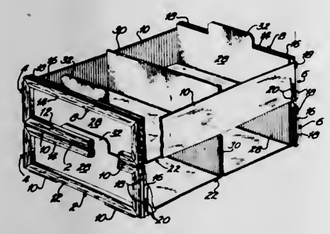


1. A bottle cap having an outer shell with a top portion and a depending skirt, said top portion having a tongue in the central portion thereof, said tongue having its edges rebent to form a rounded edge therearound, said top portion having an outer portion outwardly from and in the plane of said tongue, said tongue joined to said outer portion along a connecting portion, a score extending along one side of said connecting portion from the edge of said tongue across said outer portion and into said skirt, an inner disc positioned within said outer shell in contacting relation with said outer portion of said outer shell, said inner disc being in parallel relation with said tongue, a seal beneath said inner disc extending to the inner surface of the depending skirt of the outer shell, thereby maintaining said inner disc in fixed relation with said outer shell to prevent the separation of said parts, and indicia on said bottle cap for informing the user of the proper direction of twist of said tongue to effect removal of said bottle cap from a bottle.

3,260,396
STACKABLE KNOCKDOWN WIREBOUND CONTAINER
Philip O. Buch, Rockaway, N.J., assignor to Stapling Machines Co., Rockaway, N.J., a corporation of Delaware
Original application Dec. 10, 1962, Ser. No. 243,248, now Patent No. 3,187,921, dated June 8, 1965. Divided and this application June 15, 1964, Ser. No. 375,079
3 Claims. (Cl. 217—43)

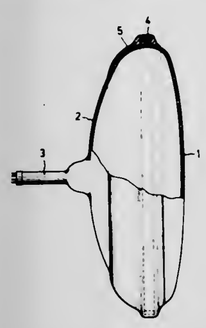
1. A wirebound container comprising four sections having adjoining cleats at the lateral edges of the container, with slats stapled thereto on at least the rear, bottom and front sections, with the bottom section having two slats which are located near the rear and front corners of the container to leave a space between said slats across the central portion of said bottom section, with

the several sections foldably secured together by binding wires stapled thereto and with the ends of each of said binding wires secured together at one corner of the container, and a unitary liner of foldable sheet material fitted into said container to cover the inner face of the bottom section, with the end portions of said liner being folded up perpendicularly to lie against the inner faces of the cleats at the ends of said container and close said ends, the upper edges of said end portions being provided



with upwardly projecting aligning members of a width slightly less than the space between the slats on said bottom section whereby, when said container has a similar container stacked upon it, said aligning members may be inserted between the slats on the bottom section and between the inner faces of the cleats and the outer faces of the end portions of the liner of the container above to secure the two containers against transverse movement relative to one another.

3,260,397
CATHODE RAY TUBE AND METHOD OF MAKING SAME
Johannes de Gier, Willem Fokko Nienhuis, and Jan Willem Ruis, all of Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,639
Claims priority, application Netherlands, Feb. 24, 1961, 261,678
10 Claims. (Cl. 220—2.1)



1. A method of strengthening a part of a wall of an evacuated glass vessel comprising the steps positioning about the part of the wall to be strengthened without subjecting the wall to compressive stress a metal band having a rigid configuration corresponding to the outer surface of the wall part to be strengthened, said metal band having internal dimensions which are larger than the dimensions of the part of the wall to be strengthened whereby the band surrounds and is spaced from the wall part to be strengthened without being in contact with any portion thereof and does not subject the wall to compressive stress, and filling the space between the metal band and the part of the wall to be strengthened with a hardenable synthetic material which adheres to the metal and the wall.

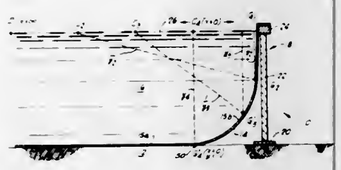
7. A cathode ray tube comprising an evacuated glass envelope having a face portion and an adjoining cone portion, an annular metal band spacedly positioned around the periphery of said tube in the transition zone between the face portion and the cone portion, said metal band being rigid, and conforming to the shape of that portion of the tube which it surrounds, without subjecting the envelope to compressive stress, and a hardened synthetic resin which adheres to metal and glass filling the space between the metal band and the envelope.

3,260,398
WOVEN REINFORCEMENT FOR COMPOSITE STRUCTURE
Boris Levenetz, San Diego, Calif., assignor to Whittaker Corporation, a corporation of California
Filed Jan. 29, 1962, Ser. No. 169,558
2 Claims. (Cl. 220—3)



1. The combination of a filament wound pressure vessel having an opening therein,
a woven reinforcement structure of a size substantially smaller than said pressure vessel having a hole therein, said hole being substantially equal in size to the opening in the pressure vessel,
fastening means for attaching said reinforcement structure to the rim area around the opening in the pressure vessel such that the opening and the hole are substantially in alignment,
said reinforcement structure including at least one filament encircling the center of the woven reinforcement structure and interwoven with a plurality of second filaments emanating from the center of the woven reinforcement structure,
adhesive means adapted to maintain the first filament and second filaments in a fixed relationship,
whereby the stresses developed in the pressure vessel about the opening which tend to enlarge the size of the opening are primarily supported by the first filament.

3,260,399
LIQUID CONTAINER
Jack G. Sieg, 4602 E. 51st St., Tulsa 35, Okla.
Filed Apr. 25, 1963, Ser. No. 275,723
2 Claims. (Cl. 220—18)



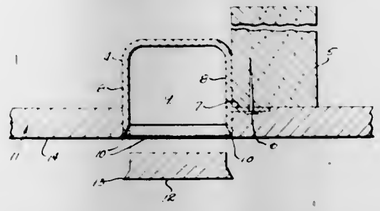
1. An open-topped container positioned above a supporting surface and adapted to be filled with liquid, comprising:
a generally planar base adapted to rest upon the supporting surface;

side walls extending upwardly from the base, each of said side walls being curved throughout the height thereof in accordance with the formula

$$dx-dy=y^2/\sqrt{1-y^4}$$

wherein x and y are abscissa and ordinate points, respectively, on the respective side wall; and
vertically disposed support means having one end engaging the supporting surface and having the other end in engagement with the upper end of each side wall to support said side walls by an upwardly directed force only.

3,260,400
ELECTRICAL OUTLET BOX
Joseph R. Miles, 4119 W. 177th St., Torrance, Calif.
Filed Jan. 15, 1964, Ser. No. 337,764
4 Claims. (Cl. 220—3.4)



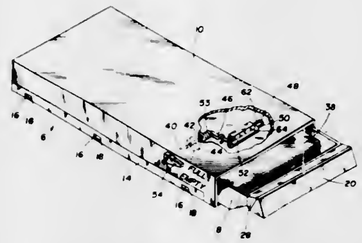
4. An electrical outlet box of the character described, having all edges facing the wallboard of a room in which the said electrical outlet is mounted, beveled on the inside thereof to cut an opening in the said wallboard when the said wallboard has a block of wood the same size as that of the desired opening in the said wallboard placed upon the room side thereof and hit with a hammer, the said block of wood having the same beveled edge as that of the said electrical outlet box.

3,260,401
BRUSH SCRAPER
Anthony Cortina, 56 Huntington St., New London, Conn.
Filed Jan. 31, 1964, Ser. No. 341,678
1 Claim. (Cl. 220—90)



A brush scraping blade having two diagonally disposed scraping edges curved to join each other each in a rounded edge angle about intermediate horizontal and vertical, a guillotine scraping blade having correspondingly angular scraping edges and inner curved joining edge inverted with respect to the first pair of scraping edges, bracketing members one at each opposite side edge of a scraping blade having a sliding groove adapted to slidingly receive an outer edge of the other blade in vertical reciprocating movement of one blade with respect to the other, the combined reciprocating blades forming a brush receiving opening therebetween, whereby a brush disposed therein will be scraped and squeezed between the four cooperating diagonal blade edges upon reciprocation, and means for supporting the lower plate across the open top of a container.

3,260,402
SHEET DISPENSING DEVICE
Norman N. Lareau, Fairport, and Carl H. Zirngibl, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 15, 1964, Ser. No. 367,651
8 Claims. (Cl. 221—4)

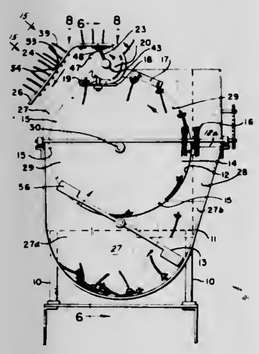


1. In a sheet dispensing device, the combination comprising:
a housing; a drawer supported by said housing for receiving a stack of sheets to be fed therefrom one at a time, and movable relative to said housing to and from an initial position to feed a sheet;
a feed roller;
means for rotatably supporting said roller and movable between an operative position in which said roller is in rolling engagement with the uppermost sheet in said stack of sheets and its axis of rotation is fixed relative to the path of movement of said drawer, and an inoperative position in which said roller is removed from engagement with said stack of sheets to allow insertion of sheets into said drawer; and
breaking means cooperating with the periphery of said roller when in its operative position to allow said roller to be rotated in one direction due to its engagement with the uppermost sheet in said stack of sheets as said drawer is moved from its initial position, and to prevent rotation of said roller in the opposite direction to hold the uppermost sheet against movement as said drawer is returned to its initial position whereby said uppermost sheet is fed from said stack of sheets.

3,260,403
APPARATUS FOR SELECTING AND ALIGNING RANDOM ARTICLES
Roman Francis Wonneman, 9621 Harding Ave., Baltimore 34, Md.
Filed May 31, 1963, Ser. No. 284,406
10 Claims. (Cl. 221—10)

1. Apparatus for elevating elongated articles having predominate annular recessed portions and axially projecting portions to an alignment chute comprising in combination: a semi-annular lower primary support inclined to the horizontal for a large quantity of random articles, a semi-annular higher secondary support inclined to the horizontal for receiving and containing a selected smaller random quantity of articles from said lower primary support, means for positioning said higher secondary support in offset relation above said lower primary support, means comprising a plurality of radial arms rotatable about an inclined to the horizontal axis disposed for engagement with articles on said primary support for transferring a selected random quantity of articles from said lower primary support to said higher secondary support, gravity re-cycle passage means for the return of excess

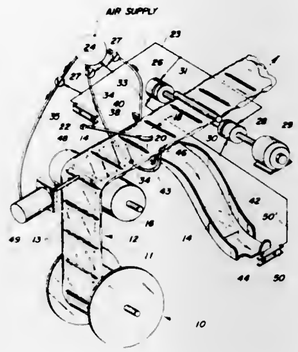
articles from said secondary support to said primary support, elevating means disposed for engagement with articles on said secondary support rotatable about an inclined to the horizontal axis comprising a peripheral series of laterally projecting buttons on a rotatable support, said buttons being movably affixed in lateral relation to said rotatable support, means comprising a plurality of rotatable bristle brushes in lateral spaced relation on the ascending side of said rotatable support at a level higher than said secondary support for removing articles in excess of one from each button, re-positioning means affixed to the frame of the apparatus in position on the ascending side of said rotatable support at a level higher than said brushes for re-positioning the article suspended pendantly on each button, rotatable receiver means on the descending side of said elevating means at a level slightly below the highest level of peripheral travel of said buttons on the rotatable support for initially receiving a pendant portion of the individual article on each



projecting button, then receiving remaining portions of the article for movement of said article out from said elevating means after said button has continued its descent to a lower level at which it descends away from the article depositing the same on said receiver for movement of said article into an alignment chute, the said receiver comprising a disc in lateral spaced relation to said elevating means having peripherally open slots, the said receiver being operable in cyclic timed relation to the buttons on the elevating means, said alignment chute comprising in general a pair of spaced apart members having oppositely grooved trackway surfaces for slidingly guiding articles in a predetermined path of travel in their descent by gravity from the level of said receiver to a discharge at a lower level, defining a space between said spaced apart members slidingly receiving upper and lower portions of elongated articles, and means for driving said elevating means, said receiver means, and said means comprising a plurality of radial arms in continuous uninterrupted rotary motion.

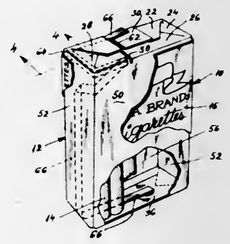
3,260,404
AUTOMATIC PARTS SUPPLY ARRANGEMENT
Dean J. Critchell, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Feb. 11, 1964, Ser. No. 344,152
10 Claims. (Cl. 221—13)

1. An automatic parts supply arrangement for presenting similar parts from within a pouched supply web, comprising:
means for advancing the supply web;
an air jet nozzle;
means for maintaining the air jet nozzle within the supply web;



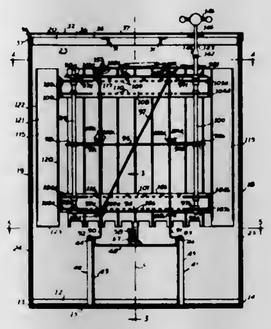
means for sensing a part within a pouch of the supply web; and
means responsive to said sensing means for actuating said air jet nozzle to eject the sensed part.

3,260,405
OPENING AND PUSH UP CIGARETTE CONTAINER
Blanche Frischer and Robert Frischer, both of 110 E. 36th St., New York, N.Y.
Filed Feb. 20, 1964, Ser. No. 346,237
1 Claim. (Cl. 221—32)



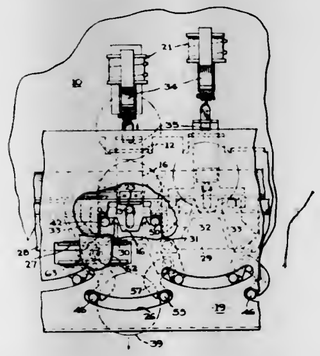
A cigarette package comprising a rectangular-shaped hollow paper body, sealed all around including the top and bottom, cigarettes packed in said body in rows, said top having spaced aligned slots thereacross and having a perforated line along portions of the edge thereof between said slots, and a flexible tear strip arranged inside the body along said perforated line, one end portion of the strip disposed downwardly along one side of the body and inwardly along the inner surface of the bottom of the body underneath the bottom ends of a number of cigarettes in one row and anchored at its bottom end to said inner surface, the other top end of the strip extending outwardly through the aligned slots for manipulating the strip, upward pulling on the tear strip adapted to tear the material of the body along the perforated line providing a top opening, continued pulling on the strip adapted to lift a number of cigarettes successively so that the upper ends thereof extend through said top opening outwardly of the package in position to be grasped by the fingers of the user for extraction from the package.

3,260,406
VENDING MACHINE
Louie M. Ezzell, Abbeville, Ala.
Filed Sept. 30, 1964, Ser. No. 400,404
18 Claims. (Cl. 221—122)



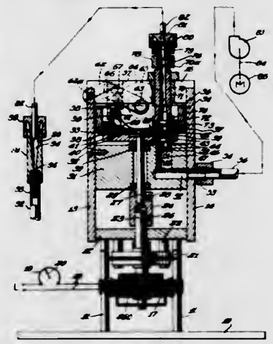
1. A vending machine comprising a housing having a bottom and a window therein, a supporting frame mounted on said bottom, a main frame mounted on said supporting frame, a pair of vertically disposed shafts mounted on opposite sides of said main frame, means for rotating one of said shafts, sprockets on said shafts, a pair of vertically spaced aligned endless belts carried by said sprockets, a plurality of juxtaposed vertically disposed magazines removably mounted on said belts and extending outwardly therefrom to provide a front flight of magazines for passing across said machine and in front of said window, slide bar carried by said supporting frame between said shafts, a traveler block movably carried by said slide bar inwardly of said front flight of magazines for cyclic movement toward and away from said front flight, and a discharge member carried by said traveler block for the discharge of articles forwardly one at a time from a selected magazine disposed in front of said discharge member.

3,260,407
POSITIVE DRIVE CAM PLATE DISPENSING MECHANISM
Frank A. McRoy, Chattanooga, Tenn., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 17, 1965, Ser. No. 440,449
7 Claims. (Cl. 221—298)



1. In a dispensing mechanism, a bin for articles in vertical stack, a pair of support rods movably mounted beneath the lowermost article in said bin, a pair of lowering rods beneath said support rods, a lock plate in restraining engagement with said support rods, means for moving said lock plate out of restraining engagement with said support rods for movement of said support rods, a cam plate, cam surfaces on said cam plate for engaging said support rods, said cam plate being engaged by said lowering rods and motor means positively driving said cam plate and positively driving said lowering rods whereby when said support rods are released for movement by weight of the stack of articles thereon the slide thereon is moved to and is supported by said lowering rods and said motor means drives said lowering rods to article dispensing position regardless of the weight of the articles on said lowering rods, said cam plate moving said cam surfaces to position engaging and moving said support rods to supporting position beneath the next article in the stack when the next article moves to position adjacent said support rods during dispensing of the preceding article.

3,260,408
METHOD AND MEANS OF DISPERSING PARTICULATE MATERIAL IN A STREAM OF CARRIER FLUID
Louis A. Smitzer, Chicago, and William E. Bixby, Deerfield, Ill., assignors to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 8, 1964, Ser. No. 358,332
22 Claims. (Cl. 222—1)

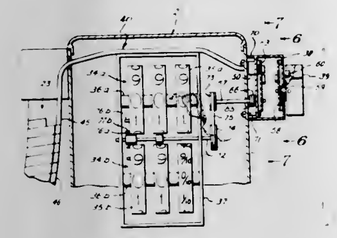


1. The method of dispersing a particulate material in a carrier stream which includes the steps of
filling a row of metering apertures with particulate material,
driving a supply of carrier fluid through a circuit in the form of a stream,
and at one point in the circuit directing the stream selectively through said apertures separately and sequentially to admix the contents of each aperture in the stream.

3,260,409
APPARATUS FOR DISPENSING LIQUIDS
Oliver C. Benham, Jr., Bellaire, Tex., assignor, by direct and mesne assignments, to Texas Industrial Manufacturing Company, Houston, Tex., a corporation of Texas
Filed Sept. 17, 1964, Ser. No. 397,196
10 Claims. (Cl. 222—20)

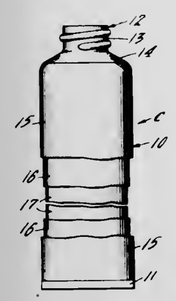
1. An apparatus for dispensing gasoline at an automobile service station, which includes a pump housing accumulating counter wheels rotatable within the housing for indicating the amount of gasoline dispensed, a hose leading from the pump housing, and a nozzle on the end of the hose having a normally closed valve; the improvement comprising a plurality of normally open electrical switches enclosed within a weather-proof box on the exterior of the pump housing, indicia on the exterior of the

box adjacent said switches representing amounts of gasoline to be selected, a part movable over the indicia for closing a selected one of said switches within the box, additional normally open electrical switches each connected in series with one of said first-mentioned switches, means including parts on the counter wheels for succes-



sively closing selected ones of said additional switches so as to close the circuit including the closed first-mentioned switches when said selected amount of gasoline has been dispensed, and means responsive to closing of said circuit for causing the valve to move from open to closed position.

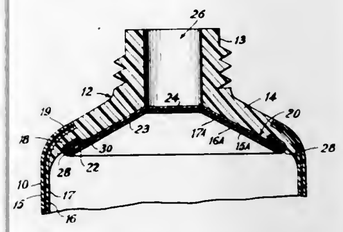
3,260,410
COLLAPSIBLE CONTAINER STRUCTURE
Roger Brandt, Andover, Mass., and Ralph William Kaercher, Barrington, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 13, 1962, Ser. No. 236,906
24 Claims. (Cl. 222—107)



11. A method of producing collapsible dispensing containers, comprising forming into tubular shape a laminated base material having as one of the layers thereof a copolymer of an olefin and a polar group-containing monomer co-polymerizable therewith and having as another of the layers thereof a fluid impermeable barrier, and bonding to said copolymer layer a thermoplastic head member to provide a fused connection therewith along a band area of said copolymer layer at one end thereof.

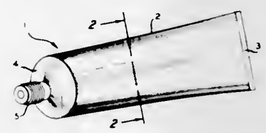
17. A collapsible tube comprising a composite tubular body resistant to delamination and stress cracking and a headpiece fused to one end thereof, said body being shaped from a preformed laminated construction wound in a single turn with its longitudinal edges overlapped and fused in a longitudinal side seam, said laminated body including a thin metallic foil ply and a thermoplastic ply bonded coextensively to the interior surface of said foil ply, said thermoplastic ply being a copolymer of ethylene and an acid selected from the group consisting of acrylic acid and an alkacrylic acid.

3,260,411
COLLAPSIBLE CONTAINER STRUCTURE
Frank Egremont Dobson, Pittstown, N.J., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed July 13, 1964, Ser. No. 381,980
20 Claims. (Cl. 222—107)



1. A collapsible dispensing container, comprising:
a deformable body having a plurality of laminas therein;
one of said laminas being a barrier substantially impervious to permeation by oxygen and essential oils;
a second of said laminas being adaptable to be directly bondable to thermoplastic;
a thermoplastic headpiece including an integral shoulder and breast;
the upper surface of said shoulder being fused to said second body lamina along a circumferential band area at one end of said body;
and a laminated insert comprised of both said barrier and thermoplastic bondable laminas and being fused to the undersurface of said shoulder in inwardly spaced relationship to the band area of said body, whereby said shoulder portion of said head piece is interposed between said body and said insert.

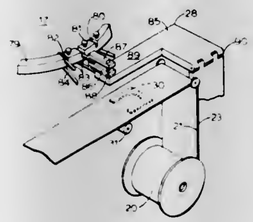
3,260,412
DISPENSING CONTAINER WITH COLLAPSE SECURING MEANS
Mark E. Larkin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 25, 1965, Ser. No. 442,583
7 Claims. (Cl. 222—107)



1. In a resilient collapsible dispensing container externally and internally extending corrugations in at least two opposed sides of said container, said corrugations being offset relative to each other so that the peaks of the corrugations of one wall oppose the valleys of the corrugations of the opposing wall, the width of said peaks and valleys being sufficient to cause friction fitting of a peak into a valley.

3,260,413
AUTOMATIC CHEMICAL ANALYZER
Samuel Natelson, Valley Stream, N.Y., assignor to Scientific Industries, Inc., Queens Village, N.Y.
Filed Aug. 31, 1964, Ser. No. 393,096
5 Claims. (Cl. 222—144)

1. A device for sequentially emptying capillary tubes comprising in combination:
circular positioning means rotatable in a substantially horizontally disposed plane, at least one radial tube holder disposed near the periphery thereof, said tube holder having a resilient bed for receiving a straight capillary tube therein;
biasing means for horizontally retaining capillary tubes in said holder when biased including bias release means projecting radially beyond the periphery of said positioning means for releasing said bias when engaged;
a hinged arm and hinge in the vicinity of said circular positioning means including a tilting station terminating near the periphery of said positioning means, said hinged arm being mounted for tilting movement from the horizontal plane of said positioning means to the plane vertical thereto, said hinge defining the axial line of tilting, and, clamp means including



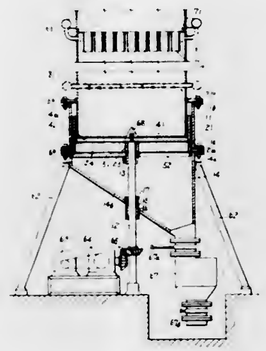
upper and lower clamp jaws pivotly mounted at said tilting station, normally radially disposed with reference to said positioning means and extending towards the periphery thereof, one of said jaws engaging said release means as the positioning means is turned to bring said release means in contact with said one jaw;
said clamp jaws closing as said release means is brought in contact with said one jaw, said closed clamp jaws grabbing said tube, said clamp arrangement pivoting, turning said tube 180°, so that the tip of said tube is on the axial line with said hinge, said horizontally disposed tube being brought to the vertical position by turning said hinged arm on said hinge so as to empty said tube.

3,260,414
TRAILER FOR CONCRETE INGREDIENTS AND THE LIKE
Raul L. Mora, 3230 SW. 23rd Court, Fort Lauderdale, Fla.
Filed June 17, 1964, Ser. No. 375,762
34 Claims. (Cl. 222—145)



1. A trailer for storing, transporting and dispensing ingredients for making a batch of concrete and the like comprising a body having a plurality of compartments arranged longitudinally of the body dimensioned to receive various ingredients, duct means generally at the base of said body communicable with said compartments for conveying the ingredients to one end of said body, outlet means at said one end of the body for dispensing the ingredients conveyed in said ducts, and means for raising the other end of said body above said one end for causing the ingredients received in said compartments to flow by gravity through said duct means to said outlet means for discharge.

3,260,415
PARTICULATE SOLID MATERIAL DISCHARGE APPARATUS
Kozo Minamiyama, Minoo-shi, Nobutaka Ninomiya and Hirohiko Ichikawa, Kyoto-shi, and Zenzi Matsumoto, Izumiotsu-shi, Japan, assignors to Takeda Chemical Industries, Limited, Osaka-shi, Japan
Filed July 13, 1964, Ser. No. 382,019
2 Claims. (Cl. 222—162)

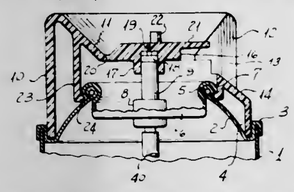


1. A solid material discharging device comprising a substantially vertically disposed cylindrical casing of uniform internal dimension adapted to receive a solid material for discharge downwardly, a cylindrical member extending across said casing, wall means dividing said cylindrical member into a plurality of radially extending substantially segment-shaped contiguous chambers each opening at the top and bottom for receiving solid material at the top and for discharging solid material at the bottom, a top plate rotatably mounted in said casing adjacent said top of said cylindrical member, a bottom plate rotatably mounted in said casing adjacent the bottom of said cylindrical member, said top plate having at least one radially extending substantially segment-shaped opening of a size at least equivalent to the size of at least one of said chambers for permitting the passage of material through said top plate and into at least one chamber of said cylindrical member at a time as it is rotated, said bottom plate having at least one radially extending substantially segmental-shaped opening offset from the opening in said top plate and being of a size for permitting the passage of material therethrough from at least one of said chambers of said cylindrical member, means connected to said plates to rotate said plates to effect successive filling of said chambers one after the other around the periphery and thereafter discharge of material in a similar manner from said chambers, a hollow cylindrical absorber having a lower open end located over said top plate and supported above said casing, and a solid material tray extending across said absorber having an opening therethrough for the downfalling of solid material therethrough and onto said top plate.

3,260,416
DISPENSING CAP FOR AN AEROSOL CONTAINER
Robert Henry Abplanalp, Bronxville, N.Y., assignor to Precision Valve Corporation, Yonkers, N.Y., a corporation of New York
Filed July 19, 1962, Ser. No. 211,058
8 Claims. (Cl. 222—182)

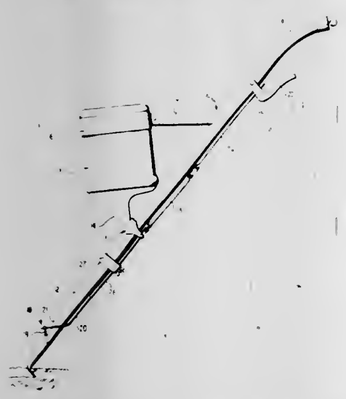
1. A cap for an aerosol dispensing container comprising: a peripheral wall adapted to overlie a container with a major portion of the upper edge of said peripheral wall integral with a downwardly and inwardly sloping top wall provided with an opening, a valve operating tab posi-

tioned in said opening and integrally flexibly united with the margin of said opening to form therewith a hinge for pivotal movement of said tab, said tab being provided on its bottom with a socket to receive the valve stem of the aerosol dispensing container, there being a discharge



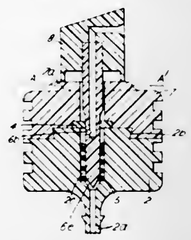
outlet leading from the socket through the top of the tab, and said peripheral wall having formed therein a recess into which said tab projects for easy access thereto by the finger of an operator, and an inner wall integral with and depending from the top wall of the cap and provided with means for securing the cap to the container.

3,260,417
MATERIAL DISPENSER
Norman Paxson, 218 S. Lakeside Drive, Lake Worth, Fla. 33460
Filed Jan. 7, 1965, Ser. No. 424,104
16 Claims. (Cl. 222—191)



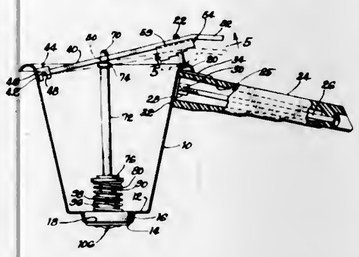
1. A portable hand manipulated device for spreading dry fertilizers comprising:
an elongate tubular member having an upper handle portion and a lower dispensing portion,
reservoir means capable of storing a quantity of fertilizer material having a body portion and a dispensing spout integral with said body portion,
aperture means in said tubular member between said handle portion and said dispensing portion providing access to the inside of said tubular member.
saddle connecting means surrounding said aperture means and providing support for said reservoir means, said dispensing spout being supported in said saddle connecting means and said aperture means by wedge fit,
bracket means for supporting the body portion of said reservoir means including an adjustable compression band surrounding said body portion and a support member rigidly secured to said handle portion and connected to said compression band, and
control valve means within said dispensing portion adjacent a free end thereof for selectively restricting the hollow interior of said tubular member so as to control the quantity of fertilizer dispensed.

3,260,418
SELECTIVELY METERING OR CONTINUOUSLY DISCHARGING VALVE FOR AEROSOLS
Pierre Clouzeau, Meudon, and Yves Le Troadec, Doual, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France
Original application Nov. 29, 1963, Ser. No. 327,138. Divided and this application Nov. 20, 1964, Ser. No. 412,777
Claims priority, application France, Aug. 30, 1963, 946,189
4 Claims. (Cl. 222—263)



4. A valve for controlling the discharge of fluid from a container of fluid under pressure, said valve comprising a base securable to said container, a nozzle axially movable relative to said base between a first, second, and third position, effective when said base is mounted on a container, in said first position to prevent flow of fluid through said base, in said second position to permit the continuous discharge of fluid through said base from said container and in said third position to permit the discharge of a dosed quantity of fluid through said base from said container, manually operable means on said nozzle rotatable relative to said base between one rotational position and another and co-operating abutment means on said base and manually operable means including sector shaped protuberances on said base effective to permit, in said one rotational position, movement of said nozzle from said first position to said second position only, and in the other rotational position, movement of said nozzle from said first position to said third position.

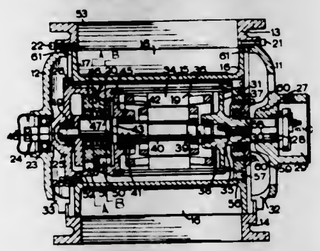
3,260,419
DISPENSER WITH PLUNGER AND DIFFUSOR OUTLET
Ralph E. Weimer, Lombard, and Edward G. Stalder, Wood Dale, Ill., assignors to McDonald's System, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 8, 1965, Ser. No. 424,310
5 Claims. (Cl. 222—309)



3. A sanitary condiment dispenser comprising in combination a vertical shell defining an opening adjacent its bottom, a diffusor valve secured to said dispenser adjacent said opening and defining a plurality of dispensing apertures, a cylinder means defining a cylinder bore and discharge port means overlying said diffusor valve, said

cylinder bore and said discharge port means being in open communication with each other, a piston means disposed within said cylinder bore, a charging port defined by said cylinder means and in open communication with said shell interior and said cylinder bore when said piston means is in an upper idle position, said charging port being disposed intermediate said discharge port means and the upper end of said cylinder bore, means connected to said piston means for moving said piston means from said upper idle position to lower dispensing positions in which said piston means closes said charging port to prevent communication between said charging port and said cylinder bore, sealing means provided by said cylinder means and said diffusor valve for sealing said dispensing apertures from communication with said cylinder bore when said piston means is in said upper idle position and when said piston means is returning from said dispensing positions to said upper idle position, said piston means, said diffusor valve and said cylinder means being proportioned to prevent direct communication between said shell interior and said dispensing apertures in all positions of said piston means.

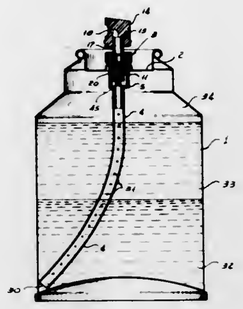
3,260,420
MOTOR DRIVEN ROTARY DISPENSING VALVE
John Bentley Barker, Thurmaston, and Geoffrey Roy Dence, London, England, assignors to Richards Structural Steel Company Limited, Phoenix Iron Works, Leicester, England
Filed July 28, 1964, Ser. No. 385,578
10 Claims. (Cl. 222—333)

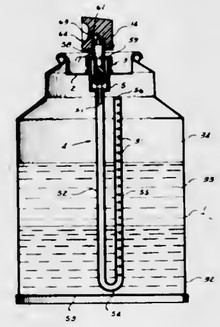


10. In a rotary valve, the combination comprising a cylindrical shell provided with circumferentially spaced vanes projecting therefrom, a casing surrounding said shell and said shell being mounted for rotation on said casing, an alternating electric current, three-phase squirrel cage driving motor having a rotor requiring no external connection for energizing it and having a stator, means mounting said motor within the shell and supporting its stator from one end thereof, and reduction gearing contained within the shell and coupling the rotor of the motor to the shell.

3,260,421
DISPENSING DEVICE FOR AEROSOL PRESSURE CONTAINERS
Bernard Rabussier, Poitiers, France, assignor to Precision Valve Corporation, Yonkers, N.Y., a corporation of New York
Filed Sept. 3, 1965, Ser. No. 489,790
Claims priority, application France, Oct. 18, 1961, 876,272, Patent 1,311,271
21 Claims. (Cl. 222—394)

1. Aerosol dispensing pressure container, said container containing two immiscible liquid phases separated by gravity, one of said phases being of aqueous nature and the other one of organic nature, said organic phase consisting of a liquefied propellant gas having an active agent dissolved therein, said container comprising also a dispensing device mounted thereon, said device embodying a stopper valve and an eduction tube housed within said container and having an opening at each end thereof, one of said openings being fitted on said stopper valve whereas the other one is freely open, said tube dipping into both liquid phases, and wherein said eduction tube is provided with a succession of lateral perforations longitudinally spaced on said tube between the opposite end of the tube, with some of said perforations being immersed in said aqeuous phase and others in said organic phase to permit simultaneous eduction of the liquids of both phases while said liquids remain separated by gravity.



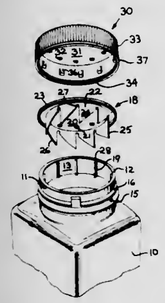


8. An aerosol container having at least two immiscible liquid phases forming separate layers in said container, and said container having a dispensing device mounted on said container, said dispensing device comprising a valve unit and an eduction tube connected at one end to said valve unit and extending downwardly from the valve connection to the vicinity of the bottom of the container and then upwardly to the upper elevation of the liquid contents, said eduction tube having a plurality of perforations along the upward extension of the eduction tube and being without perforations along the downward extension of the tube.

3,260,422
SHAKER OR SIFTER-TYPE DISPENSERS
William E. Fillmore and Spencer L. Blaylock, Jr., Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 27, 1964, Ser. No. 385,388
5 Claims. (Cl. 222—485)

1. In combination a container having an annular neck forming wall defining a mouth, a plurality of radially projecting lugs on said wall, an annular radial projection on said wall below said lugs for securing a closure cap to said container, and a plurality of vertical splines on the interior of said wall; a sifter-type fitment comprising a

relatively flat disk provided with a multiplicity of perforations therethrough, a depending attaching skirt near the periphery of said disk, and skirt having a plurality of right angular shaped projections on the free end thereof, one wall of each of said projections being parallel to the axis of said closure and forming a right angle with the free end of said skirt and a notch in said skirt at the juncture of each of said right angular walls and said skirt and adapted to receive said splines, thereby preventing rotation of said fitment; and a closure cap adapted



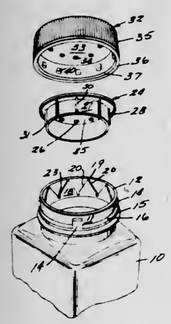
to overlie said fitment and container mouth comprising a circular panel portion of greater diameter than said fitment, said panel portion being provided with a plurality of perforations alignable with the perforations in said fitment, a depending attaching skirt at the periphery of said panel portion, an annular internally projecting rib on the free end of said skirt cooperable with the projection on said container wall to secure said cap to said container, and means on the interior of said skirt cooperable with said radially projecting lugs on the wall of the container to limit rotative movement of said cap.

3,260,423

SHAKER OR SIFTER-TYPE DISPENSERS

William E. Fillmore and Spencer L. Blaylock, Jr., Toledo, Ohio, assignors to Owens-Illinois, Inc., a corporation of Ohio

Filed July 27, 1964, Ser. No. 385,389
5 Claims. (Cl. 222—485)



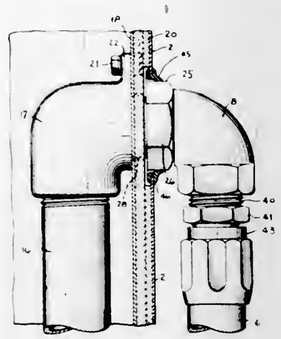
1. In combination a container having an annular neck forming wall defining a mouth, a plurality of radially projecting lugs on said wall, an annular radial projection on said wall below said lugs for securing a closure cap to said container, a plurality of projections on the interior of said wall and aligned with the axis of said container, and a plurality of notches on the interior of said wall, a notch being positioned between adjacent projections; a sifter-type fitment comprising a relatively flat disk provided with a multiplicity of perforations therethrough, a depending attaching skirt near the periphery of said disk, said skirt having a plurality of vertical splines on the exterior thereof, said notches being adapted to receive said splines, thereby preventing rotation of said fitment; and a closure cap adapted to overlie said fitment and container mouth comprising a circular panel portion of greater diameter than said fitment, said panel portion being provided with a plurality of perforations alignable with the perforations in said fitment, a depending attaching skirt at the periphery of said panel portion, an annular internally projecting rib on the free end of said skirt cooperable with the projection on said container wall to secure said cap to said container, and means on the interior of said skirt cooperable with said radially projecting lugs on the wall of the container to limit rotative movement of said cap.

3,260,424

SWIVEL JOINT CONNECTING MEANS FOR THE FLEXIBLE DISPENSING HOSE OF LIQUID DISPENSING APPARATUS

Paul A. Mankin, North Muskegon, and Lowell F. Nelson, Muskegon, Mich., assignors to John Wood Company, East Orange, N.J., a corporation of Delaware

Filed Sept. 28, 1964, Ser. No. 399,532
4 Claims. (Cl. 222—529)



1. In liquid dispensing apparatus which includes a frame, an outer housing surrounding said frame, a meter connected at its inlet to a source of supply of liquid under pressure, a conduit connected to the outlet of said meter, said meter and conduit being within said outer housing, and a flexible dispensing hose having connected thereto at its distal end a valve controlled dispensing nozzle, said hose and said nozzle being outside of said outer housing; a built in swivel joint means connecting the outlet end of said conduit connected to the outlet of said meter and the inlet end of said flexible dispensing hose comprising:

(a) a mounting bracket member rigidly connected to said frame, said mounting bracket member having an elbow member, the inlet end of which is rigidly connected to the outlet end of said conduit connected to the outlet of said meter;

(b) an elongated cylindrical bushing member having an outer head portion extending exteriorly of said outer housing, said bushing member having an inwardly extending outer screw threaded portion rigidly connected to a screw threaded outlet of said elbow member;

(c) an axial elongated smooth cylindrical bore in said bushing member;

(d) an outwardly open annular recess, of larger diameter than the diameter of said bore, formed in the head portion of said bushing member;

(e) an elbow fitting outside said outer housing, said elbow fitting having an elongated inwardly extending portion having an axial opening therethrough and a smooth outer surface rotatably engaging the smooth cylindrical bore in said bushing member in sealing fluid tight relationship, said elongated portion of said elbow fitting being rotatable through 360° turns in said elongated cylindrical bore in said bushing member;

(f) means in said recess of said bushing member sealing said bushing member and said elongated portion of said elbow fitting in fluid tight relationship;

(g) means connecting said flexible dispensing hose, having at its distal end a dispensing nozzle, to the outlet of said elbow fitting outside said outer housing; whereby, said outside elbow fitting with its elongated inwardly extending portion and said flexible dispensing hose and dispensing nozzle may be rotated through 360° turns with respect to the cylindrical bore of said bushing member and with respect to said liquid dispensing apparatus; and,

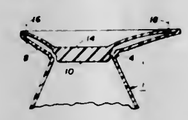
whereby, said swivel joint means is provided with two separate means to prevent possible leakage of fluid at said swivel joint means.

3,260,425

CONTAINER WITH CLOSURE PLUG AND SEVERABLE OUTLET ELEMENT

Kevin E. Moran, Crystal Lake, Ill., assignor, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Mar. 16, 1964, Ser. No. 351,925
6 Claims. (Cl. 222—541)



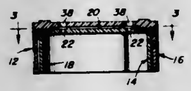
1. A reclosable container having a hollow body, a constricted neck forming an opening communicating the interior of said hollow body to a hollow bellows-shaped top having resilient walls capable of deformation within itself and capable of being severed along its peripheral edge, said top having an inverted upper surface forming a plug spaced apart from and positioned above said opening and adapted to form a fluid-tight closure with said neck when a compressive force sufficient to deform said top into engagement with said neck is applied to said top and means on said top to enable tensional and compressive force to be applied thereto.

3,260,426

CONTAINER CLOSURE COMPRISING A STATIONARY APERTURED CAP AND A ROTARY APERTURED CAP

Robert A. Ayotte, Mays Landing, N.J., assignor to Wheaton Plastics Company, Mays Landing, N.J., a corporation of New Jersey

Filed Oct. 13, 1964, Ser. No. 403,476
14 Claims. (Cl. 222—545)



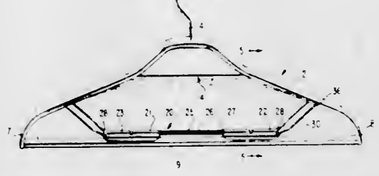
1. A dispensing closure assembly for a container comprising an inner cap member having a first body portion engageable with the open end of a container, a first end wall integral with said first body portion at an axial end of said first body portion, said first end wall including dispensing openings therein, an outer cap member adapted to receive said inner cap member and having a second body portion integral with a second end wall at an axial end of said second body portion, said second end wall having dispensing openings therein movable into registry with said dispensing openings of said first end wall by movement of said outer cap member relative to said inner cap member, one of said cap members having a peripheral bead integral with its respective body portion adjacent the end wall thereof, the other of said cap members having groove means on the body portion thereof adjacent the end wall thereof adapted to receive said peripheral bead of said one cap member, whereby to interlockingly engage said cap members with each other, one of said cap members being formed of a flexible material having a good elastic memory, said outer and inner cap members being so proportioned that said cap member formed of flexible material is flexed by the presence of the other cap member in interlocked engagement therewith, whereby said cap member of flexible material exerts a force urging said first and second end walls in sealing relation to each other.

3,260,427

CLOTHES HANGER HOLD DOWN CLAMP

Carl E. Gingher, 104 Gentilly Drive, Scranton, Pa.

Filed May 20, 1964, Ser. No. 368,948
15 Claims. (Cl. 223—91)



1. A clothes hanger comprising a curved shoulder bar for supporting a garment, a hanger hook upstanding from said shoulder bar, a cross bar interconnecting the ends of said shoulder bar, a garment hold down member having a rigid non-resilient clamp element pivotally mounted on said shoulder bar for pivotal movement between a hold down position against the upper surface of said cross bar and a release position away from said cross bar, said hold down member pivot mount being on that portion of the shoulder bar between said cross bar and said release position, and resilient means acting on said hold down member for retaining said hold down member in that one of said hold down and release positions to which said member is moved.

3,260,428

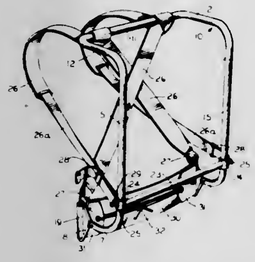
BACK SUPPORTED CARRIER

Richard G. Mack, Dolores St. and Franciscan Way, Carmel, Calif.

Filed Dec. 16, 1964, Ser. No. 418,794
4 Claims. (Cl. 224—6)

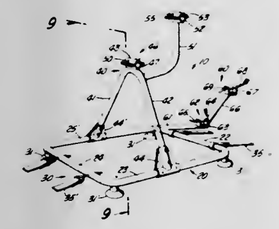
1. A frame for a back pack for carrying a child, in combination a frame formed of a continuous piece of lightweight material bent at the middle to form a transverse U shape, the continuation of the legs of the U being bent downwardly, inwardly and parallel to each other to form the side portions of said frame, the said legs terminating in parallel inwardly bent sections, spreader brackets se-

cured at said terminating leg ends, a spacer brace bar adjustably secured along and between said side frame portions, and a yielding webbing adjustably mounted between



said spreader brackets to bear against and space said frame from the small of the back of the wearer and above the hips.

3,260,429
AUTOMOBILE BICYCLE CARRIER
Hyman Yuda, Los Angeles, and Gerard Robinson, Harbor City, Calif., assignors of one-third to Michael Schiller, Beverly Hills, Calif.
Filed Jan. 11, 1965, Ser. No. 424,653
1 Claim. (Cl. 224—42.1)

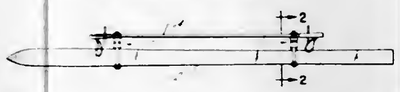


An easily installed and removed automobile bicycle carrier adapted to hold securely and compactly at least one bicycle comprising: base means comprising an integral rectangular tubular frame, attachment means adapted to fix said base means to a substantially horizontal surface portion of an automobile body, bicycle frame support means mounted on said base means, said support means being constructed to hold the central portion of a frame of at least one bicycle with said bicycle being in a horizontal position and substantially balanced on said frame support means, said support means comprising an integral inverted V-shaped frame member having legs attached to said base frame, said support means having an extending arm and frame clamping means mounted on the upper part of said inverted V-shaped frame and said extending arm adapted to hold securely the central member of a bicycle frame, and wheel support means mounted on said base frame, said wheel support means being adapted to hold the front wheel of at least one bicycle with said front wheel being positioned substantially perpendicular to the bicycle frame and said wheel support means comprising an integral extension from a part of said base frame and wheel clamping means mounted on the outer end of said extension and adapted to hold securely the front wheel tire and rim.

ERRATUM

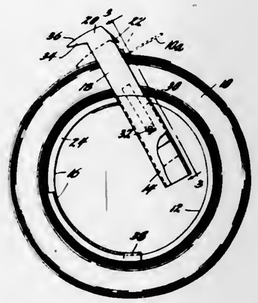
For Class 224—42.07 see:
Patent No. 3,260,929

3,260,430
DEVICE FOR TOTING SKIS AND SKI POLES
George R. Sandenburgh, 140 Woodland Drive, South Windsor, Conn.
Filed July 16, 1964, Ser. No. 383,115
6 Claims. (Cl. 224—45)



3. A device for toting a pair of skis and a pair of ski poles in assembled relation so that the poles can be used as a handle, said device comprising two vertically disposed hanger members adapted for use in spaced relation with said skis, each of said hanger members having an elongated vertical portion and a generally horizontal first leg extending outwardly from the lower end of said vertical portion to define an L-shaped ski receptacle for receiving a pair of skis having their bottom surfaces adjacent one another, a second leg extending outwardly from the upper end of said vertical portion to define a ski pole receptacle having a downwardly facing surface, said downwardly facing surfaces on each of said hanger members describing an angle with respect to the respective vertical portions which is no more than 90° so that substantially all of the lifting force exerted on said poles in carrying the resulting assembly is reacted by said downwardly facing surfaces, resilient ski retaining means connected to the outer ends of each of said first horizontal legs respectively, resilient pole retaining means connected to the outer ends of each of said second legs respectively, and mechanism for releasably clamping said resilient ski and pole retaining means to the respective vertical portions of said hanger members intermediate the upper and lower ends of each of said members whereby the resulting assembly can be conveniently lifted by use of said ski poles.

3,260,431
TAPE HOLDER AND DISPENSER
Joseph T. Ference, Box 346, Weirton, W. Va.
Filed Aug. 11, 1964, Ser. No. 388,892
7 Claims. (Cl. 225—66)



1. A dispensing apparatus for an open-cored spool of wound material comprising:
(a) a retaining element having:
(1) an arcuate flange removably secured within the core of said spool;
(2) a guide member secured to the periphery of said arcuate flange; said retaining element supporting a severing element;
(b) said severing element having:
(1) a supporting member having:
(a) a free end

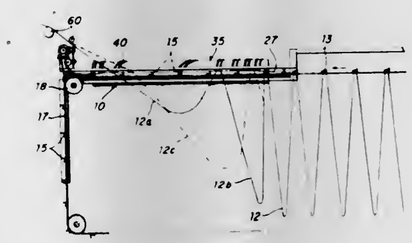
(b) a working end adapted for adjustable engagement with said guide member;
(2) a head element having a cutting blade thereon facing said spool and attached to said free end, said spool slidable on said flange for selective severance of said wound material by said cutting blade.

3,260,432
FIXTURE FOR TAPING FOLDED NEWSPAPERS
Carroll E. Smith, 2336 Graydon, Monrovia, Calif.
Filed Sept. 8, 1964, Ser. No. 394,663
4 Claims. (Cl. 225—77)



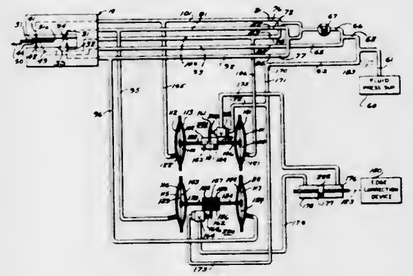
1. In combination, supporting means for rotatably mounting a roll of pressure-sensitive tape in an elevated position on a supporting structure, positioning means for mounting a depending length of said tape to hang downwardly, a cutter spaced from the positioning means, and means connected with the supporting means and beneath the positioning means for attachment of the depending tape portion thereto to temporarily secure the tape portion and to present resistance to pressure against said tape portion to secure said tape portion to an article to be taped to facilitate attachment of the tape to the article.

3,260,433
PAPER MACHINERY
Robert L. Hill, Fulton, N.Y., assignor to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio
Filed June 4, 1963, Ser. No. 285,349
9 Claims. (Cl. 226—5)



9. The method of handling paper in a festoon dryer having parallel conveyors each with a plurality of equally spaced hooks or the like thereon for receiving and holding the rods which support the loops of paper, comprising the steps of sequentially removing each of the rods from the hooks; then accelerating the removed rod for creating an increased distance between the removed rod and the adjacent trailing rod, removing the loop of paper supported by these rods while they are spaced apart said increased distance, and then replacing the removed rod in hooks on the conveyor.

3,260,434
FLUID PRESSURE OPERATED SENSING SYSTEM
Paul W. Jacobsen, Kiel, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin
Filed May 4, 1964, Ser. No. 364,384
3 Claims. (Cl. 226—15)



1. An edge alignment control system comprising
(a) an edge alignment control means for controlling the position of a moving web of material and capable of actuation in respective opposite senses to tend to move the web laterally in respective opposite directions,
(b) an edge position sensing head having fluid pressure output means for sensing edge position and generating respective first and second differential pressure outputs in response to errors of web position in respective opposite directions from a correct position of the web defined by said head,
(c) first and second fluid pressure responsive devices coupled to said fluid pressure output means of said head and responsive to said first and second differential pressure outputs respectively to provide respective first and second mechanical outputs,
(d) first and second mechanically actuated switching devices coupled respectively to said first and second fluid pressure responsive devices and actuated respectively by said first and second mechanical outputs therefrom, and
(e) means for connecting said first and second mechanically actuated switching devices to said edge alignment control means for actuation thereof in respective opposite directions in response to said first and second mechanical outputs to tend to maintain said web in said correct position as defined by said head.

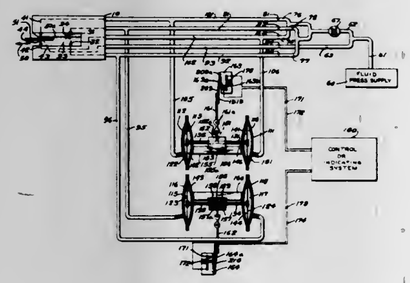
3,260,435
FLUID PRESSURE OPERATED SENSING SYSTEM
Paul W. Jacobsen, Kiel, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin
Filed June 4, 1964, Ser. No. 372,650
3 Claims. (Cl. 226—15)

1. An edge alignment control system comprising
(a) an edge alignment control means for controlling the position of a moving web of material and capable of actuation in respective opposite senses to tend to move the web laterally in respective opposite directions,

(b) an edge position sensing head having fluid pressure output means for sensing edge position and generating first, second, third and fourth pressure outputs indicative of the position of the edge of the moving web, the difference between the first pressure output and the second pressure output having one value when the web is in a correct position and having a substantially different value when the web is offset from the correct position in one direction, the difference between the third pressure output and the fourth pressure output having one value when the web is in the correct position and having a substantially different value when the web is offset from the correct position in a direction opposite to said one direction,

(c) first and second fluid pressure responsive devices coupled to said fluid pressure output means of said head and responsive to said first and second pressure outputs, and to said third and fourth pressure outputs, respectively, to provide respective first and second mechanical outputs,

(d) first and second mechanically actuated switching devices coupled respectively to said first and second fluid pressure responsive devices and actuated respectively by said first and second mechanical outputs therefrom,

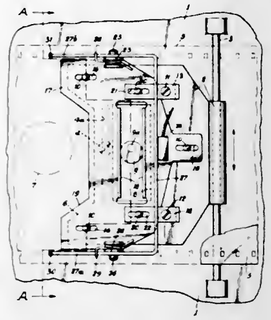


(e) electrically actuated means comprising said first and second mechanically actuated switching devices coupled to said edge alignment control means for movement thereof in respective opposite directions in response to said first and second mechanical outputs to tend to maintain said web in said correct position as defined by said head,

(f) said first fluid pressure responsive device comprising a first diaphragm actuating means having respective actuating chambers referenced to the first and second pressure outputs, respectively; said second fluid pressure responsive device comprising a second diaphragm actuating means having respective actuating chambers referenced to the third and fourth pressure outputs, respectively; said first and second fluid pressure responsive devices having mechanical output means providing the respective first and second mechanical outputs; and said first and second mechanically actuated switching devices comprising electric switches actuated by output displacements of said mechanical output means of approximately 1/32 inch; and

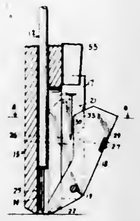
(g) first and second mechanical amplifiers connecting said first and second fluid pressure responsive devices to respective ones of said first and second mechanically actuated switching devices and mechanically arranged to actuate said first and second switching devices between open and closed positions with substantially no overtravel.

3,260,436
CONVEYING DEVICE FOR WIDE MOTION PICTURE FILM
Rudolf Taesler, Stuttgart, Germany, assignor to Zeiss Ikon Aktiengesellschaft, Stuttgart, Germany
Filed Nov. 12, 1964, Ser. No. 410,412
Claims priority, application Germany, Nov. 27, 1963, Z 10,499
12 Claims. (Cl. 226—64)



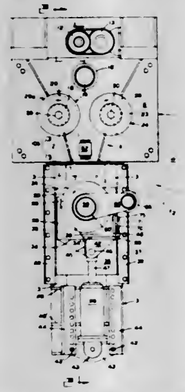
1. A conveying device for wide motion picture film having a plurality of rows of pictures thereon which were produced thereon and are projected one row after the other by moving said film alternately lengthwise one row and then transversely, said device comprising a substantially U-shaped bail member provided on its legs with gripping teeth for engaging and disengaging the perforations provided in said film, a first plate on which said bail member is pivotally mounted about an axis extending transversely to and between the ends of the legs of said bail member, an electromagnet mounted on said first plate and adapted when energized to pivot said bail member into a position in which its teeth enter into the perforations of said film, a second plate arranged parallel to said first plate and slidably supporting said first plate lengthwise of said film, and means for slidably mounting said second plate transversely to said film on a stationary guide member.

3,260,437
SHOE FOR AUTOMATIC NAILING MACHINE
Edward Alden Parr, Palo Alto, Calif., assignor of one-half to Cavell X. Boyle, Palo Alto, Calif., and one-half to Donald G. Williams, San Mateo, Calif.
Filed May 18, 1964, Ser. No. 368,098
4 Claims. (Cl. 227—149)



1. A shoe for an automatic nailing machine of the character described comprising an elongated body adapted to be operably connected to said machine, said body having a longitudinal bore therethrough and a slot on one side paralleling and extending into said bore, said slot extending from the lower end of said body and terminating short of the upper end thereof in a hole of greater diameter than the width of said slot, a member pivoted at the lower end slidably mounted in said slot adapted to swing into and out of the bore in said body, said member having a cam shaped toe on the lower end thereof arranged to extend below the lower end of said body to engage the surface of a floor and rotate said sliding member out of said slot to an open position when said body contacts said floor, and a spring member arranged to swing said sliding member into said slot to a closed position when said body is lifted from the floor.

3,260,438
APPARATUS FOR THE PRODUCTION OF BEAMS, GIRDERS, OR THE LIKE
Attilio R. Bergantini, Napa, Calif., assignor to Kaiser Steel Corporation, Oakland, Calif., a corporation of Nevada
Filed Feb. 4, 1963, Ser. No. 255,992
8 Claims. (Cl. 228—6)



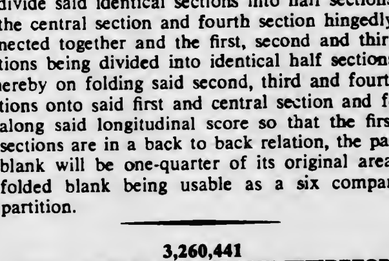
1. In an apparatus for welding structural components, the combination of a support means, clamping roll means disposed on one side of said support means and another clamping roll means movably mounted on the opposing side of said support means in spaced relationship to said first-mentioned roll means with the axis of the second mentioned roll means being offset relative to the axis of said first mentioned roll means in such a fashion as to define a clamping zone of variable width between said first- and second-mentioned roll means, each of said roll means being provided with means for receiving and slidably supporting in clamped-together relationship at least a pair of structural components arranged at a predetermined angle with respect to each other, and at least one of said roll means being provided with pocket means for receiving and slidably supporting one of said components, welding head means disposed adjacent the exit end of said clamping zone and in offset relationship with respect to both of said clamping roll means, means for moving said movable roll means towards said other roll means so as to force said components into a clamped-together relationship with each other and means for rotating one of said roll means so as to drive the components in the clamped-together relationship through said clamping zone and then past said welding head means.

3,260,439
ELECTRIC SOLDERING IRON TIP
Charles F. Tambasco, Brooklyn, N.Y., assignor to Belock Instrument Corporation, College Point, Long Island, N.Y., a corporation of New York
Filed Aug. 27, 1964, Ser. No. 392,464
3 Claims. (Cl. 228—55)

1. In an electrically heated soldering iron for soldering socket terminal areas having a predetermined configuration, a soldering iron tip comprising:

(a) an elongated metal body member having an extremity thereof connected to the said soldering iron and heated thereby,

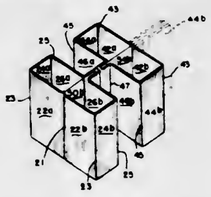
(b) aperture means at the other extremity of the said body member for engaging simultaneously the socket terminal areas to permit the simultaneous soldering and unsoldering of the said areas, and



(c) polarizing means on said body member for conveniently and rapidly orienting the said member with respect to the socket terminal area configuration, and

(d) solder receptable means adjacent and in continuous communication with said aperture means for receiving and dispensing solder at the terminal areas.

3,260,440
ONE PIECE CELL FORMER
Thomas L. Foley, Keokuk, Iowa, assignor to Hoerner Boxes, Inc., Keokuk, Iowa, a corporation of Delaware
Filed Mar. 9, 1964, Ser. No. 350,241
6 Claims. (Cl. 229—15)



1. A divider blank formed of a single piece of material scored to form identical end sections hingedly connected to a central section,

each identical end section being scored to form first, second, third and fourth sections hingedly connected in that order,

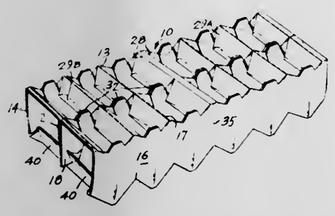
said blank being scored and slotted longitudinally to divide said identical sections into half sections with the central section and fourth section hingedly connected together and the first, second and third sections being divided into identical half sections,

whereby on folding said second, third and fourth sections onto said first and central section and folding along said longitudinal score so that the first half sections are in a back to back relation, the partition blank will be one-quarter of its original area, said folded blank being usable as a six compartment partition.

3,260,441
EGG CARTON AND BLANK THEREFOR
Irving Morton Koltz, Montreal, Quebec, and Jack Benjamin Rozen, Chomedey, Quebec, Canada, assignors to POP Design Consultants of Canada Ltd., Montreal, Quebec, Canada
Filed Sept. 21, 1964, Ser. No. 397,716
14 Claims. (Cl. 229—28)

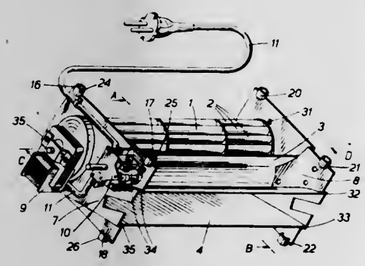
1. A multicellular carton erected from a one-piece blank and comprising first and second spaced apart side walls extending longitudinally of the carton, a plurality

of first ribs spaced apart longitudinally of the carton and together forming a bottom for the carton, said first ribs being integral with said side walls and extending transversely across the carton from said first side wall to said second side wall, a central wall structure having top and bottom edges and extending longitudinally of the carton between said side walls, said bottom edge and said first ribs being secured together, and a plurality of second ribs spaced apart longitudinally of the carton and



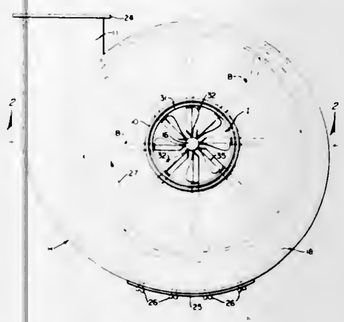
together forming a top for the carton, said second ribs each being integral with one of said side walls and with said central wall structure and each extending between one of said side walls and said central wall structure, and the second ribs being staggered with respect to said first ribs whereby spaces between adjacent first ribs are each immediately below second ribs, each first rib and those second ribs which are immediately above the spaces on each side of that first rib defining a pair of cells side-by-side in the transverse direction of the carton.

3,260,442
BLOWERS
Nikolaus Laing, Addingen, near Stuttgart, Germany, assignor, by mesne assignments, to Laing Vortex, Inc., New York, N.Y.
Continuation of application Ser. No. 136,830, Sept. 8, 1961. This application Aug. 24, 1964, Ser. No. 401,748
Claims priority, application Germany, Sept. 8, 1960, L 37,000
15 Claims. (Cl. 230—117)



1. A blower comprising a blower unit of the cross-flow type and a casing enclosing the blower unit and having inlet and outlet openings for flow of air to and from said unit, the blower unit comprising spaced opposed end walls and spaced opposed side walls interconnecting the end walls, a cylindrical bladed rotor mounted for rotation about its axis between the end walls, an electric motor driving the rotor, the side walls forming air flow guide means co-operating with the rotor on rotation thereof by said motor to set up a flow of air from the inlet side of the rotor through the path of the rotating blades to the interior of the rotor and thence again through the path of the rotating blades to the pressure side of the rotor, said walls carrying a series of outwardly projecting resilient non-metallic members in pressure contact with opposite interior parts of the casing to locate the blower unit therewithin and to provide electrical and sound insulation between the casing and the blower unit.

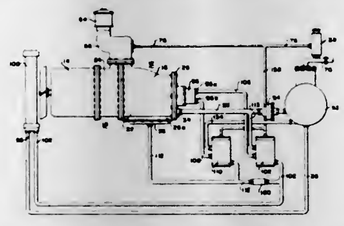
3,260,443
BLOWER
Edward V. Garnett, Denver, Colo., and Arnold C. Bishard, Lubbock, Tex., assignors to R. W. Kimbell, Earth, Tex.
Filed Jan. 13, 1964, Ser. No. 337,228
7 Claims. (Cl. 230—134)



1. A turbo-machine impeller of the centrifugal type having an inlet, an outlet, a hub section connected to an outer section by a plurality of blades projecting radially outwardly from said hub section, each said blade having an outer edge comprising an arcuate forward portion having a substantially constant radius of curvature and a rearward portion lying in a plane the extension of which forms an included angle between 81° and 90° with the axis of rotation of said impeller, the center of said radius of curvature lying in a plane disposed normal to the axis of rotation of said impeller and containing the periphery of the inlet, said center being disposed radially outward from said axis of rotation by an amount between 0.30 and 0.49 times the outlet diameter of said impeller; an inner edge comprising an arcuate forward portion having a substantially constant radius of curvature and a rearward portion lying in a plane disposed substantially normal to the axis of rotation of said impeller, the center of said radius of curvature lying in a plane disposed normal to the axis of rotation of said impeller and upstream of a plane containing the periphery of said inlet by an amount between 0.06 and 0.12 times the outlet diameter of said impeller, said center being disposed radially outward from said axis of rotation by an amount between 0.25 and 0.45 times the outlet diameter of said impeller; and a rearward portion formed arcuately backwardly curved to provide a substantially uniform expansion of a pressurized fluid that may flow through the impeller such that the ratio of the density of the fluid at the impeller outlet to the density of the fluid immediately upstream of said backwardly curved portion is between 0.825 and 0.915.

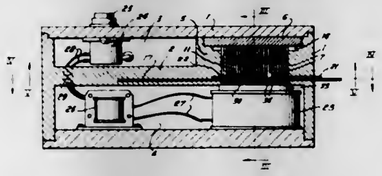
3,260,444
COMPRESSOR CONTROL SYSTEM
Raymond F. Williams, Arvid L. Nelson, and Raymond B. Millard, Quincy, Ill., assignors to Gardner-Denver Company, a corporation of Delaware
Filed Mar. 30, 1964, Ser. No. 355,658
6 Claims. (Cl. 230—138)

1. A gas compressor having inlet and discharge openings; closure means for said inlet opening; pump means connectable with the interior of said compressor for removing gas trapped therein upon closure of said inlet opening; a gas receiver; a source of liquid; and control means for said pump means operable to connect the same inter-



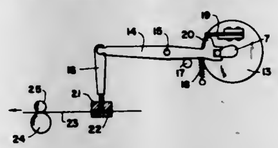
changeably between said source of liquid and the interior of said compressor and between the interior of said compressor and said gas receiver.

3,260,445
MAGNETICALLY OPERATED CARD PUNCHING MACHINE
Ben W. Wiseman, Jr., 1009 Midland National Bank, Midland, Tex.
Filed Oct. 8, 1964, Ser. No. 402,426
4 Claims. (Cl. 234—77)



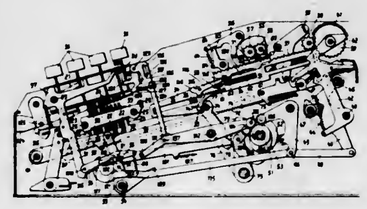
1. In a device of the class described, a housing; a die plate disposed in the housing, having spaced perforations therethrough; a support member disposed above the die plate, having a plurality of passages therethrough corresponding to, and in alignment with, the perforations in the die plate; a plurality of punch pins made of magnetic material slidably disposed in the passages; means to normally maintain the punch pins in an upward position away from the die plate; an electro-magnet disposed below the die plate; means to energize the electro-magnet from exteriorly of the housing, the electro-magnet being of such strength when energized as to draw the punch pins downwardly through the perforations in the die plate.

3,260,446
HIGH SPEED TAPE PERFORATOR
Rinzo Iwai, Tokyo, and Shoichi Kawamura, Kawasaki, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed July 14, 1964, Ser. No. 382,573
8 Claims. (Cl. 234—108)



1. In a tape perforating arrangement,
a movably mounted pin positioned and adapted to perforate a tape;
a pin actuating rotary magnet having a stator adapted to be electrically energized when the tape is desired to be perforated by said pin and a rotatably mounted rotor adapted to be angularly displaced in a determined direction about its axis from an initial position to a perforating position upon electrical energization of said stator;
linking means mechanically coupling the rotor of said pin actuating rotary magnet to said pin in a manner whereby angular displacement of said rotor in said determined direction about its axis to its perforating position moves said pin from an inoperative position to an operative position to perforate said tape; and
pin resetting means positioned and adapted to abut said linking means just prior to the time that said pin reaches its perforating position for returning said pin to its inoperative position and for displacing the rotor of said pin actuating rotary magnet in the direction opposite said determined direction to its initial position.

3,260,447
REARWARD TRANSFER MECHANISM FOR TEN KEY CALCULATING MACHINES
Otto Haberkorn, Gerstetten, Wurttemberg, Germany, assignor to Walther-Buromaschinen G.m.b.H., Gerstetten, Wurttemberg, Germany
Filed Feb. 17, 1964, Ser. No. 345,423
Claims priority, application Germany, Mar. 6, 1963, W 34,041
22 Claims. (Cl. 235—60)

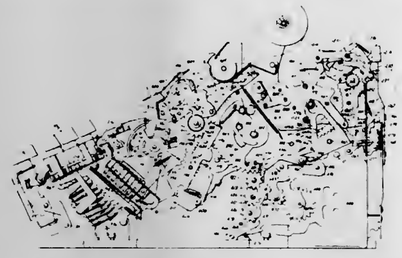


1. A calculating machine comprising in combination; a frame, a ten key keyboard having numeral keys therein, a pin carriage shiftably mounted in said frame beneath said keyboard, a first and a second group of rows of settable pins mounted in said pin carriage and the pins of said first group being adapted to be actuated and set by said numeral keys, accumulator means, a mechanism for each row of the pins of said first group of pins operable to transmit the representation of digits from the set pins of said first group of pins to said accumulator means and also operable to transmit the representation of digits in the accumulator means therefrom to said second group of pins, each said mechanism comprising a differential actuator member operatively associated with said accumulator means and a switching member connected thereto, abutment means on said switching members adapted to engage set pins of said first group of pins for determining the actuated position of each said mechanism during a machine cycle, means on said switching member for setting the pins of a row of said second group of pins in conformity with the actuated position of the pertaining mechanism, and means for actuating said mechanisms.

3,260,448
CALCULATING MACHINE
Harold J. Chall, Castro Valley, Calif., assignor, by mesne assignments, to Friden, Inc., a corporation of Delaware
Original application Sept. 18, 1961, Ser. No. 138,645, now Patent No. 3,145,923, dated Aug. 25, 1964. Divided and this application Mar. 27, 1964, Ser. No. 355,300
2 Claims. (Cl. 235—60.18)

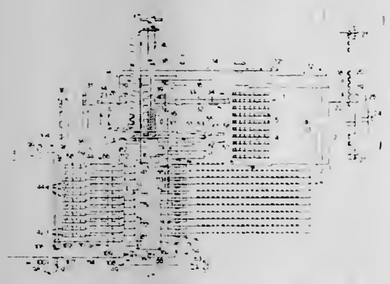
1. In a symbol printing mechanism for an automatic calculating machine, in combination, two operation-symbols print wheels, a print-wheel carrier for each of said

wheels for carrying it in a printing stroke, means for rotating said print wheels for printing particular operation-symbols, a latch for preventing printing movement of one of said print wheels, and means settable solely according to the setting of the other of said symbol print



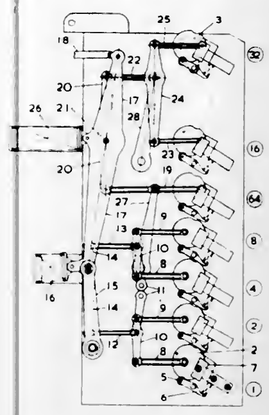
wheels for controlling said latch to prevent printing by said first wheel simultaneously with the printing of certain predetermined operation-symbols by the said other wheel, and to permit printing by said first wheel simultaneously with the printing of other operation-symbols by said other wheel.

3,260,449
ZERO PRINTING CONTROL DEVICE FOR A CALCULATING MACHINE
Teresio Gassino, Ivrea, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy
Filed Oct. 21, 1964, Ser. No. 405,368
Claims priority, application Italy, Oct. 24, 1963, 22,169/63
8 Claims. (Cl. 235—60.25)



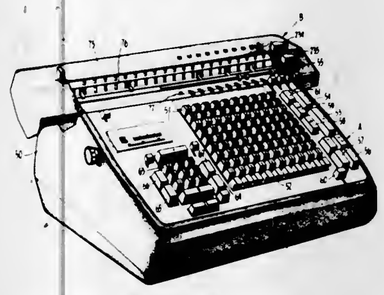
1. In a calculating machine having a set of actuators differentially movable from a zero position to represent a multiorder amount, a set of typecarriers presettable by said actuators according to said amount, and means for causing said typecarriers to print, a zero printing control device comprising in combination:
(a) a common member for preventing said typecarriers from printing,
(b) a sensing member connected to said common member for concomitant movement in the transverse direction,
(c) moving means adapted to move said common member and said sensing member from right to left before said typecarriers are caused to print,
(d) means for causing said sensing member to simultaneously sense said actuators perpendicularly to said transverse direction,
(e) and means for disabling said moving means when all the actuators sensed by said sensing member are in said zero position to condition said common member for preventing the typecarriers at left of the highest significant order of said amount from printing zeros.

3,260,450
MECHANICAL AGGREGATORS
John Handley, 39 Wilhelmina Ave., Coulsdon, England
Filed Sept. 23, 1964, Ser. No. 398,631
Claims priority, application Great Britain, Sept. 27, 1963, 38,274/63
6 Claims. (Cl. 235—61)



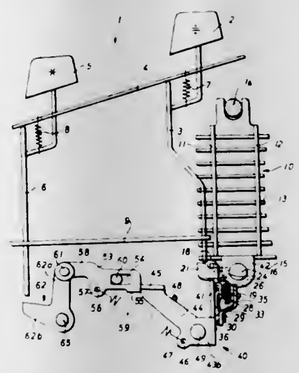
1. An apparatus for aggregating a number of basic movements which are spaced along a base line and arranged for discrete selective positioning in one of two predetermined positions, which positions define a line that is normal to the base line comprising, in combination: a plurality of rotors one for developing each of the basic movements at its output, and each containing two detents separated by 180° to establish the two predetermined positions of the basic movements; a plurality of first beams, each substantially parallel to the base line, each connected at spaced linkage points to the output of a different pair of the rotors and each providing an output movement at a point spaced from the linkage points; and at least one second beam, connected at separate linkage points to the output of a pair of first beams, and providing an output movement at a point spaced from the linkage points.

3,260,451
CALCULATING MACHINE
Arthur J. Malavazos, Hayward, and John W. Jamieson, San Leandro, Calif., assignors to Friden, Inc., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,156
5 Claims. (Cl. 235—63)



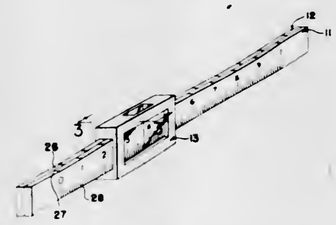
1. In a calculating machine having:
(a) a main keyboard;
(b) an accumulator register;
(c) an actuating mechanism for setting values standing in said keyboard into said accumulator register;
(d) means for ordinally shifting said register;
(e) a multiplier keyboard;
(f) means for storing a multiplier factor; and
(g) means controlled by said last-mentioned means for operating said actuating mechanism and said shifting means under the control of said multiplier factor storage means;
an auxiliary multiplying mechanism comprising:
(1) a plurality of auxiliary multiplier storage members ordinally aligned with said keyboard;
(2) means for setting a value standing in said keyboard into said auxiliary storage members;
(3) a feed means for returning said auxiliary storage members to a "0" position;
(4) ordinal selection means for determining the ordinal auxiliary storage member to be engaged by said feed means;
(5) means for sensing the "0" position of the auxiliary storage members;
(6) means operated by said "0" sensing means for terminating operation of said feed means and operating said shifting means to shift said accumulator register one order and adjusting said ordinal selection means to cause operation of an ordinally adjacent auxiliary multiplier storage member;
(7) means for sensing a value in said multiplier factor storing means; and
(8) means operated by said last mentioned means for enabling or disabling the feed means and the ordinal selection means.

3,260,452
APPARATUS FOR REDUCING THE NUMBER OF DIVIDING MOVEMENTS OF A CALCULATOR
Paul Thevis, Oberndorf (Neckar), Germany, assignor to Olympia Werke AG, Wilhelmshaven, Germany
Filed Sept. 27, 1965, Ser. No. 490,268
Claims priority, application Germany, Apr. 3, 1965, O 10,764
20 Claims. (Cl. 235—63)



1. In a calculator, in combination, input storage means movable along a path from an initial position to a plurality of ordinal positions including an end position corresponding to the highest order, and a selected intermediate ordinal position, said input storage means being operable to move to said end position during dividing operations; stop means for stopping said input storage means in said intermediate ordinal position and having a normal inoperative position and a stop position; actuating means for moving said stop means to said stop position, and for starting said dividing operations of said input storage means; and coupling means having an inoperative position, and a normal coupling position for operatively connecting said actuating means with said stop means, said coupling means being located in said path of movement of said input storage means in the region of said intermediate ordinal position of the same and being moved to said inoperative position by said input storage means in said intermediate ordinal position whereby operation of said actuating means causes stopping of said input storage means by said stop means during dividing operations in said intermediate ordinal position only if a number entered into said input storage means has a smaller number of orders than represented by said input storage means in said intermediate ordinal position.

3,260,453
SLIDE RULE
Bayard Rankin, 2853 Coleridge Road, Cleveland Heights, Ohio
Filed May 7, 1964, Ser. No. 365,628
4 Claims. (Cl. 235—70)

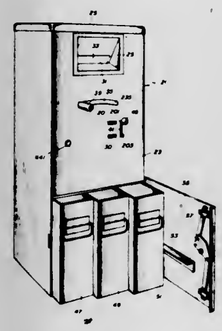


1. A slide rule comprising a plurality of relatively movable contacting body members having scales positioned thereon, said body members having adjacent sides in abutting contact, the abutting portion of each side lying in a single plane, and movable cursor means comprising a cursor body movable relative to said body members and having a passage therethrough through which said body members extend, and support and guide means on and forming a part of said cursor means constituting the sole means for retaining the surfaces of said body members in contact and said members in alignment and for frictionally resisting movement of said members relative to said cursor body only, said means on said cursor body operable to retain said planar surfaces in abutting contact and in alignment comprising biasing means acting between said body members and said cursor body and applying forces against said body members in a direction parallel to said abutting planar surfaces to fritcionally resist movement of said members relative to said cursor body.

3,260,454
COIN HANDLING DEVICE
Raymond H. Griesemer, Park Ridge, and Wesley A. Golland, Franklin Park, Ill., assignors to Johnson Fair Box Company, Chicago, Ill., a corporation of Delaware
Original application Oct. 10, 1961, Ser. No. 144,075. Divided and this application Aug. 27, 1965, Ser. No. 483,063
3 Claims. (Cl. 235—100)

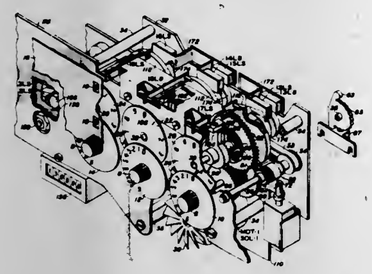
1. A portable coin handling device which is designed to receive a batch of mixed coins from a suitable source of supply and adapted to count the monetary value of the mixed coins, sort the coins into their proper denominations and transfer the sorted coins into individual vaults, said device comprising:
(a) a coin hopper adapter to receive a batch of mixed coins,
(b) conveyor means located adjacent the bottom of the coin hopper,

(c) a coin counter mounted to receive the coins from the conveyor means,
(d) said coin counter provided with means to actuate a register means which will totalize the monetary value of the coins passing through the coin counter,
(e) said register means including an arm having a roller adapted to print a reading on a ticket of the



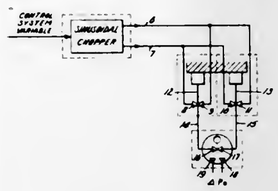
totalized monetary value of coins which have passed through said coin counter,
(f) sorter means adapted to receive the coins from the counter means, whereby coins of different denominations will be separated according to their respective denominations, and
(g) vault means disposed below the sorter means to receive the sorted coins from the sorter means.

3,260,455
STEPPED COUNTING APPARATUS
John W. Melville, Robert F. Osborne, and John F. Wirley, Webster, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed Sept. 30, 1964, Ser. No. 400,315
6 Claims. (Cl. 235—132)



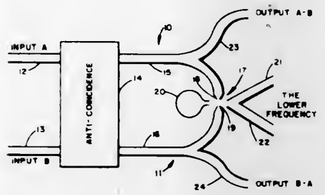
1. Apparatus for providing varied numbers of pulses upon the occurrence of events including:
pulse emitting means adapted to emit sequential series of pulses upon the occurrence of predetermined events,
counting means including means to preset a number of events to occur, means to record the occurrence of events and means to detect the occurrence of the preset number of events and to produce a signal upon the occurrence of the preset number of events,
and means operatively associated with the counting means to vary the number of pulses from the pulse emitting means as the counting means records different specific numbers of events.

3,260,456
FLUID-OPERATED ERROR SENSING CIRCUIT
Willis A. Boothe, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 23, 1964, Ser. No. 398,674
10 Claims. (Cl. 235—200)



1. A fluid-operated error sensing circuit comprising
sensor means for generating first fluid signals having a frequency representing the monitored value of a control system variable,
resonant means in communication with said sensor means for generating second fluid signals representing the monitored value of the control system variable as a function of two resonant frequencies of said resonant means wherein the two resonant frequencies define a predetermined range of values of the control system variable, and
a fluid amplifier device having a power fluid inlet, two control fluid inlets and two power fluid outlets, a first and second of said control fluid inlets in communication with said resonant means, said fluid amplifier device providing fluid output signals at said power fluid outlets indicative of the deviation of the control system variable from a desired value thereof wherein the desired value is represented by a frequency intermediate the two resonant frequencies, said fluid amplifier device having no mechanical moving parts thereby avoiding frictional wear and providing highly reliable circuit operation.

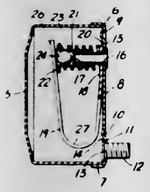
3,260,457
FLUID LOGIC PULSE FREQUENCY SUBTRACTOR
Cavas M. Gobhai, Cambridge, and Edward Schoppe, Jr., Walpole, Mass., assignors to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed June 24, 1964, Ser. No. 377,662
2 Claims. (Cl. 235—201)



1. A fluid logic pulse frequency reversible subtractor device comprising a pair of fluid systems, each comprising a fluid pulse train input, a control output passage as a fluid flip-flop control means, and a branch output passage to a pressure sink as a readout means, a fluid flip-flop operable by said control outputs of said fluid systems, wherein said control outputs are oppositely disposed with respect to each other at said flip-flop, and wherein under operating conditions, said flip-flop is established in one of its two states such that one of said control outputs is at a pressure lower than said sink pressure, and the other of said control outputs is at a pressure higher than said sink pressure, said control outputs and said flip-flop thus providing means whereby a first

fluid pulse, by operating said flip-flop, establishes, at the control output of the system of said first pulse, a pressure increased to a value greater than that of said sink pressure, and at the control output of the other of said systems, a pressure decreased to a value less than that of said sink pressure, whereby a second fluid pulse in said first pulse system, on encountering said increased pressure, is diverted from said first pulse control output to the branch passage of the system of said first pulse as an output signal, said systems being operatively joined by said pressure relationships in that said second pulse is so diverted only if there occurs two consecutive pulses in said first pulse system with no pulse in the other of said systems during the time of said consecutive pulse occurrences, said output signals in said branch passages comprising an arithmetic subtraction of the pulses in one of said systems from the pulses in the other of said systems with the result appearing in the readout branch of the system carrying the highest frequency of pulses.

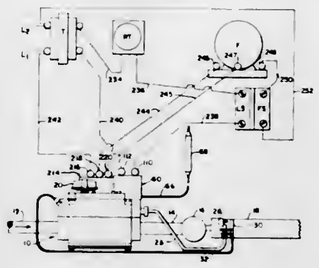
3,260,458
STEAM RADIATOR VALVES
Glenn B. Klinefelter, Mountainside, N.J., assignor to Gorton Heating Corporation, Cranford, N.J., a corporation of New York
Filed Feb. 2, 1965, Ser. No. 429,842
10 Claims. (Cl. 236—66)



1. A radiator valve of the character defined comprising a casing open at one side, a cover fixed to the casing and closing said open side, a bimetal element mounted within the casing for actuating a valve assemblage, said assemblage comprising a fixed sleeve and a movable sleeve, said movable sleeve supporting a ball valve operatively engaging a seat at one end of the fixed sleeve, said bimetal element actuating the movable sleeve in one direction in movement of the ball valve into seated position upon said fixed sleeve, means providing a vent passage between the fixed and movable sleeves, tensional means for actuating said movable sleeve, and means for mounting the radiator valve in connection with a steam radiator for admission of air and/or steam into the casing of said radiator valve.

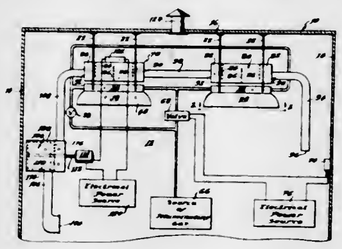
3,260,459
FORCED AIR HEATING CONTROL SYSTEMS
Michael J. Caparone, Arcadia, and Marvin M. Graham, San Pedro, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware
Filed Jan. 29, 1963, Ser. No. 254,979
12 Claims. (Cl. 236—80)

1. In a heating control system, the combination comprising a burner for supplying heated air to an area, a differential pressure operated diaphragm valve for supplying fuel at a regulated pressure to said burner, a bleed flow of fuel for maintaining an operating pressure on the one side of said diaphragm valve, a pilot pressure regulator for regulating said bleed flow, an on-off valve movable between on and off positions for controlling said bleed flow, thermostatic means operatively connected to said on-off valve for actuating the same in response to temperature variations in the area, thermally responsive means remotely disposed from the area for modulating said pressure regulator in response to temperature differentials, fan means for circulating the heated air,



and selector means controlling the rate of circulation of said fan means in accordance with the operation of said diaphragm valve.

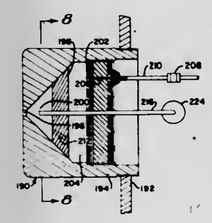
3,260,460
RADIANT AND HOT AIR HEATING SYSTEM
Joseph A. Marland, La Grange, Ill., assignor to Marland Foundation, La Grange, Ill., a corporation of Illinois
Filed June 1, 1965, Ser. No. 460,201
7 Claims. (Cl. 237—50)



1. A combination radiant and space heater comprising an infra-red generator having a housing provided with a cavity therein and an opening communicating with the cavity, a porous plate mounted on the housing and sealed about the opening, valve means for introducing illuminating gas into the cavity and maintaining the cavity at a gas pressure sufficient to force gas through the plate to permit the gas to burn on the opposite side of the porous plate at a relatively low temperature to produce substantial infra-red radiation, a closed air circulating system disposed adjacent to the infra-red generator, said circulating system having an inlet at one end adapted to be disposed below the level of the porous plate and an outlet at the other end, said circulating system including a gas to gas heat exchanger disposed on the opposite side of the housing from the porous plate, said heat exchanger having a box of material having a high coefficient of heat conductivity and being in thermal communication with the exhaust gases and vapors generated at the side of the porous plate opposite the cavity, said heat exchanger having an air tight passage disposed in the circulation system and said heat exchanger having an air impermeable hood positioned adjacent to the box of the heat exchanger in a region thereof remote from the porous plate, said hood extending outwardly from the box toward the porous plate to deflect hot combustion vapors rising from the opposite side of the porous plate into thermal contact with the box, whereby an object may be

placed below the infra-red generator and in the radiation field of the infra-red generator and the outlet of the circulation system directed toward the space surrounding the object to heat the object by infra-red radiation and the surrounding space by a flow of heated air.

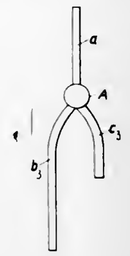
3,260,461
PROCESS OF ASPIRATING AND SPRAYING USING A SWIRLING FLUID JET
Albert Biber, Verona, Orvis A. Davis, Sr., Gibsonia, and Bruce R. Walsh, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 11, 1963, Ser. No. 329,810
7 Claims. (Cl. 239—8)



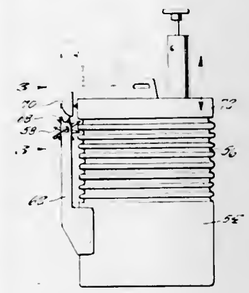
1. An aspirating process comprising directing at least one jet of pressurized gas along the interior surface of a uniform hollow cone which is enclosed at the base and open at the apex, said pressurized gas jet being charged directly at the surface of said cone and relatively close to the base of said cone, said pressurized gas jet directed forwardly toward said open apex along a path which is tangential with respect to the conical surface so that said jet is both swirled and rapidly discharged through the apex of said cone without substantial accumulation therein, the opening through which said jet enters said cone being restricted so that the quantity of air in said jet is limited and said jet only being charged directly at the surface of said cone and relatively remote from the longitudinal axis of said cone so that said pressurized gas jet swirls along said conical surface as a relatively thin film in close proximity to the conical wall surface permitting the axial portion of said cone to remain relatively free of pressurized gas and thereby forming an evacuated vortex along the axis of said cone, exposing a fluid under substantially atmospheric pressure to said vortex through the terminal opening of an axial duct extending from the base of said cone to an intermediate axial position within said cone, the outer surface of said axial duct having a substantially cylindrical configuration so that the only axial component of movement of said pressurized gas in the vicinity of said axial duct terminal opening is parallel to the axis of the cone, said swirling pressurized gas jet aspirating fluid through said axial duct terminal opening, and discharging a swirling spray comprising a mixture of said pressurized gas and said fluid through the opening at the apex of said cone.

3,260,462
DRINKING TUBE
Leonhard Smaczny, Mennier Strasse 46, Warburg, Westphalia, Germany
Filed Apr. 14, 1964, Ser. No. 359,617
Claims priority, application Germany, Apr. 17, 1963, S 84,721
4 Claims. (Cl. 239—33)

2. A drinking tube comprising a central tubular mouthpiece portion, a cylindrical mixing chamber portion formed at one end of said tubular mouthpiece portion, and bifurcated leg portions connected to the opposite end of said cylindrical mixing chamber and arranged for directing liquid tangentially into said mixing chamber portion upon drawing up of liquid through said mouthpiece portion.



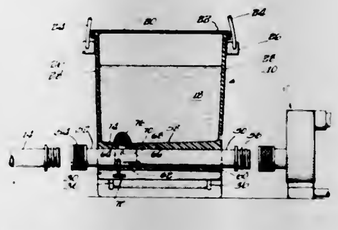
3,260,463
PORTABLE AUTO WASHING DEVICE
Rudolph Giovansanti, 355 40th St.; Frank J. Spinelli, 6517 11th Ave.; and Margaret Cuisinier, 333 86th St., all of Brooklyn, N.Y.
Filed May 15, 1964, Ser. No. 367,613
1 Claim. (Cl. 239—72)



In a portable car washing device, the combination of a tank, said tank comprising a vessel having a bottom wall, a top wall and a side wall therebetween, enclosing a central chamber, said side wall having a vertically expandable accordion midsection, for permitting an increased amount of air under pressure to be retained within said tank, said tank having an upper section and a lower section, means for entry of water into said tank, discharge means for said water from said tank and pressure development means for forcing said water to said discharge means, said entry means comprising a port within said tank, said discharge means comprising an elongated tube depending through said vent into said tank, said tube having a threaded portion threadingly engaged within said vent, a hose connected to the upper end of said tube, said tube having an end extending outwardly from said tank and being frictionally engaged with one end of a flexible hose having a nozzle at the opposite end, said pressure means comprising an air pump having a slidable piston within a cylinder for forcing air into said tank, an upstanding bracket carried by the lower section of said tank, said bracket supporting rotatively free a shaft carrying a gear engaged with said accordion midsection, a leaf spring mounted on said shaft, said leaf spring extending radially outward and carrying a hammerhead at the outward end thereof, said bracket having a cross arm in the path of the rotational travel of said leaf spring, and a bell carried by the upper

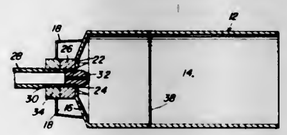
section of said tank, said bell being in alignment with said leaf-spring hammerhead, whereby said leaf-spring hammerhead strikes said bell when said tank upper section is lowered a major part of its vertical travel.

3,260,464
GARDEN CHEMICAL SOLUTION METERING DEVICE
Edward W. Harant, 3251 N. Olcott Ave., Chicago, Ill.
Filed Oct. 18, 1963, Ser. No. 317,166
6 Claims. (Cl. 239—318)



1. A self-supporting garden chemical solution metering device for connection between a lawn sprinkler and a line through which a carrier fluid under variable pressure is caused to flow comprising: a pail-like receptacle for holding a garden chemical solution, a horizontally extending carrier fluid conduit secured externally of the receptacle below and adjacent to the bottom wall of the receptacle, said conduit having an inlet end connectible to a line through which a carrier fluid is caused to flow and an outlet end connectible to the inlet of a lawn sprinkler, means in said conduit having a passageway in communication with the garden chemical solution in the receptacle and the carrier fluid stream to effect entrainment of the garden chemical solution in the carrier fluid, and carrier fluid velocity control means adjustable with respect to said first mentioned means for regulating the velocity of flow of fluid through said first mentioned means in a manner to assure entrainment of the garden chemical solution in the carrier fluid stream irrespective of the capacity and flow characteristics of the sprinkler, said carrier fluid velocity control means being incapable of cutting off completely the flow of carrier fluid through said conduit.

3,260,465
GAS TORCH
Raymond Grumbein, McCracken, Kans.
Filed Nov. 17, 1964, Ser. No. 411,784
9 Claims. (Cl. 239—430)

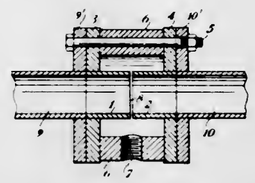


1. A gas torch including an elongated cylindrical mixing chamber, said chamber being defined by an elongated tubular member having the opposite ends thereof open, a plurality of slots extending longitudinally inward from one end of said member, said slots being spaced peripherally about the member and defining a plurality of integral tabs, selected ones of said tabs being folded generally laterally inward toward each other, the inner ends of the inwardly folded tabs being generally coplanar and spaced from each other so as to define a passage, and a gas nozzle projecting through said passage and being fixed to the inner ends of the inwardly folded tabs.

3,260,466
FISSILE FUEL RECOVERY PROCESS
Jean I. Wagner, Huntington, Robert M. Singer and Donald G. Schweitzer, East Islip, and Herbert M. Katz, Port Jefferson, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Nov. 26, 1963, Ser. No. 326,300
2 Claims. (Cl. 241—1)

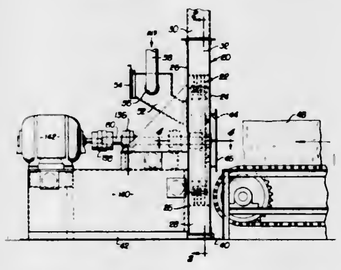
1. A process for rupturing the pyrolytic coatings on pyrolytic carbon coated fissile material bearing nuclear fuel elements comprising, applying electrical energy to the surface of said elements and causing said energy to pass through said elements in an amount greater than 45 volt amperes, said electrical energy having a current density of about 0.6 ampere per sq. centimeter.

3,260,467
STRAIGHT THROUGH FLUID ENERGY PULVERIZERS
Walter Twist, Billingham, Harold Edward Haigh, Norton, and John Ball, Stockton-on-Tees, England, assignors to British Titan Products Company, Limited, Durham, England, a corporation of the United Kingdom
Filed Dec. 24, 1963, Ser. No. 333,047
Claims priority, application Great Britain, Jan. 2, 1963, 322/63
17 Claims. (Cl. 241—5)



9. A process for pulverizing the particulate solids comprising causing said solids to flow in a confined stream of substantially uniform cross-sectional area and injecting into an intermediate portion of said stream a fluid under pressure, the injection being effected from substantially the whole of the periphery of a cross-sectional plane of said confined stream.

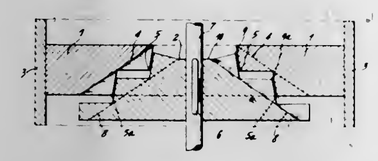
3,260,468
GRINDING MILL AND BLOWER COMBINATION
William E. Beard, Whittier, Calif., assignor to C. F. Butz Engineering, Azusa, Calif., a corporation of California
Filed Dec. 26, 1963, Ser. No. 333,408
5 Claims. (Cl. 241—43)



1. A material reducing mill and removing apparatus comprising: a closed housing, said housing including a generally circular end wall and a pair of generally parallel side walls spaced apart by said end wall; an exhaust flue communicating with said housing which interrupts said circular end wall: a trap receptacle communicating with said housing and interrupting said circular end wall

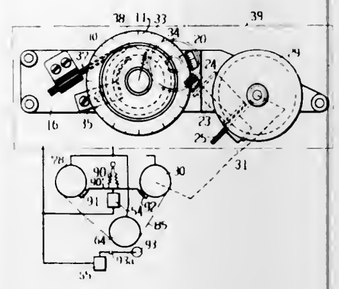
adapted to receive foreign objects centrifuged within said housing; an intake port in one of said side walls which is aligned with the axis of said circular end wall, said intake port being adapted to receive compacted masses of material to be reduced; rotor means mounted in said housing having its axis adjacent said intake port, said rotor means including a plurality of ribs circumferentially arranged around said axis and radiating outward therefrom, said ribs being of sufficient cross-sectional area, when rotated, to generate a flow of air to impel reduced material toward said circular end wall and around said wall in the direction of rotation of said rotor means through said exhaust flue and said ribs adapted to create a low pressure condition at the intake port to accelerate feeding of material therethrough; reducing means carried on the peripheral ends of each of the ribs of said rotor means, said reducing means including a plurality of hammer elements pivotally connected to said ribs, said hammer elements being movable from an at reast position to an extended position when said rotor means is moved at relatively high speed, yet said hammer elements being yieldable from said extended position when encountering foreign objects within said material to be reduced; a filter means including a generally circular screen interposed between said circular end wall and surrounding said reducing means to grade the material being reduced to a predetermined size; material breaker means mounted on said rotor means at said intake port adapted to partially reduce and radially distribute said material in said housing wherein said material breaker means includes a disc having a plurality of projections protruding toward said intake opening, said disc being carried by said rotor means within said housing forward of the ribs on said rotor means and a pre-breaker bar having blunt projections protruding into said intake opening, said bar being axially carried by said rotor means forward of said disc and being of such a length that when rotated its ends do not touch the interior of the intake opening; and a power source exterior of said housing connected to said rotor means for importing relatively high speed rotation to said rotor means.

3,260,469
DISCS FOR APPARATUSES FOR REFINING PAPER PULP
Gustave Marie Georges Perdreau, Rte. de Morieres, Montfavet-Avignon, Vaucluse, France
Filed Nov. 12, 1963, Ser. No. 322,873
Claims priority, application France, Apr. 30, 1963, 1,942
4 Claims. (Cl. 241—257)



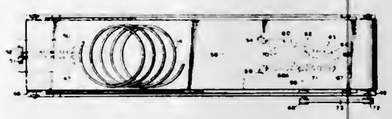
1. A disc structure for paper pulp refining machines comprising a stator disc and a rotor disc, said discs having opposed faces, each face having grooves extending outwardly from a central portion toward the periphery, the bottoms of said grooves in said two discs forming parallel substantially conical surfaces, each disc having notches ribs intermediate said grooves to form angular steps in said ribs, the notches and steps in said discs being complementary and said discs being mounted with the steps and notches of the rotor disc rotatably interfitting the notches and steps, respectively, of the ribs of the stator disc.

3,260,470
MAGNETIC TAPE DRIVE MECHANISM
Eisuke Fujimoto, Ohta-ku, Tokyo, Japan, assignor to Akai Electric Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Nov. 27, 1963, Ser. No. 326,609
Claims priority, application Japan, Nov. 29, 1962, 37/53,386
5 Claims. (Cl. 242—55.12)



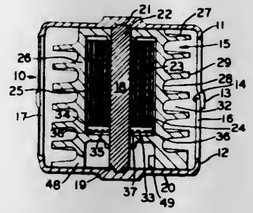
1. In a magnetic recording and reproducing machine of the type having a capstan spindle adapted to be driven by a reversible electric motor, a pressure roller engageable with said spindle so as to feed the magnetic tape when the tape is pinched between the spindle and pressure roller, rotary take-up and supply reel assemblies for taking up and supplying the tape, the improvement comprising, a first mechanical brake means for braking the supply assembly when applied to the rotary portion thereof and a second mechanical brake means for braking the take-up assembly when applied to the rotary portion thereof, a common solenoid associated with said two brake means for releasing the brake means, a second solenoid coupled to said pressure roller and when energized urging the roller against the spindle, electrical delay means electrically connected to both the common solenoid of said first and second brake means and to the said second solenoid for deenergizing said solenoids for a limited period upon each reversal of the tape whereby the brakes are applied and the pressure roller is disengaged from the spindle during such period.

3,260,471
APPARATUS AND METHOD FOR HANDLING LOOPED WIRE
Eben Jefferson Crum, P.O. Box 6763, Towson, Md.
Filed June 11, 1964, Ser. No. 374,359
14 Claims. (Cl. 242—79)



1. The method of handling a continuous length of wire in the form a series of consecutive loops comprising moving the loops on a longitudinal horizontal conveyor, permitting the loops to fall from one end of the conveyor onto a collecting surface under the force of gravity, while moving said end of the conveyor bodily in a closed horizontal path, whereby the falling loops become arranged on the collecting surface in the form of a helical coil having a pattern corresponding to said path.

3,260,472
CORD REEL
Jacques C. Zolot, Elizabeth, N.J.
Filed Dec. 3, 1964, Ser. No. 415,634
14 Claims. (Cl. 242—107.12)



1. A retractable cord reel of the type from which a cord end is unreeled from both sides thereof, comprising, in combination,

a housing comprising a frame having two interconnecting members,

a shaft centrally disposed between said end members and affixed to at least one of said end members,

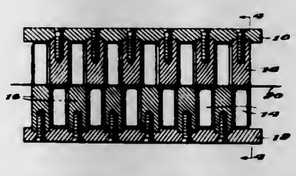
a reel having ends and rotatably disposed around said shaft and having an inner annular recess therein and adjacent said shaft, said recess having a wall,

a coiled spring disposed around said shaft in said recess and having one end affixed to said shaft and the other end affixed to said recess wall,

a helical fin disposed in the outer periphery of said reel and having a pitch adequate to accommodate one thickness of a cord to be reeled, and having a helix depth adequate to accommodate at least one thickness of cord portion plus over one-half of the thickness of another cord portion, said helix fin having oppositely-disposed fin openings at one end designed to allow the leading of a portion of the cord from the bottom of the end helix fin through one fin opening, around the end of said reel and through the other fin opening to the top of the same helix end, and joining the other cord portion in double layer relation therewith, each portion being drawn out past one of the cross members of said frame, and

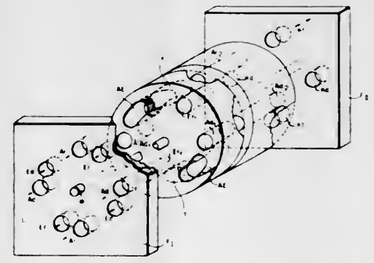
releasable holding means mounted within said frame and designed to releasably hold said cord in any extended position.

3,260,473
FILAMENT TENSIONING APPARATUS
Oliver Newton Smith, Kinston, and Leigh O'Neill Vanneman, Sr., Grifton, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 24, 1964, Ser. No. 339,999
3 Claims. (Cl. 242—153)



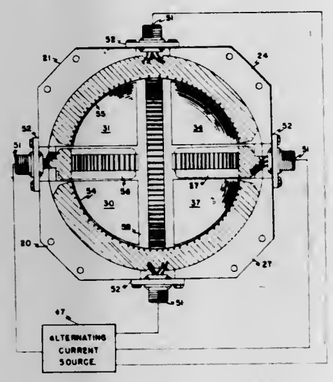
1. A filament tensioner capable of exerting constant tension on yarn of variable diameter comprising an upper and lower base member positioned in spaced superimposed relationship, said upper base member being vertically movable and having a plurality of downwardly extending projecting elements, said lower base member having a plurality of upwardly extending projecting elements which alternately intermesh with said downwardly extending projecting elements, said projecting elements each having substantially vertical elongated slots arranged in register to form an orifice for said yarn, with said orifice becoming elongated in cross-section when said upper base member recedes from said lower base member, said upper base member being adapted to exert tension by gravity upon said yarn passing through said orifice, whereby upon receipt of a relatively large diameter portion of said yarn, said orifice assumes said elongated cross-section to accommodate said large diameter portion and said upper base member retains said tension by gravity on said yarn.

3,260,474
COMBINED LOADING AND CONTROL STATION FOR PNEUMATIC TUBES
Heinz Geist, Ispra, and Wolfgang Kranert and Horst Kutschera, Varese, Italy, assignors to European Atomic Energy Community-Euratom, Brussels, Belgium
Filed Sept. 6, 1963, Ser. No. 307,147
Claims priority, application Germany, Sept. 13, 1962, E 23,518
6 Claims. (Cl. 243—19)



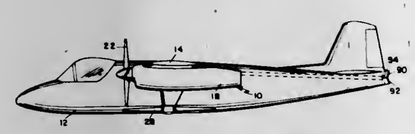
1. In a combined loading and control station for pneumatic tubes comprising a loading side and a departure side, at least one sluicing-in and one outlet conduit for a container and an inlet conduit and an outlet conduit for pressure gas on said loading side of the station, and at the departure side of the station at least one transport conduit for said container and a pressure gas conduit connected at a point of arrival to said transport conduit; the improvements consisting in that the outlet conduit for the container on the loading side of the transport conduit for the container at the departure side of the station on the one hand, and the outlet conduit for the pressure gas at the loading side and the pressure and outlet gas on the departure side of the station on the other hand are oppositely disposed and fixedly aligned with a space therebetween; in that the sluicing-in conduit for the container and the inlet conduit for the pressure gas at the loading side are spacially offset to the same degree with respect to the coordinated container outlet and pressure gas outlet conduits; and in that in the space between the loading and departure side of the station are serially inserted, and sealed against each other two displaceable conduit joints with conduits aligned and in register with the conduits of the corresponding connecting sides of the station, the joint located at the loading side being provided, instead of and in the same position as a container outlet conduit, with pockets communicable with the container transport conduits of the joint at the departure side but non-communicable with the container transport conduits of the joint at the loading side, the pockets forming a lateral turn of the pressure gas inlet conduit which is widened in the direction towards the sluicing-in conduit into a longitudinal slot of the shape and volume of a longitudinal opening formed by unifying two coordinated conduits.

3,260,475
SPACE VEHICLE DIRECTING APPARATUS
Ralph D. Ormsby, Ann Arbor, Mich., assignor to The Bendix Corporation, Ann Arbor, Mich., a corporation of Delaware
Filed June 17, 1960, Ser. No. 36,774
12 Claims. (Cl. 244—1)



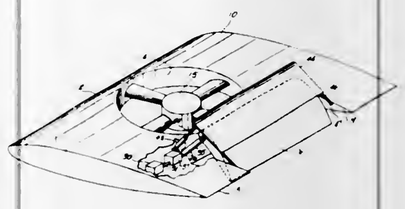
1. Apparatus for direction control of a vehicle comprising electrically conductive unitary rotor means, means for suspending said unitary rotor means for rotation in more than one plane, winding means to rotate said unitary rotor means in more than one plane being placed adjacent said unitary rotor means, means to supply an alternating current to said winding means to induce a current in said unitary rotor means to impart a torque to said unitary rotor means, one of said winding means and unitary rotor means being connected to the vehicle frame so that an equal and opposite torque is applied to said vehicle to control the attiude of said vehicle.

3,260,476
PROPULSION UNIT WITH VECTORED THRUST CONTROL
Harry A. James, San Diego, Calif., assignor to The Ryan Aeronautical Co., San Diego, Calif.
Filed May 4, 1964, Ser. No. 364,408
6 Claims. (Cl. 244—7)



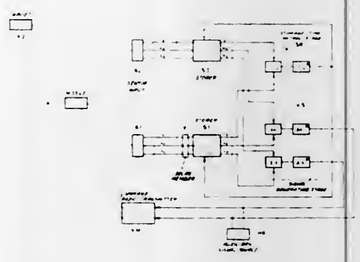
1. In combination with an aircraft having a wing, a propulsion unit comprising:
a propulsion propeller mounted forwardly of said wing to rotate about fixed axis substantially parallel to the longitudinal axis of the aircraft;
a lift propeller mounted below said wing to rotate about a substantially vertical axis;
said propellers having variable pitch blades;
thrust vector control means connected to said propellers to vary the blade pitch of one propeller simultaneously with and inversely to the blade pitch of the other propeller;
and a source of power connected to drive said propellers.

3,260,477
FLAP ASSEMBLY FOR AIRCRAFT
William E. Grahame, 6939 S. Prince Way, Littleton, Colo.
Filed Jan. 31, 1964, Ser. No. 341,611
7 Claims. (Cl. 244—12)



5. In a vertical take-off and landing aircraft having a lift fan housed within a wing section to impart vertical thrust to the aircraft, a flap disposed in a recess along the trailing edge of the wing rearwardly of said lift fan, a movable cover plate being pivotally connected to the wing section and being normally disposed to overlie the gap formed between said flap and the wing section, tilting means for deflecting said flap about an axis of rotation through said flap, plate elevating means for raising said cover plate above the wing section, and flap elevating means for raising said flap into an elevated position rearwardly and above said lift fan when said cover plate is in the raised position.

3,260,478
METHOD AND MEANS FOR CONTROLLING TRAVEL MOTION OF AN OBJECT IN DEPENDENCE UPON THE POSITION OF ANOTHER OBJECT
Arno Welti, Zurich, Switzerland, assignor to Albiswerk Zurich A.G., Zurich, Switzerland, a Swiss corporation
Filed Aug. 20, 1963, Ser. No. 303,383
Claims priority, application Switzerland, Aug. 30, 1962, 10,324/62
10 Claims. (Cl. 244—14)



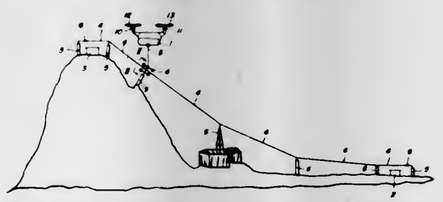
1. The method of controlling the travel of a first object in dependence upon the position of a second object by means of a regulator having a travel control member for the first object, which comprises supplying the regulator with the positional information (r_Z, α_Z, λ_Z) of the second object as reference magnitude and with the positional information (r_F, α_E, λ_F) of the second object as the pilot magnitude, each of said positional informations being composed of a distance magnitude and two angular coordinates; delaying at least one of the positional informations in dependence upon a timing interval proportional to the time-dependent change of the quotient of the distance magnitudes (r_Z, r_F) of the respective bodies; and

subsequently taking from the regulator as output magnitude the time differential of the differences between the angular coordinates of the second object and the respective angular-coordinate changes of the first object

$$\left(\frac{d}{dt}\Delta\alpha', \frac{d}{dt}\Delta\lambda\right)$$

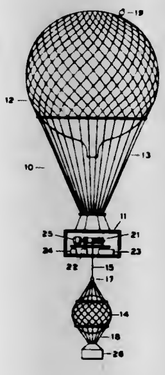
and applying said output magnitude in conjunction with a disturbance magnitude to said travel control member of said first object.

3,260,479
GUIDED HELICOPTER
Karl Eickmann, 2420 Ishiki, Hayama-machi, Kanagawa-ken, Japan
Filed May 20, 1964, Ser. No. 368,881
17 Claims. (Cl. 244—17.13)



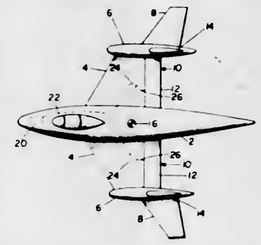
1. A helicopter guiding system comprising, means defining a guide way adapted to be supported on the ground, a helicopter including a loading body and at least one lift rotor rotatably mounted on said loading body, a guide member defined on said guide way for movement therealong, a connector connected between said guide member and said helicopter and confining said helicopter for operation over said guide way within the length range of said connector, and power means connected to said lift rotor for rotating said lift rotor to raise and lower said helicopter in respect to said guide member within a limiting range of the length of said connector.

3,260,480
AERIAL BALLOON SYSTEM
Howard H. Ash, Huntington, and Arnold L. Rosenblatt, Massapequa Park, N.Y., assignors, by mesne assignments, to Fairchild Hiller Corporation, Hagerstown, Md., a corporation of Maryland
Filed Aug. 18, 1964, Ser. No. 390,377
14 Claims. (Cl. 244—31)



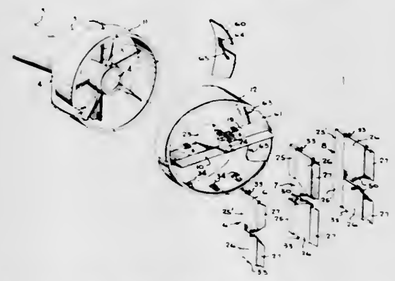
11. An aerial balloon system for supporting a gondola at a selected altitude, said system comprising a first zero-pressure balloon, means connecting said first balloon to said gondola, a second super-pressure balloon, variable length means connecting said gondola to said second balloon, and altitude-responsive means for controlling said variable length means whereby said balloons are positioned in a spaced relationship as a function of the altitude of said gondola.

3,260,481
VARIABLE EFFECTIVE SPAN AIRPLANE
Byron R. Winborn, Jr., Irving, Tex., assignor to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,557
5 Claims. (Cl. 244—42)



1. Apparatus for varying the effective wing span of an airplane, said apparatus comprising:
a fuselage,
wing means mounted in fixed relation with said fuselage,
boom means mounted outboard of said wing means,
tail surfaces, disposed at a positive angle of attack during unaccelerated flight, extending outward from said boom means and fixedly positioned to locate the center of gravity of said airplane to cause substantial lift loading of said tail surfaces, and
means for increasing the lift of said wing means and for establishing a nose down moment about said center of gravity to reduce the angle of attack and thereby relieve the lift loading of said tail surfaces during accelerated flight conditions.

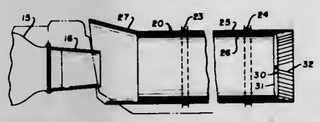
3,260,482
DIRECTIONAL CONTROL ASSEMBLY
Oleg Stroukoff, Gloucester City, N.J., assignor to Piasecki Aircraft Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 3, 1964, Ser. No. 415,680
12 Claims. (Cl. 244—51)



1. A directional control assembly for aircraft comprising, a circular shroud having a center axis, a propeller in the the shroud mounted for rotation about the axis of the shroud, a plurality of control vanes pivotally mounted in the shroud in the path of the slipstream from the propeller in parallel, spaced arrangement, control linkage interconnecting the vanes to provide simultaneous movement of the vanes, the shroud having an unbroken outer wall and an inner wall having a recess adjacent

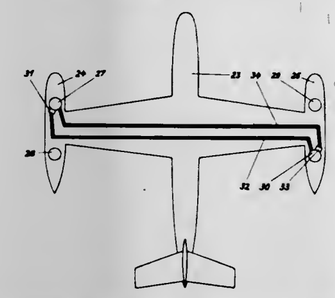
the edge thereof remote from the propeller and in alignment with the parallel spaced control vanes, an auxiliary vane having the curvature of the inner wall of the shroud pivotally mounted on the shroud for seating in the recess flush with the inner wall of the shroud in an inoperative position, and auxiliary linkage connecting the auxiliary vane and the control linkage for moving the auxiliary vane about its pivotal mounting with movement of the control vanes to and from an operative position at an angle to the inner wall of the shroud.

3,260,483
HELICOPTER ENGINE EXHAUST EJECTOR
Robert W. Burden and Owen G. Robbins, Dallas, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Nov. 25, 1964, Ser. No. 414,035
3 Claims. (Cl. 244—53)



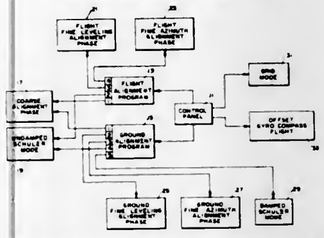
1. Apparatus for suppressing infra-red radiation from a gas turbine engine having an exhaust nozzle comprising, an elongated hollow cylindrical body mounted rearwardly of said engine and having a double wall construction with an air passage between outer and inner walls, a hood structure on the front end of said body receiving the engine exhaust nozzle and providing around said nozzle an open passage for the flow of atmospheric air to cool said air passage and into said body for cooling the exhaust gases ejected into said body from said nozzle and a baffle assembly secured in the rear end of said hollow body having mutually overlapping concentric baffles effective to both screen from view through said hollow body said engine exhaust nozzle received in said hood structure and to spread the cooled exhaust gases to avoid detection by heat tracking devices.

3,260,484
CUT-OUT DEVICES FOR LIFTING POWER UNITS OF VTOL AIRCRAFT
Rolf Riccius, Berlin-Mariendorf, Germany, assignor to Vereinigte Flugtechnische Werke Gesellschaft mit beschrankter Haftung frueher "Weser" Flugzeugbau/ Focke-Wulf/Heinkel-Flugzeugbau, Bremen-Flughafen, Germany
Filed Sept. 25, 1964, Ser. No. 399,191
1 Claim. (Cl. 244—55)



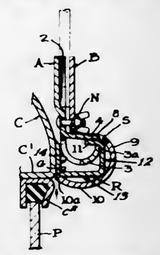
In a VTOL aircraft, a cut-out device for lifting power units operatively connected in pairs, having means for automatically cutting out the lifting power unit arranged on the diametrically opposite side of the centre of gravity of the aircraft when the other power unit fails, said means comprising a fuel supply device for each power unit driven by the diametrically opposite power unit so that in the event of one of the lifting power units failing, undesirable tilting movements of the aircraft are eliminated.

3,260,485
INERTIAL NAVIGATION
Harold Lerman, Paramus, N.J., Nell A. Sanchirico, Bronx, N.Y., and John P. Sputz, Oakland, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed Mar. 21, 1962, Ser. No. 181,294
6 Claims. (Cl. 244—77)



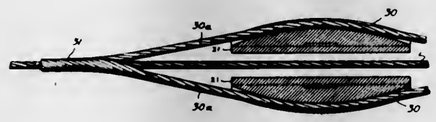
1. An inertial navigation system comprising a platform with mutually perpendicular X, Y, and Z axes, said X axis adapted to be aligned with north, said Y axis adapted to be aligned with east-west direction, and said Z axis adapted to be aligned with vertical, an accelerometer on said platform positioned to measure the acceleration of said platform along said X axis, an integrating means to integrate the output signal of said accelerometer to produce a signal representing the velocity of said platform along said X axis, Doppler radar means for generating a signal representative of the velocity of said platform along said X axis relative to the earth, velocity combining means to produce a signal varying in accordance with the difference between the velocity represented by the output signal of said integrating means and the velocity of said platform along said X axis determined from said Doppler signal, means responsive to the output signal of said velocity combining means to pivot said platform about said Z axis to reduce the output signal of said velocity combining means, including means to additively combine with the output signal of said accelerometer applied to the input of said integrating means a signal representing the rate at which said platform is being pivoted about said Z axis in response to the output signal of said velocity combining means times the velocity along said Y axis.

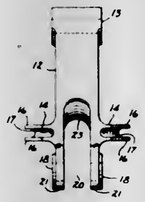
3,260,486
HOLDER FOR AUTOMOBILE IDENTIFICATION MEANS
Emory L. Groff, Pompano Beach, Fla., assignor to Emory L. Groff, Jr., Bethesda, Md.
Filed Oct. 8, 1965, Ser. No. 494,093
4 Claims. (Cl. 248—41)



1. A holder for mounting identification markers on the rain gutter of an automobile, comprising, in combination, an inner clamping member having an upper relatively flat portion and also having a pair of lateral portions projecting from the same side thereof and vertically spaced to engage inner and outer portions of the rain gutter to prevent rocking relative to the axis of the gutter,
an outer clamping member having a relatively flat upper portion and an arcuate hook-like rain gutter embracing lower portion,
and detachable screw means for connecting said members together.

3,260,487
LINE SUSPENSION
Seymour N. Schlein, University Heights, Ohio, assignor to The Fanner Manufacturing Company, a Division of Textron, Inc., Cleveland, Ohio, a corporation of Rhode Island
Filed Feb. 17, 1964, Ser. No. 345,225
20 Claims. (Cl. 248—63)

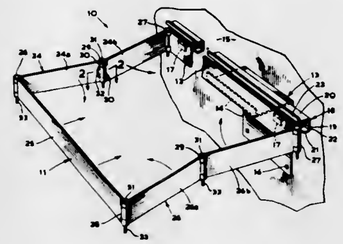




1. A line suspension means comprising the combination of a hanger suspended from a support and a pair of line gripping elements carried by the hanger, each of said line gripping elements being comprised of a plurality of hard drawn resilient rods each formed into an open helix and having a pitch such that it may be applied to the line from its side without permanent deformation, said rods being intertwisted to form a partial lay; each one of said pair of gripping elements being secured intermediate its ends to the hanger with free portions of said partial lays extending in opposite directions beyond the extremities of the hanger and opposite to each other and engaged with the line by wrapping around the line spaced from the hanger.

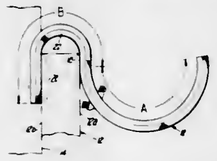
3,260,488
GARBAGE BAG HOLDER
Gerhard Kliewer and Harry Wasylyk, Winnipeg, Manitoba, Canada, assignors to Union Carbide Canada Limited, Toronto, Ontario, Canada, a company of Canada
Filed Sept. 18, 1964, Ser. No. 397,439
15 Claims. (Cl. 248—99)

1. A collapsible holder for garbage bags and the like comprising: frame means and support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms; first hinge means hingedly connecting said first and third arms at spaced-apart points to said support means; second hinge means hingedly connecting said second arm to said first and third arms; third hinge means in each of said first and third arms intermediate said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; means preventing the collapsible parts of each of said first and third arms on either side of said third hinge means from coming into 180° alignment in the open position of said holder and for constraining said first and third arms to collapse inwardly towards each other about



said third hinge means when said second arm is furthest from said support means and is moved towards said support means; in the closed position of said holder the second arm being located in front of the first and third arms and the first and third arms being collapsed upon themselves behind the second arm; and means depending from said holder for securing a garbage bag or the like thereto.

3,260,489
DETACHABLE BRACKET
Joffre E. R. Hentzi, Kensington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Sept. 25, 1964, Ser. No. 399,249
3 Claims. (Cl. 248—215)



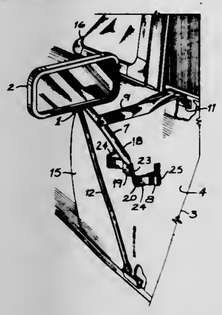
1. For engageably hooking over a support rail, a detachable bracket comprising a rodlike body of hexagonal cross section including a cantilever arm extending outwardly from a rail, said arm being positioned with a side forming a flat bearing surface on the uppermost portion thereof for receiving a vertical load, and a hook for holding the arm having a first vertical member fixed to the arm, and a second vertical member interconnected with the first vertical member, the first and second vertical members respectively presenting opposed flat sides engageable with opposite faces of a rail and spaced apart a predetermined distance for providing an interference fit therewith for increased bracket stability.

3,260,490
ARTICLE MOUNT
Wagn Trautner, Overland Park, Kans., assignor to Peterson Manufacturing Company, Kansas City, Mo., a corporation of Missouri
Filed Aug. 17, 1964, Ser. No. 390,089
12 Claims. (Cl. 248—226)

1. An article support adapted to be mounted on a wall comprising,
(a) an elongate arm having one end for engaging a wall surface,

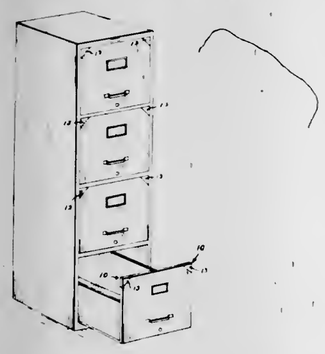
(b) a bracket member having one end pivotally connected to said arm in spaced relation to said one end thereof and having the other end for connecting engagement with the wall in spaced relation to said one end of the arm,

(c) means on the other end of said arm for mounting an article thereon,



(d) and a tension member connected to said arm adjacent said other end thereof in spaced relation to the pivotal connection of the bracket member and having a portion for connecting engagement with the wall to apply a force on the arm away from said bracket to maintain the engagement of said other end of the bracket member with the wall.

3,260,491
CAP FOR DRAWER AND LIKE CORNERS
Maurice V. Goode, 625 Irving, Apt. 6, Des Moines, Iowa
Filed Aug. 28, 1964, Ser. No. 394,647
4 Claims. (Cl. 248—345.1)



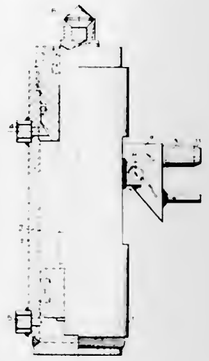
1. A corner cap for drawer doors having parallel, vertically disposed inner and outer surfaces and horizontal and vertical edge portions extending therebetween, the juncture of which forms right angular corners, said corner cap comprising,

a vertically disposed, triangular shaped sheet member having inner and outer faces and at least a horizontal and a vertical edge portion, said sheet member adapted to engage the outer surface of the drawer door adjacent one of its corners, said sheet member having a first flange integral therewith extending from its horizontal edge portion and adapted to embrace the horizontal edge portion of the drawer door adjacent said one corner,

said sheet member having a second flange integral therewith and integral with said first flange extending from its vertical edge portion adapted to embrace the vertical edge portion of the drawer door adjacent said one corner,

said first and second flanges extending at an acute angle from said sheet member with respect to its inner face to provide a guide surface and a noise retarding means when the drawer door is moved into engagement with a receptacle.

3,260,492
EXTENDIBLE AND CONTRACTABLE PIT PROPS
Laurence William Taylor, Woodthorpe, Nottingham, England, assignor to W. E. & F. Dobson Limited
Filed Aug. 4, 1964, Ser. No. 387,355
Claims priority, application Great Britain, Aug. 10, 1963, 31,672/63
6 Claims. (Cl. 248—354)

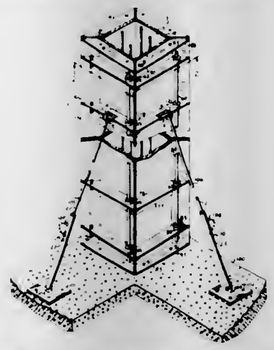


1. In combination with an extendible and contractable roof-supporting hydraulic prop, and actuator device for positive release of said prop to disengage the upper component thereof from a roof, said prop having a projecting bush thereon for rotation to open a release valve in said prop to release hydraulic fluid under pressure, said actuator device comprising a double-acting piston and cylinder with inlet and outlet ports for hydraulic fluid and having a bracket for a pivotal bolt on which there is mounted a lever arm having a chamfered underface and from which there projects a spigot inserted in said projecting bush, the chamfer of the lever arm abutting the side of the prop.

3,260,493
CONCRETE FORM
George S. Beckham, 1451 Glendale Road, Jacksonville, Fla.
Filed Nov. 7, 1963, Ser. No. 322,165
10 Claims. (Cl. 249—48)

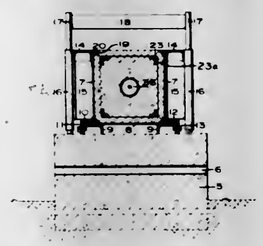
1. An elongated upright modular skeleton form panel comprising a pair of spaced vertically extending plates each having a front face and a rear face, support members spacedly connected to and extending between respective said rear faces of said plates, each said plate having an inner side edge and an outer side edge, each said support member having a generally vertical web portion adjacent said inner side plate edges adapted to vertically position and support impervious wall members thereagainst, each said support member having a generally horizontal flange portion extending outwardly toward said outer side plate edges, said horizontal flange portions of said support members having openings therethrough adjacent said rear face of said one plate, a male locking means positioned adjacent one said plate, a female locking means positioned

adjacent the other said plate, said female locking means including a pair of spaced apertures extending through said other plate, said other plate having a shoulder portion adjacent each said spaced aperture for engagement by a male locking means of an adjacent panel, said male locking mens including a pair of spaced latch members extending forwardly of said front face of said one plate and adapted to extend through respective spaced apertures of another adjacent panel, said male locking means further including an elongated rod extending through said openings in said horizontal flange portions, said one plate



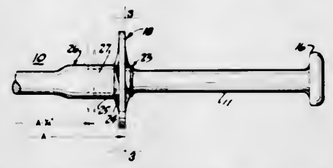
having another pair of apertures through said one plate and spaced substantially equal to said pair of apertures of said other plate, said latch member being attached to said rod and extending through respective said other pair of apertures, said rod being slidable through said opening to operably move said latch members, said pair of spaced latch members being movably mounted with respect to said horizontal flange portion of respective spaced said support members and operable to cooperatively engage the shoulder portions of the another adjacent panel thereby connecting said panel and the another adjacent panel.

3,260,494
FORM FOR CASTING CONCRETE POLES HAVING LONGITUDINAL OPENINGS THERETHROUGH
Frank N. Delgaard, 7000 Coral Way, Miami, Fla.
Filed Mar. 6, 1964, Ser. No. 349,881
6 Claims. (Cl. 249—143)



1. Apparatus for casting an elongated pole having a longitudinal channel therein from material such as concrete, which material is initially flowable and subsequently hardens into a solid mass, said apparatus comprising an elongated form having opposite side walls, a bottom wall and end walls, into which form the material to be cast is introduced from the top of the form, a strong metal cable stretched longitudinally through the form and through the end walls of the form, and a core consisting of a plurality of telescoping sections of substantially equal length and having substantially cylindrical internal faces of varying diameters, the smallest section having an internal diameter slightly larger than said cable, each of the other sections having an annular support member at its inner end extending annularly around a central opening slightly larger than the cable and through which opening said cable is adapted to be stretched so that said core is slidably supported on said cable at each of said support members, the outer end of each of said other sections overlapping and slidably engaging the outer face of the next smaller section of the core for slidable support thereby in central alignment in said form.

3,260,495
FORM TIE
Frank E. Buyken, 8620 Island Drive, Seattle, Wash.
Filed May 4, 1964, Ser. No. 364,512
4 Claims. (Cl. 249—214)



1. In a concrete-form tie-rod, the combination, comprising:

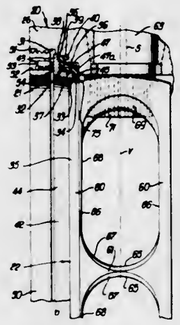
a first swelled portion on said rod;

a second larger swelled portion on said rod contiguously inward of said first swelled portion;

and a radially lanced and longitudinally distorted washer pressed securely on said first swelled portion adjacent said second swelled portion;

said washer having a hardness markedly greater than the hardness of said swelled portions.

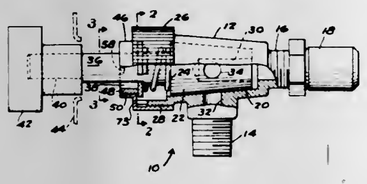
3,260,496
THERMAL RESPONSIVE HIGH PRESSURE BUTTERFLY VALVE SEAL MEANS
Walter O. Borcherdt, Mountain Lakes, N.J., assignor to B. H. Hadley, Inc., Pomona, Calif., a corporation of California
Original application July 25, 1961, Ser. No. 126,695. Divided and this application Sept. 16, 1963, Ser. No. 309,074
9 Claims. (Cl. 251—171)



1. A seal means for a valve means including a stationary valve body having a passageway for fluid and a movable valve member adapted to close said passageway, comprising: recess means in the valve body opening toward said passageway; a sealing ring member having L-shaped cross section providing a radially inwardly directed sealing portion extending into said passageway and an annular support portion for said sealing portion, said support and sealing portions being radially inwardly movable, and spring means carried by said valve body for applying

radially inwardly directed pressure to said support portion above said sealing portion for urging said sealing portion toward said passageway, said spring means comprising a metal responsive to temperature decreases for thermally augmenting selected sealing pressure.

3,260,497
GAS VALVE OPERATING STRUCTURE
Donald E. Blackford, Detroit, Mich., assignor to Lincoln Brass Works, Detroit, Mich., a corporation of Michigan
Filed Mar. 19, 1964, Ser. No. 353,198
9 Claims. (Cl. 251—184)



1. In a valve for gas ranges and the like having a body with a tapered chamber within which a complementally tapered rotatable valve plug is urged into seated and sealed relation by a spring reacting against a cap on said body, and an operating stem on said plug projecting through an opening in said cap to the exterior of said valve, improved structure whereby the axial displacement of said plug from said seated relation to said chamber is positively limited to a predetermined maximum, said structure comprising,

means providing a shoulder on said stem axially spaced from the tapered portion of said plug,

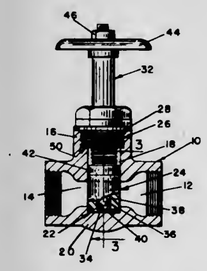
an insert disposed within said cap opening, said insert having an effective axially inner end disposed toward the cap interior and axially aligned with said shoulder,

said insert being axially shiftable within said opening and said effective inner end thereof being thereby axially adjustable to a predetermined spacing relative to said shoulder,

said insert having means exposed to the exterior of said cap adapted to receive insert-shifting force,

said cap and insert having means cooperable to secure the same fixedly in their adjusted relative axial positions.

3,260,498
EXPANSIBLE PLUG LEAKPROOF VALVE
Alvin L. Johnson, 70 Piedmont St., Worcester, Mass.
Filed Nov. 30, 1962, Ser. No. 241,190
1 Claim. (Cl. 251—189)



A leakproof valve comprising a housing, a flow passage therethrough, an elongated guideway chamber extending transversely thereof and through the flow passage, an expansible plug in said chamber, means to move the expansible plug rectilinearly in the guideway chamber,

said means comprising a relatively elongated stem having an outer threaded end and an inner end, a first abutment member fixed at the inner end of the stem, the abutment member underlying the plug,

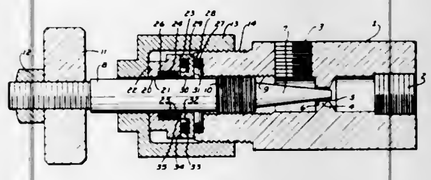
a threaded valve actuator member surrounding said stem, said valve actuator member having an outer end and an inner end, a second abutment member slidably mounted on the stem at the inner end of the valve actuator member and overlying the plug and underlying said valve actuator member,

a hand wheel fixed to said valve actuator member at the outer end thereof, a screw-threaded fitting on said valve housing threadedly receiving the screw-threaded portion of said valve actuator member,

means engaged with the threaded end of the stem to move the stem rectilinearly relative to the valve actuator member in a direction to expand the plug by moving the first abutment member toward the second abutment member,

said hand wheel rotating said valve actuator member to move it rectilinearly and thereby to move the plug bodily within the guideway chamber between fully opened and closed conditions of the flow passage, the fitting limiting the motion of the plug in one direction in the chamber, and means in said chamber to limit the plug motion in the other direction, the valve actuator member being adapted to move slightly further than said plug in both directions and thereby further expand the plug between the two abutment members at each point of limit of motion of the plug.

3,260,499
HIGH PRESSURE CONTROL VALVE
Ralph R. Roemer, 2100 Vega Ave., Cleveland, Ohio
Filed May 31, 1963, Ser. No. 284,477
12 Claims. (Cl. 251—214)



1. A sealing means for a hydraulic system which comprises a hollow body connectable internally to a source of fluid under high pressure and wherein a cylindrical actuator stem extends into the body from the exterior thereof and is movable axially relative to the body, and wherein the body has a wall coaxial with the stem and facing toward the outer end of the stem, said sealing means comprising:

an annular holder member adapted to be accommodated in the body in axially spaced relation to said wall in a direction toward said outer end of the stem and in surrounding relation to, and axially movable relation to, the stem;

an intermediate annular member coaxial with the holder member and adapted to be accommodated in the body between said wall and holder member in endwise contact at its opposite ends with the holder member and said wall, respectively;

a first O-ring at that face of the intermediate member which is opposite from the holder member, said first O-ring being adapted to lie between and in resilient sealing engagement with said intermediate member and a portion of said wall in radially outwardly spaced relation to, and axially movable relation to, the stem;

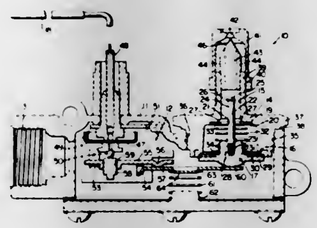
a second O-ring between and coaxial with the members and adapted to lie in radially outwardly spaced relation to the stem and to be in resilient sealing engagement with the members when the members are in endwise contact;

said holder member having at its inner end a bore which is coaxial with the members and of less diameter than the second O-ring and which has an end wall facing toward the intermediate member;

a third O-ring in the bore in engagement with the peripheral wall of the bore and adapted for resilient sealing engagement with the periphery of the stem;

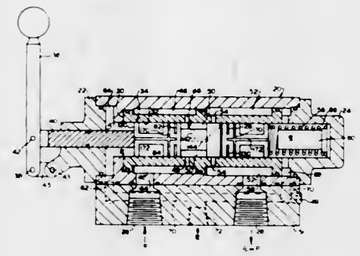
and said holder member being adapted to have force exerted thereon by a retaining means on the body in a direction axially inwardly of the stem for retaining the holder member in endwise contact with the intermediate member and the intermediate member in contact with said wall for thereby retaining first and second O-rings in their respective resilient sealing engagements.

3,260,500
THERMALLY RESPONSIVE FUEL CONTROL VALVE
Frank H. Schneider, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Feb. 20, 1962, Ser. No. 174,594
6 Claims. (Cl. 251—232)



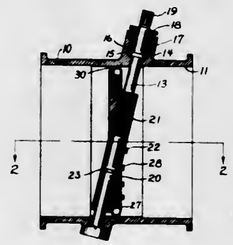
1. In combination, a first housing having a chamber therein and having an inlet interconnected to said chamber, a second housing detachably interconnected to said first housing, and having an outlet passage formed therein, one of said housings having a valve seat separating said chamber from said passage, a retainer disposed in said passage and having an aperture passing therethrough, a valve member cooperable with said valve seat and having a stem slidably passing through said aperture of said retainer whereby said retainer guides movement of said valve member, biasing means disposed between said retainer and said valve member to tend to move said valve member in one direction relative to said valve seat, lever means disposed in said chamber and engageable with said valve member, and condition responsive means operatively interconnected to said lever means and opening said valve member when moved in one direction and closing said valve member when moved in another direction, said lever means comprising two levers slidably interconnected together, one of said levers being slidable with said valve member and the other of said levers being slidable with said condition responsive means whereby said condition responsive means and said valve member are adapted to move in parallel paths, said levers being in sliding engagement with each other at a point intermediate said valve member and said condition responsive means.

3,260,501
FOUR QUADRANT BALANCING DESIGN FOR VALVES
Robert E. Raymond, Zanesville, Ohio, assignor, by mesne assignments, to International Basic Economy Corporation, New York, N.Y., a corporation of New York
Filed May 9, 1962, Ser. No. 193,459
4 Claims. (Cl. 251—282)



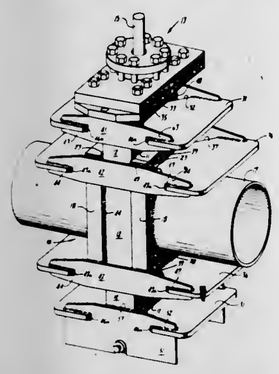
1. An improved balanced hydraulic valve comprising, the combination, a housing member including a cylindrical inner surface; and a cylindrical member in said housing member including a cylindrical outer surface confronting said cylindrical inner surface, one of said members including a plurality of circumferentially spaced recesses, each of which communicates with a respective detector opening on the opposite side of said member, the area of said recesses being greater than the area of said detector openings; and one of said members including shielding openings that separate said recesses from one another and said detector openings from one another, said shielding openings communicating with a region of low pressure.

3,260,502
BUTTERFLY VALVE
Mark J. Plumer, Hollywood, Calif., assignor to Parker Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 14, 1958, Ser. No. 728,239
22 Claims. (Cl. 251—306)



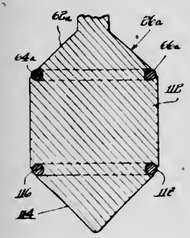
1. A butterfly valve comprising a body having a bore therethrough, a closure member within said bore, means for rotating said member to bore opening and bore closing positions, a continuous flexible sheet metal sealing member loosely mounted on said closure member for bodily movement in radial and transverse directions with respect to said closure member, said sealing member being circular and having an initial diameter slightly greater than the diameter of said bore and being radially contracted by the bore into sealing engagement therewith when the closure member is in bore closing position, and means for establishing a seal between said sealing member and said closure member in all positions of said sealing member to prevent the passage of fluid therebetween.

3,260,503
GATE VALVE CONSTRUCTION
Marvin H. Grove, 340 Hillside Ave., Piedmont, Calif.
Filed Nov. 9, 1964, Ser. No. 409,710
6 Claims. (Cl. 251—329)



3. In a gate valve, a main body part that is substantially rectangular in section and consisting of substantially flat parallel end walls joined at their longitudinal edges by side walls, the end walls having aligned openings therein for flow passages, at least one pair of reinforcing ribs extending laterally across the end walls on opposite sides of the body, flat side plates extending across the side walls of the body and beyond the outer faces of said end walls with the planes of their faces substantially parallel to the outer surfaces of said side walls, said side plates being directly attached to the extremities of the ribs and to said body, said ribs having edge portions disposed adjacent said end walls to resist outward deflection of the same, the ribs being perpendicular to the planes of the side plates and to the end walls of the body.

3,260,504
SEAT ARRANGEMENT FOR CONTROL VALVES AND THE LIKE
Harry G. Mojonnier, River Forest, Chester J. Witt, Deerfield, and Sigmund P. Skoli, Elmwood Park, Ill., assignors to Mojonnier Bros. Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 15, 1963, Ser. No. 316,354
3 Claims. (Cl. 251—357)



1. In a valve arrangement, the combination comprising: a valve body having fluid transfer passageways and a valve closure surface associated with one of said passageways; valve stem means operative in said valve body to control flow through said one passageway, including a one-piece valve member having a seat surface cooperatively confrontable with said valve closure surface and having an endless groove opening through said seat surface, said groove having a circular cross-section and an arcuate extent of more than 180° whereby to define a constricted throat for retaining a sealing element in said groove; and a resiliently compressible, solid, elastomeric, annular sealing element of greater volume than said groove, said sealing element being compressed in said groove in substantially completely filling relationship to be grippingly retained therein, said sealing element protruding partially from said groove for resiliently contacting said valve closure surface in terminating flow through said one passageway, said sealing element having a smaller inside dimension than the corresponding inside dimension of said groove whereby to be axially stretchably received therein.

3,260,505
GAS TURBINE ELEMENT
Francis L. Ver Snyder, Hamden, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 17, 1964, Ser. No. 361,323
12 Claims. (Cl. 253—77)



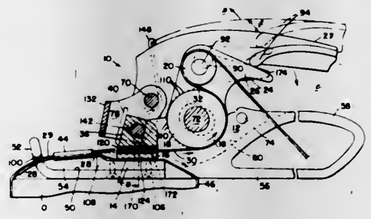
1. A gas contacting blade for a gas turbine power plant formed as a unitary cast structure from a strong, heat-resistant and corrosion-resistant alloy, having a face-centered cubic crystal structure and a composition of

	Percent
Chromium	2 to 25
Aluminum	0 to 9
Titanium	0 to 6
Aluminum and titanium at least	3.5
Cobalt	4 to 30
Carbon	0.1 to 0.5
Boron	0.005 to 0.1
Zirconium	0.05 to 0.2

Balance essentially nickel in a quantity of at least 35% adapted to be axially stressed at high temperatures in use, characterized by an elongated, columnar grain structure with grain boundaries in the blade being substantially parallel to the principal stress axis and with substantially no grain boundaries normal to the stress axis.

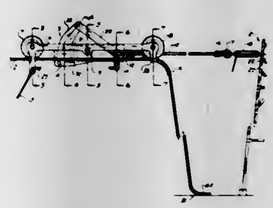
3,260,506
GRIPPER MECHANISM FOR STRAPPING TOOLS
Gale Huson, Palatine, Ill., assignor to Signode Corporation, a corporation of Delaware
Filed Feb. 5, 1965, Ser. No. 430,646
9 Claims. (Cl. 254—51)

1. In a strapping tool for tensioning a loop of strapping about an article, said loop having a free end portion and a feed end portion, a framework including an anvil adapted to underlie said free end portion, means for applying tension to said feed end portion, a gripper member movable toward and away from said anvil into and out of clamping engagement with the strapping thereon, and a link pivoted at its upper end to said framework and at its lower end to said gripper member whereby the gripper member is



floatingly suspended from the framework by said link, the combined effective lengths of said link and gripper member being greater than the distance between the point of pivotal connection for the link on the framework and the anvil.

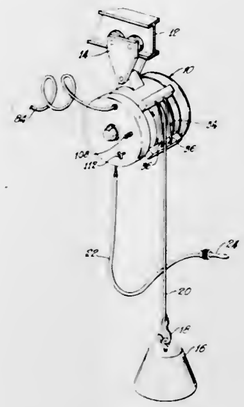
3,260,507
COME-ALONG ATTACHMENT FOR POWER LINE CABLES
Franklin Hughes, 1414 E. Cinnabar Ave., Phoenix, Ariz.
Filed Jan. 20, 1964, Ser. No. 338,907
3 Claims. (Cl. 254—134.3)



1. A come-along attachment for tensioning power line cables when joining them onto parts of supporting towers, comprising a frame having a horizontal bar with a front end and a rear end, grooved pulleys journalled at each end of said frame, a come-along cable clamp having a pair of jaws attached to approximately the center of said horizontal bar, lever means on said frame connected to said jaws and operative to open and close said jaws, a bail on the lever means adjacent the front end of said frame, a clamping cable, connected at one end to the bail a chain hoist attached to the other end of said clamping cable, means attaching said chain hoist to one of said supporting towers, a spring on said lever means normally holding said jaws in no-clamping position, a downwardly and forwardly curved guide channel on the front end of said frame horizontal bar to support the power line cable, being tensioned, and a tow rope attached to the rear of said frame.

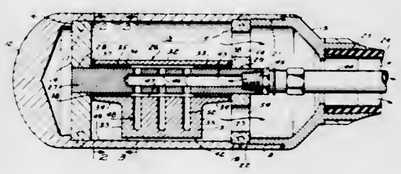
3,260,508
BALANCING HOIST
Edgar R. Powell, Detroit, Mich.
(4833 Elmhurst, Royal Oak, Mich.)
Filed Oct. 14, 1963, Ser. No. 315,873
18 Claims. (Cl. 254—168)

12. A balancing hoist comprising a hoist housing, a cable drum mounted in said housing for rotatable and axial movement, means in said housing for establishing an air chamber for applying pressure to an end of said drum and for moving said drum axially in said housing, said drum being arranged to wind the cable thereon when moved axially in said housing away from the air chamber, said drum being arranged to unwind cable therefrom when moved axially in said housing toward said air chamber, a pilot air-controlled regulator, passage means connecting said regulator and said air chamber,



said passage means including means forming a bore extending longitudinally within said housing through said cable drum, means connecting one end of said bore with said air chamber, means connecting the other end of said bore with said pilot air-controlled regulator, and means for supplying pilot air to said pilot air-controlled regulator.

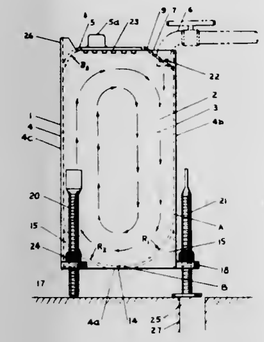
3,260,509
JET VIBRATOR
Stephen J. Rudy, Greenwich, Conn., and Lester A. Amtsberg, Utica, N.Y., assignors to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed May 14, 1964, Ser. No. 367,309
4 Claims. (Cl. 259—1)



1. A vibrator comprising in combination, an eccentric solid weight, restraining means to support said weight for rotation whereby a revolving radial force is produced upon the restraining means, said eccentric weight being formed to provide passageways for the conduction of a pressurized fluid therethrough and to eject said fluid so that the reactive force of the ejected fluid will cause rotation of the eccentric weight, and an elongated housing providing a chamber in which the eccentric weight is contained, the chamber being closed at one end and having an opening, said opening being arranged for connection with a hose line for conducting pressurized fluid to the eccentric weight, and conducting exhaust fluid from the chamber.

3,260,510
FRUIT AND VEGETABLE WASHING DEVICE WITH VERTICAL CIRCULATIVE FLOW AND BASE SUPPORT FOR SUBMERGED FAUCET CONNECTION

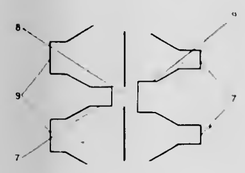
Charles W. Ranson, 7906 Agnew Ave., Los Angeles, Calif.
Filed Jan. 4, 1965, Ser. No. 425,675
4 Claims. (Cl. 259—4)



1. A washing device including two side walls extending longitudinally and vertically and spaced apart, a lateral wall extending between said side walls to provide a bottom wall and two opposite end walls and connecting with said side walls in unitary relation to provide a container cavity, and the inner surface of said bottom wall and the inner surface of at least one of said end walls substantially faired to provide a substantially curved inner surface at the region of juncture, and overflow means disposed upwardly to determine the operating liquid level in normal operation, and a wall upper edge provided at a faucet access location, said edge to underlie a horizontally disposed faucet in normal operation, and said overflow means and said wall upper edge at said faucet access location of substantially the same horizontal elevation to provide for a submerged faucet discharge end generally in normal operation, and a downwardly extending support portion adapted to hold said container portion in an upright position, and said support portion operatively extendable to provide variable elevation for said container portion.

3,260,511
WATER COOLING TOWERS

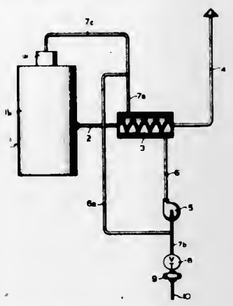
Kent Reaney Greer, Marple Bridge, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed July 20, 1962, Ser. No. 211,377
4 Claims. (Cl. 261—112)



1. A packing unit for the treatment of liquids which are allowed to flow as a film over the surfaces in the packing comprising: a stack of alternate flat and corrugated sheets of rigid thermoplastic organic polymeric material, the corrugated sheet on one side of a given flat sheet having studs integrally molded on the peaks of the corrugations closest to said given flat sheet and the corrugated sheet on the other side of said given flat sheet having recessed butts integrally molded on the peaks closest to said given flat sheet, said given flat sheet having apertures permitting passage therethrough of said studs, all said sheets in said unit being arranged in overlying relationship with said studs passing through said apertures and beng connected to said recessed butts.

3,260,512
METALLURGICAL FURNACE

Werner Claessens, Neuss-Weckhoven, Germany, assignor to Rekuperator KG., Dr.-Ing. Schack & Co., Duesseldorf, Germany
Filed Dec. 16, 1964, Ser. No. 418,637
Claims priority, application Germany, Dec. 17, 1963, R 36,817
4 Claims. (Cl. 263—15)

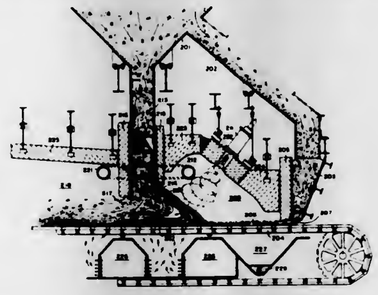


1. In a metallurgical furnace of the type wherein the temperature of furnace gases varies within a wide range, an oven defining a heating chamber; burner means for producing in said oven furnace gases to heat the contents of said chamber; first conduit means for admitting air to said burner means; a recuperator provided in said first conduit means; second conduit means operatively connecting said chamber with said recuperator so that furnace gases passing through said second conduit means heat the air in said first conduit means; blower means provided in said first conduit means upstream of said recuperator to direct a stream of air through said recuperator and onto said burner means; an adjustable regulating valve provided in said first conduit means upstream of said blower means; and a bypass conduit having a first end portion communicating with said first conduit means intermediate said burner means and said recuperator and a second end portion communicating with said first conduit means intermediate said blower means and said valve means to return some preheated air into said first conduit means upstream of said recuperator.

3,260,513
METHOD AND APPARATUS FOR MAKING AGGREGATE

John G. Connell, 232 Wyoming Ave., West Pittston, Pa.
Filed Mar. 9, 1965, Ser. No. 438,224
5 Claims. (Cl. 263—28)

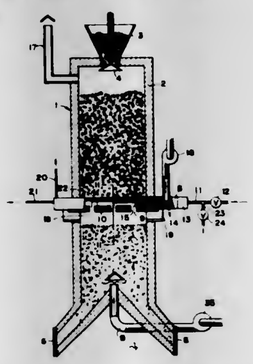
2. Apparatus for making aggregate from carbonaceous shale and the like comprising a storage bin containing said shale, a forwardly traveling grate positioned beneath said storage bin, an ignition chamber mounted above the traveling grate and having burner means mounted therein, means for sealing said ignition chamber including a rear feed passageway extending downwardly from the storage bin to a rear opening to the ignition chamber to form a sealing layer of material to prevent escape of hot gases through the rear opening, said traveling grate being arranged and adapted for receiving the shale from the rear feed passageway to form a layer and moving the layer forwardly through the ignition chamber, a front feed passageway extending downwardly from the storage bin to



a front opening to the ignition chamber for depositing another layer of shale on the first layer, and a combustion chamber adjacent to the ignition chamber and into and through which both layers of shale are adapted to be carried by the traveling grate.

3,260,514
VERTICAL KILN AND A METHOD FOR THE PREPARATION OF CALCINED PRODUCTS
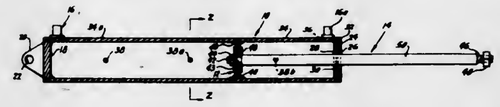
Tadashi Asano, Senichi Masuda, and Tsutomu Ito, Tokyo, Japan, assignors to Onoda Cement Company, Limited, Onoda, Japan
Filed Feb. 28, 1964, Ser. No. 348,168
Claims priority, application Japan, Mar. 6, 1963, 38/10,333; June 11, 1963, 38/29,904; Sept. 16, 1963, 38/49,789
6 Claims. (Cl. 263—30)



1. A vertical kiln for calcining a material, said kiln comprising a vertical shaft having laterally spaced walls, a casing extending laterally between said walls, means to cool said casing with a liquid coolant, conduits for liquid fuel, said conduits extending into said casing, outlet nozzles on said conduits, said nozzles being directed downwards relative to said vertical shaft, said vertical shaft including a feed zone for said material in the upper portion, a calcining zone below said feed zone but above said casing, means to define an air cave directly under said casing and a cooling zone for said material in the lower portion below said air cave, said casing including outlet ports for said nozzles, and means positioned in said ports and surrounding said nozzles for blowing a gas into said air cave to form a laterally extending film of gas in said air cave.

3,260,515
DOUBLE ACTING BUFFER AIR CYLINDER

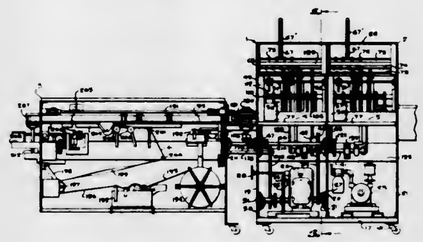
Archie L. Albers, Yuba City, Calif. (6456 Larry Way, North Highlands, Calif.)
Filed Feb. 3, 1964, Ser. No. 342,136
2 Claims. (Cl. 267—1)



1. A double acting buffer air cylinder comprising
a cylinder having a plurality of selected longitudinally spaced apertures therein,
means closing a first end,
an end ring having a centrally located aperture, said aperture having an annular coaxial groove in the inner periphery thereof,
an O-ring in said groove, said end ring partially closing a second end of said cylinder,
a piston rod extending through said centrally located aperture in said end ring, said piston rod being reciprocably received by said aperture and in cooperating sealable relationship with said O-ring and said centrally located aperture,
a piston fixedly mounted to the internal end of said piston rod,
a double acting relief valve mounted approximately at each end of said cylinder, said valve comprising
a body member having a concentric aperture of a first diameter at an inner end which communicates with the inside of said cylinder, the diameter of said aperture being enlarged at the outer end, the juncture of said enlarged diameter of said aperture with said portion of said aperture having a first diameter forming a first valve seat, said first valve seat having a plurality of longitudinal slots therein,
a cap closure for said enlarged diameter end of said aperture, said cap closure having a centered opening, the internal terminus of said centered opening forming a second valve seat, and a ball within said enlarged portion of said valve body aperture for comating in a first position with said first valve seat to restrict internal flow of air into said cylinder and for comating in a second position with said second valve seat to prevent external flow of air from said cylinder.

3,260,516
FEEDING AND TAPING MACHINE

Boyd C. Blair, Topeka, Kans., assignor to Brackett Stripping Machine Co., Inc., a corporation of Kansas
Filed Dec. 9, 1963, Ser. No. 328,861
19 Claims. (Cl. 270—57)



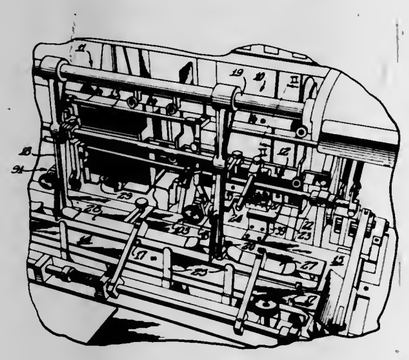
1. In a machine for feeding a plurality of sheets and securing same together along one edge, a first station, means at said first station for containing a plurality of sheets on edge, a second station, means at said second

station for containing a plurality of other sheets on edge, means at each station moving the respective groups in a direction normal to the plane of the leading sheet thereof to position each said leading sheet at a delivery point of the respective station, an elongate means defining a path having a portion for receiving the leading sheet of the first-named sheets and a second portion for receiving the leading sheet of the other sheets with one in advance of the other, means operable to engage the leading sheets of the respective groups at the delivery points at the respective stations and move said sheets therefrom and deposit same on said one edge in the respective receiving portions of the defined path, means operable and movable in said defined path to engage one of said sheets and advance same into position alongside the other sheet and then advance both in registry as a set along said defined path, a conveyor means with a receiving end positioned relative to said defined path and timed relative to the feeding of the sets of sheets to receive same from the defined path in a predetermined spaced relation, and means adjacent the run of the conveyor means securing the sets of sheets together at said registering one edges.

3,260,517
PREDETERMINED FEED SELECTION FOR MULTI-STATION INSERTERS

Eugene Sather, Washington, N.J., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 22, 1963, Ser. No. 325,637
11 Claims. (Cl. 270—58)



1. An inserter of the type including a series of supply stations operatively disposed along an insert track having conveyor means for advancing documents therealong to an inserting station and feeding means including gripper arms mounted on a common rock shaft for unison continuous cyclical movement into document gripping position with respect to the lowermost document in a stack at each respective station and movement away from the stack to deliver a gripped document onto the insert track,

comprising means for sleectively preparing the lowermost documents in the respective stacks for engagement by the gripper arms,

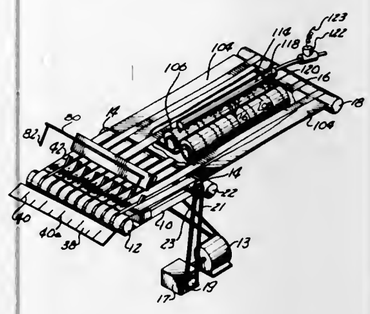
and means responsive to demand signal means on documents fed from one of said stations for controlling said preparing means of the remaining stations selectively,

said preparing means comprising suction devices having solenoid valves in control thereof, and said responsive means comprising electrical circuitry controlling said solenoid valves.

3,260,518
SMALL PIECE FOLDER

Eduard F. Kamberg, Des Plaines, and Harold G. Roberts, Medinah, Ill., assignors to Chicago Dryer Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 21, 1965, Ser. No. 434,335
16 Claims. (Cl. 270—62)



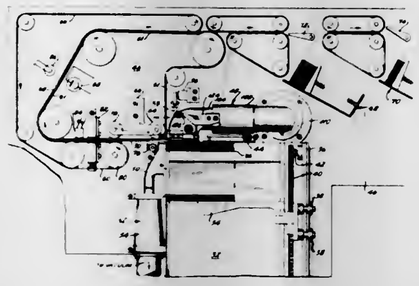
1. In a compact folding apparatus, the combination comprising spaced continuous conveyor means for conveying articles to be folded, means associated with said conveyor means for effecting a transverse fold in a foldable article while conveyed by said spaced conveyor means, the associated means for effecting a transverse fold being actuated by engagement with said foldable article while conveyed by said conveyor means; mating rotatable means, disposed beyond and adjacent said means for effecting a transverse fold and having the bite thereof disposed beneath a portion of a longitudinal opening between said spaced conveyor means, said rotatable means being adapted to engage a folded foldable article and substantially instantaneously pull the same through said longitudinal opening while moving on said spaced conveyor means; and means associated with said conveyor means and said rotatable means being actuated by engagement with a foldable article carried by said conveyor means for urging substantially a central axial portion of a once-folded foldable article moving on said conveyor means into the bite of said rotatable means whereby the once-folded foldable article may be folded a second time in the course of passing through said spaced conveyor means.

3,260,519
DOCUMENT ADVANCING MEANS

Richard R. Coleman, Jr., Devon, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 281,654, May 20, 1963. This application Mar. 1, 1965, Ser. No. 441,400
20 Claims. (Cl. 271—5)

19. A document sorting system comprising, a single pressure source, a document feeder device, said feeder device cooperating with said pressure source at a rotatable junction, said feeder comprising an elbow member having one end fixed to said rotatable junction, a port member having at least one port at one end thereof, the other end of said port member cooperating with the other end of said elbow member in a telescoping relationship, means for driving said port member in a substantially D-shaped path where the flattened portion of the path parallels a docket feed path, said port and elbow member cooperating in said telescoping relationship when said port member is driven along said D-shaped path, said elbow member rotating around said junction when said port member is driven along the curved portion of said D-shaped path, and a selectively operable vent located adjacent the port end of said port member, said vent comprising an aperture in said port member and a shutter pivotally mounted in said aperture, said shutter being spring loaded to normally maintain said aperture in the closed condition, cam means connected to said elbow member at said other end thereof, cam follower means connected to said shutter, said cam follower means cooperating with said cam means to provide a camming operation thereon when said elbow and port members cooperate in said telescoping relationship, said shutter being driven to a position whereby said aperture is opened during said camming operation such that substantially constant pressure is maintained within said feeder device even if said port in said port

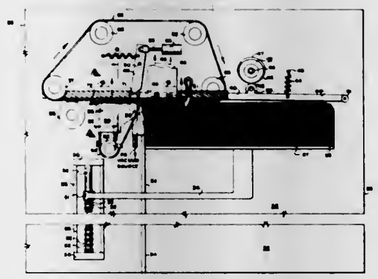


member is closed by a document being fed, document separator means disposed adjacent said document path and said feeder device for insuring the feeding of a single document by said feeder device, and multiple document detector means disposed adjacent said document path for detecting the spurious feeding of a plurality of documents, said documents separator means and said multiple document detector cooperating with said single pressure source such that a single pressure system is provided, said selectively operable vent in said feeder device being operable to inhibit spurious fluctuations and reflections in said single pressure system thereby preventing improper operation of said document sorting system.

3,260,520
DOCUMENT HANDLING APPARATUS

William A. Sugden, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York

Filed Mar. 9, 1964, Ser. No. 350,272
10 Claims. (Cl. 271—26)

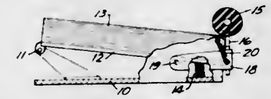


1. A mechanism for supplying only the foremost document of a stack of documents to a transporting apparatus, said mechanism comprising: a plurality of spaced forward feed belts having a plurality of perforations extending along their lengths; means urging said stack of documents toward said forward feed belts; first vacuum means acting through said perforations of said forward feed belts for effecting the engagement of said foremost document with said forward feed belts; a reverse feed medium interlacing said forward feed belts with said reverse feed medium lying in a plane displaced with respect to the plane of said forward feed belts whereby a document disposed between said forward feed belts and said reverse feed medium is deformed along its length; and second vacuum means associated with said reverse feed medium to effect the engagement of documents with said reverse feed medium.

3,260,521
PAPER FEED DEVICE

James G. Moxness, North St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed Aug. 12, 1963, Ser. No. 301,340
4 Claims. (Cl. 271—39)

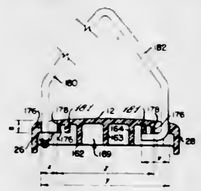


1. A device for separating and feeding sheet-type articles from a stack comprising a frame, a drive roller rotatably fixed to the frame, vertically movable support means for the stack attached to the frame, an end of the support means being positioned beneath and biased toward the drive roller to urge the leading edge of the topmost article of the stack tangentially against the bottom of the drive roller, and a stop resiliently biased into contact with the bottom of the drive roller adjacent said end of the support means, movable from the roller in a direction angled to the path of feed, and supported by a pair of arms pivotally attached to the frame below a level slightly above the top of the stop, the surface of the top of the stop including a portion adjoining the area of abutment inclined away from the roller toward the support means and angled across the path of feed and across the direction of movement of the stop, making the stop movable from the drive roller under pressure of an article engaged by the drive roller and forced against the inclined surface.

3,260,522
SWING SEAT AND BRACKET AND METHOD OF ASSEMBLING SAME

Bobbie L. White, Shreveport, and Harold A. Rowell, Bossier City, La., assignors to Gym Dandy, Inc., a corporation of Louisiana

Filed Jan. 29, 1964, Ser. No. 340,895
5 Claims. (Cl. 272—85)



3. A method of assembling a shaped metal rod support bracket having first and second seat receiving and supporting ends and play equipment connection means, with a seat having spaced apertures and to play equipment attachment means comprising the steps of:

(a) inserting said first receiving end into the top of one of said apertures;

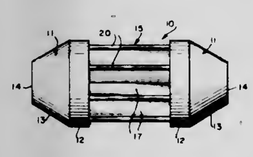
(b) moving said bracket through said aperture to position its portion intermediate said first and second receiving ends near said one aperture;

(c) connecting said play equipment attachment means to said bracket;

(d) pivoting said bracket in said one aperture to position said play equipment connection means adjacent said one aperture and said second receiving end adjacent the top of said other aperture;
(e) inserting said second receiving end through said other aperture by translating said bracket toward said other aperture from said one aperture; and
(f) bodily translating said bracket relative to said seat to position said receiving ends in contiguous engagement with the underside of said seat.

5. In combination, for use with a play equipment set including equipment attachment means, an elongated seat, and a pair of support brackets for connecting said seat to said equipment attachment means, said seat having a pair of laterally spaced apertures therethrough for each support bracket, each of said support brackets comprising a self-fastening one-piece deformed metal rod having a pair of seat receiving and supporting end sections bent to lie substantially coaxially in a plane containing the remainder of the rod, said apertures each having at least one dimension substantially greater than the diameter of said rod, the length of said seat receiving and supporting end sections being substantially longer than the maximum dimension of said apertures whereby said seat receiving and supporting end sections of each bracket underlie the seat to support it, said seat receiving and supporting end sections terminating in upwardly directed bracket sections extending through said apertures, said upwardly directed bracket sections including converging sections meeting substantially intermediate the ends of the bracket to form a connection for receiving the equipment attachment means.

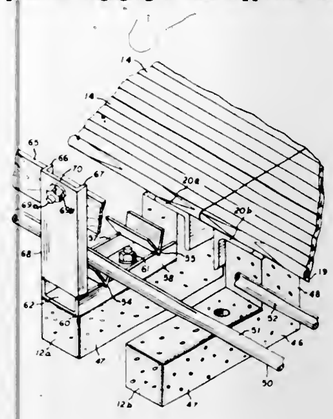
3,260,523
ROCK AND ROLL CYLINDER
James Hardin Peterson Brown, P.O. Box 216, Lakeland, Fla.
Filed Mar. 13, 1964, Ser. No. 351,869
6 Claims. (Cl. 272—1)



1. An elongated cylinder for use on land or water to develop balance and coordination comprising a body having relatively smooth generally cylindrical end portions, at least one footwell located within said body and between said cylindrical portions, said footwell including a plurality of angularly disposed portions defining foot supports on opposite sides of said body, the foot support on one side being substantially parallel with a foot support on the other side, and said angularly disposed portions being recessed within said body, whereby a person can place his feet on the foot supports on opposite sides of said body and balance himself thereon and by shifting his weight can cause the body to roll in either direction while moving his feet to other foot supports.

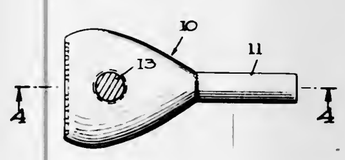
3,260,524
PORTABLE BOWLING ALLEY
Dale B. Cepluch, 955 Millville Ave., Hamilton, Ohio
Filed Aug. 29, 1963, Ser. No. 305,462
6 Claims. (Cl. 273—51)

1. In a portable bowling alley comprising a plurality of units assembled in longitudinal alignment to compose the alley, the novel features in combination, of a plurality of supporting means for each of such units, and ball gutter means associated with said supporting means, each of said supporting means comprising an L-shaped block having a base and a leg, the base of each block in upright position engaging a unit supported thereon, the



leg of each supporting means extending transversely away from the alley, said ball gutter means mounted on the legs of supporting means disposed along one lateral boundary of the alley.

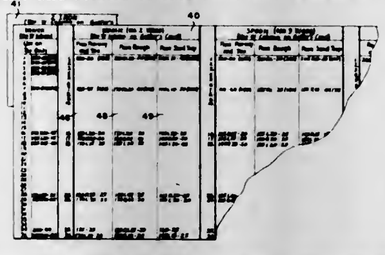
3,260,525
DUAL USE PUTTER
Paul C. Ortel, 6820 Duluth Ave., Baltimore, Md.
Filed Nov. 4, 1963, Ser. No. 321,206
5 Claims. (Cl. 273—77)



1. An improved golfing putter comprising a generally frusto-conical body and an elongated portion forming an extension of the vertex of the frustum of said body, the base of said frustum having a perimeter with a curvature corresponding to that formed by revolving a parabola about the longitudinal axis of said body and converging into a planar ball impacting face portion, said ball impacting face portion including concentric grooves and a handle element carried by said body portion so as to be symmetrically disposed relative to the longitudinal axis of said body portion whereby the putter may be substantially identically used by left and right handed players.

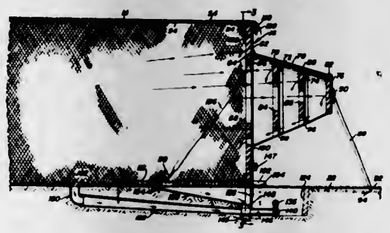
3,260,526
SIMULATED GOLF GAME
John R. Seitz, 915 Wheaton Drive, Lancaster, Pa.
Filed July 16, 1963, Ser. No. 295,486
1 Claim. (Cl. 273—134)

A golf game comprising a plurality of different gameboards on each of which a particular golf hole is depicted including a tee, a green spaced therefrom and a fairway extending between the tee and green, a medial line extending from said tee to said green, a first series of lines spaced from each other and extending across said medial line to denote distance marks between said tee and green, a second series of lines both right and left of said medial line and parallel thereto dividing said first series of lines into sections to denote distance marks right and left of the medial line, indicia on each gameboard denoting rough traps and water hazards in locations related to said tee, green and medial line, a gamepiece positionable and movable on said gameboard, a play card having three separate sets of number indicia thereon representing wood, iron and putter shots respectively, a plurality of playing charts divided into sections having indicia giving separate play results for wood, iron and putter shots, respectively chance number selector means by which a two digit number is produced, a plurality of numbers on said play card opposite and related to said three sets of number indicia,



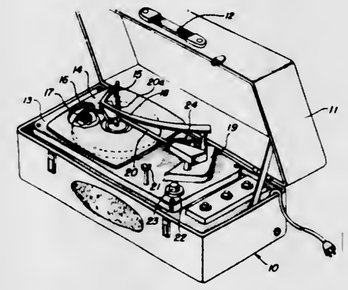
a plurality of numbers on said playing charts opposite and related to the indicia in each section, the result of a particular shot being determined by a number produced by said selector means, then referred to the same number on said play card and the indicia related to a selected wood, iron or putter, the play card then providing a number for reference to the playing chart section also related to the wood, iron or putter selected, and whether the position of the gamepiece at the start of a play on a particular gameboard is on said fairway or in said rough or traps, and said charts giving a play result in yards of flight plus roll for the movemnet of said gamepiece on a gameboard from said tee, toward said green, along said medial line, across said series of lines, and right and left of the medial line as directed by said chart.

3,260,527
TARGET DEVICE WITH JET BALL RETURN
Charles P. Younce, Greensboro, N.C., assignor of fifty percent to Marilyn Younce Spence, Greensboro, N.C.
Filed Mar. 19, 1962, Ser. No. 180,486
3 Claims. (Cl. 273—176)



1. A golf practicing device comprising a target assembly including a vertically disposed rigid panel having a target-forming aperture therein, cushioning material on one surface of the panel for cushioning the impact of golf balls engaged therewith, a tee area spaced from the target assembly and including a tee member from which a golf ball may be driven, a guide tunnel extending from the target assembly to a point adjacent the tee area and guiding errant golf balls towards the target assembly, said guide tunnel being constructed of lightweight mesh material, and pneumatic golf ball return means communicating with the space immediately adjacent to the target assembly for returning golf balls from the target assembly to a point adjacent the tee area, said ball return means including discharge venturi means comprising a ball pickup tube, an air-forcing fan and a conical discharge tube communicating with said fan to receive fan-forced air flow therethrough, said discharge tube interconnecting with said pickup tube to induce a reduced pressure in the pickup tube and move rapidly golf balls therein back to the tee area, said ball pickup tube and discharge tube being located immediately adjacent to said target assembly and said discharge tube having a smaller diameter at the interconnection with said pickup tube than the discharge tube diameter communicating with said fan.

3,260,528
PORTABLE PHONOGRAPHS
Maurice E. Hardy, Evanston, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 23, 1963, Ser. No. 304,116
3 Claims. (Cl. 274—1)

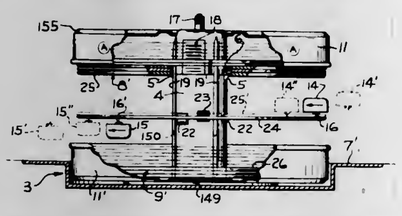


1. A compact portable phonograph comprising:
a lower cabinet section rectangular in cross-section and having predetermined interior length and width dimensions;
a rectangular upper cabinet section, at least partially removable from said lower section, having interior dimensions for mating with said lower section;
a rectangular mounting plate for supporting components of said phonograph, having characteristic dimensions approximately equal to the internal dimensions of said lower cabinet section and affixed thereto;
and a rotatable turntable, having a record mounting surface and supported by said mounting plate above said lower cabinet section, comprising a non-circular but symmetrical unitary plate having a centrally located aperture receiving a record spindle and having one transverse dimension of said record mounting surface greater than the smaller of said interior dimensions of said upper cabinet section and having a second transverse dimension of said record mounting surface approximately equal to but less than said smaller interior dimension of said upper cabinet section for permitting location of said turntable entirely within the confines of said upper cabinet section only at certain predetermined rotational positions of said turntable.

3,260,529
MULTI-FUNCTIONAL PHONOGRAPH
Owen Brown, 2516 S. Catalina Ave., Los Angeles, Calif.
Filed June 13, 1949, Ser. No. 98,857
22 Claims. (Cl. 274—10)

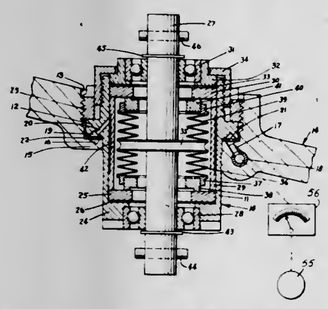
12. In combination: a phonograph turntable spindle; means associated with said spindle upon which centrally apertured objects are supported releasably in concentric

relations thereto, at least certain of the objects being record discs in the positions of records to be transposed and transcribed; and a plurality of such centrally apertured objects resting about said spindle in the positions of objects temporarily supported by said object-supporting means, the uppermost of the objects being an inverted container member having end means and a substantially circumferentially continuous side wall portion



internally dimensioned as means to therein maintain a stack of disc type records substantially coaxial to each other and normally coaxially releasable directly from said container to complementary other means, exemplified by said spindle, for directly receiving and maintaining the same in like, pre-transcriptive coaxial relations—hence continuously guidable coaxially during their transposition from one to the other of the respective container and spindle instrumentalities.

3,260,530
ROTARY MECHANICAL SEAL
Demetrius G. Jelatis, Red Wing, Minn., Robert A. Olsen, Palatine, Ill., and Lester W. Haaker, Red Wing, Minn., assignors to Central Research Laboratories, Inc., Red Wing, Minn., a corporation of Minnesota
Original application Mar. 27, 1961, Ser. No. 98,372, now Patent No. 3,164,267, dated Jan. 5, 1965. Divided and this application Sept. 13, 1963, Ser. No. 308,915
3 Claims. (Cl. 277—2)



1. A rotary mechanical seal for permitting the transmission of rotary motion through a barrier wall while preventing the transmission of radio-active and similar dangerous substances, which seal comprises

(A) a housing having a chamber and a single passage means open to said chamber,

(B) a shaft projected through said chamber and journalled in the housing for rotation relative to the housing,

(C) at least two pair of lapped dry mating seal ring surfaces enclosed within the housing chamber,

(i) one of each of said pairs of lapped dry seal ring surfaces being integral with first seal rings surrounding the shaft and resiliently supported for movement relative thereto in a longitudinal direction along the axis of the shaft, said first seal rings having inside diameters substantially larger than the diameter of said shaft whereby said first seal rings have limited lateral movement with respect to the adjacent mating seal ring surfaces,

(a) the sole means for resiliently supporting said longitudinally first seal rings being a thin flexible annular gastight barrier wall means surrounding said shaft and secured in gastight relationship to said first seal rings,

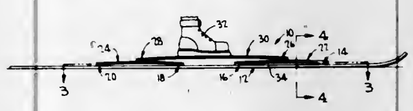
(ii) the other of each of said pairs of lapped dry mating seal ring surfaces being integral with second gas impervious seal rings surrounding the shaft and fixed against movement relative to the housing in a direction along the longitudinal axis of the shaft,

(D) means for rotating one of the seal rings with the shaft relative to the other mating seal rings,

(E) means connected to said passage means for introducing gas confined under pressure into said housing chamber about said gastight barrier wall means, and

(F) means for monitoring the gas under pressure for indicating the integrity of the seals between said mating seal ring surfaces.

3,260,531
TERRAIN-CONFORMING AND TORSIONAL-RESPONSIVE SKIS
Johan G. F. Heuvel, 2035 Fort St., Montreal, Quebec, Canada
Filed Jan. 31, 1964, Ser. No. 341,657
12 Claims. (Cl. 280—11.13)



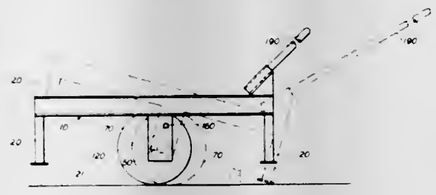
1. A single ski-runner construction for use on an individual's foot on ice or snow comprising an elongated, flat and flexible runner having a substantially greater transverse width than vertical thickness, a tail and tip portion, a pair of elongated supports overlying said runner and disposed in longitudinally spaced relation thereon between the side margins of said runner, mounting means securing terminal ends of said supports to intermediate portions of said runner, and a third, elongated support overlying said pair of supports and said runner and disposed between the side margins thereof, mounting means securing terminal ends of said third support to intermediate portions of said pair of supports, said third support including an intermediate upper boot-binding receiving portion for receiving a ski-boot thereon and permitting the skier to impose "edging" substantially over the entire "down-hill" edge of the ski runner by imposing transverse torque to said third support.

3,260,532
SKI BINDING MOUNTING AND RUNNER CONSTRUCTION
Johan G. F. Heuvel, 7480 Mountain Sights, Apt. 423, Montreal, Quebec, Canada
Filed Apr. 2, 1965, Ser. No. 444,996
8 Claims. (Cl. 280—11.13)



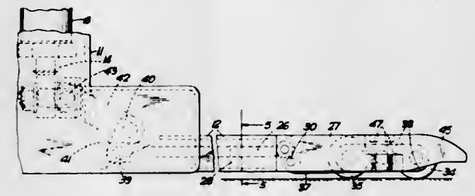
1. A ski assembly comprising an elongated runner member having a tip and tail portion and side edges, and a binding mounting assembly on said runner member intermediately of said tip and tail portions, said binding mounting assembly comprising a pair of longitudinally spaced mounting elements secured to and extending vertically from the upper surface of said runer member, and a mounting plate connected to and extending between said mounting elements, and variable torsion-control means interposed between each of said mounting elements and said mounting plate for providing different effective transverse torque to be imposed on the side edges of said ski runner forwardly and rearwardly of said mounting elements by tbe skier when skiing.

3,260,533
RETRACTABLE WHEEL ASSEMBLY
Charles F. Ryder, Gordon, Nebr.
Filed Nov. 12, 1963, Ser. No. 322,594
1 Claim. (Cl. 280—43.1)



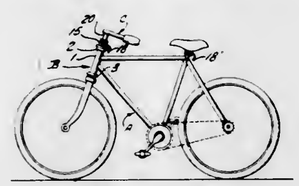
A retractable wheel assembly for supporting a frame work to be made portable, said frame work having forward and rearward end portions adapted to engage an axle, a pair of upwardly extending horizontally spaced axle receiving plates disposed in horizontally spaced positions and attached to said frame work, each of said plates having a slot therein receiving a respective end of said axle and having first and second upwardly extending slot portions, said slot further having an interconnecting slot portion interconnecting a lower part of said first slot with a lower part of said second slot, said first slot portion extending upwardly beyond said second slot portion, each said second slot portion extending upwardly beyond adjacent parts of its said interconnecting slot portion a substantial distance for retaining said axle during travel of said framework against forward and rearward motion with respect to said slotted plates, horizontally disposed wheels mounted on said axle, means for holding said wheels in horizontal positions along said axle, and backing plates disposed outwardly of each end of said axle respectively, means attaching said backing plates to said framework, the space between said slotted plates being closed along all outer edges of said plates to hold out foreign material, said backing plates being disposed opposite the majority of the area of said slots, said axle and said backing plates being so positioned that said backing plates prevent excess horizontal movement of said axle in areas of said slots disposed alongside portions of said backing plates such as would cause it to come out of one of said slots, said frame being provided with a handle which is disposed closer to the longer upwardly extending portion of said slot than to the shorter upwardly extending portion thereof whereby upon the lifting of said handle the corresponding end of said frame will be lifted while pivoting about the lower parts of the opposite end of said frame for causing a dropping of said axle from said longer upwardly extending portion of said slot through the connecting portion of said slot to the shorter upwardly extending portion of said slot, said handle projecting from the corresponding end of said frame, said handle being sufficiently long for materially assisting a tipping of said frame about one of its ends.

3,260,534
PALLET TRUCKS
Robert Edgar Knights, Basingstoke, England, assignor to Lansing Bagnall Limited, Basingstoke, England, a British company
Filed Jan. 24, 1964, Ser. No. 340,088
Claims priority, application Great Britain, Jan. 31, 1963, 4,076/63
1 Claim. (Cl. 280—43.12)



A pallet truck having in combination a body, supporting means for the body including a ground-wheel, means for lifting the body relative to the ground wheel, box-section fork-arms projecting from the body close to ground level, a lever at the outer end of each fork-arm, which lever supports a pivoted cradle carrying a pair of rollers for moving on the ground and two longitudinally movable push-rods within each fork-arm, which push-rods are connected to the said means for lifting the body and to the said lever supporting the pivoted cradle, whereby forward movement of the push-rods effected by lifting the body will lift the fork-arms from the ground, the construction of each fork-arm comprising top and bottom faces made of two pairs of flat plates, two side plates and a central web which subdivides the arm into two chambers, each chamber housing one of the push-rods, and unites the top and bottom faces together, the web being united to each face by a run of weld that also unites the two plates of that face together, the runs of weld thereby being located on the outside of the web, and the side plates of the arm extending forwardly beyond the top and bottom faces and the central web to provide an extended portion for location of the aforesaid lever supporting the pivoted cradle, which lever extends across the full width of the space between the side plates.

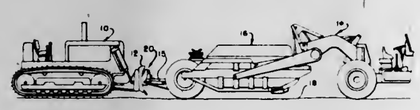
3,260,535
COLLAPSIBLE BICYCLE
Eric Jaulmes, Paris, France, assignor to Ateliers de la Motobecane, Pantin, Seine, France, a corporation of France
Filed Feb. 11, 1964, Ser. No. 344,138
Claims priority, application France, July 30, 1963, 943,067
9 Claims. (Cl. 280—279)



1. In a collapsible bicycle comprising a frame unit adapted to support a rear wheel and including a steering tube, a fork unit adapted to support a front wheel and including a pivot tube for mounting within said steering tube, a first bearing element in fixed relation to and extending transversely from the lower end of said

steering tube, a second bearing element in fixed relation to and extending transversely from the upper end of said steering tube, a third bearing element in fixed relation to and extending from said pivot tube, to provide a first thrust bearing by said first and third elements in the assembled position of said tubes, and a locking member mounted in relatively longitudinally adjustable relation upon said pivot tube and including a portion forming a fourth bearing element, to provide a second thrust bearing by said second and fourth elements, and adjustable stop means mounted upon said member, to limit the adjusting position thereof by said stop means engaging said pivot tube, said stop means adjusted relative to said member, to produce a predetermined operating pressure of said bearings in the limit adjusting position of said member.

3,260,536
PUSHER MECHANISM FOR VEHICLES
Gustav B. Sundby, Atchison, Kans., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 1, 1963, Ser. No. 312,996
7 Claims. (Cl. 280—481)



1. In an earth-moving vehicle having a push block and a support frame therefor, an impact pusher mechanism comprising;

(a) a push member for receiving impact and pushing forces from an auxiliary pushing vehicle;

(b) means mounting said push member relative to said push block for motion between a normal position spaced from said push block to a position in abutting contact with said push block; and

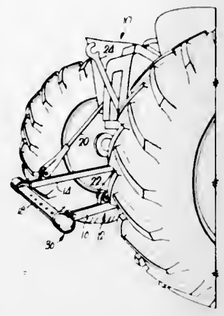
(c) hydraulic means positioned between said push member and said support frame, including a series of hydraulic pistons housed in cylinder means and formed and arranged in sequential spaced relation to provide progressively increasing resistance to movement of said push member to its abutting contact position whereby the initial impact forces are smoothly transmitted in progressively increased magnitude as pushing forces from said auxiliary pushing vehicle to said earth-moving vehicle by variably dissipating a portion of the pushing energy while said push member moves forwardly into abutting contact with said push block, said push member thereafter transmitting the pushing force directly to said push block to thereby relieve said hydraulic means of the relatively high, prolonged pushing forces between vehicles.

3,260,537
PROTECTIVE CAP FOR PINS
Vincent J. Kelley, R.R. 1, Chapman, Kans.
Filed Aug. 31, 1964, Ser. No. 393,258
4 Claims. (Cl. 280—507)

1. For use with a power lift assembly of a tractor having a drawbar interconnecting a pair of spaced arms and a removable retaining pin traversing the drawbar adjacent one of its ends for holding the proximal arm in place on the drawbar, structure for protecting said pin comprising:

a hollow cap having an open end adapted to receive said end of the drawbar housing the retaining pin within the cap;

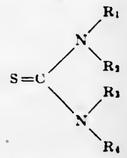
mechanism for mounting said cap on said proximal arm for swinging movement to and from a position receiving said end of the drawbar and housing the retaining pin; and



resilient means carried by said mechanism and engageable with the arm and the cap for yieldably holding the latter biased in said position.

3,260,538
METHOD OF INHIBITING CORROSION
George S. Gardner, Elkins Park, Pa., assignor to Amchem Products, Inc., Ambler, Pa., a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 326,012
2 Claims. (Cl. 252—391)

1. In the art of reducing fuel combustion gas acid corrosion of metals in a system where the metals are subjected to direct contact with combustion gases containing SO_3 produced by the firing of hydrocarbon fuels in a combustion chamber by introducing into the fuel combustion gases at a point outside of said chamber, but prior to contact with said metals, an amine corrosion inhibitor selected from the group consisting of tertiary amines and quaternary nitrogen compounds, the improvement which comprises adding to the amine inhibitor non-volatile thiourea corrosion inhibitor having the formula:

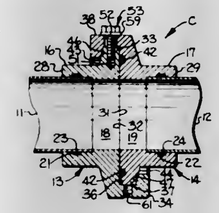


wherein R_1 and R_3 are selected from the group consisting of hydrogen and alkyl groups containing from 1 to 3 carbon atoms, and wherein R_2 and R_4 are selected from the group consisting of hydrogen, alkyl groups containing from 1 to 10 carbon atoms, and aryl and methyl substituted aryl groups having from 6 to 10 carbon atoms, the amount of said thiourea being from 5 to 90% of the total amount of combined inhibitor, both of said inhibitors being present in an amount of at least 0.005% by weight based upon the weight of the fuel oil consumed, and dissolved or dispersed on a liquid carrier which is volatile at the temperature of the flue gases.

3,260,539
COUPLING FOR FLUID CONDUITS
Donald E. Herron, 22 Stark Lane, Charleston, S.C.
Filed Feb. 10, 1965, Ser. No. 431,661
2 Claims. (Cl. 285—24)

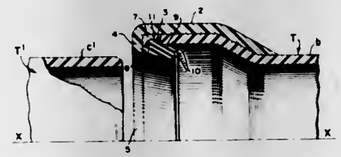
1. A coupling for interconnecting fluid conduits comprising, in combination, a pair of complementary coupling halves having longitudinally extending axial bores each arranged to be connected to a fluid conduit, each of

said coupling halves having a planar face extending substantially perpendicular to the axis of said bores, a radially extending arcuate flange of substantially 180 degrees and an opposed radially and axially extending portion of substantially 180 degrees having an internal recess and formed as mating complementary pairs for mating engagement in a direction substantially perpendicular to the axis of said bores to couple said halves together, said pairs of flanges and recessed portions having mutually engageable radially extending camming surfaces for camming said coupling halves into said coupled relationship with said planar faces in overlying engagement, a substantially flat surface on one of said faces, an annular groove on the



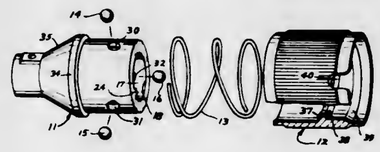
other of said faces, an annular sealing member of resilient material positioned within said annular groove, said annular sealing member in said groove normally projecting outwardly from said grooved face for engagement with the flat surface on said one face, said groove having a cross-sectional area of a size sufficient to completely accommodate said annular sealing member in a compressed state when said faces are positioned in said overlying engagement, and means for drawing and locking said halves together into said coupling relationship with sliding engagement between said camming surfaces to force said faces into said overlying engagement and compress said annular sealing member to form a leakproof seal between said coupling halves.

3,260,540
PLASTIC PIPE AND COUPLING INCLUDING SAID PIPE
Georges Henri Houot, Villers-les-Nancy, France, assignor to Centre de Recherches de Pont-a-Mousson, Pont-a-Mousson (Meurthe-et-Moselle), France, a French body corporate
Filed Jan. 18, 1963, Ser. No. 252,430
Claims priority, application France, Jan. 31, 1962, 886,480
2 Claims. (Cl. 285—110)



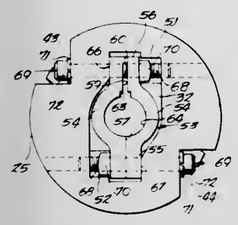
1. Pipe element having a cylindrical body and a composite socket, said composite socket consisting of a bell having inside and outside diameters larger than the inside and outside diameters of the body, an annular intermediate portion connecting the bell to the body, the bell, intermediate portion and body being composed of a single tube of thermoplastic material having a smooth wall of substantially constant thickness, a reinforcing sheath encompassing and in close contact with the bell and intermediate portion so as to be permanently secured thereto in the state of the pipe element before assembly with some other pipe element, the bell having an entrance end portion, the sheath having an inner flange adjacent to but axially spaced from the entrance end portion of the bell, a recess in the composite socket defined partly by the flange, partly by a portion of the sheath immediately adjacent the flange and partly by the entrance end portion of the bell, a rigid reinforcing ring engaged in the recess in close reinforcing contact with the flange, the portion of the sheath immediately adjacent the flange and the entrance end portion of the bell so as to rigidly reinforce the composite socket in the region thereof adjacent the flange, the ring having a hollow annular inner face comprising a cylindrical portion remote from the flange and a substantially frustoconical portion adjacent the flange and convergent outwardly of the pipe element, and an annular sealing element engaged in the hollow annular inner face of the ring and engaged with the flange and the bell, said sealing element extending radially inward a distance greater than that of the flange on the sheath.

3,260,541
COUPLER FOR POWER TAKE-OFF
Harry J. Sadler, Minneapolis, and Ernest E. Cook, Anoka, Minn., assignors, by mesne assignments, to Hypro, Inc., Minneapolis, Minn., a corporation of Ohio
Filed Mar. 23, 1962, Ser. No. 182,018
1 Claim. (Cl. 287—53)



A coupler adapted for use on the splined power take-off shaft of a tractor, said splined shaft having a free end and an annular groove adjacent thereto, said splined shaft further having a plurality of longitudinally disposed spline grooves and ribs positioned around the circumference of said shaft, said coupler comprising, an adapter having two axially aligned cylindrical openings on the axis of said adapter, one of said openings being a spline receiving opening defined by a cylindrical wall, said spline opening of which is adapted to slidably interfit with splined tractor power take-off shafts, a split rib formed integrally with said cylindrical wall and extending longitudinally thereof having at least two individual rib sections, said rib sections being adapted to seat in a single spline groove of one configured spline and alternately to have a spline rib positioned between said rib sections as well as on either side of said rib sections, the other cylindrical opening in said adapter being adapted to reecive a coupled shaft which is to receive powered rotation, said adapter further having a plurality of radial bores extending substantially through said cylindrical wall which defines said spline opening, a locking ball positioned in each bore and adapted to partially extend into said spline opening whereby to seat in said annular groove of said spline and to partially extend outwardly of said cylindrical wall, a cylindrical sleeve telescopically surrounding said adapter adjacent the spline opening and having a pair of internal annular camming surfaces each at a different radial dimension, a spring bias interposed between said adapter and said sleeve for urging said sleeve toward said spline opening whereby one of said camming surfaces will urge each said locking ball into said spline shaft annular groove when said sleeve is in a normal position and the other camming surface will urge said ball against a spline groove when said sleeve is in a retracted position and said coupler is being removed from said splined shaft, said sleeve further having a ball opening which will permit removal of each locking ball from the coupler when said ball opening is successively positioned in registry with each ball.

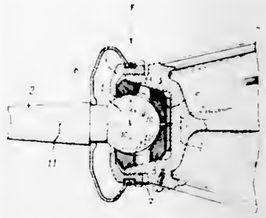
3,260,542
HUB SECURING MEANS
Salvatore J. Di Milia, Fort Wayne, Ind., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Jan. 29, 1964, Ser. No. 340,881
14 Claims. (Cl. 287—53)



1. Means for detachably securing a hub to a power transmitting shaft, the combination including, a shaft; a hub having a central bore for receiving an end of said shaft, said hub having a pair of spaced and parallel flat abutments, each of said abutments being disposed on a respective opposite side of each of a pair of perpendicular planes containing the longitudinal axis of said bore and both abutments being parallel to one of said planes; and means for connecting said hub to said shaft including a pair of separable clamp members arranged face-to-face, each clamp member including a semi-cylindrical mid-section having a semi-circular shaft engaging surface partially embracing said shaft and pair of legs integrally formed with and extending in opposite directions from said semi-cylindrical section, a first leg of each of said clamp members being adjacent to each other and a respective one of said abutments, a second leg of each of said clamp members being adjacent to each and the other of said abutments, spacer means at the free ends of said second legs for separating the inwardly facing surfaces of said second legs, and compression means for clamping the inwardly facing surfaces of said first legs into abutting engagement with each other and the outwardly facing surface of one of said first legs into abutting engagement with the adjacent abutment, and for forcing said inwardly facing surfaces of said second legs toward each other and the outwardly facing surface of one of said second legs into abutting engagement with the abutment adjacent thereto whereby said clamp member shaft-engaging surfaces are caused to firmly grip said shaft.

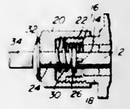
3,260,543
BALL-AND-SOCKET JOINT
Edmond Henry-Biabaud, Paris, France, assignor to Société anonyme Andre Citroen, Paris, France, a French society organized under the laws of France
Filed May 14, 1963, Ser. No. 280,217
Claims priority, application France, May 14, 1962, 897,409
5 Claims. (Cl. 287—87)

1. A ball-and-socket joint comprising a spherical ball, an articulation member having a recess of truncated cone-shaped configuration which is open at its relatively large diameter end, two complementary bearing members received in said recess and having a plane of separation therebetween which is diametrical with respect to said recess, said bearing members having external surfaces complementary to said truncated cone-shaped configuration of the recess so as to be urged toward each other at said plane of separation in response to movement of said bearing members into said recess through said open end of the latter, said bearing members each having an internal ogival surface, said internal surfaces of the bearing members being generated by the revolution of ogival lines about axes which extend at substantial angles to said plane of separation at opposite sides thereof and are located in a plane substantially perpendicular to said plane of separation, said internal surfaces of the bearing members defining a socket receiving said spherical ball and re-



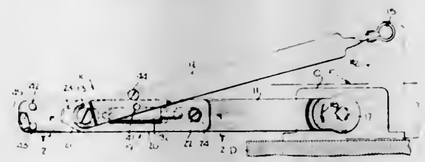
spectively having seating contact with said ball along generally opposed circular regions of the latter, and adjustable locking means carried by said articulation member and engaging said bearing members to urge the latter into said recess and thus into seating contact with said ball in said socket.

3,260,544
ADAPTER ADJUSTMENT ATTACHMENT DEVICE FOR A SHAFT COUNTERSUNK IN A THREADED SLEEVE
William H. Hathaway, Jr., 1209 Orkney Drive, Virginia Beach, Va.
Filed Jan. 22, 1964, Ser. No. 339,432
1 Claim. (Cl. 287—104)



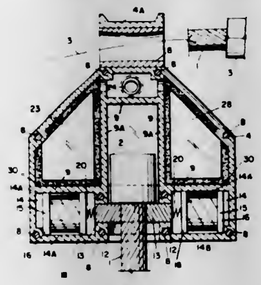
A valve shaft adjustment attachment device for use in rotating a valve shaft having a tool cooperating end countersunk within an externally threaded sleeve by a wrench extending at right angles thereto, said valve shaft adjustment adapter comprising an adapter cap threaded complementary to the threaded sleeve, a tool shank journaled through the closed end of and terminating within said threaded adapter cap, a valve shaft end cooperating tool fixed on the inner end of said journaled tool shank and also terminating within said threaded cap, said end cooperating tool having a greater diameter than said journaled tool shank, a spring about said journaled shaft biased between said tool end and the inside wall of said cap, a flange fixed to said journaled shaft outside of said cap limiting the axial inward movement of said journaled shaft under the bias of said spring, and a wrench cooperating end formed on said journaled tool shank beyond said flange fixed thereon, whereby when said adapter cap is threaded onto the threaded sleeve, said tool end, biased by said spring, will move into contact with the tool cooperating end of the valve shaft and then will yieldably permit said tool shaft to move outwardly of said adapter cap, creating a gap between said flange and the back of said adapter cap, and then rotation of said tool shank will align said valve shaft and tool end and said tool shank will move inwardly, eliminating the gap, and the further rotation of said tool shaft shank by a wrench at right angles thereto will simultaneously rotate and adjust the valve shaft.

3,260,545
DOOR HOLD-OPEN DEVICE
Mathias M. Check, Strafford, Pa., assignor to Eaton Yale & Towne Inc., a corporation of Ohio
Filed July 10, 1964, Ser. No. 381,807
10 Claims. (Cl. 292—263)



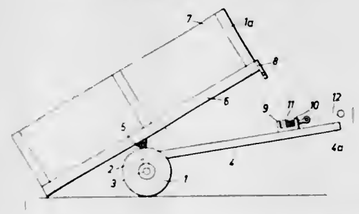
5. In a door holder of the class described having a pair of arms extending between a door and door frame, means interconnecting said arms for rotation and also for yielding bodily movement relative to each other, a pair of detent portions mounted in position on the arms to move toward each other as said arms rotate to an extended relation incidental to opening movement of the door with door holding surfaces on said detent portions interlocked through a bodily movement between the arms while the door is in open position.

3,260,546
CHOKER HOOK
Emmet G. Stack, 1000 SW. Vista, Portland, Oreg.
Filed Mar. 30, 1964, Ser. No. 355,840
7 Claims. (Cl. 294—75)



1. In a logging device which includes in combination:
(1) a length of material-supporting wire rope having a ferrule on one end thereof;
(2) a choker hook having a hollow casing formed with an open side, a top-supporting means, and a bottom opening through which the ferrule can pass;
(3) a cover plate for said open side having a T-shape opening therethrough for the entry of the ferrule into the casing;
(4) a pair of oppositely disposed chocks positioned above the bottom opening for the support of the ferrule, each chock being adapted to serve as the armature of an electro-magnet;
(5) an electro-magnet for each chock adapted when energized to withdraw said chock from beneath the ferrule when the chock is free, each electro-magnet including a back member, spaced apart core members projecting from said back member and having free ends, a coil encircling each core member, a pole piece on the free end of each core member, said pole pieces being spaced apart to form an air gap between them;
(6) means to energize the electromagnets which includes a battery, a radio frequency oscillator and an electronic relay in a receiver, said relay being operable upon a signal from the oscillator to control the flow of current from the battery to the electro-magnets;
(7) and a spring interposed between each electro-magnet pole piece and the adjacent armature adapted to move the opposed armatures toward each other when current to the electro-magnets is cut off.

3,260,547
TRAILER HAVING TILTING BODY ADAPTED FOR FOREST USE
Alfred Hellig, Singen, Hohentwiel, and Otto Jäckle, Singen, Germany, assignors to Andreas Stihl Maschinenfabrik, Neustadt, Waiblingen, Germany
Filed July 8, 1963, Ser. No. 293,531
3 Claims. (Cl. 298—5)

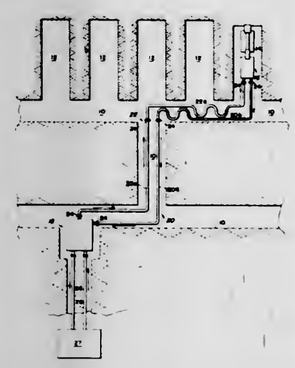


1. In a trailer vehicle for conveying timber and adapted for attachment to a tractor, a wheel supported axle, a frame carried by said axle, a shaft fixed to said frame and extending forwardly for connection to a tractor, a timber supporting body structure having a floor transversely pivoted to said frame above said axle and rearwardly of the center of said body structure, a fastening device on said shaft engaging a cooperating fastener on the forward end of said body structure to hold said floor horizontal, pairs of spaced uprights spaced longitudinally of said body structure with uprights of each pair connected to opposite sides of said floor, the uprights to the rear of the forward uprights being pivotally connected to said floor so that they may be swung out of vertical position to allow the timber to move rearwardly, said body structure being adapted to be tilted rearwardly to unload the timber by raising said shaft by a lifting mechanism on said tractor to shift the center of gravity rearwardly to substantially adjacent a vertical plane through the pivital axis for said floor and tilt said body structure about its horizontal axis, so that said timber may be released to discharge rearwardly from said floor when said uprights are pivoted out of the vertical position.

3,260,548
METHOD AND APPARATUS FOR CONTINUOUSLY MINING AND TRANSPORTING COAL
Eric H. Reichl, Pittsburgh, Pa., assignor to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1965, Ser. No. 441,412
12 Claims. (Cl. 299—18)

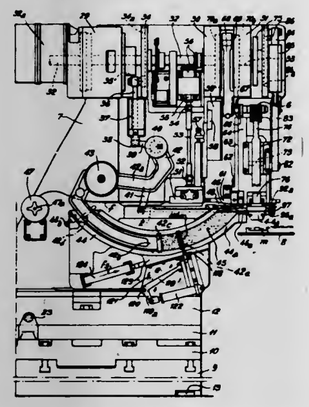
2. A method of continuously transporting mined coal from a continuously advancing mobile mining machine comprising the steps of,
continuously dislodging coal from a working face in an underground mine,
admixing said mined coal with a carrier liquid to form a mixture adjacent to said working face,
pumping said mixture away from said working face through a conduit to a central underground relay station located within said mine,

comminuting said coal in said mixture at said central underground relay station to reduce its size, and



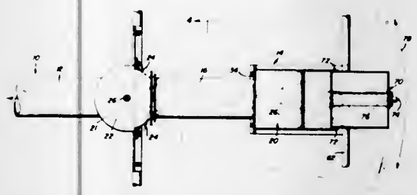
transporting a mixture of said comminuted coal and a carrier liquid from said central underground relay station to a terminal outside of said mine at a reduced pressure drop.

3,260,549
MACHINE FOR ASSEMBLING BRUSHES
Daniel A. Guey and Maurice A. Briez, Beauvais, France, assignors to La Brosse & J. Dupont Reunis, Paris, France, a company of France
Filed July 31, 1964, Ser. No. 386,669
Claims priority, application France, Aug. 2, 1963, 943,629
19 Claims. (Cl. 300—5)



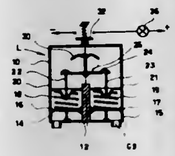
1. In a brushmaking machine adapted for simultaneously inserting tufts of bristles into each hole of a row of holes in the head of a fixedly supported brush blank and securing said tufts of bristles by means of keys severed from a single flat wire, the combination comprising: an interchangeable inserting mouthpiece provided with as many insertion channels as there are holes to be filled in a row, said channels extending vertically and opening in the lower part of said mouthpiece along a path similar to the center line of the row of holes and spaced along said line at the same pitch as said holes, said mouthpiece having in its top portion grooves extending in a direction transverse to the direction of the row of holes, each of said grooves intersecting one of said channels, the intersections of said channels and said grooves being located along a straight line at right angles to said grooves, said mouthpiece having further in its top portion a pair of spaced parallel slots extending at right angles to the above-recited grooves; a magazine containing parallel and horizontally disposed bristles, pushing means located in said magazine for urging said bristles upwardly, a notched needle movable longitudinally in a transverse direction over an exit of said magazine, a lower edge of said needle having as many notches as the head of the brush blank has holes in the row to be filled, said notches being spaced to the same pitch as said holes; means cooperating with said notched needle for assuring the penetration of bristles into said notches and the formation of uniform bundles of bristles in said notches; means for displacing said needle longitudinally and transferring said bundles of bristles from the magazine to a position wherein each of them is located above one groove of said mouthpiece; a moving carriage comprising a pair of parallel rails spaced at the same spacing as the parallel slots in the mouthpiece; and located on either side of said notched needle, said carriage being adapted to be moved from an upper position wherein said rails support the bristle bundles engaged in the notches of said needle to a low position wherein said rails are received into said slots of the inserting mouthpiece and the bundles of bristles into the grooves of the top portion of said mouthpiece; means for adjusting the position of the inserting mouthpiece relative to the position of the row to be provided with tufts; means for simultaneously cutting from a continuous flat wire, keys for securing all the tufts of one row in position; means for applying each of said keys against one bundle of bristles substantially in the middle portion thereof to bend said bundles of bristles to move them into said inserting channels, and to insert the looped ends of said tufts encompassing said keys into the holes of said brush head.

3,260,550
HORIZONTAL END MOUNTED CARRIAGE FOR GIN SUCTION PIPE
Laurence O. Miller, Vernon, Tex., assignor to Kinlau Sheet Metal Works, Inc., a corporation of Texas
Filed May 18, 1964, Ser. No. 368,231
5 Claims. (Cl. 302—34)



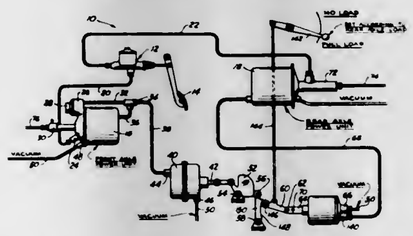
1. In a suction pipe system for gin plants and the like, a main suction pipe connected to a source of suction and a movable suction head arrangement connected to said main suction pipe for swinging movement in a horizontal plane about a vertical axis, said suction head arrangement including horizontal and vertical pipe sections connected together by a pipe pivot joint with said vertical pipe section being movable relative to the horizontal pipe section about a horizontal axis perpendicular to the longitudinal axis of the horizontal pipe section and with said horizontal pipe section joining said main suction pipe and being movable relative thereto about a vertical axis, single support means secured to said suction head arrangement and supporting the latter for movement in a horizontal plane, said single support means comprising a horizontal track and a roller engageable on and movable along said track, said roller being journaled on said suction head arrangement adjacent said pipe joint and to a side thereof other than the side at which the horizontal pipe section is connected.

3,260,551
DUAL SERVICE BRAKE SYSTEM WITH FAILURE INDICATOR
Giuseppe Alfieri, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a corporation of Italy
Filed July 16, 1962, Ser. No. 209,830
Claims priority, application Italy, July 19, 1961, 13,282/61
3 Claims. (Cl. 303—1)



1. In a pneumatic brake plant for vehicles, a distributor adapted to be connected with a source of air pressure, a braking member operative to apply braking action at a wheel of a vehicle, two air lines leading from said distributor to said member, said braking member being operable through actuation by air pressure within either of said lines, means operable by the operator of the vehicle for actuating said distributor to connect said lines to said source, a pair of air cylinders one of which is connected to one of said lines and the other of which is connected to the other of said lines, a centrally pivoted rocker element, a piston in one of said cylinders connected to one end of said element, a piston in the other of said cylinders connected to the other end of said element, said rocker element having a cam attached thereto, an electrical circuit having a lamp and a switch therein, said switch including a spring-pressed contact riding on said cam, said contact being normally in position to maintain said circuit in open condition but being movable in response to the movement of said cam from its normal position in either direction about said pivot to close said circuit and light said lamp.

3,260,552
VEHICLE BRAKE SYSTEM
Maxwell L. Cripe, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Mar. 23, 1964, Ser. No. 353,695
6 Claims. (Cl. 303—6)



1. For a vehicle brake system having a primary servomotor and a secondary servomotor actuated by a first and second control valve means, respectively, a means to connect said first and second control valve means comprising:

a pressure responsive member arranged to be suspended between a reference pressure medium and a control pressure medium within said primary servomotor, said pressure responsive means having a force transmitting member operatively connected thereto;

a cam means arranged to pivot upon reciprocation of said force transmitting means;

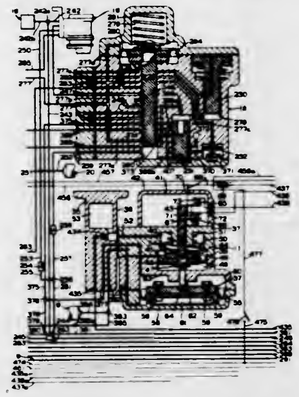
a cam follower operatively connected to said cam means, said cam follower having a lever adapted to be pivoted about a pin connection with surrounding structure, said lever having an arcuate face on one side thereof;

a link means having a roller at one end arranged to cooperate with said arcuate face of said lever;

a valve control rod for controlling said second valve means, said valve control rod being pivotally connected to said link means at the end thereof opposite said roller; and

a means to position said link along said arcuate face of said lever connected to said cam follower to vary the travel of said valve control rod as caused by said cam and said cam follower being reciprocated by said pressure responsive means.

3,260,553
ELECTRO-PNEUMATIC BRAKE CONTROL APPARATUS
William B. Jeffrey, Irwin, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed June 28, 1963, Ser. No. 291,570
12 Claims. (Cl. 303—16)



1. In a fluid pressure brake system, in combination:

(a) a brake pipe charged to a certain normal pressure,

(b) a control reservoir charged to said certain normal pressure,

(c) an auxiliary reservoir charged to said certain normal pressure,

(d) electro-pneumatic brake control means operative to effect the supply of fluid under pressure from said control reservoir to cause an electro-pneumatic brake application,

(e) an automatic brake control valve means having a movable abutment subject opposingly to brake pipe pressure and control reservoir pressure and operative by said control reservoir pressure in response to a reduction in brake pipe pressure relative to control reservoir pressure to effect the supply of fluid under pressure from said auxiliary reservoir to cause an automatic brake application, said automatic brake control valve means being rendered inoperative in response to a simultaneous reduction in said control reservoir pressure and in the pressure in said brake pipe and operative to effect an automatic brake application only upon failure of said electro-pneumatic brake control means to effect a reduction of control reservoir pressure incidental to the supply of fluid under pressure from said control reservoir to cause an electro-pneumatic brake application, and

(f) an engineer's brake valve device operative out of a normal position, in which it effects charging of said brake pipe and said control and auxiliary reservoirs, into an application zone wherein it simultaneously effects a reduction in the pressure in said brake pipe and operation of said electro-pneumatic brake control means.

3,260,554
TRACTOR TRAILER BRAKE
Robert J. Helland, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Sept. 24, 1962, Ser. No. 225,443
3 Claims. (Cl. 303—18)



1. A power braking system for a tractor trailer vehicle arrangement having means to activate a trailer brake system that are associated with a tractor brake system and further including the improvement of means to connect said tractor and said trailer brake system comprising:

a break-away valve having an inlet port communicating with the tractor brake system, an outlet port communicating with the trailer brake system and a reservoir port with a movable means controlling which of the remaining ports is in communication with said outlet port, said break-away valve including, a housing for said inlet port, said outlet port, and said reservoir port, a valve seat formed with said housing about said inlet port, seal means about said reservoir port, and a piston reciprocably mounted in said housing, said piston having a resilient means arranged to cooperate with said valve seat and a side wall which cooperates with said seal means about said reservoir port to permit flow from either said inlet port or said reservoir port to said outlet port;

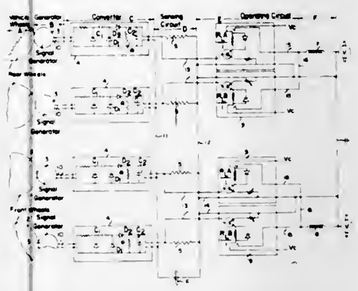
a fluid reservoir adapted to only receive a fluid communicated thereto from said tractor brake system and to direct said fluid to said reservoir port;

means to hold said piston in the position whereby said inlet port is communicated to said outlet port and said reservoir port is closed by said piston to overlie said reservoir port; and

means connected with said tractor to remove said means holding said piston to open said reservoir port to said outlet port when said tractor becomes separated from said trailer.

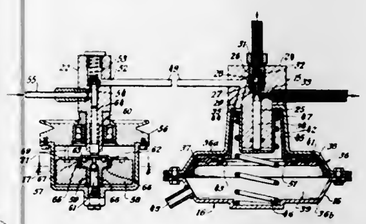
3,260,555
ANTI-SKID BRAKE SYSTEM
Mervyn B. Packer, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England
Filed Apr. 26, 1963, Ser. No. 275,986
Claims priority, application Great Britain, Apr. 27, 1962, 16,202/62
10 Claims. (Cl. 303—21)

1. A fluid pressure operated braking system for vehicles wherein an electrical system is provided including electrical means for sensing the individual wheel speeds, an electrical signal obtained as a result of any variation of the signal in relation to a predetermined characteristic being utilized to permit automatically the operation of valve means for controlling the braking force on any wheel or number of wheels revolving slower than a desired speed such that the braking force can be released wherein the electrical system comprises a signal circuit including electrical signal producing means associated with each wheel of the vehicle the outputs from the signal producing means being fed to a sensing circuit in which one of the outputs from all the signal producing means is fed to a first common line, the other outputs thereof each being fed through a resistance sensitive to changes in the signal circuit for developing a signal output to a second common line, a



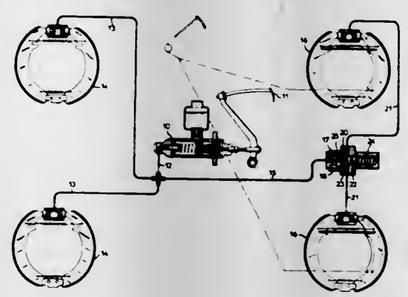
capacitor being connected between said first and second common lines, said valve means having an operating circuit responsive to said signal output including electrically operated valves each of which is operable by a signal from the sensing circuit to effect automatically the operation of the actuated valve to permit the regulation of the braking force of the brake associated with said valve.

3,260,556
LIQUID PRESSURE BRAKING SYSTEMS FOR VEHICLES
Mervyn B. Packer, Leamington Spa, England, assignor to Automotive Products Company Limited, Leamington Spa, England
Filed May 31, 1963, Ser. No. 284,443
Claims priority, application Great Britain, June 15, 1962, 23,196/62, 23,199/62
3 Claims. (Cl. 303—21)



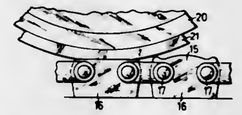
1. A liquid pressure braking system of the hydrostatic type wherein there is provided a master cylinder and brake operating motor cylinder in communication with each other with a brake operated by said motor cylinder, a valve body disposed between said master cylinder and motor cylinder, the lower end of said valve body being of reduced size, a central bore means extending through said body and forming a variable capacity chamber, inlet means in communication with the upper end of said bore means and having a valve seat therein, a non-return valve disposed to seat on said valve seat, outlet means in the upper end of said valve body below said valve seat and in communication with said motor cylinder, a plunger in said bore disposed below said non-return valve, a servo motor casing comprising a substantially flat circular portion with an annular diaphragm dividing the circular portion into a low pressure chamber below said diaphragm and a high pressure chamber above said diaphragm, said diaphragm casing having an upwardly extending cup shape portion surrounding the reduced size portion of said valve body and spaced therefrom, an inner cup shaped member secured to the inner edge of said diaphragm and disposed within said cup shape portion of said casing, an inturned flange on said inner cup member abutting said reduced portion of the valve body, a slidable cup shape member within said inner cup shaped member and slidably disposed on and surrounding the outer surface of said reduced portion size of said valve body, said slidable cup member being in contact with the plunger disposed in said central bore, biasing means mounted over said slidable cup member urging said plunger upwardly in said central bore to hold said non-return valve unseated, sensing means operable in response to deceleration of a wheel including a valve for controlling the pressure in said high pressure chamber for actuating said diaphragm and said plunger to permit said non-return valve to seat and increase the volume of said variable capacity chamber.

3,260,557
DEVICE FOR PREVENTING LOCKING OF THE REAR BRAKES OF AN AUTOMOBILE VEHICLE
Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed Feb. 27, 1964, Ser. No. 347,788
Claims priority, application France, Mar. 6, 1963, PV 926,969
1 Claim. (Cl. 303—49)



A device for preventing locking of the rear brakes on an automotive vehicle having a hydraulic circuit for the operation of the rear brakes, comprising a first valve in said circuit for opening and closing said circuit, means for applying the fluid pressure of said circuit to said first valve to urge said first valve toward closed position, a spring continuously urging said first valve toward open position with a force substantially less than the force that urges the first valve closed when high braking force is applied, means defining a passage of constant diameter and length past said first valve in at least said closed valve position, said passage offering substantially more resistance to the flow of hydraulic fluid than the open first valve, a second valve in series with said first valve in said circuit, means for applying the fluid pressure of said circuit to said second valve to urge said second valve toward closed position, said second valve having no bypass, and a second spring continuously urging said second valve toward open position with a force substantially greater than said force of said first spring.

3,260,558
LINK BODY FOR ENDLESS TRACTION CHAINS OF TRACK LAYING VEHICLES
Hermann Popp, Nurnberg, Germany, assignor to Diehl K.G., Remscheid, Germany
Filed June 29, 1964, Ser. No. 378,811
3 Claims. (Cl. 305—36)



1. A link body for an endless traction chain for use in connection with track laying vehicles having wheel means for engagement with one surface of said link body, said one surface forming the inner surface of said link body, said link body having its width in a first direction corresponding to the direction in which the link body is to be moved with the chain of which it is intended to form a part and having its length in a second direction transverse to said first direction, said link body comprising: a plurality of tubular means arranged substantially parallel to each other and spaced from each other in said first direction while having their longitudinal extension in said second direction, connecting means interconnecting the end portions of said tubular means to thereby hold said tubular means in spaced relationship to each other, elastic cover means extending between and around said tubular means and forming said inner surface, the central longitudinal portion of said inner surface when not under the load of said wheel means being convexly curved when looking in the direction from said tubular means toward said inner surface, said convexly curved central portion being yieldable under the load of said wheel means so as to assume a substantially flat surface contour.

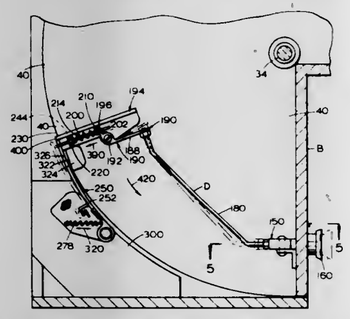
3,260,559
MIRROR AND VANITY CABINET COMBINATION
Charles J. Newman and Theodore F. Biere, Madison, Ind., assignors to Grote Manufacturing Company, Madison, Ind., a corporation of Kentucky
Filed Jan. 28, 1965, Ser. No. 428,749
3 Claims. (Cl. 312—224)



1. A wall mounted combination cabinet and mirror comprising a pair of wall brackets for attachment in generally parallel relation on a wall, the bracket ends each being bent to form end hooks and the brackets each having a pair of struck-out portions intermediate the end hooks to form an upper and a lower intermediate hook, a cabinet having flanges engageable by two of the hooks on each bracket for holding the cabinet in substantially fixed position, and a mirror comprising a reflective glass,

a compressible backing for the glass, a channel-shaped frame including side rails and a top rail for receiving the glass and a hook hanger forming a bottom rail for the mirror frame and extending the full width of the mirror between the side rails, the upper bracket end hooks being insertible between the mirror backing and the frame top rail and the upper intermediate bracket hooks being engageable with the hanger hook for sliding the mirror into bearing position on the cabinet top.
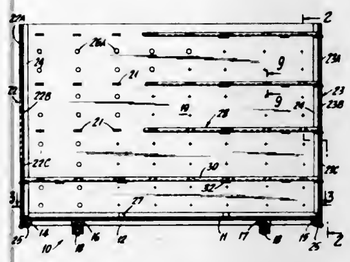
3,260,560
LOCK FOR ROTATING SHELF
Orrie L. Hofstetter, 1620 6th Ave., Kearney, Nebr.
Filed June 28, 1965, Ser. No. 467,489
9 Claims. (Cl. 312—238)



1. A rotating shelf and lock assembly comprising: a frame, a horizontal shelf, means mounting said horizontal shelf on said frame for rotation about a vertical axis, a door attached to and rotating with said shelf and disposed upright, said door having an inner side adjacent said shelf and having an outer side opposite said shelf, a control portion having a control member on the outer side of said door, a latch assembly comprising a latch, means mounting said latch into a position for latching, a catch, means mounting said catch on said shelf in a position for engaging said latch when said shelf has been rotated in one direction and has thereby caused said door to have reached a desired closed position, a latch-engaging assembly comprising a latch-engaging member, means movably mounting said lach-engaging member on said shelf, and interconnecting means operably interconnecting said control member and said latch-engaging member and movably mounting said control member on said door, said interconnecting means operably correlating said control member and said latch-engaging member so that when said control member is in a first position, said latch-engaging member will not disturb said latch from its position of engagement with said catch and so that when said control member is moved toward a second position said latch-engaging member will engage said latch urging it out of engagement with said catch, whereby when said control member has reached said second position said latch and catch will be out of said engagement whereby rotation of said shelf in said one direction is possible for urging said latch toward a latching position for engagement with said catch.

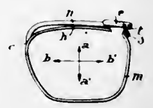
3,260,561
MOBILE DISPLAY RACK
Isidore Traktman, 271 Ft. Washington Ave., New York, N.Y.
Filed Feb. 10, 1964, Ser. No. 343,643
6 Claims. (Cl. 312—262)

1. A mobile display rack comprising a rectangular shelf forming base member, roller means mounted on the underside of said base member, a back wall member upstanding from the rear side edge of said base member, a pair of end wall members hingedly connected along the rear vertical edges thereof to the opposite side edges of said back wall member, means for detachably connecting the bottom forward edge portions of said end wall members to said base member, shelf means extending between said end wall members, the front longitudinal edge of



said shelf means extending toward the front vertical edges of said end wall members, means for hingedly and removably connecting the rear side edge of said shelf means to said back wall member, cooperating means on the end portions of said shelf means and said end wall members for releasably connecting said shelf means to said end wall members.

3,260,562
SPLIT RIM SPECTACLE MOUNTING WITH TENSIONING BAR AND CONNECTING LINKAGE
Bernard Cretin-Maitenaz, Joinville-le-Pont, France, assignor to Societe Des Lunetiers, Cottet, Polchet, Tagnon & Cie, Paris, France
Filed Dec. 18, 1962, Ser. No. 245,442
1 Claim. (Cl. 351—92)

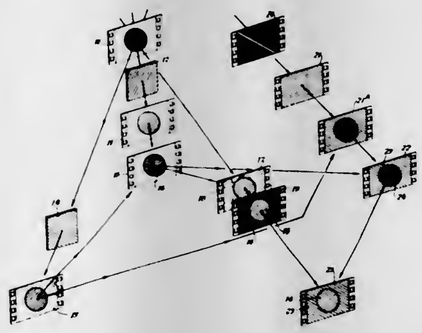


Spectacle mounting means comprising for each lens: a rim having two free ends spaced from each other at an upper corner of the rim to define a break in the rim, the rim including an upper portion terminating at one of said free ends to constitute a floating arm; and tensioning means comprising a bar fixed to the opposite upper corner of the rim in a position spaced above the floating arm and having an intermediate portion adapted to contact the floating arm, a lever pivotally mounted on the free end of the bar and a linking member pivotally mounted at one of its ends to the lever and at the other of its ends to the other of said free ends of the rim to bridge the break in the rim, whereby overcenter tensioning movement of said lever serves to draw the free ends of the rim together and to deflect the floating arm downward to securely clamp the lens in the rim.

3,260,563
PRODUCTION OF COMPOSITE CINEMATOGRAPH FILMS
Thomas William Howard, Bushey, England, assignor of one-half to Metro-Goldwyn-Mayer British Studios Limited, Elstree Way, Boreham Wood, County of Hertford, England
Filed May 6, 1963, Ser. No. 278,099
6 Claims. (Cl. 352—45)

1. In motion picture photography, a travelling matte process for combining at least two separately photographed different scenes into a composite single film,

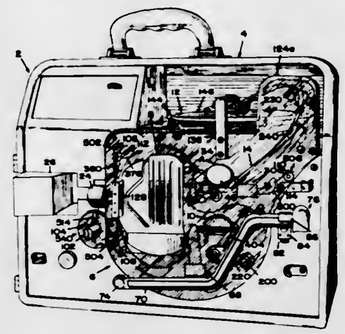
which process comprises the steps of separately photographing a desired foreground scene and a desired background scene so as to produce first and second original color negative films respectively, the desired foreground scene being photographed against a plain backing of a color chosen to be complementary to the predominating colors of the foreground scene, exposing a first component film from the developed first negative film, said first component film being left undeveloped, said first component film being exposed so that the background is not exposed, exposing a second component film from the developed first negative film, said second component film being exposed so that the background is exposed, said second component film being developed, said second component film being synchronously overlaid and exposed on said first component film, said first component film being developed to produce a combined developed film in which the desired foreground scene is shown on a transparent background, producing an undeveloped first color positive film from the original developed first negative film, syn-



chronously overlaying said combined film on said undeveloped first color positive film, exposing said overlaid films, subsequently developing said first color positive film to produce a film in which the background area surrounding the desired foreground scene is completely integrally masked, producing a second color positive film which is left undeveloped from said second color negative film, overlaying the developed second component film on said undeveloped second color positive film, exposing said overlaid films, developing said second color positive film, said second color positive film being a background scene with an integral foreground mask, overlaying the combined film on the developed second positive film, exposing said overlaid films so as to produce a composite undeveloped negative film in which the foreground area corresponding to the foreground scene is completely masked; said composite single film being produced by the exposure of the undeveloped negative film in which the foreground area is completely masked with the synchronously overlaid developed first color positive film.

3,260,564
AUTOMATICALLY THREADED FILM APPARATUS
Donald G. Woelfel, Yorktown Heights, N.Y., assignor to MPO Videotronics, Inc., New York, N.Y., a corporation of New York
Filed Mar. 26, 1963, Ser. No. 268,532
6 Claims. (Cl. 352—72)

1. In a projection apparatus having a light projecting means, the improvement comprising:
film support means;
means for selectively detachably coupling said film support means to said projection apparatus in a predetermined position;
film supply means carried by said film support means;
said film supply means including a film loop extending therefrom;
cooperating drive means on said projection apparatus and said film support means;
said cooperating drive means including a sprocket on said film support means and cooperating roller means for maintaining spaced portions of said film loop in engagement with spaced portions of said sprocket;
said cooperating drive means further including driving mechanism on said projection apparatus and extending therefrom for engagement with said sprocket when said film support means is coupled to said projection apparatus in said predetermined position;
said film loop including a continuous free portion projecting forwardly of those spaced portions engaged with said sprocket; and
guide means on said film support means for controlling the position of free portion of said film loop;
said guide means including a film gate means spaced from said sprocket with said free portion passing therethrough;



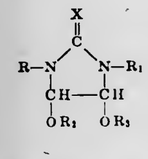
said film gate means being disposed in advance of said light projecting means when said film support means is mounted in said predetermined position whereby light from said light projecting means will be directed to said free portion passing through said film gate means;
said guide means further including a pair of spaced apart guide mechanisms, said pair being interposed between said sprocket and said film gate means to engage and properly position a section of free portion between said sprocket and said film gate means;
one of said pair of guide mechanisms including first and second roll means through which said free portion passes, said first roll means being spring biased and movable reciprocably between an inoperative position spaced away from said second roll and an operative position whereat said free portion is clamped between said first and second rolls;
the other of said guide mechanisms including a pivotally mounted arm having a roller thereon in engagement with said free portion.
said pivotally mounted arm being spring biased and movable toward and away from said first and second roll means to thereby properly adjust and position that section of said free portion between said arm roller and said first and second roll means.

3,260,565
NOVEL IMIDAZOLIDINONES AND THEIR USE AS TEXTILE FINISHING AGENTS

Michael T. Beachem, New Brunswick, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Original application Feb. 3, 1961, Ser. No. 86,864. Divided and this application Sept. 30, 1964, Ser. No. 406,651
5 Claims. (Cl. 8—116.3)

1. A method for creaseproofing cellulosic textile materials which comprises treating said materials with a compound of the formula

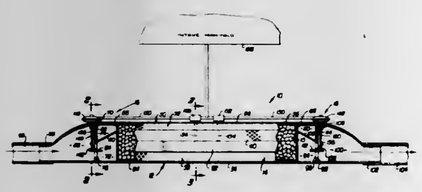


where R and R_1 are selected from the group consisting of lower alkyl, substituted lower alkyl, wherein the substituting group is cyano, carboxy, carbalkoxy and carboxamide, and phenyl, and where R_2 and R_3 are selected from the group consisting of hydrogen and lower alkyl, and X is selected from the group consisting of oxygen and sulphur and a curing accelerator therefor and thereafter curing said agent on the textile material by the application of heat.

3,260,566
METHOD OF TREATING EXHAUST GASES OF INTERNAL COMBUSTION ENGINES

Charles E. Fisher, La Mirada, Calif., assignor to Norris-Thermador Corporation, Los Angeles, Calif., a corporation of California

Filed July 19, 1962, Ser. No. 211,040
6 Claims. (Cl. 23—2)



1. A process for treating exhaust ingredients produced by an internal combustion engine and containing air which comprises the steps of directing the flow of said exhaust ingredients into a bed of catalytic material, confining said flow in said catalytic material to a first path of relatively small cross-sectional area to effect a relatively rapid heating of the catalyst in said first path to oxidation temperature, and redirecting the flow of said exhaust ingredients into said bed of catalytic material to pass therethrough in a second path of relatively large cross-sectional area, a portion of the catalytic material in said second path having reached oxidation temperture as a result of said flow of exhaust ingredients in said first path, to effect a thorough oxidation of unoxidized components of said exhaust ingredients.

3,260,567
PROCESS FOR THE RECOVERY OF SODA ASH FROM WYOMING TRONA

Henry D. Hellmers and James V. Wiseman, Westend, and Chester R. Beam, Richmond, Calif., assignors to Stauffer Chemical Company, a corporation of Delaware

Filed June 14, 1961, Ser. No. 117,112
12 Claims. (Cl. 23—63)

12. A process for the preparation of purified sodium carbonate from crude trona which comprises crushing the crude trona, calcining the crude trona to crude sodium carbonate, adding the crude sodium carbonate to a saturated aqueous solution of sodium carbonate to form sodium carbonate monohydrate and insoluble impurities, and separating the impurities from the sodium carbonate monohydrate.

3,260,568
RECOVERY OF HYDROGEN BROMIDE FROM DILUTE FLUIDS CONTAINING BROMIDES

Herman S. Bloch, Skokie, and George R. Donaldson, Barrington, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,196
8 Claims. (Cl. 23—154)

1. A process for removing a bromide selected from the group consisting of an organic bromide and hydrogen bromide from a fluid mixture in which said bromide is present in low concentration which comprises contacting said mixture substantially in the absence of moisture with a solid adsorbent for hydrogen bromide consisting essentially of a complex of a refractory polyvalent metal oxide and a Friedel-Crafts metal chloride, the valence bonds of the metal of said chloride being shared by both oxygen and chlorine, at adsorption conditions including a temperature of from about 70° C. to about 300° C. whereby bromide replaces chloride from said solid adsorbent, withdrawing raffinate fluid substantially free of bromide from the downstream end of the adsorbent, continuing the addition of said mixture to the solid adsorbent up to a bromide content of the adsorbent not substantially in excess of about 6 percent by weight of bromine to thereby form a spent adsorbent, separately contacting the resulting spent adsorbent with a fluid substantially free of moisture and containing a chloride selected from the group consisting of hydrogen chloride and an organic chloride at a temperature and pressure sufficient to convert said organic chloride to hydrogen chloride, and to displace hydrogen bromide from said spent adsorbent, thereby regenerating said adsorbent, and recovering a desorbate stream comprising concentrated hydrogen bromide displaced from said adsorbent.

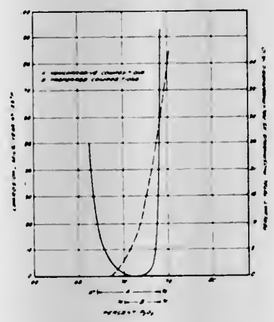
3,260,569
PHOSPHORIC ACID COMPOSITIONS

Donald C. Young, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Feb. 25, 1963, Ser. No. 260,736
12 Claims. (Cl. 23—165)

1. A phosphoric acid composition comprising wet-process phosphoric acid containing between about 67 and about 74 weight percent P_2O_5 on an impurity and additive-free basis and containing between about 1 and 25 weight percent of said P_2O_5 content as polyphosphoric acid, from 1 to about 10 weight percent of metallic cations comprising those impurities normally incident in said wet-process phosphoric acid said impurities being present in an amount in excess of the chelation capacity of said polyphosphoric acid and between about 0.01 and about 2.0 percent by weight of said composition of a

water soluble organic chelating agent having at least 2 dentate centers which form a chemical bond with said metallic cations, each of said dentate centers comprising an atom selected from the class consisting of nitrogen and



oxygen atoms, said dentate centers being separated in said agent by 1 to 3 carbon atoms to thereby impart to said agent the capacity to form a complex with said metallic cations.

3,260,570
PROCESS OF OXIDATION OF ORGANIC COMPOUNDS WITH MOLECULAR OXYGEN

Glen A. Russell, % Dept. of Chemistry, Iowa State University, Ames, Iowa

No Drawing. Filed June 21, 1962, Ser. No. 204,032
8 Claims. (Cl. 23—184)

1. In a process for the oxidation of an organic substance that is susceptible to autoxidation in an alkaline medium by molecular oxygen the improvement which comprises reacting a solution of the said organic substance in a solvent comprising dimethyl sulfoxide with molecular oxygen in the presence of a base and at a temperature between about −20° C. and about 100° C.

4. A process for the oxidation of a polyphenylmethane having at least one ionizable alpha-hydrogen atom which comprises reacting with molecular oxygen a solution of the polyphenylmethane in a solvent mixture consisting essentially of dimethyl sulfoxide containing between about 10 and about 20 percent by volume of tertiary butyl alcohol in the presence of at least an 0.5 molecular equivalent of an alkali metal tertiary butoxide, and subsequently separating and recovering the oxidized polyphenylmethane from the resutling mixture.

6. A process for the production of xanthone and of a superoxide of an alkali metal of the group consisting of potassium, rubidium, and cesium which comprises reacting with molecular oxygen a solution containing xanthydrol and a tertiary butoxide of an alkali metal of the said group in tertiary butyl alcohol in the presence of dimethyl sulfoxide, and subsequently separating and recovering the alkali metal superoxide and the xanthone from the resulting mixture.

3,260,571
BORON PHOSPHIDES

Bernard A. Gruber, Topsfield, Mass., assignor to Monsanto Company, a corporation of Delaware

Filed Oct. 24, 1961, Ser. No. 154,089
32 Claims. (Cl. 23—204)

18. Composition of matter consisting essentially of the crystalline boron phosphide having the formula B_6P.

23. Process for the preparation of a boron phosphide having a boron-to-phosphorus ratio within the range of from 6:1 to 100:1 which comprises:

(a) contacting at temperatures within the range of from 800° C. to 2100° C. and pressures within the range of from 1 micron to 100 atmospheres, a boron source selected from the group consisting of elemental boron, boron carbide, boron halides, borate ores, ferroboron and the borides of iron, magnesium, aluminum, copper, titanium, zirconium and vanadium, with a phosphorus source selected from the group consisting of elemental phosphorus, phosphine, phosphorus halides, phosphate ores, ferrophosphorus and the phosphides of aluminum, magnesium, copper, titanium, iron, chromium, manganese, vanadium, zirconium, molybdenum, tantalum and thorium, to provide from 6 to 100 molar parts boron and 1 molar part phosphorus to form a boron phosphide within the said ratio, provided that when said source and said phosphorus source are halides and ores, a reducing agent therefor is present,

(b) maintaining the partial pressure of phosphorus less than the decomposition pressure of BP at ambient temperatures,

(c) continuing heating the resultant boron phosphide at a temperature sufficient to drive off any phosphorus present in excess of that required for the desired boron phosphide within the said boron-to-phosphorus ratio, and

(d) cooling the system to obtain rhombohedral crystals of said boron phosphide within the said boron-to-phosphorus ratio.

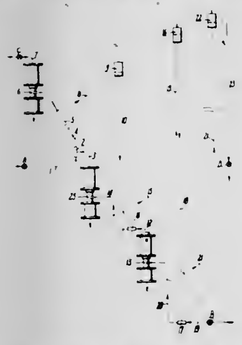
3,260,572
COUNTERCURRENT LIQUID-LIQUID EXTRACTION APPARATUS

Pierre Faugeras, Montrouge, Paul Minart, Fontaine, Pierre Pouchot, Lancey, and Xavier Talmont, Antony, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed May 15, 1962, Ser. No. 195,367
Claims priority, application France, May 19, 1961, 862,317; Apr. 19, 1962, 895,118; Apr. 20, 1962, 895,306
3 Claims. (Cl. 23—270.5)

1. In a plant for liquid-liquid extraction, a plurality of units disposed in a cascade-type series relation, each of said units including: a cyclone type separator having an inlet, and adapted for separating comparatively light and comparatively heavy liquid phases supplied co-currently to said inlet, with one of said liquid phases being more preponderant and the other less preponderant, said separator further having a first axial outlet for said more preponderant liquid phase and a second axial outlet for said less preponderant liquid phase; an injector nozzle connected to said separator inlet for both mixing the different liquid phases and co-currently injecting the same into said separator; and means connecting said injector nozzle with the inlet of said separator, including an inclined coalescence tube mounted between said injector nozzle and said separator inlet for separating and coalescing droplets of the comparatively heavy liquid phase and effecting entrainment of the coalesced droplets in the flow from the injector nozzle to said inlet, said coalescence tube including two frusto-conical sections united at their enlarged ends and tapering inwardly therefrom, the enlarged portion of said tube effecting said separation of droplets, which droplets are then coalesced by flowing downwardly on the inclined wall of one of said sections; a first conduit means connected to the injector nozzle of a first one of said units disposed at one end of said series for introducing a first one of said liquid phases to the separator of said first unit; second conduit means connected between one of the axial outlets of each separator and the injector nozzle of the next succeeding unit, from said first unit to the last unit of said

series, for transmitting said one liquid phase between said units; a third conduit means connected to the injector nozzle of said last unit of said series for introducing the other of said liquid phases to the separator of said last unit; fourth conduit means connected between the other of the axial outlets of each separator and the injector nozzle of the next succeeding unit, from said last unit to the first of said series, for transmitting said other liquid phase between said units, whereby said other liquid phase is transmitted in a countercurrent direction with respect to said first liquid phase; adjustable regulator means associated with said second axial outlet of each



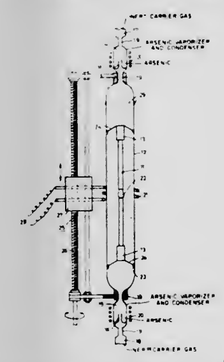
separator and the conduit means connected thereto for automatically controlling the discharge pressure of the less preponderant liquid phase flowing therethrough, each said means including: a needle float valve mounted in said second axial outlet for controlling the flow therethrough; and adjustable means arranged for establishing a preselected pressure on the downstream side of said second axial outlet in excess of the discharge pressure at the associated first axial outlet; and a finishing separation device positioned upstream of said first axial outlet of each separator, each such device including a tube mounted coaxially within the separator and terminating in a perforated zone fitted with a packing.

3,260,573

ZONE MELTING GALLIUM IN A RECYCLING ARSENIC ATMOSPHERE

Günther Ziegler, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed June . , 1963, Ser. No. 290,679
4 Claims. (Cl. 23—301)



1. The method of purifying semiconductor arsenides by zone melting, which comprises subjecting an arsenide rod to floating zone melting in a vessel, passing during zone melting a current of inert carrier gas through the vessel and past the molten zone, and charging the carrier gas current ahead of the molten zone with arsenic vapor to an arsenic partial pressure corresponding substantially to the arsenic partial pressure obtaining above the arsenide at the melting temperature by passing the incoming carrier gas continuously thru the arsenic vapor source, and following the passage of the carrier gas over the melting zone, condensing the arsenic from the carrier gas in a cooling zone.

3,260,574

PYROLYTIC CARBON DECLADDING

Loranus P. Hatch, Brookhaven, James J. Reilly, Bellport, and Edward Wirsing, Jr., Mattituck, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Nov. 20, 1963, Ser. No. 325,190
1 Claim. (Cl. 23—324)

A process for recovering uranium from pyrolitic carbon clad uranium bearing nuclear fuel element comprising:

(a) immersing said element in a fluidized bed,

(b) said bed being composed of the particles of aluminum oxide,

(c) fluidizing said bed containing said fuel element with an oxygen containing gas, while maintaining the temperature of said bed at a temperature above about 675° C., until the uranium contained in said element is exposed;

(d) fluidizing said bed and intimately contacting and reacting said exposed uranium with gaseous fluorine, while maintaining the temperature of said bed at a temperature ranging from between about 400° C. to about 450° C. until the uranium in said bed is reacted with fluorine, and thereafter

(e) recovering the uranium from the reaction product of uranium and fluorine gas.

3,260,575

SINGLE-STEP PROCESS FOR PREPARATION OF URANIUM DIOXIDE FROM URANIUM HEXAFLUORIDE

Richard L. Heestand and Carl F. Leitten, Jr., Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Nov. 19, 1964, Ser. No. 412,572
10 Claims. (Cl. 23—355)

1. The method of converting UF_6 to UO_2 which comprises contacting said UF_6 with a stoichiometric excess of a gaseous mixture comprising hydrogen and an oxygen-bearing gas selected from the group consisting of gaseous oxygen and water vapor at a temperature above 1100° C. and a pressure not exceeding 20 torr.

2. The method of preparing sinterable UO_2 powder which comprises introducing gaseous UF_6 and a gaseous mixture comprising hydrogen at a proportion at least 4 times stoichiometric and an oxygen bearing gas selected from the group consisting of oxygen and water vapor at a proportion of at least 1.5 times stoichiometric into a mixing zone at a temperature of 800° C. to 1000° C. and a pressure less than 20 torr whereby solid particles are formed in the resulting mixture, passing the resulting particle-containing mixture through a reaction zone maintained at a temperature of at least 1100° C. and a pressure less than 200 torr, whereby said particles are converted to UO_2 and recovering the resulting UO_2 powder.

3,260,576

POROUS SINTERED BODY AND METHOD OF PREPARATION

Horst Gruene, Eduard Justi, and August Winsel, Braunschweig, Germany, assignors to Siemens-Schuckertwerke A.G. and Varta Aktiengesellschaft, Berlin and Erlangen and Hagen, Westphalia, Germany, respectively, both corporations of Germany

Filed Apr. 25, 1963, Ser. No. 276,697
Claims priority, application Germany, Apr. 28, 1962, A 40,089
3 Claims. (Cl. 29—182.5)

1. A porous, electrically conductive, mechanically self-sustaining, sintered electrode comprising

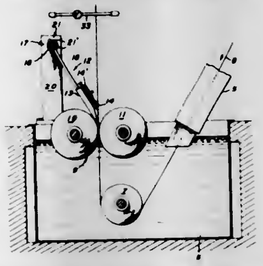
a core of an inter-metallic aluminum nickel compound AlNi, substantially undeformable under sintering conditions of a powder of brittle particled material of said compound and an electrically conductive, ductile metal coating surrounding at least a major portion of each of the particled materials of the core.

3,260,577

COATED PRODUCT AND ITS MANUFACTURE

John T. Mayhew, Toronto, Ohio, assignor to National Steel Corporation, a corporation of Delaware

Filed Dec. 20, 1961, Ser. No. 163,956
16 Claims. (Cl. 29—183.5)



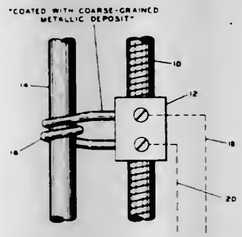
16. Continuous-strip hot-dip differentially galvanized steel strip having a uniform coating of relatively heavy weight on one surface and a substantially lighter uniform galvanized coating on the remaining surface averaging not more than about .07 ounce per square foot of strip.

3,260,578

COATED INDUCTION HEATING COIL FOR ZONE REFINING APPARATUS

Harry M. Stevens, Crystal Lake, Mo., assignor to Monsanto Company, a corporation of Delaware

Filed Nov. 16, 1962, Ser. No. 238,203
11 Claims. (Cl. 29—183.5)



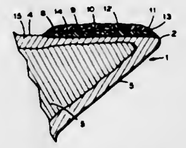
1. An inductive heating element for zone refining apparatus comprising a rigid coil for encircling a rod of semiconductor material in a zone refining operation, said coil being formed of a base material having disposed upon at least a portion of its external surface a firmly adherent, coarse-grained deposit of a metal which is a conductor for RF current, said coarse grained deposit having a mean grain size of from 5 to 200 microns.

3,260,579

HARDFACING STRUCTURE

Stanley R. Scales and Allen E. Wisler, Houston, Tex., assignors to Hughes Tool Company, Houston, Tex., a corporation of Delaware

Filed Feb. 14, 1962, Ser. No. 173,153
6 Claims. (Cl. 29—195)



1. An improved, metal, earth-penetrating tool having surfaces subject to severe or constant abrasion, frequently accompanied by heavy impacts, and having an inner layer of hardfacing bonded to portions of such surfaces, such hardfacing comprising a metallic binder and wear resistant particles dispersed throughout such binder, the improvement comprising at least one outer layer of hardfacing similarly comprising wear resistant particles dispersed in a metallic binder bonded to said inner hardfacing layer, the binder of said outer layer being a metal selected from the class consisting of alloy cast iron, high carbon alloy steel, alloys of nickel and alloys of cobalt, characterized by reasonable wear resistance, toughness, and a melting point lower than that of the next inner layer by at least 100° F. and preferably by 200° to 500° F. or more, said inner layer having a binder metal selected from the class consisting of alloys of iron, alloys of nickel and alloys of cobalt, whereby the hardfacing on such tool is of increased wear resistance and toughness.

3,260,580

TIN PLATE HAVING A TIN-NICKEL-IRON ALLOY LAYER AND METHOD OF MAKING THE SAME

Gilbert George Kamm, Barrington, and Allen Ray Willey, Mundelein, Ill., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 19, 1962, Ser. No. 238,608
13 Claims. (Cl. 29—196.4)



1. A coated ferrous metal sheet, comprising: a ferrous basis metal; an inner coating over and in contact with said basis metal consisting essentially of a ternary alloy of tin, nickel, and iron; and an outer coating of tin over and in contact with said ternary alloy, said ternary alloy being produced by the diffusion of an intermediate deposit of a binary tin-nickel alloy with said ferrous basis metal and said outer tin coating while said tin coating is molten.

3,260,581

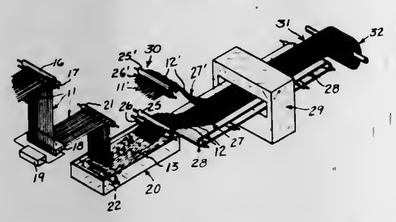
KINDLING COMPOSITION

Dominick A. Martin, Latrobe, Pa., assignor of fifteen percent to Paul W. Mahady

No Drawing. Filed Apr. 2, 1962, Ser. No. 184,551
7 Claims. (Cl. 44—41)

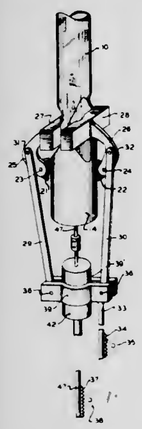
1. A kindling composition comprising from about 30% to about 60% by weight of a particulated absorbent material consisting essentially of inverted micro-crystalline silica, about 3% to about 10% of a particulated inert inorganic material having an average diameter of about 1/15–1/600 inch, from about 25% to about 60%, by weight, of a hydrocarbon liquid, and about 2% to about 30% of water.

3,260,582
POLISHING AND ABRADING MATERIALS
William F. Zimmer, Jr., Elnora, and Leon E. Hoogstoel, Schenectady, N.Y., assignors to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed Mar. 24, 1964, Ser. No. 354,473
12 Claims. (Cl. 51—293)



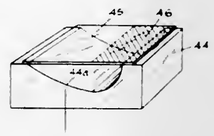
1. A method for the manufacture of a non-woven polishing material which comprises: holding under tension a plurality of continuous pre-crimped synthetic filaments arranged in substantially parallel relationship with one another; applying a substantially uniform coating of adhesive to said filaments while under tension; relaxing the tension on said adhesive-coated filaments before said adhesive dries to permit said filaments to return to their crimped sate with the crimps in each filament intersecting and entwining with the crimps of adjacent filaments; and setting the adhesive coating to anchor said filaments to each other at their points of intersection.

3,260,583
METHOD OF SEALING GLASS TUBES
Charles Eisler, East Orange, N.J. (% Eisler Engineering Co., 760 S. 13th St., Newark, N.J.)
Filed Feb. 21, 1963, Ser. No. 260,201
1 Claim. (Cl. 65—34)



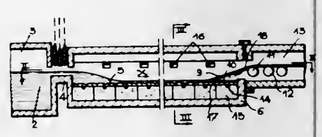
The method of assembling a quartz envelope for a vacuum tube, comprising the steps of:
(a) providing a hollowed support member with an opening at the top thereof and through which two filaments are extended;
(b) positioning a quartz tube envelope with an open bottom end and a closed top end over said tube filaments and resting the bottom open end of said quartz envelope on the top of said support member;
(c) inserting a small diameter elongated quartz tube up through the opening in said support and partially inside said quartz envelope;
(d) moving a pin member up through said quartz tube with the upper tip thereof extending into said quartz envelope by means of a rack assembly;
(e) heating the quartz envelope adjacent its bottom end;
(f) compressing said bottom end of said quartz envelope between a pair of jaws activated by a rack and pinion assembly;
(g) withdrawing said pin from said quartz tube by reversing the action of the rack assembly as the bottom end of quartz envelope is compressed against said quartz tube; and
(h) continuing application of heat and pressure on the bottom of said quartz envelope to close and seal it about said quartz tube.

3,260,584
METHOD OF CONTROLLING TEMPERATURES IN SHEET GLASS WITH HEAT ABSORPTIVE MATERIAL
Alfred E. Badger, Maumee, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Continuation of abandoned application Ser. No. 571,917, Mar. 26,1956, which is a continuation of abandoned application Ser. No. 212,367, Feb. 23, 1951. This application June 29, 1964, Ser. No. 381,607
20 Claims. (Cl. 65—60)



1. A process for submitting a glass article, in particular a glass sheet, to a controlled heat treating operation which consists in coating a selected part of a glass article that is to be subjected to a different rate of heating than other parts with a substance adhering to the glass surface and having radiant heat attenuating properties capable of controlling the conditions of the heat exchange between said article and the thermal source, heating said article thus coated by subjecting the same to an environment having an ambient temperature in the glass softening range, cooling said coated article, and then removing said coating from the article.

3,260,585
PROCESS AND APPARATUS FOR MANUFACTURING A FIRE-POLISHED GLASS STRIP
Gustave Javaux, Saint-Gilles, Belgium, assignor to Glaverbel, Brussels, Belgium
Filed Aug. 7, 1962, Ser. No. 215,310
Claims priority, application Luxembourg, Aug. 10, 1961, 40,496
9 Claims. (Cl. 65—65)



1. A process for manufacturing a continuous fire-polished glass strip comprising forming a continuous sheet of glass, sliding the sheet continuously in a longitudinal direction onto a fixed, metallic, smooth, flat and solid base plate which supports the sheet, regulating by heat exchange the temperature of the surfaces of the sheet in a range in which the surfaces will be fire-polished, diminishing the temperature of said sheet as it advances along the base plate, lifting the sheet from the base plate to remove the same therefrom by engaging the sheet in a zone thereof sufficiently cooled such that the sheet is removed from the plate with the surfaces of the sheet unmarked, interposing between said plate and said glass sheet a molten film of a metal salt selected from the group consisting of halogenated salts of alkaline and alkaline earth metals and mixtures thereof, which salt has a low coefficient of friction and wets the sheet to facilitate sliding thereof on the base plate, said metal salt being inert in air at the temperatures of the sheet and covering the base plate to protect the same from contact with air.

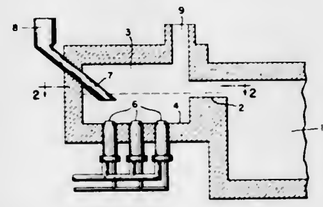
3,260,586
GLASS TUBE COOLING DEVICE AND METHOD OF COOLING GLASS TUBING
Peter J. H. Prohaszka, Bloomfield, N.J., and Wilbur K. Enos, Jr., Fairmont, W. Va., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 22, 1962, Ser. No. 232,023
15 Claims. (Cl. 65—86)



1. In the method of drawing glass tubing and rapidly and evenly cooling the moving, hot tubing immediately after drawing, without imparting distortion into the tubing, the improvement which comprises, forming a substantially uniform water spray having a predetermined rate of flow and radially directed from substantially all portions of a peripheral location of predetermined dimensions and generally toward a centrally disposed location, and continuously axially passing the tubing to be cooled through the centrally disposed location toward which the formed water spray is directed.

10. In combination with a glass-tube-forming line which includes tube-pulling means for continuously pulling the formed tube away from a tube-forming means, the improvement which comprises, a tube-cooling mechanism positioned between said tube-forming means and said tube-pulling means for rapidly and evenly cooling the drawn tube immediately after drawing while still hot, said tube-cooling mechanism comprising:
(a) housing means enclosing an aperture adapted to surround and receive the moving tubing;
(b) orifice means of substantially uniform dimensions disposed substantially completely around the circumference of the aperture enclosed by said housing means;
(c) water inlet means connecting to said housing means and in communication with said orifice means;
(d) water supply means for supplying water under a predetermined pressure head to said water inlet means; and
(e) said orifice means conformed to discharge water supplied to said inlet means by said water supply means as a substantially uniform water spray having the general conformation of a right-circular cone, with the cone apex positioned substantially on the longitudinal axis of the continuously moving tubing passing through the aperture provided in said housing means.

3,260,587
METHOD OF MELTING GLASS WITH SUBMERGED COMBUSTION HEATERS AND APPARATUS THEREFOR
Hans R. Dolf, Wayne, and William E. Marceau, Havertown, Pa., assignors to Selas Corporation of America, Dresher, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1962, Ser. No. 242,515
12 Claims. (Cl. 65—135)

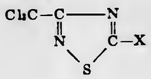


1. Apparatus for melting glass including a melting tank having a floor and side walls, said floor being provided with a plurality of spaced openings, a burner received in each opening with the end of each burner projecting above the level of the floor, each burner including a combustion chamber with a discharge opening, said opening terminating in the end portion of the burner projecting above said floor, means to supply gas and air to said burner to be burned in said combustion chamber, means to direct the supply of air to the combustion chamber through said projecting end portion to cool the portion of the burner projecting above said floor, the products of combustion resulting from the burning of the gas and air passing through said opening into said tank, and supply means for material to be melted extending into said tank and terminating at a level adjacent to the intended level of glass therein.

4. The method of melting glass in a furnace having a bottom and side walls, which comprises introducing products of combustion at a temperature above the melting point of glass and at a pressure sufficiently high to create currents in the glass and rise to the surface thereof through the floor of the furnace into the glass at a plurality of spaced points that are spaced from the walls of the furnace, agitating the glass by said products of combustion as they rise to mix it thoroughly, and circulating a cooling medium in heat exchange relation with the glass immediately adjacent to the points at which said products of combustion are introduced so that the glass around said points is substantially solid and will flow very little, if at all.

3,260,588
METHOD FOR CONTROLLING PESTS
Hansjuergen A. Schroeder, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Original application Mar. 15, 1961, Ser. No. 95,829. Divided and this application July 1, 1963, Ser. No. 296,882
9 Claims. (Cl. 71—2.5)

1. The method of controlling fungi which comprises contacting said fungi with a fungicidal amount of a compound having the formula:



in which X is selected from the group consisting of Cl, NH_2, NHR, NR_2, OR and SR where R is alkyl having 1 to 4 carbons.

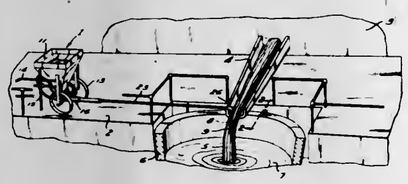
3,260,589
METHOD OF WEED CONTROL
Robert H. Salvesen, Clark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 12, 1962, Ser. No. 179,192
The portion of the term of the patent subsequent to Oct. 27, 1981, has been disclaimed
1 Claim. (Cl. 71—2.6)

Method of postemergence weed control in wheat and barley grain crops which comprises applying to dog fennel growing among said grain crops an aqueous dispersion of solid paraffin wax particles about 0.5 to 100 microns in size containing 0.16 to 5 parts by weight of a herbicidal ester of halogenated phenoxy alkanoic acid per part by weight of the wax in which the said ester is dissolved with a small amount of a wax soluble dispersing agent, said alkanoic acid being selected from the group of acetic and propionic acids and the ester being derived by esterification of the acid by a saturated alcohol of 6 to 8 carbon atoms, said solid particles being free of absorbed water, the resulting aqueous dispersion being applied at a rate of about ½ to 1 pound of active herbicide in 40 gallons of spray liquid by acre to kill said dog fennel selectively.

3,260,590
HERBICIDAL METHOD
Milton H. Fischer, Lyndonville, and Kenneth L. Hill, Middleport, N.Y., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 21, 1962, Ser. No. 246,363
3 Claims. (Cl. 71—2.6)

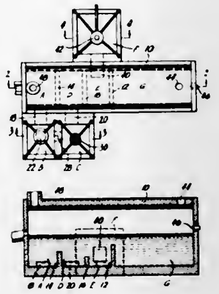
1. The method of controlling undesired plant growth which comprises applying a herbicidal amount of methallyl N-(4-chloro-(2-methoxycarbonyl)phenyl)carbamate to the locus of the undesired plant growth.

3,260,591
PROPELLING OF ADDITION AGENTS INTO MELTS
John W. Brown, Jr., Lakewood, Ohio, Arthur C. Buesing, Milwaukee, Wis., and Francis T. Kaiser, Cleveland, Ohio, assignors to Brown Fintube Company, Elyria, Ohio, a corporation of Ohio
Filed Jan. 20, 1964, Ser. No. 338,754
8 Claims. (Cl. 75—53)



1. The process of introducing finely divided particles of addition agent into molten metal, comprising discharging a stream of molten metal to form a freely falling stream having a portion thereof which is substantially vertical, and discharging a stream of solid particles of addition agent into said stream of molten metal, said stream of particles being discharged from above said stream of molten metal so that when traveling in a substantially vertical direction it intersects the stream of molten metal above the portion thereof that is traveling substantially vertically, the particles being discharged at a velocity sufficient to cause them to penetrate the stream of molten metal.

3,260,592
COPPER DROSSING OF LEAD BULLION
Thomas Ronald Davey, Bristol, England, and Herbert T. Webster, Port Pirie, South Australia, Australia, assignors to The Broken Hill Associated Smelters Proprietary Limited, Melbourne, Victoria, Australia, a corporation of Australia
Filed Jan. 9, 1963, Ser. No. 250,397
7 Claims. (Cl. 75—78)



1. Continuous process of separating copper from a molten lead bullion containing copper.

which comprises

continuously mixing molten copper-containing lead bullion, at an initial temperature substantially above 400° C. and contained as a body in a container having walls, with recirculated molten substantially decopperized lead bullion at a temperature lower than about 400° C.;

said mixing being effected within said body and out of substantial contact with such container walls and in suitable proportions, such that the mixture has a temperature, of the order of 400° C., intermediate the temperature of the copper-containing lead bullion and of the recirculated substantially de-copperized lead bullion whereby due to decreased solubility at such intermediate temperature copper dross separates from the mixture and rises to the surface of the bullion to form a molten layer thereon;

discharging copper dross from said layer thereof;

cooling the aforesaid mixture after separation of the copper dross therefrom;

recirculating a major part of the resulting cooler molten substantially de-copperized lead bullion for admixture with further amounts of molten copper-containing lead bullion in said mixing zone; and

discharging from the system the remainder of said resulting cooler molten substantially de-copperized lead bullion.

3,260,593
PROCESS FOR LEACHING COPPER FROM LOW-GRADE, COPPER-BEARING ORE MATERIALS
Stuart R. Zimmerley, Emil E. Malouf, and John D. Prater, Salt Lake City, Utah, assignors to Kennecott Copper Corporation, New York, N.Y., a corporation of New York
Filed Sept. 12, 1962, Ser. No. 223,206
12 Claims. (Cl. 75—117)

1. A process for leaching copper from dumps of mine waste and from other beds of broken copper-sulfide-bearing ore materials which provide natural drainage from top to bottom thereof, comprising

flowing a leach solution of ferric sulfate and a mineral acid through such a bed from top to bottom thereof such that copper values are dissolved and the pH of the solution becomes about 2.5;

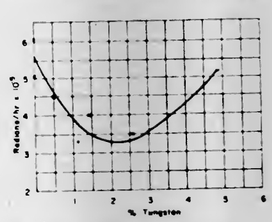
contacting metallic iron with the resulting copper-bearing leach solution to strip copper therefrom by replacing iron with copper;

adjusting the pH of the stripped leach solution to between about 1.9 and about 2.8 by the addition of a mineral acid thereto;

recycling the adjusted leach solution at said pH through said bed to establish and maintain, at least in the upper portion of the bed, optimum conditions for continuous bacterial regeneration;

and forcing oxygen into the upper portion of the bed.

3,260,594
HIGH TEMPERATURE ALLOYS
Martin N. Ornitz, Wilkinsburg, and Ray H. English, McCandless Township, Allegheny County, Pa., assignors to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 11, 1965, Ser. No. 425,687
5 Claims. (Cl. 75—128)



1. A low creep, high strength alloy resistant to corrosion and thermal shock at elevated temperatures having stress rupture characteristics at 4000 p.s.i. and 1800° F. of at least 400 hours and at 2000° F. and 2000 p.s.i. of at least 100 hours comprising about 0.3% to 0.9% carbon, about 20% to 30% chromium, about 15% to 35% nickel, about 0.8% to 4% manganese, about 0.9% to 3.5% silicon, about 0.3% to 5% tungsten and the balance iron with residual impurities in ordinary amounts.

3,260,595
PROCESS FOR THE MANUFACTURE OF VANADIUM-GALLIUM INTERMETALLIC COMPOUND
Richard Maier, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin - Siemensstadt, Germany, a corporation of Germany
No Drawing. Filed Feb. 3, 1965, Ser. No. 430,196
Claims priority, application Germany, Feb. 7, 1964, S 89,421
6 Claims. (Cl. 75—200)

1. The process of producing the intermetallic vanadium-gallium compound V_3Ga, which comprises mixing vanadium powder and V_2Ga_5-powder in the stoichiometric ratio corresponding to the equation

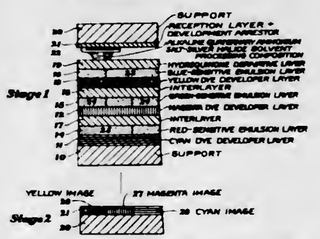
$$13V + V_2Ga_5 \rightarrow 5V_3Ga$$

pressing the mixture to a shaped body, and sintering the body at a temperature between 1150 and 1400° C.

3,260,596
METHOD FOR FORMING POWDERED METAL INTO SINTERED HOLLOW BODIES
David D. Rapprich, Vermilion, and Francis J. Holewinski, Toledo, Ohio, assignors to The Brush Beryllium Company, Cleveland, Ohio, a corporation of Ohio
Original application July 31, 1962, Ser. No. 213,709, now Patent No. 3,189,942, dated June 22, 1965. Divided and this application Apr. 12, 1965, Ser. No. 461,217
2 Claims. (Cl. 75—226)

1. A method of forming metal powder into elongated hollow bodies, said method comprising confining a charge of metal powder to be formed in an annular cavity of predetermined shape sealed at one end, applying mechanical pressure to the other end of the charge in a direction toward the one end while holding the opposite end in fixed position for preliminarily compacting the powder, while completely confining the charge in the cavity at said one end, subjecting the powder to a sub-atmospheric pressure during said preliminary compaction, gradually heating the powder to a temperature up to the sintering range while maintaining said preliminary compaction and sub-atmospheric pressure, and then, when the powder reaches the sintering temperature range, gradually increasing the temperature and increasing said mechanical pressure on said other end of the charge, and concurrently changing the size and shape of the cavity and breaking the seal for compacting the sintering material to a predetermined sintered density while maintaining said sub-atmospheric pressure.

3,260,597
PHOTOGRAPHIC MULTICOLOR DIFFUSION TRANSFER PROCESS USING DYE DEVELOPERS AND DEVELOPMENT ARRESTORS
Walter J. Weyerts and Wilho M. Salminen, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 2, 1960, Ser. No. 73,390
9 Claims. (Cl. 96—3)



1. A multicolor diffusion transfer process which comprises exposing to a subject a sensitive element including a plurality of light-sensitive silver halide emulsion layers sensitive to different regions of the spectrum, dye developers being contiguous to the silver halide of each emulsion layer, said dye developer being a compound which is both a silver halide developing agent and a dye, applying an alkaline solution to the emulsion layers while they are in superposed contact with a reception layer containing a silver halide development arrestor diffusible in the alkaline solution selected from the group consisting of

(a) a mercaptoazole,

(b) an azole that hydrolyzes in alkaline solution to form a mercaptoazole,

(c) an iodide, and

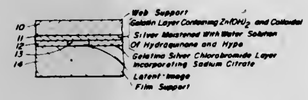
(d) an iodine-containing compound that releases an iodide in alkaline solution,

thereby developing the silver halide and rendering the dye developers non-diffusing in the region of development, the development arrestor diffusing to the emulsion layers and stopping further development, allowing the dye developers in the undeveloped regions to transfer imagewise by diffusion and in register to the reception layer, and removing the reception layer to obtain a multicolor image thereon composed of the dye developers.

3,260,598
PHOTOGRAPHIC ELEMENT-DEVELOPER SYSTEM
Henry C. Yutzy, Charles A. Goffe, and Edwin B. Wyand, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed May 29, 1961, Ser. No. 113,246
8 Claims. (Cl. 96—29)

1. In a solvent transfer process for forming a silver negative image in a latent image bearing light-sensitive

silver halide emulsion layer, and for simultaneously forming a silver positive image in a processing element containing a hydrophilic colloid layer that incorporates a silver halide solvent and a silver nucleating agent, the improvement comprising (1) the incorporation of a silver halide developing agent in at least one of said layers, (2) the incorporation of a compound having the formula $Z(OH)_n$ wherein Z represents a metal selected from the class consisting of cadmium, aluminum, zinc, titanium and lead, and *n* represents an integer of from 2 to 4 which has the same numerical value as the valence of the metal Z in one of said layers and (3) the incorporation of a compound having the formula XY, wherein



X represents a metal selected from the class consisting of sodium and potassium, and Y represents a group selected from the class consisting of the citrate radical, the ferrocyanide radical, the fluorine atom, the tartrate radical, an ethylenedinitrilo tetraacetate radical, a 1,3-diamino-2-propanol tetraacetate radical, a trimethylaminetricarboxylate radical, a di-ω,ω'-methylaminodiethylaminedicarboxylate radical, and a di-ω,ω'-methylaminodiethylaminetetracarboxylate radical, in the other said layer not containing the compound of the formula $Z(OH)_n$, so that the said silver image is developed by contacting the said emulsion layer with said hydrophilic colloid layer in the presence of water.

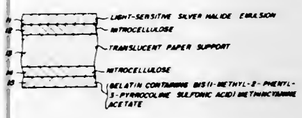
3,260,599
VESICULAR DIAZO COPY-SHEET CONTAINING PHOTOREDUCIBLE DYE
Robert J. Lokken, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Nov. 19, 1962, Ser. No. 238,729
5 Claims. (Cl. 96—75)

3. A vesicular-image copy-sheet sensitive to visible light of wavelength greater than about 4600 Angstroms and comprising a transparent flexible film backing having a thin uniform light-sensitive coating comprising an at least temporarily heat-softenable, normally hard and firm film-forming polymeric binder, a photodecomposable nitrogen-liberating diazo salt stable against decomposition on prolonged exposure to moderately high temperatures and humidities and in amount just sufficient to be capable of providing a distinctly visible vesicular image, and a non-yellow organic photoreducible dye in an amount between about one-fourth and about one-fiftieth the amount by weight of said diazo compound; and said coating including a mild reducing agent for said dye.

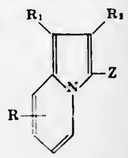
3,260,600
PHOTOGRAPHIC IMAGE-RECEIVING MATERIAL
Louis Maria De Haes, Edegem, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a company of Belgium
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,413
Claims priority, application Netherlands, Oct. 20, 1960, 257,058
4 Claims. (Cl. 96—76)

1. An image-receiving material for use in the silver complex diffusion transfer process comprising successively a support, a silver precipitating layer containing development nuclei and as a separate layer, a surface layer of carboxymethylcellulose hardened by reaction with a water-soluble chromium salt provided substantially only in said surface layer.

3,260,601
DYES FOR PHOTOGRAPHIC FILTER AND ANTIHALATION LAYERS
Joseph Bailey, Wealdstone, Harrow, Middlesex, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 10, 1961, Ser. No. 122,852
11 Claims. (Cl. 96—84)

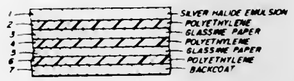


1. A light-absorbing water-permeable colloid layer containing a dye having the formula:



wherein R represents a member selected from the class consisting of a hydrogen atom, a lower alkyl group, a lower alkoxy group, and a benzene ring fused to the pyridine ring of the pyrrocoline group; R_1 and R_2 each represent a member selected from the class consisting of an alkyl group, an aryl group, and an aralkyl group; and Z is a group of nonmetallic atoms which together with the nitrogen atom of the pyrrocoline nucleus completes a conjugated chain and terminates in an atom selected from the class consisting of a nitrogen atom and an oxygen atom.

3,260,602
RESIN LAMINATED PAPER FOR PHOTOGRAPHIC APPLICATION
George F. L. Wood and Douglas C. Joseph, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Jan. 4, 1962, Ser. No. 164,315
4 Claims. (Cl. 96—85)



1. A photographic paper base comprising in combination two sheets of glassine paper adhered to each other by a film of polyethylene and having a polyethylene film coated on the exterior surfaces of the glassine paper.

3,260,603
ROUGH SURFACED COPY-SHEET INTERMEDIATE
John L. Reitter, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,585
3 Claims. (Cl. 96—87)

2. A rough-surfaced photosensitive copy-sheet intermediate capable, on being subjected to reflex exposure to actinic radiation while in surface contact with a smooth-surfaced original having differentially radiation-reflective

image and background areas, of providing a corresponding differential pattern of reactivity for an image sheet containing a silver soap component, said intermediate comprising a thin transparent plastic film carrier web having on one surface a coating of a photosensitive composition normally rapidly visible reactive with a said image sheet



at moderately elevated temperature and capable of being rendered non-reactive therewith on exposure to said radiation, and said plastic film being embossed over the copy area with a pattern of spaced minute peaked protrusions extending at least about 1½ microns above the coated surface, the peaks of said protrusions being within at least about ⅛ inch of each other.

3,260,604
PHOTOGRAPHIC COLLOID TRANSFER SYSTEM
Norman W. Kalenda, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Nov. 19, 1963, Ser. No. 324,820
20 Claims. (Cl. 96—101)

1. A substantially unhardened methylene blue desensitized gelatino-silver halide emulsion containing a gelatin tanning silver halide developer and 5-(3,4-dimethoxyphenyl)tetrazole.

3,260,605
METHOD FOR PREPARING LIGHT-SENSITIVE SILVER HALIDE EMULSIONS SUITABLE FOR PRINT-OUT RECORDING MATERIALS
Edward Arthur Sutherns, Harrow, Middlesex, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Sept. 5, 1962, Ser. No. 221,428
8 Claims. (Cl. 96—108)

6. A method of preparing photographic emulsions comprising simultaneously adding an aqueous solution of a water-soluble silver salt and an aqueous solution of a water-soluble halide salt, wherein at least 90 mole percent of the halide salt is a bromide salt, to an aqueous solution containing gelatin thereby precipitating silver halide grains, maintaining the pH of said gelatin solution acidic during said additions and maintaining an excess of halide ions over silver ions by adding said water-soluble silver salt solution at such a rate as to provide said excess of halide ions over said silver ions, precipitation being effected in the substantial absence of sulfur sensitizers, at least one of said aqueous solutions containing a small amount of an alkali metal thiocyanate silver halide solvent to effect ripening of said silver halide grains, and at least one of said aqueous solutions containing a small amount of a water-soluble lead salt.

3,260,606
ENZYMATIC TREATMENT OF EGG
Shinzo Azuma, Yokkaichi, Japan, assignor to Taiyo Food Co., Ltd., Yokkaichi, Japan
No Drawing. Filed Apr. 29, 1964, Ser. No. 363,599
5 Claims. (Cl. 99—113)

1. A method for treating egg which comprises treating the egg with an enzymatic system produced by the cultivation of a mould microorganism, at a pH between 3.5 and 5.0 until the egg is rendered thermally non-coagulative.

3,260,607
PREPARATION OF DEHYDRATED COOKED MASHED POTATO
Edward A. M. Asselbergs, Hugh A. Hamilton, and Patricia Saidak, Ottawa, Ontario, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada
No Drawing. Filed Jan. 15, 1962, Ser. No. 166,243
Claims priority, application Canada, Feb. 7, 1961, 816,400
1 Claim. (Cl. 99—207)

A process for the production of an instantly reconstitutable dehydrated cooked mashed potato product having a multi-cellular thickness comprising the steps in order of:

(a) thoroughly cooking for ready mashing relatively small peeled pieces of potato having a cross-section of approximately three-eighths of an inch by three-eighths of an inch in an aqueous medium selected from the class consisting of steam and water for a period of about six to about fifteen minutes at a temperature in the vicinity of the boiling point of water until cooking thereof is effected;
(b) separating the thus-cooked pieces of potato from the hot cooking medium;
(c) rapidly removing surface moisture from said cooked pieces by causing air to be directed against the surface thereof and imparting a mealy appearance thereto;
(d) mashing the resulting cooked pieces of potato freed of surface moisture to form mashed potatoes;
(e) extruding said cooked mashed potatoes between a pair of rolls having a forming zone therebetween with a gap setting between .002 and .004 inch, at least one of said rolls being heated;
(f) drying thus extruded mashed potatoes in a layer on said heated roll, and
(g) collecting a dehydrated mashed potato product from said heated roll, said product having an open porous texture, a crystal-like appearance and an average thickness of three to four potato cells.

3,260,608
NON-AQUEOUS GEL-RESISTANT PAINTS
Thom Ian Kyle, Middlesbrough, England, assignor to British Titan Products Company Limited, Durham, England, a company of England
No Drawing. Filed June 15, 1965, Ser. No. 464,234
Claims priority, application Great Britain, Aug. 23, 1960, 29,158/60
10 Claims. (Cl. 106—263)

1. A non-aqueous, liquid, gelling resistant surface coating composition consisting essentially of (1) a titanium dioxide pigment and (2) a paint medium comprising (a) a drying oil and (b) a miscible, free polyhydroxy alcohol which is liquid at room temperature, the polyhydroxy alcohol being selected from the group consisting of straight chain polyalcohols containing 2–6 carbon atoms and condensation polymers thereof and wherein the weight of the polyalcohol in the coating composition is from about .25% to 5% of the weight of the titanium dioxide pigment.

3,260,609
PAINT FORMULATIONS
George C. Reeser, Groves, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 22, 1960, Ser. No. 77,523
9 Claims. (Cl. 106—263)

1. A paint composition consisting essentially of pigment and vehicle, having incorporated therein between about 5 and 60 volume percent based on said composition of a paraffinic lube oil oxidate of a Neut. No. between about 50 and 100, a Sap. No. between about 100 and 250 and an unsaponifiable content less than about 60 wt. percent based on said oxidate.

3,260,610
METHOD OF RECLAIMING WASTE ASPHALTIC MATERIAL

Steven G. Belak, Claymont, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

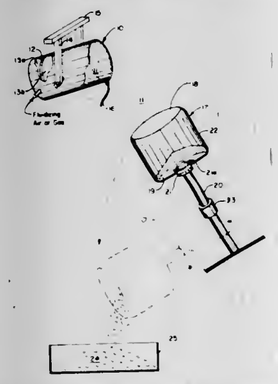
No Drawing. Filed Mar. 19, 1963, Ser. No. 266,197
1 Claim. (Cl. 106—283)

A process for preparing a molding composition from waste material obtained from the manufacture of asphalt products comprising cellulosic fibers saturated with a bituminous binder consisting of the steps of violently agitating a mixture consisting of said waste material and from 40 to 60 wt. percent water based on the total mixture, with an impeller mixer at 200–20,000 r.p.m. at a temperature in the range of 40° F–120° F. for a period of from 10 minutes to 10 hours whereby the waste material is reduced to a moist pulverized mass, drying the mass and recovering the resulting molding composition.

3,260,611
COATING METHOD

Barry B. Weidenhammer, Temple, John Chudovan, Reading, and Fritz J. Nagel, Reiffton, Pa., assignors, by mesne assignments, to The Polymer Corporation, a corporation of Pennsylvania

Filed Feb. 13, 1963, Ser. No. 258,226
2 Claims. (Cl. 117—18)



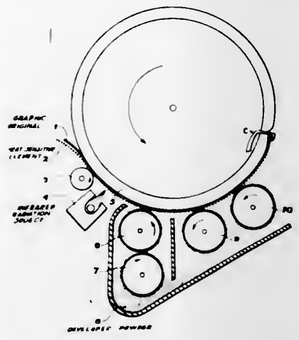
1. A method of coating the interior surface of a hollow tub-like article that has one open end and one substantially closed end comprising preheating the article to above the fusion temperature of resinous pulverulent coating materials; mounting said article for rotation about an axis with said open end substantially uppermost; fluidizing a bed of said pulverulent resinous coating materials; pouring such fluidized coating materials directly into a lower portion of said article; rotating said article about said first axis; gradually inclining said first axis from a substantially vertical position to one that will cause said open end to point below a horizontal plane while continuing said rotation; and allowing unfused coating materials to spill out of said opening.

3,260,612
THERMOGRAPHIC RECORDING PROCESS AND HEAT-SENSITIVE ELEMENTS THEREFOR

William J. Dulmage, Sterling S. Sweet, and William A. Light, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed June 27, 1962, Ser. No. 211,927
18 Claims. (Cl. 117—25)

16. A process of producing a recorded image by means of a heat-sensitive matrix sheet having a heat-sensitive side on which is coated a heat-sensitive layer comprising a polymer-containing thermoplastic material in a non-tacky state of at least partial crystallization and having an original tackifying temperature above 50° C. at which original tackifying temperature said thermoplastic material will undergo transition to an essentially non-crystalline state having a substantially reduced tackifying temperature, said material having the property of remaining for a substantial period of time after said transition in a state having a reduced tackifying temperature and having the property in such state of being transferable by pressure at a temperature above said reduced tackifying temperature and below said original tackifying temperature, said process comprising the steps of (1) preferentially heating only image areas on said heat-sensitive layer

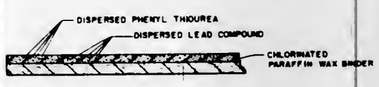


to at least said original tackifying temperature, and (2) after said preferential heating step and during said substantial period of time, with image areas and background areas of said heat-sensitive layer at a uniform temperature at least as high as said reduced tackifying temperature and below said original tackifying temperature, pressing the heat-sensitive side of the matrix at said areas of uniform temperature against a receiving surface with pressure sufficient to transfer tackified material from image areas of the heat-sensitive layer to the receiving surface, and (3) after such transfer of tackified material to the receiving surface, adhering colored material having optical density to the transferred material on the receiving surface.

3,260,613
HEAT-SENSITIVE SHEET FOR THERMOGRAPHIC COPYING

Edward C. Otto, Brooklyn, N.Y., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

Filed Mar. 15, 1963, Ser. No. 265,337
14 Claims. (Cl. 117—36.9)



1. A heat-sensitive copying sheet adapted, on being placed in heat-conductive relationship with a graphic original having graphic representations highly absorbtive of infrared rays and on irradiation of said graphic original with infrared rays, to produce a copy of said graphic original, said copying sheet comprising a base sheet having thereon a coating comprising

(A) a dispersion of a lead compound having a melting point above 120° C. selected from the group consisting of lead salts of maleic acid, lead carbonate, lead phosphite, lead formate, lead hydroxide and lead oxide and

(B) a dispersion of phenyl substituted thiourea having a melting point above 120° C. in

(C) a binder comprising a major portion of chlorinated paraffin wax having a chloride content of at least 50% by weight and a melting point between 60° and 120° C.

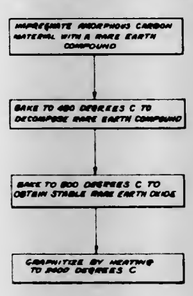
ERRATUM

For Class 117—37 see:
Patent No. 3,261,023

3,260,614
GRAPHITISED CARBON ARTICLES CONTAINING RARE EARTHS

Jacques F. Millet, Paris, France, assignor to Societe le Carbone-Lorraine, Paris, France, a French body corporate

Filed Jan. 24, 1962, Ser. No. 168,524
14 Claims. (Cl. 117—46)



1. A process for graphitising amorphous carbon material comprising: introducing a material consisting essentially of rare earths into the carbonaceous material to yield an intermediate material containing up to 10% of the rare earth material in terms of rare earth oxide, and graphitising said intermediate material by heating it to at least 2400° C. to yield a graphite having increased graphitisation ratio, improved frictional properties and wear-resistance.

3,260,615
RAYON STRAP

James D. Crowley and Jack W. Lowe, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 5, 1962, Ser. No. 185,187
6 Claims. (Cl. 117—73)

6. A method for preparing water-proof rayon strands which comprises immersing rayon strands in an organic solvent solution containing minor percentages of a compound selected from the group consisting of alkyl titanates containing from 1 to 12 carbon atoms in the alkyl group and organic isocyanates, forming said strands into a strap, and applying a lacquer coating thereover to bind the strands together.

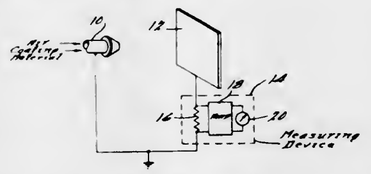
3,260,616
METHOD OF IMPROVING THE CAPABILITY OF A PAINT COMPOSITION TO PRODUCE A COATING OF UNIFORM APPEARANCE

George E. F. Brewer, 505 Shankin Drive, Walled Lake, Mich.

Continuation of application Ser. No. 567,268, Feb. 23, 1956. This application Apr. 6, 1961, Ser. No. 103,673
14 Claims. (Cl. 117—93.4)

1. The method of improving the capability of a paint composition to produce a surface coating of uniform appearance on a work, said paint composition containing a film-forming substance, a volatile hydrocarbon solvent and substantially insoluble pigment particles and being one which develops an electrical charge when agitated, said method comprising:

agitating said paint composition,



measuring the electrical charge which is developed as an incident of the agitation, and

adding to said paint composition an organic polar compound selected from the group consisting of alcohols, glycols and glycol ethers in sufficient quantity that when the resulting mixture is similarly agitated it will have effective electrical neutrality.

3,260,617
METHOD FOR PREPARING SHELL MOLDING COMPOSITIONS

William D. Lawther, Hammond, Ind., assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey

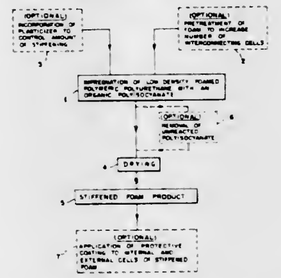
No Drawing. Filed Oct. 4, 1962, Ser. No. 228,238
5 Claims. (Cl. 117—100)

1. A method of preparing a free-flowing coated sand composition comprising the steps of: heating sand to a temperature of between 160° to 250° F., mixing together 97.0 parts by weight of said heated sand, about 3.7 parts by weight of a phenolic resin of which an alcohol solvent comprises approximately 25%, about 0.4 part by weight of hexamethylenetetramine, and about 0.1 part by weight of calcium stearate; continuing to mix the ingredients while directing a flow of air through the sand mixture; when the mixing cycle is about 60% completed adding about 0.3 part by weight of water only to the sand mixture; and continuing to mix the sand mixture until the sand mixture is dry.

3,260,618
POLYURETHANE FOAM PRODUCT AND METHOD OF MAKING SAME

Norman H. Stark, Mequon, Wis., assignor to Walker Manufacturing Company, Racine, Wis.

Continuation of application Ser. No. 159,156, Dec. 13, 1961. This application Jan. 21, 1965, Ser. No. 446,443
7 Claims. (Cl. 117—102)



1. The method of making a rigid, open-cell, polyurethane foam product of density not in excess of 2.5 pounds per cubic foot which comprises impregnating a mass of foamed, open-cell, polymeric polyurethane capable of reaction with a monomeric organic polyisocyanate and

having a density in the range of 0.75–2.4 pounds per cubic foot with a firming agent consisting essentially of a reactant selected from the class consisting of monomeric organic polyisocyanate and solutions of monomeric organic polyisocyanate, thereafter removing any free polyisocyanate from said foam, and reacting to form a stiffened open-cell foam product.

3,260,619
METHODS AND COMPOSITIONS FOR CLEANING METAL

Robert H. Shoemaker and Harold Geschwender, Detroit, Mich., assignors to Kolene Corporation, Detroit, Mich.

No Drawing. Filed Feb. 4, 1965, Ser. No. 430,465
14 Claims. (Cl. 134—3)

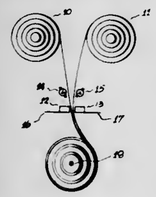
6. A method of removing scale and glass from a stainless steel product manufactured by a high temperature process utilizing glass as a lubricating material comprising immersing the stainless steel product in a molten bath consisting essentially of from 9–15 weight percent sodium nitrate, from 5–15 weight percent sodium chloride, from 8–20 weight percent potassium hydroxide and from 50–78 weight percent sodium hydroxide, the weight ratio of potassium hydroxide to sodium hydroxide being at least 0.1 and not substantially in excess of 0.4 for at least 30 seconds, maintaining said bath at a temperature above its melting point during the immersion, and removing the stainless steel product from the bath.

8. A method in accordance with claim 6 further including the steps of washing the stainless steel product in water, and subjecting the same to a pickling treatment in a dilute acid solution.

3,260,620
TAPE FED FUEL CELL

Bernard A. Gruber, Topsfield, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

Filed Oct. 22, 1962, Ser. No. 232,144
19 Claims. (Cl. 136—86)



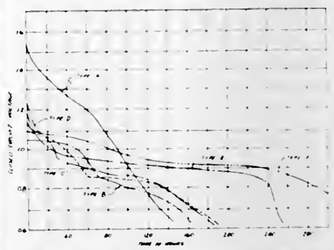
1. A fuel cell comprising anode and cathode current collectors at active electrode sites, fuel cell electrochemical reaction components comprising electrolyte, fuel, oxidant and active anode and cathode materials, active electrode sites from which said collectors convey an electrical current to an external electrical circuit, a mobile separator comprising a body of electrolytically permeable material, and means for moving said separator past said active electrode sites.

3,260,621
DRY CELL BATTERIES AND POLYNUCLEAR POLYBENZOFURAZAN OXIDE DEPOLARIZING COMPOUNDS THEREFOR

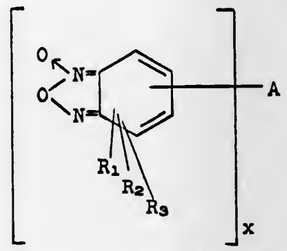
John T. Shaw, Springfield, Mass., John D. Voorhies, New Canaan, Conn., and Stanley M. Davis, Somerville, N.J., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

Filed Aug. 30, 1965, Ser. No. 483,756
12 Claims. (Cl. 136—137)

1. In a dry cell comprising in combination a metallic anode, a cathode composition comprising a mixture of carbon and an organic depolarizer compound and a metal salt electrolyte, the improvement in which organic de-



polarizer compound is a polybenzozfurazan oxide compound of the formula:



where R_1, R_2 and R_3 are singly each selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, chloro and nitro radicals, and any two adjacent are a second furazan oxide ring; and A is a bridging linkage having x valence bonds each linked to separate benzo rings, and x is a small whole number not less than 2 and not greater than 4.

3,260 622
ORGANIC PHOSPHATE COMPLEXES

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 5, 1962, Ser. No. 221,458
16 Claims. (Cl. 148—6.15)

1. An organic phosphate complex prepared by the process which comprises the reaction of a mixture consisting essentially of:

(A) one mole of a phosphorus-containing reagent selected from the group consisting of phosphorus pentoxide and phosphoric acids,

(B) from about 0.2 to about 12.5 moles of a copolymer of allyl alcohol and a styrene, and

(C) from about 0.1 to about 5 moles of a compound other than an epoxy aryl ether, said compound being selected from the group consisting of alcohols, mercaptans, amines, amides, and thioamides,

at a temperature within the range from about 50° C. to about 300° C.

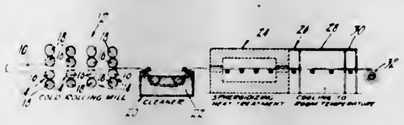
16. A metal article which has been protected against corrosion by applying thereto a film which comprises a major proportion of a siccative organic coating composition and a minor proportion of the complex of claim 1.

3,260,623
METHOD OF TEMPERING CONTINUOUSLY ANNEALED METAL SHEET

Albert Joseph Klein, Arlington Heights, Ill., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 4, 1963, Ser. No. 314,842
6 Claims. (Cl. 148—12)

1. In a method of producing low carbon ferrous sheet metal strip having high stiffness and yield strength with satisfactory formability, whereby said strip is hot rolled to an intermediate thickness, then cold reduced at least 80%, the steps comprising: continuously heat treating said cold reduced ferrous strip at a temperature above 1000° F. and below 1400° F. for a time of about from 10 to 25 seconds, whereby the carbides in said ferrous



strip assume a spheroidal structure; cooling said heated strip to substantially ambient temperature; and temper rolling the cooled strip to a thickness whereby a reduction of from 10 to 23% is made in the thickness of the strip, thus producing a strip having increased stiffness and adequate formability.

3,260,624
METHOD OF PRODUCING A P–N JUNCTION IN A MONOCRYSTALLINE SEMICONDUCTOR DEVICE

Richard Wiesner, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed May 8, 1962, Ser. No. 193,270
Claims priority, application Germany, May 10, 1961, S 73,904
11 Claims. (Cl. 148—175)

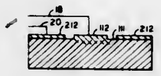
1. The method of producing a p-n junction in a monocrystalline semiconductor device, which comprises the steps of pyrolytically precipitating from a gaseous compound a pure monocrystalline semiconductor layer upon a monocrystalline substratum of the same semiconductor substance highly doped with donor-type and acceptor-type activator atoms of respectively different diffusion coefficients, the activator atoms having the lower diffusion coefficient are present in the substratum in a quantity preponderant over that of the activator atoms having the higher diffusion coefficient, and heated to pyrolytic reaction temperature, and subjecting the substratum and layer to diffusion temperature for a period of time sufficient for only one of said two types of activator atoms to diffuse from the substratum into and through said grown layer and to essentially cause the desired conductance type at the layer side remote from said substratum, said period being too short for the activator atoms of the other type to reach an appreciable portion of said layer.

3,260,625
ELECTRON BEAM METHOD FOR MAKING CONTACTS AND P-N JUNCTIONS

Gian C. Della Pergola, Naples, Italy, and Samuel A. Zeitman, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 25, 1963, Ser. No. 290,376
6 Claims. (Cl. 148—179)

4. A method comprising (1) applying a layer of a one conductivity type metal to a surface of a body of semiconductive silicon of opposite conductivity type, (2) then heating a selected area of the metal layer with an electron beam to a temperature beyond its melting point but below the eutectic temperature of the metal-silicon system, (3) adjusting the beam to melt a width of said metal that does not exceed the thickness of the layer by a factor of 150, whereby metal is removed from the surface of the silicon where the beam has been applied, and (4) there-



after alloying the metal in the residual portion of the layer with the silicon to produce a p-n junction therein.

3,260,626
METHOD OF PRODUCING AN OXIDE COATING ON CRYSTALLINE SEMICONDUCTOR BODIES

Norbert Schink, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed May 10, 1963, Ser. No. 280,497
Claims priority, application Germany, Nov. 18, 1961, S 76,751; May 10, 1962, S 79,384, S 79,385
20 Claims. (Cl. 148—186)



2. The method of producing an oxide coating on a monocrystalline silicon body, which comprises heating the silicon body to a temperature between 250° C. and 500° C. for at least 30 minutes in an atmosphere selected from the group consisting of steam and hydrogen peroxide and containing a substance which at said temperature gives off ions selected from the group consisting of hydrogen and alkali ions and to vaporize at least partially.

3,260,627
STABILIZED LIQUID OZONE COMPOSITION CONTAINING A BORON TRIFLUORIDE COMPLEX

James S. Logan, Niagara Falls, and Arthur Roaldi, Lancaster, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,273
3 Claims. (Cl. 149—1)

1. A liquid ozone composition consisting essentially of liquid ozone having incorporated therein a material selected from the group consisting of boron trifluoride and the complex of boron trifluoride with 100% phosphoric acid (H_3PO_4) in an amount effective to stabilize the liquid ozone with respect to initiation of an explosion under rapid evaporation conditions.

3,260,628
COMPOSITION OF STABILIZED LIQUID OZONE WITH TRIFLUORO ACETYL FLUORIDE

James S. Logan, Niagara Falls, and Arthur Roaldi, Lancaster, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,275
3 Claims. (Cl. 149—1)

1. A liquid ozone composition consisting essentially of liquid ozone having incorporated therein trifluoro acetyl fluoride (CF_3COF) in an amount effective to stabilize the liquid ozone with respect to initiation of an explosion under rapid evaporation conditions.

3,260,629

STABILIZED LIQUID OZONE COMPOSITION CONTAINING A PERFLUOROALKANOIC ACID

James S. Logan, Niagara Falls, and Arthur Roaldi, Lancaster, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,279
3 Claims. (Cl. 149—1)

1. A liquid ozone composition consisting essentially of liquid ozone having incorporated therein a material selected from the class consisting of perfluoroacetic acid, and perfluorobutyric acid in an amount effective to stabilize the liquid ozone with respect to initiation of an explosion under rapid evaporation conditions.

3,260,630

STABILIZED LIQUID OZONE COMPOSITION CONTAINING TRICHLOROHEPTAFLUOROBUTANE

James S. Logan, Niagara Falls, and Arthur Roaldi, Lancaster, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Jan. 30, 1958, Ser. No. 712,280
3 Claims. (Cl. 149—1)

1. A liquid ozone composition consisting essentially of liquid ozone having incorporated therein 2,2,3-trichloroheptafluorobutane in an amount effective to stabilize the liquid ozone with respect to initiation of an explosion under rapid evaporation conditions.

3,260,631

POLYURETHANE PROPELLANTS CONTAINING INORGANIC OXIDIZERS WITH ORGANO-SILICON COATING

Samuel Witz, West Covina, and Eli Mishuck, Arcadia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

No Drawing. Filed Dec. 17, 1962, Ser. No. 246,871
20 Claims. (Cl. 149—7)

1. A solid propellant composition which comprises a cured intimate mixture of a nonmetallic oxidizing salt having a surface coating adherent thereto, said surface coating having been obtained by treatment of said oxidizing salt with an organo-silicon material selected from the group consisting of compounds having the general formula



and mixtures thereof, wherein R is a radical selected from the group consisting of alkyl, aryl, and alkenyl radicals; X is a radical selected from the group consisting of halogen and alkoxy radicals; X′ is a radical selected from the group consisting of halogen and alkoxy radicals; and Z is a radical selected from the group consisting of alkyl, aryl, alkenyl, halogen, and alkoxy radicals; and a resin binder.

3,260,632

AMMONIUM NITRATE EXPLOSIVE COMPOSITION CONTAINING VERMICULAR LOW DENSITY EXPANDED GRAPHITE

Franciszek Olstowski, Freeport, Oliver Osborn, Lake Jackson, Frank D. Patrick, Freeport, and James R. Minderhout, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 18, 1964, Ser. No. 376,241
7 Claims. (Cl. 149—43)

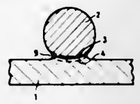
3. An explosive composition which comprises ammonium nitrate, vermicular expanded graphite and a particulate light metal, said expanded graphite ranging from about 0.1 to about 3 weight percent of the weight of said ammonium nitrate, said expanded graphite having an apparent bulk density of from about 0.01 to about 10 pounds per cubic foot and said particulate light metal being present at a maximum so as to provide a substantially fuel-oxidizer balanced explosive composition.

3,260,633

METHOD OF REDUCING SEMICONDUCTOR JUNCTION AREAS

Hartmut Seiter, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed Dec. 19, 1962, Ser. No. 245,895
Claims priority, application Germany, Dec. 21, 1961, S 77,220
4 Claims. (Cl. 156—17)



1. In the production of semiconductor members having a crystalline semiconductor body of gallium arsenide with an alloy-bonded electrode pellet of tin, the method of reducing the junction area between different conductance regions in the body near the pellet, which comprises subjecting the semiconductor member to an etching agent consisting of aqua regia and a preponderant share of phosphoric acid reactive with the tin pellet to form a substantially insoluble coating on the pellet, said etching agent being a solvent relative to the gallium arsenide semiconductor material, so that said semiconductor body is etched away near the pellet to thereby reduce the size of the junction area.

3,260,634

METHOD OF ETCHING A SEMICONDUCTOR WAFER TO PROVIDE TAPERED DICE

Oscar Melville Clark, Scottsdale, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Continuation of application Ser. No. 90,026, Feb. 17, 1961. This application Dec. 22, 1964, Ser. No. 423,633
1 Claim. (Cl. 156—17)



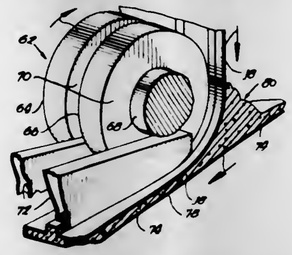
A method of manufacturing a plurality of dice from a semiconductor wafer, each of which dice has a rectifying junction therein and is adapted for assembly in a rectifier, said method including providing a metal coating on each of the two opposite faces of a semiconductor wafer, applying a masking composition on the metal coating on one face of the wafer which composition outlines thereon a pattern for the outer edge of each of the plurality of dice to define such dice, applying an acid resistant wax coating to and mounting a flat-faced graspable member on the metal coating on the other face of the wafer, immersing said graspable member and wafer as an assembly in an etching solution and etching away said metal coating and the wafer on said one face in the outline corresponding to the pattern of the masking composition on said one face and etch-tapering each defined dice in the wafer at the etched surface of each in a configuration wherein the angle of greatest taper for each dice is at the rectifying junction, which said junction is nearer said other face than it is to said one face of the wafer and is tapered less than an angle of 50°, and etch-cutting entirely through said wafer coincident with said etching-away to provide the plurality of dice according to said pattern of the masking composition, and separating said etched-cut dice from the graspable member for subsequent assembly of each dice in a rectifier.

3,260,635

PRODUCTION OF RIBBED BUILDING BOARD

John Page, Glenview, and Rupert J. Straub, Lisle, Ill., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 22, 1963, Ser. No. 303,794
10 Claims. (Cl. 156—40)



1. In a process of producing gypsum building board wherein a paper sheet is conveyed on a flat belt, calcined gypsum slurry is deposited thereon and a cover sheet is added simultaneously that the passage of the assembly through a vertically-constricted passage, whereby a head of slurry is maintained just ahead of said passage, the improvement which comprises

(a) constituting the upper transverse limit of said passage a contoured member;

(b) subjecting exterior portions of said cover sheet as it passes longitudinally through said passage to subatmospheric pressure to induce contours therein corresponding substantially to that of said member;

(c) introducing slurry between said sheets in sufficient volume to fill between-sheet spaces including the contours; and

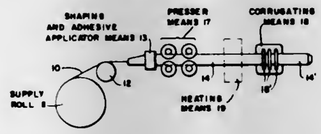
(d) maintaining the assembly so formed with cover sheet upward-facing at least until said slurry has become substantially self-supporting.

3,260,636

METHOD OF FORMING A LONGITUDINALLY SLOTTED AND CORRUGATED TUBE

Herbert Witzenmann, Pforzheim, Baden, Germany, assignor to Metallschlauch-Fabrik Pforzheim vorm. Hch. Witzenmann G.m.b.H., Pforzheim, Germany

Filed Mar. 8, 1965, Ser. No. 438,003
Claims priority, application Germany, June 10, 1959, M 41,780
12 Claims. (Cl. 156—203)



1. A method of producing corrugated tubes, comprising the steps of: shaping a flat strip of material to form a tube with a longitudinal slot and coating at least one of the two overlapping parallel edges of the tube with an adhesive which is suitable for the particular material of the tube, said adhesive being one which hardens in two stages, the first stage being one wherein the adhesive is only partially hardened and is still yieldable to shearing stresses to which the adhesive, while in its first stage, will be subjected during a subsequent operation in which the tube is corrugated, and the second stage being one in which the adhesive is fully hardened and no longer able to yield to such shearing stresses; pressing the overlapping edges of the slotted tube together to form a seam; and corrugating the tube while said adhesive is still in said first stage thereof, whereby said adhesive will not attain its second stage until the need for allowing for a shearing stress has passed said flat strip of material being flexible, strong and thick enough to withstand the shaping and corrugating operations.

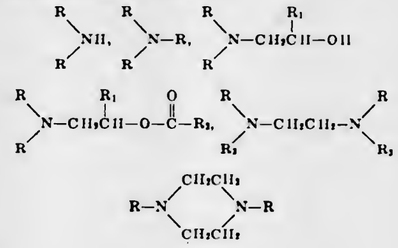
3,260,637

METHOD OF BONDING USING AMINE SOLUTIONS AS CATALYSTS WITH α-CYANOACRYLATE ADHESIVES

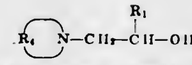
Paul T. von Bramer, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 19, 1960, Ser. No. 63,459
8 Claims. (Cl. 156—314)

1. In the method of bonding the surfaces of articles together by the use of an α-cyanoacrylate adhesive composition, the improvement which comprises moistening at least one of the surfaces to be bonded with an amine solution consisting of from 1–30 parts by weight of a compound selected from the group consisting of poly N-vinylpyridine, poly(ethyleneimine) and an amine defined by the following general formulas:



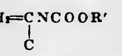
and



wherein each R represents a member selected from the group consisting of an alkyl radical containing from 1–8 carbon atoms, a phenyl radical, a tolyl radical and a xylyl radical, a benzyl radical, a phenylethyl radical, a cyclopentyl radical and a cyclohexyl radical, each R_1 represents a member selected from the group consisting of a hydrogen atom, an alkyl radical containing from 1–4 carbon atoms, a phenyl radical, a tolyl radical, a xylyl radical, a benzyl radical, a phenylethyl radical, a cyclopentyl radical and a cyclohexyl radical, R_2 represents a member selected from the group consisting of an alkyl radical containing from 1–8 carbon atoms and an alkenyl radical containing from 1–8 carbon atoms, each R_3 represents a member selected from the group consisting of a hydrogen atom and an alkyl radical containing from 1–8 carbon atoms and R_4 represents the radical

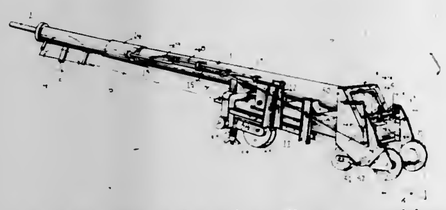
$$—CH_2CH_2—O—CH_2CH_2—$$

and from 99–70 parts by weight of a solvent having a boiling point below 100° C. selected from the group consisting of a saturated monohydroxy aliphatic alcohol containing from 1–3 carbon atoms, an ester of said alcohol with a saturated monobasic fatty acid containing from 1–3 carbon atoms, acetone, methyl ethyl ketone, methylene chloride, chloroform, methyl chloroform, hexane and benzene, and thereafter applying to the surface of at least one of the surfaces to be bonded a film of adhesive composition comprising α-cyanoacrylate monomer of the general formula:



wherein R′ represents a member selected from the group consisting of an alkyl radical containing from 1–16 carbon atoms, a cyclohexyl radical and a phenyl radical.

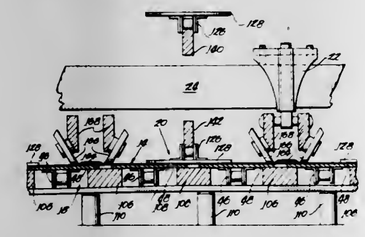
3,260,638
TAPER AND MASTIC APPLICATOR
Julian Cleon Hoveland, Edmonton, Alberta, Canada, assignor to Merrill D. Muttart, Edmonton, Alberta, Canada
Filed May 29, 1962, Ser. No. 198,610
2 Claims. (Cl. 156—575)



1. A dry wall taper and mastic applicator comprising an elongated mastic-receiving barrel, a mastic-ejecting piston slidably mounted in said barrel, a housing mounted on one end of said barrel and having rear and forward walls, top and bottom walls, and side walls forming a mastic-receiving chamber communicating with the interior of said barrel, a pair of spaced parallel tape guide plates extending through said rear and forward walls and said chamber, said plates being spaced from said top and bottom walls and defining a lower portion of said chamber between said plates and said bottom wall and an upper portion of said chamber between said plates and said top wall, said plates having edges spaced from said side walls and defining mastic flow passages communicating with said chamber portions, one of said plates having tape-exposing openings therein adjacent said forward wall and communicating directly with said lower portion of said chamber, the other of said plates having tape-exposing openings therein adjacent said forward wall and communicating directly with said upper portion of said chamber.

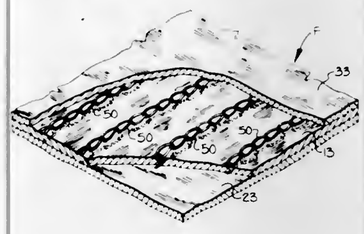
2. A dry wall taper and mastic applicator as defined in claim 1, said upper chamber portion being in direct communication with the interior of said barrel, valve means in said housing actuatable to open and close said mastic flow passages and said plate openings, and means externally of said housing for actuating said valve means.

3,260,639
CONTINUOUS FOLDING OF PAPER OR THE LIKE
Clifford E. Ives, Wilmette, and Rupert J. Straub, Lisle, Ill., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 15, 1963, Ser. No. 316,216
6 Claims. (Cl. 156—594)



1. Continuous apparatus for forming longitudinal contours in an elongated web of material comprising:
(a) means for supporting a source of a longitudinally-continuous web;
(b) opposed first and second non-interdigitating assemblies disposed to receive said web therebetween,
(1) said first assembly comprising a plurality of individual, longitudinal, convergently-movable sections with web-engaging surfaces, said sections being spaced from one another adjacent the web-entry extremity and convergent towards the web-exit extremity;
(2) said second assembly comprising a plurality of individual, longitudinal, similarly-convergently movable sections having slip-resistant, web-gripping surfaces which bear against and frictionally grip web portions disposed against the web-engaging surfaces of said first assembly so that no substantial relative movement between the web portions and said web-gripping surfaces occurs;
the individual sections of at least one of said assemblies being sufficiently spaced from one another to permit accumulation of web portions therebetween as the opposed sections of both assemblies convergently move, the disposition of respective opposed sections being non-interdigitating;
(c) fixed means disposed between said sufficiently spaced sections for contouring accumulated web portions into desired configurations;
(d) means for driving said first and second assemblies substantially smoothly and in unison whereby the contoured web exits therefrom in a constant stream; and
(e) means for maintaining longitudinal tension in the exiting contoured web.

3,260,640
STITCHED AND NEEDLED NON-WOVEN FABRIC
Charles D. Owen, Biltmore, N.C., assignor to Beacon Manufacturing Company, a corporation of Delaware
Filed Mar. 4, 1965, Ser. No. 437,195
4 Claims. (Cl. 161—50)

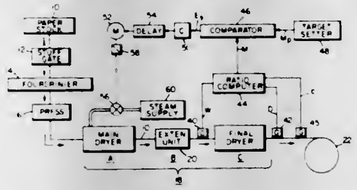


1. A non-woven fabric adaptable for use in the formation of blankets and the like and being characterized by having substantial stability and strength in both the lengthwise and widthwise directions, said non-woven fabric comprising:
(a) a carrier comprising
(1) a self-sustaining batt of woven fibers extending generally in the widthwise direction of said batt and said fabric to provide strength and stability to said layer and said fabric in the widthwise direction, and
(2) elongated spaced apart rows of stitch loops penetrating said batt of non-woven fibers and extending in generally the lengthwise direction of said batt and said fabric for providing strength and stability to said batt and said fabric in the lengthwise direction and for interlocking said fibers; and
(b) upper and lower facing layers of non-woven fibers positioned on opposite sides of said carrier, the fibers of said upper and lower facing layers being needled to unite the fibers thereof with each other and to unite said upper and lower facing layers with said carrier and to provide strength and stability to said fabric.

3,260,641
VULCANIZATION BONDING OF ETHYLENE ALPHA-OLEFIN COPOLYMER WITH A CHLOROSULFONATED COPOLYMER INNER LAYER
Luigi Falcone, Milan, Italy, assignor to Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy
No Drawing. Filed May 26, 1961, Ser. No. 112,784
8 Claims. (Cl. 161—242)

5. A product comprising at least one layer of vulcanized copolymer of ethylene and higher alpha-olefin having the formula $RCH_2—CH=CH_2$, where R is selected from the group of hydrogen and methyl, at least one layer of vulcanized natural rubber, said layers having been bonded together and covulcanized with an adhesive consisting essentially of a chlorosulfonated copolymer of ethylene and a higher alpha-olefin having the formula $RCH_2—CH=CH_2$, where R is selected from the group consisting of hydrogen and methyl, an organic peroxide, a sulfur curing agent, uncured natural rubber, and a reinforcing filler.

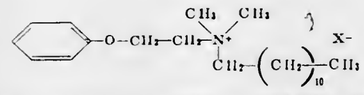
3,260,642
MOISTURE COMPUTER AND CONTROL SYSTEM FOR PROCESSING MATERIALS HAVING HIGH, INDETERMINATE MOISTURE CONTENTS
Walter H. Canter, Jr., Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Continuation of application Ser. No. 38,862, June 27, 1960. This application Dec. 12, 1962, Ser. No. 245,352
11 Claims. (Cl. 162—252)



8. In an apparatus wherein a traveling material is subjected to a moisture removal operation in passing from a first station where the moisture content of the passing material is high and indeterminate to a second station where the moisture content is relatively low and has a determinate value, gauging means located at each of said stations, each of said gauging means providing a signal indicative of the mass of a local segment of said material passing the respective station, means for generating a signal indicative of said determinate value of moisture content at said second station, and computer means for mathematically combining said moisture content-indicative signal and both of said mass-indicative signals to provide an output signal representing the moisture content of said material passing said first station.

3,260,643
COMBATING PLANT DISEASES WITH PHENOXY-ETHYL - DIMETHYL - DODECYL - AMMONIUM HALIDES
Trevor Watkyn Jones, Horfield, Bristol, England, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed Apr. 9, 1963, Ser. No. 271,564
Claims priority, application Great Britain, Apr. 18, 1962, 15,122/62
4 Claims. (Cl. 167—30)

4. A method for combating phytopathogenic fungi on plants which comprises applying to the plants to be treated a fungicidal amount of the compound of the formula



wherein X^- represents a member selected from the group consisting of the chlorine ion and the bromine ion.

3,260,644
POLYMETHYL-1,4-BENZOQUINONE MONOXIMES AS FUNGICIDES
Bogislav von Schmeling, Hamden, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Dec. 30, 1963, Ser. No. 334,651
20 Claims. (Cl. 167—30)

1. The method of controlling fungi with comprises bringing fungi into contact with polymethyl-1,4-benzoquinone monoxime.

3,260,645
RODENTICIDE COMPRISING 3 - [1' - (p - CHLOROPHENYL) - PROPYL] - 4 - HYDROXYCOUMARIN AND β-DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE
Ralph Banziger, Spotswood, and Harold Leon Newmark, Maplewood, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 11, 1963, Ser. No. 264,078
5 Claims. (Cl. 167—46)

3. A method of alleviating a rodent problem caused by rodent infestation which comprises positioning, in an area where rodents assemble, a rodenticide composition consisting essentially of from about 0.005 percent to about 0.1 percent by weight of 3-[1'-(p-chlorophenyl)propyl]-4-hydroxycoumarin, from about 0.0007 to about 0.1 percent by weight of β-diethylaminoethyl diphenylpropylacetate and the remainder by weight being inert non-lethal ingredients.

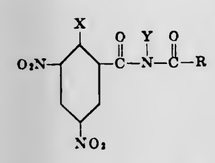
3,260,646
MEDICATION WITH MECHANISM TO PREVENT OVERDOSAGE
Frederik Paulsen, Malmo, Sweden, assignor, by mesne assignments, to Ferring AB, Malmo, Sweden, a corporation of Sweden
No Drawing. Filed Oct. 19, 1962, Ser. No. 231,848
25 Claims. (Cl. 167—52)

9. A therapeutic composition adapted to prevent drug overdosage and adapted for oral administration comprising in addition to therapeutic ingredients having addiction forming tendencies, tolazoline hydrochloride, the amount of said tolazoline hydrochloride per prescribed therapeutic dosage being approximately one-half the amount necessary to cause severe peripheral vasodilation as evidenced by substantial flushing.

3,260,647
PARASITICIDAL AND ANTHELMINTIC COMPOSITIONS AND METHODS
Guy H. Harris, Concord, and Bryant C. Fischback, Walnut Creek, Calif., and Patricia I. Traylor, Cambridge, Mass., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 2, 1962, Ser. No. 192,013
10 Claims. (Cl. 167—53)

1. A method useful for the prophylaxis and treatment of animals against gastro-intestinal parasites which com-

prises orally administering to animals susceptible to said parasites a compound having the formula



wherein X represents a member of the group consisting of hydrogen, methoxy, methyl and ethyl, Y represents a member of the group consisting of hydrogen, methyl and ethyl and R represents alkoxy containing from 1 to 12 carbon atoms, inclusive, said compound being employed daily in the amount of 10 to 2,000 milligrams per kilogram of body weight.

3,260,648

DIAGNOSTIC AID

Charles Fox, Fair Lawn, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Aug. 16, 1963, Ser. No. 302,702
8 Claims. (Cl. 167—84)

1. A method for the determination of the total cholesterol level in blood plasma comprising,

(A) reconstituting a lyophilized human blood plasma containing weighed-in total cholesterol in known and standardized amount in combination with a solubilizing agent of the following general formula:

$$RO(CH_2CH_2O)_nH$$

wherein R is selected from the group consisting of:

(a) a straight chain alkyl group of from about C_{12} to about C_{18},

(b) a branched chain alkyl group of from about C_{12} to about C_{18},

(c) a lower alkyl phenoxy group, and

(d) an acyl group of from 12 to 22 carbon atoms;

and *n* is an integer from about 10 to about 20;

(B) adding the reconstituted human blood plasma to alcoholic potassium hydroxide to liberate the solubilized cholesterol from lipoprotein complexes contained therein;

(C) extracting the liberated cholesterol with a petroleum ether;

(D) measuring the cholesterol level in the petroleum ether by reading the optical density of the sample against a blank after adding Liebermann-Burchard reagent; and

(E) calculating the cholesterol level of an unknown sample by comparison of the optical density of the known cholesterol sample with the optical density of the unknown cholesterol sample.

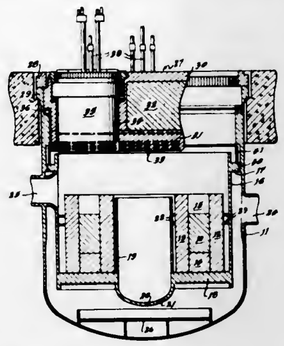
3,260,649

NUCLEAR REACTOR

Wayne H. Jens, Grosse Pointe, Mich., Milton C. Edlund and Howard S. Barringer, Lynchburg, Va., John K. Davidson and Charles E. Klotz, Silver Spring, Md., John B. Nims, Royal Oak, Mich., Richard S. Miller, Brookfield, Wis., and Ronald G. Palmer, Idaho Falls, Idaho, assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed May 28, 1964, Ser. No. 371,163
4 Claims. (Cl. 176—18)

1. A liquid-metal-cooled, fast breeder, nuclear power reactor having a core volume in excess of 800 liters comprising an annular core having longitudinal coolant channels therein, means for passing coolant upwardly through the coolant channels, a reflector composed of coolant material disposed above the annular core in communication with the coolant channels, an annular blanket



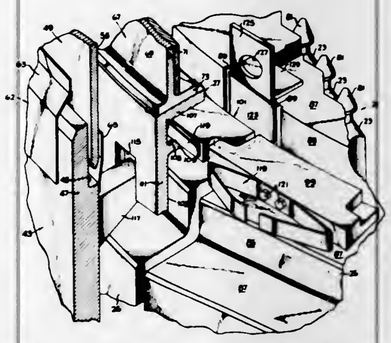
below the annular core, an annular blanket surrounding the annular core, and an annular blanket enclosed by the annular core.

3,260,650

REFLECTOR AND COOLANT SEALING STRUCTURE FOR GAS COOLED NUCLEAR REACTOR

Wilbert A. Kalk, Poway, and John F. Petersen, San Diego, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 27, 1963, Ser. No. 334,061
2 Claims. (Cl. 176—58)



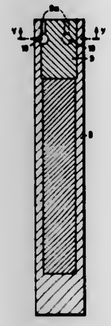
1. In a nuclear reactor having a core supported adjacent the lower end of a vessel and an inner wall extending generally above the core to form a plenum chamber thereabove, a reflector and coolant sealing structure comprising a series of elongated vertically disposed blocks formed of a neutron-reflecting material arranged in side-by-side spaced-apart relation around the periphery of the core and each of said blocks being pivotably supported at its lower end for movement in a direction toward and away from said core, said blocks having a longitudinally extending groove and an upper and a lower transversely extending groove in each of opposing side walls, whereby said adjacent blocks cooperate to define longitudinally extending slots and transversely extending channels, a first sealing element disposed in each of said longitudinally extending slots thereby limiting flow of coolant gas radially by said blocks, a second sealing element disposed within each of said upper and lower transversely extending channels thereby limiting vertical flow of coolant intermediate said blocks, a segmented expandable ring supported by said inner wall, and spring means for biasing said ring into engagement with the upper end of said blocks.

3,260,651

GAS AND LIQUID TIGHT JOINT OF GRAPHITE BODIES

Ludwig Gress, Augsburg, and Friedrich Selka, Meitingen uber Augsburg, Germany, assignors to Siemens-Planiawerke Aktiengesellschaft fur Kohlefabrikate, Meitingen uber Augsburg, Germany, a corporation of Germany

Filed Mar. 27, 1962, Ser. No. 182,913
Claims priority, application Germany, Mar. 29, 1961, S 73,220
10 Claims. (Cl. 176—79)



1. A nuclear reactor element including a nuclear fuel mass and a gas and liquid-tight joint of carbon bodies comprising a carbon body housing said nuclear fuel mass and having a cylindrical opening, and another carbon body having a cylindrical surface in force-fit engagement with said cylindrical opening.

3,260,652

TUBULAR HEAT EXCHANGE ELEMENT

Heinrich Hugo Ludolf Ritz and Edward Rae Elliott, Newcastle-upon-Tyne, England, assignors to C. A. Parsons & Company Limited, Newcastle-upon-Tyne, England

Filed Oct. 25, 1956, Ser. No. 618,258
Claims priority, application Great Britain, Oct. 25, 1955, 30,488/55; Apr. 11, 1956, 11,077/56
5 Claims. (Cl. 176—81)



5. A fuel element for a nuclear reactor, said element being adapted for insertion in a bore in a core of the reactor through which bore a cooling fluid is circulated, which element comprises a tubular container for housing nuclear fuel, said container having helical fins formed on its outer surface, said fins forming flow channels which are interrupted by longitudinally extending strips spaced over the periphery of the tube, which strips deflect the fluid out of the flow channels and into contact with the surface of the bore, which surface re-directs it into further channels disposed beyond the first mentioned channels in the main direction of fluid flow through the bore.

3,260,653

PROCESS FOR THE PRODUCTION OF 6-AMINOPENICILLANIC ACID

Wilfried Kaufmann and Klaus Bauer, Wuppertal-Elberfeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 14, 1960, Ser. No. 22,086
Claims priority, application Germany, Apr. 18, 1959, F 28,260
5 Claims. (Cl. 195—36)

1. A process for the production of 6-aminopenicillanic acid which comprises contacting penicillin G within an aqueous medium at a temperature within the range of 0 to 50° C., at a pH value within 5–9, for at least 15 minutes with a member of the group consisting of bacteria, bacterial extracts, enzymes and enriched enzyme extracts obtained from said bacterial extracts and recovering said 6-aminopenicillanic acid from said aqueous medium, each of said members possessing penicillin G splitting activity characterized as follows:

(a) each member being capable of inactivating the content of penicillin G containing solutions by at least 20 percent within 24 hours; and

(b) the content of the thus inactivated penicillin G containing solutions being capable of at least partial reactivation by the addition thereto of phenylacetyl chloride;

said characteristics (a) and (b) being determined and tested in accordance with the following procedure:

A test preparation is prepared by combining approximately 10 cubic centimeters of a phosphate buffer (pH 7.0) containing 10,000 international units of penicillin G per cubic centimeter and an equal volume of a test bacterial suspension, prepared by inoculating 100 cubic centimeters of a suitable nutrient broth with a pure culture of the bacterium to be tested and cultivating the same on a shaking machine for about 18 hours at 28° C.–32° C.; subsequently separating the bacterium by centrifugation, washing in 40 cubic centimeters of a phosphate buffer solution at pH 7.0, and 0.2 percent toluene and storing said preparation for 5 hours at approximately 37° C., after which period of time the penicillin-splitting activity of the test bacterium is determined by microbiologically determining the residual penicillin G content and if, in fact, at least 20 percent of the penicillin G is found to have been inactivated the test material is stated to have characteristic (a);

The said solution containing a member which has been found to possess characteristic (a) is then contacted with 500 milligrams of phenylacetyl chloride with ice-cooling while simultaneously adding sodium bicarbonate thereto and microbiologically redetermining the penicillin G content thereof, and if, in fact, at least a partial reactivation of the original penicillin activity is found, the test material is stated to have characteristic (b).

3,260,654

METHOD FOR THE PREPARATION OF A PANCREAS EXTRACT HAVING A HIGH PROTEOLYTIC ACTIVITY

Nazzareno Toccacelli, Milan, Italy, assignor to Ormonoterapia Richter S.p.A., Milan, Italy

No Drawing. Filed Mar. 18, 1964, Ser. No. 352,934
Claims priority, application Italy, Mar. 22, 1963, 5,975/63
18 Claims. (Cl. 195—66)

1. A process for the preparation of an extract having high proteolytic activity from a mammal pancreas, comprising:

(a) activating said pancreas through autolysis at a pH from about 5.5 to about 6.5 and a temperature from about 0° C. to about +10° C. in the presence

of a preservative selected from the group consisting of thymol, toluene, chloroform, sodium bisulfite, benzyl alcohol phenol, and mixtures thereof;

(b) extracting proteolytic enzymes with water at a pH from about 3.5 to about 4.5, from the product formed in (a);

(c) removing fibrous matter from the product formed in (b);

(d) precipitating enzymes present in the substantially fibrous-free product obtained in (c); and

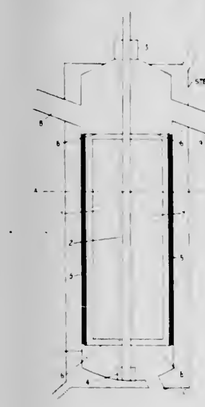
(e) vacuum drying the precipitate obtained in (d) at a temperature of less than about +30° C.

3,260,655

FILM DISTILLATION WITH A HELICAL SPRING

Leonard Leo McGee and Roger Keith Parker, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed May 24, 1962, Ser. No. 197,424
Claims priority, application Great Britain, May 25, 1961, 18,919/61
7 Claims. (Cl. 203—89)



7. A process for volatilizing and separating a liquid from a mixture comprising: directing the mixture onto the upper region of a cylindrical surface supported at an angle to the horizontal, heating said surface, continuously traversing said surface with a helical spring having a longitudinal axis substantially parallel to the longitudinal axis of said surface thereby spreading a thin film of said mixture over said surface, agitating said film and advancing the residue of the mixture downwardly along said surface; collecting liquid volatilized from said spring and said surface near the upper region of the surface and collecting the residue of said mixture near the lower region of said surface.

3,260,656

METHOD AND APPARATUS FOR ELECTROLYTICALLY DETERMINING A SPECIES IN A FLUID

James W. Ross, Jr., Newton, Mass., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Sept. 27, 1962, Ser. No. 226,533
19 Claims. (Cl. 204—1)

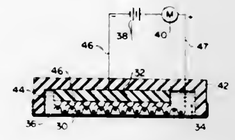
18. Method of measuring the concentration of an electrochemically active gas in a fluid comprising the steps of:

providing a body of electrolytic medium from which said gas can be electrolytically generated;

diffusing said gas between said fluid and said medium through barrier means selectively permeable to said gas, and impermeable to both said medium and fluid;

impressing a first potential on a first electrochemically inert metal electrode immersed in said medium and a second potential on a second electrochemically inert metal electrode immersed in said medium so as to cause a flow of current at said electrodes;

positioning said electrodes in spaced relation to one another and to said barrier means, and maintaining said potentials at magnitude and values at which said



current flow causes at said electrodes a redox reaction in said body so that there is electrolytic generation of said gas at one electrode tending to an equality with an electrolytic consumption of said gas at the other electrode according to a tendency of said gas to establish an equilibrium of the partial pressures of said gas on opposite sides of said barrier means and the net diffusion of said gas through said barrier means is minimized, and,

measuring the magnitude of said current flow.

3,260,657

METHOD OF MAKING ELECTROTYPE PLATE USING REMOVABLE POLYVINYL ALCOHOL FILM

Edward F. Hogan, Andover, Mass., assignor to Chemical Products Corporation, East Providence, R.I., a corporation of Rhode Island

No Drawing. Filed June 2, 1959, Ser. No. 817,459
10 Claims. (Cl. 204—6)

5. In the method of making an electrotype plate which comprises molding against a metal type face a backing sheet comprising a thermoplastic vinyl resin composition, the steps which comprise interposing between the metal type face and the backing sheet prior to the molding operation a thin self-sustaining water soluble film of polyvinyl alcohol, and stripping said film from the backing sheet after the molding operation.

8. In the method of making an electrotype plate which comprises molding against a metal type face a backing sheet comprising a thermoplastic vinyl resin composition, the steps which comprise interposing between the metal type face and the backing sheet prior to the molding operation a thin self-sustaining water soluble film of polyvinyl alcohol, stripping said film from the backing sheet after the molding operation, electrodepositing metal on the molded face of the backing sheet to provide a self-sustaining metal shell, and stripping said metal from said backing sheet.

3,260,658

PROCESS FOR THE RECOVERY OF RHENIUM

Philip E. Churchward, Salt Lake City, Utah, assignor to the United States of America as represented by the Secretary of the Interior

No Drawing. Filed Oct. 31, 1962, Ser. No. 234,566
16 Claims. (Cl. 204—109)

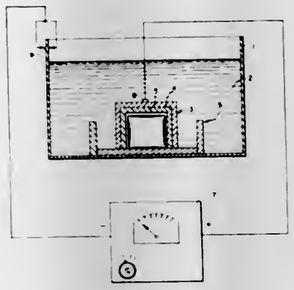
1. A method for electrowinning rhenium from a rhenium-containing perchloric acid solution comprising adding to said solution an inorganic sulfate from the group consisting of ammonium sulfate and an alkali metal sulfate and electrolyzing the resulting solution to deposit metallic rhenium on the cathode employed in the electrolysis.

3,260,659

STRIPPING OF CHROMIUM FROM BERYLLIUM

Robert Willing, Anaheim, and Anthony S. Squillace, Cypress, Calif., assignors to North American Aviation, Inc.

Filed June 12, 1963, Ser. No. 287,325
1 Claim. (Cl. 204—146)



A process for stripping chromium from material comprised of chromium plate on beryllium comprising the steps of:

immersing said material in a sulfuric acid solution having a concentration of from 96% to 100%,

maintaining said solution within a temperature range of from 60° F. to 110° F.,

making a connection to said material so as to make it a positive electrode in said solution and passing an electrical current from said positive electrode to a negative electrode in electrical contact with said solution, the potential for passing said electrical current from said positive electrode to the negative electrode is maintained within a range of from 7 to 11 volts.

3,260,660

ELECTROLYTIC STRIPPING OF PLATINGS FROM ALUMINUM AND ZINC ARTICLES

William G. Brooks, Edison, N.J., assignor to A. R. Winarick, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Jan. 13, 1964, Ser. No. 337,131
5 Claims. (Cl. 204—146)

1. The process of electrolytically stripping off metal platings of the group consisting of chromium, copper, nickel and mixtures thereof from articles made of alloys of the group consisting of aluminum and zinc, which process comprises preparing an aqueous bath consisting essentially of between about 25 and about 35 parts by volume of phosphoric acid having a specific gravity of between about 1.579 and about 1.689, between about 5 and about 15 parts by volume of sulphuric acid having a specific gravity of between about 1.543 and about 1.706, and sufficient water to adjust the concentration of the bath to a specific gravity of about 1.550; placing the articles in the bath; connecting the positive terminal of a D.C. source to the articles to make the articles anodes in the bath; placing a cathode in contact with the bath; connecting the negative terminal of the D.C. source to the cathode; and subjecting the articles to an electrolytic stripping for a duration of time and at a current density to remove all of the metal platings therefrom and to cause said articles to be provided with a smooth surface free from etch marks.

3,260,661

SACRIFICIAL METAL PIPE COVERINGS

Woodrow E. Kemp, Pittsburgh, Pa., and Robert C. Kenan, Long Grove, Ill., assignors to Koppers Company, Inc., a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,662
4 Claims. (Cl. 204—148)



1. The method to cathodically protect a metallic structure comprising the steps of:

(a) providing a laminate structure comprised of

(1) a sacrificial anodic metallic foil lamina selected from the group consisting of zinc, magnesium, and zinc-magnesium alloys;

(2) pressure sensitive adhesive laminae applied to opposed surfaces of said foil lamina, one of said adhesive lamina adhering the anodic foil lamina to and maintaining said foil in spaced apart relation to the surface of said metallic structure, said adhesive being comprised of

(a) coal tar pitch in quantity amounting to between 40 and 60 percent by weight of the adhesive composition and having a Brookfield viscosity at 200° F. in the range of 100 to 400;

(b) a copolymer of acrylonitrile and butadiene in quantity amounting to between 0.5 and 3.0 percent by weight of the adhesive composition and having a Mooney viscosity in the range of 25 to 175;

(c) polyisobutylene in quantity amounting to between 30 and 50 percent by weight of the adhesive composition and having a molecular weight in the range of 7,000 to 15,000; and

(d) fibrous, hydrous magnesium silicate in quantity amounting to between zero and 20 percent by weight of the adhesive composition and having a specific gravity of about 2.5, an oil absorption in the range of 34 to 44 pounds of oil per one hundred pounds of pigment, and a particle size such that between 50 and 60 percent passes through a United States standard No. 140 screen;

(3) an outermost flexible environmental protective dielectric lamina applied to and adhering to the other adhesive lamina on said anodic foil lamina;

(b) applying said laminate structure to the metallic structure so that the pressure sensitive adhesive lamina adheres to the surface of the metallic structure; and

(c) electrically connecting said anodic lamina to said metallic structure.

3,260,662

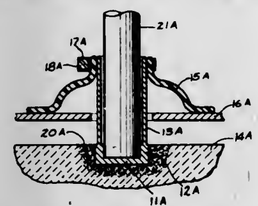
ANODE ASSEMBLY FOR MERCURY CATHODE CELLS

Glen P. Henegar, Saltville, Va., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Feb. 13, 1962, Ser. No. 173,070
6 Claims. (Cl. 204—279)

1. An anode assembly for mercury cells comprising a graphite anode having a cylindrical recess in its upper surface, a cupreous metal lead-in and a tubular sleeve surrounding the lead-in, said tubular sleeve having a thin walled portion and, near one end, a thick walled portion of smaller internal diameter than the thin walled

portion, said sleeve open at the end having the thin walled portion and closed by a flat bottom at the end having the thick walled portion, said lead-in fitted internally into the thick walled portion with clearance between said lead-in and the thin walled portion of the sleeve, said thick

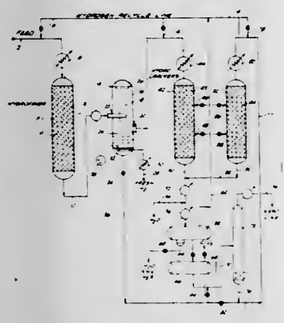


walled portion fitted internally into the recess in said anode, said tubular sleeve composed of a metal selected from the group consisting of titanium, tantalum and alloys in which said metals are the principal constituents and which exhibit corrosion resistant properties comparable to titanium and tantalum.

3,260,663
MULTI-STAGE HYDROCRACKING PROCESS

Texas V. Inwood, La Habra, Paul F. Helfrey, Whittier, and Raoul P. Vaeli, Los Angeles, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed July 15, 1963, Ser. No. 295,029
21 Claims. (Cl. 208—59)



1. A process for hydrocracking a mineral oil feedstock boiling over a substantial temperature range and containing a non-hydrocarbon impurity selected from the class consisting of organic nitrogen compounds and organic sulfur compounds, which comprises:

(1) subjecting said feedstock plus added hydrogen to catalytic hydrofining under conditions of pressure, temperature and fluid distribution such that a substantial liquid phase is present in at least a portion of the hydrofining zone, and a substantial vapor phase is present in at least a portion of the hydrofining zone;

(2) stripping said liquid phase with hydrogen after substantial hydrofining has taken place and at substantially hydrofining pressure to produce a stripped liquid-phase hydrofiner effluent relatively lean in said impurities and a vapor-phase stripping effluent containing relatively light hydrocarbons and relatively rich in volatile decomposition products of said impurity;

(3) subjecting vapor-phase hydrofiner effluent from step (1), without intervening purification or depressuring to below the desired hydrocracking pressure, to catalytic hydrocracking in a first hydrocracking zone in the absence of said stripped liquid phase at a relatively high temperature;

(4) subjecting said stripped liquid-phase hydrofiner effluent, without further purification, to catalytic hydrocracking in a second hydrocracking zone at a relatively low temperature; and

(5) recovering desired low-boiling hydrocarbons from each of said hydrocracking zones.

3,260,664
FLUID BED PROCESS FOR COKING HYDROCARBONS

William Joseph Metrailer, Baton Rouge, and Wayne Hoover, East Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

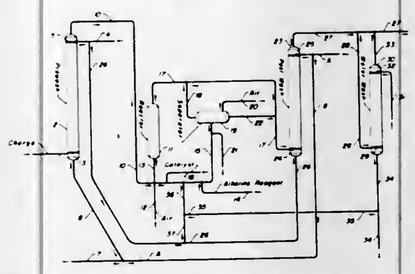
No Drawing. Filed Dec. 13, 1963, Ser. No. 330,236
10 Claims. (Cl. 208—127)

8. A high temperature fluid coking process comprising injecting a hydrocarbon feed into a fluidized bed of coke particles in a reactor maintained at a temperature of 1950–2300° F. by circulating part of the product coke to a vessel wherein the coke is heated to a temperature 200 to 400° F. above the temperature in said reactor and returning the thus heated coke to the coking reactor to provide the endothermic heat added to carry out the coking reaction as sensible heat of the circulated coke, whereby the injected hydrocarbon feed is cracked essentially to hydrogen and coke, said feed being introduced at a sufficient rate to maintain the average superficial linear gas velocity of the evolved gases at about 0.2–0.5 ft./sec. and at a rate to control the production of soot-like material to less than about 5%, the thus produced coke depositing in layers on the coke particles gradually increasing them in size, recovering the high temperature fluid coke, grinding part of the coke to make seed coke and recycling the seed coke to the reactor.

3,260,665
OXIDATION OF DIFFICULTLY OXIDIZABLE MERCAPTANS

Peter Urban, Northbrook, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 23, 1964, Ser. No. 405,927
5 Claims. (Cl. 208—206)



1. A combination process for oxidizing in contact with phthalocyanine catalyst a hydrocarbon fraction containing difficultly oxidizable mercaptans and toxins for said catalyst, which comprises prewashing said hydrocarbon fraction with an aqueous solution containing from about 5% to about 50% by weight of an alkali metal hydroxide and from about 5% to about 40% by weight of alcohol to remove at least a portion of said toxins from said fraction, said difficultly oxidizable mercaptans contained in said fraction being substantially insoluble in said solution, separating the resultant solution containing toxins from the hydrocarbon fraction reduced in toxins and containing a portion of said alcohol, subjecting the separated alcohol-containing hydrocarbon fraction of reduced toxin content to oxidation in contact with said catalyst, and postwashing the resultant oxidized fraction with at least a portion of said solution containing toxins to recover at least a portion of the alcohol content of said oxidized fraction and to regenerate said solution.

3,260,666
DENITROGENATION OF PETROLEUM WITH POTASSIUM HYDROXIDE OF LOW WATER CONTENT

Richard A. Flinn, Emmaus, and Olaf A. Larson, Oakmont, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,876
2 Claims. (Cl. 208—254)

1. A process for removing nitrogen compounds from a petroleum fraction which comprises contacting said fraction with potassium hydroxide containing less than 10% water and separating the potassium hydroxide and nitrogen reaction products.

3,260,667
SEPARATION PROCESSES USING MOLECULAR SIEVES

Alan Arthur Yeo and Roger Templeton Lewis Mowll, Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

Filed June 13, 1963, Ser. No. 287,718
Claims priority, application Great Britain, June 14, 1962, 22,894/62
2 Claims. (Cl. 208—310)

1. A process for separating with a high recovery yield of straight-chain hydrocarbons from petroleum fractions boiling in the C_{10}–C_{20} range and containing molecular sieve deactivating hydrocarbons comprising fractionating at a temperature within the range 220–300° C. the feedstock to obtain a lower-boiling fraction substantially free of deactivating hydrocarbons and at least one higher-boiling fraction containing deactivating hydrocarbons and treating each fraction successively, in ascending order of boiling range, with a 5 A. molecular sieve to extract straight-chain hydrocarbons.

3,260,668
ALKALINE SCALE CONTROL IN SALINE WATER CONVERSION EQUIPMENT

William F. McIlhenny, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Nov. 4, 1964, Ser. No. 408,764
2 Claims. (Cl. 210—24)

1. In a method for converting an alkaline saline water containing (a) the cations of one or more alkaline earth metals and (b) the alkaline anions of at least two members of the carbonate, bicarbonate and hydroxide group (c) which saline water has a total dissolved solids content of at least 2500 p.p.m., which method comprises heating said saline water to distill water vapor therefrom and condensing the distilled water vapor as product, the improvement whereby the deposition of alkaline earth metal scales therefrom onto heat transfer surfaces is prevented, comprising (1) adding to said saline water a carboxylic acid cation exchange resin in amount at least sufficient to react with all of said carbonate, bicarbonate and hydroxide anions present in said saline water and whereby said resin also reacts with only such a proportion of alkaline earth cations present as are stoichiometrically equivalent to said anions, and (2) heating said saline water in the presence of said resin (a) to remove carbon dioxide formed by reaction between said carbonate and bicarbonate anions and said resin and (b) to distil water vapor therefrom and condensing and recovering water as product.

3,260,669
CORROSION INHIBITING COMPOSITION FOR USE IN OIL WELL FLUIDS

William Schoen, Houston, Tex., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 14, 1963, Ser. No. 287,792
3 Claims. (Cl. 252—8.55)

1. A corrosion inhibiting composition for use in oil well fluids consisting essentially of dimerized linoleic acid and 2-methylpiperazine, the weight ratio of said acid to said methylpiperazine being between about 3.5:1.

3,260,670
ALKALINE METAL SULFONATES

Eugene E. Richardson, Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Nov. 29, 1962, Ser. No. 241,052
4 Claims. (Cl. 252—33)

1. A process for making an alkaline earth metal sulfonate having a controlled low alkaline earth metal content, and substantially free of suspended alkaline earth metal sulfates, obtained by neutralizing oil-soluble heavy alkylated sulfonic acids having free sulfuric acid entrained therewith, which process comprises:

(a) first selectively removing said entrained free sulfuric acid by contacting said oil-soluble sulfonic acids having free sulfuric acid entrained therewith with an alkaline earth base material in an amount sufficient to neutralize said free sulfuric acid without neutralizing substantial amounts of said sulfonic acids to precipitate insoluble alkaline earth sulfate to obtain a phase containing oil-soluble sulfonic acid and precipitated insoluble alkaline earth sulfate;

(b) contacting said oil-soluble sulfonic acid and precipitated insoluble alkaline earth sulfate phase with an alkaline earth base material in excess of that necessary to neutralize said sulfonic acids in the presence of an alkanol of from 1 to about 10 carbon atoms to form an alkaline earth sulfonate phase containing a mixture of said precipitated neutralized alkaline earth sulfate and an excess of said alkaline earth base material;

(c) heating said sulfonate phase containing said mixture in the presence of a carbonate of ammonia at a temperature sufficient to decompose said carbonate of ammonia to form a neutralized alkaline earth sulfonate having a low alkaline earth carbonate content, and

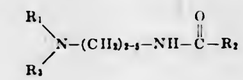
(d) filtering to recover said alkaline earth sulfonate having a low alkaline earth carbonate content.

3,260,671
AMIDE OXIDATION INHIBITOR FOR LUBRICANTS

Robert T. Trites and Phillip A. Froehlich, Cincinnati, Ohio, assignors to Emery Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

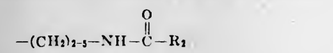
No Drawing. Filed Nov. 23, 1962, Ser. No. 239,812
9 Claims. (Cl. 252—51.5)

2. A stabilized lubricant composition comprising a major portion of a lubricating oil, together with from 0.2 to 5% of an amide of the type having the general formula



where R_1 is an alkyl radical of from 1 to 4 carbon atoms, R_2 is a saturated, branched chain, aliphatic hydrocarbon radical of from about 15 to 24 carbon atoms, and R_3 is a

radical selected from the group consisting of those represented by R_1 in the above formula and by the portion



of said formula.

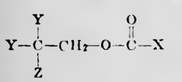
3,260,672

SYNTHETIC ESTER LUBRICATING OIL CONTAINING CERTAIN HALOALKYL CARBOXYLIC ACID ESTERS

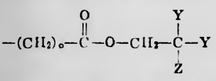
Alexander C. B. MacPhail, Francis H. Waight, and Derek Southern, Wirral, England, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 15, 1965, Ser. No. 448,255
Claims priority, application Great Britain, Apr. 27, 1964, 17,305/64
6 Claims. (Cl. 252—54.6)

1. A synthetic lubricating oil comprising a major amount of a synthetic ester lubricating oil and a minor amount sufficient to enhance the load-carrying capacity of the oil of a haloalkyl carboxylic acid ester having the formula



wherein X is selected from the group consisting of C_1 to C_{12} primary to tertiary alkyl radicals and



Y is mono- to trihalomethyl, Z is selected from the group consisting of methyl, ethyl, and mono- to trihalomethyl, halogen substituents are selected from chlorine and bromine, and *n* is an integer from 3 to 12.

3,260,673

CORROSION INHIBITED PHOSPHORIC ACID COMPOSITION

Arthur Orman Fisher, Richmond Heights, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Jan. 27, 1964, Ser. No. 340,525
11 Claims. (Cl. 252—136)

1. A corrosion-inhibited phosphoric acid composition consisting essentially of said phosphoric acid and at least about 0.0405 weight percent, based on the total weight of said phosphoric acid composition, of a mixture of (a) an inorganic salt selected from the group consisting of iodides and bromides that are soluble at about 25° C. in 85 weight percent orthophosphoric acid to the extent of at least about 0.0005 weight percent; (b) an aliphatic amine selected from the group consisting of primary and secondary amines having from 4 to 28 carbon atoms in their molecules, said amine being soluble at about 25° C. in 85 weight percent orthophosphoric acid to the extent of at least about 0.02 weight percent; and (c) a quaternary ammonium compound, said quaternary ammonium compound being soluble at about 25° C. in 85 weight percent orthophosphoric acid to the extent of at least about 0.02 weight percent, the weight ratio of said amine to said salt in said composition being greater than about 2:1, and the weight ratio of said quaternary ammonium compound to said salt in said composition being greater than about 2:1.

3,260,674

TABLETED COMPOSITION FOR OXYGEN RELEASE

Edward J. Ross, 36 Huntleigh Woods, St. Louis 31, Mo.

No Drawing. Filed Oct. 18, 1962, Ser. No. 231,577
3 Claims. (Cl. 252—186)

1. A self-supporting composition of matter in the form of a compacted tablet having the ability to evolve oxygen when placed in water and the ability to neutralize any free chlorine in the water, said composition consisting essentially of about 0.03% sodium sulfite, 20 to 40% monocalcium phosphate, 1 to 5% compacted powdered amorphous graphite, 3 to 7½% manganese dioxide, 10 to 45% barium peroxide and calcium sulfate in at least the stoichiometric equivalent of the barium peroxide, all said percentages being by weight, said compacted powdered amorphous graphite serving as a self-supporting matrix to hold the tablet together after the major portion of the other components have dissolved or reacted with water.

3,260,675

CALCIUM AND MAGNESIUM SILICATE PHOSPHORS WITH ACTIVATOR COMPRISING TERBIUM

William A. McAllister, Morristown, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed July 1, 1964, Ser. No. 379,776
10 Claims. (Cl. 252—301.4)

1. A silicate phosphor having the general formulation X_2SiO_4:Z, wherein X is at least one matrix constituent material of the group consisting of calcium and magnesium, and Z principally comprises activator material of the group consisting of terbium, terbium plus lithium and terbium plus lithium plus manganese.

ERRATUM

For Class 252—391 see:
Patent No. 3,260,538

3,260,676

CRACKING CATALYST DEMETALLIZATION

Robert L. Foster, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 3, 1963, Ser. No. 270,199
16 Claims. (Cl. 252—411)

1. A method for removing nickel from a synthetic gel, silica-based cracking catalyst which has been poisoned by contamination with nickel due to use of said catalyst in cracking at elevated temperature, to gasoline, a hydrocarbon feedstock higher boiling than gasoline and containing nickel, said cracking including a catalytic cracking zone and a catalyst regeneration zone between which the catalyst is cycled and in which cracking zone the catalyst becomes contaminated with nickel of said hydrocarbon feedstock and in which regeneration zone carbon is oxidized at an elevated temperature and thereby removed from the catalyst, consisting essentially of bleeding a portion of the nickel-contaminated catalyst from the cracking system, contacting bled catalyst with a sulfiding vapor at about 500° to 1500° F. to enhance subsequent nickel removal, contacting said sulfided catalyst in an aqueous medium with a solid cation exchange material to remove nickel from the catalyst, separating the catalyst from the cation exchange material and passing resulting demetallized catalyst to a hydrocarbon cracking system.

3,260,677

MANUFACTURE OF CATALYSTS

Harry Lister Riley, Worksop, and Richard Neville Bannister, Sheffield, England, assignors to United Coke and Chemical Company, Rotherham, England, a British company

No Drawing. Filed Sept. 19, 1963, Ser. No. 310,123
Claims priority, application Great Britain, Sept. 21, 1962, 36,019/62
12 Claims. (Cl. 252—426)

1. A method for the preparation of a catalyst comprising forming a mixture by combining solid particles of a catalytic material, solid particles of a carrier, and solid particles of a flexing agent, said fluxing agent having the property of enabling the catalytic material to pass into the liquid phase at a temperature above ambient, but below the melting or decomposition point of the catalytic material whichever is lower, said flexing agent being added in sufficient amounts to cause said passage into the liquid phase at said temperature, and heating said mixture to a temperature at which said liquid phase exists and is taken up by the carrier particles.

3,260,678

CATALYST COMPOSITION, PARTICULARLY FOR CATALYZING OXIDATION OF HYDROGEN CHLORIDE TO CHLORINE

Willem F. Engel and Freddy Wattimena, both of Amsterdam, Netherlands, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Original application Jan. 17, 1961, Ser. No. 83,134, now Patent No. 3,210,158, dated Oct. 5, 1965. Divided and this application July 19, 1965, Ser. No. 473,165
Claims priority, application Netherlands, Jan. 20, 1960, 247,564
5 Claims. (Cl. 252—441)

1. A catalyst compositon, particularly suitable for catalyzing the oxidation of hydrogen chloride to chlorine in the presence of an oxygen-containing gas, consisting essentially of (A) a chloride of copper in combination with (B) didymium chloride, (C) an alkali metal chloride, and (D) a silica gel catalyst support having a surface area of at least 200 $m.^2/g.$ with an average pore diameter of at least 60 A., wherein the atomic ratio of didymium to copper is at least about 1.0 and the atomic ratio of alkali metal to copper is in the range of from about 0.6:1 to about 3:1.

3,260,679

METHOD OF PREPARING A CATALYST COMPOSITION CONSISTING OF SODIUM, SODIUM CARBONATE AND IRON OXIDE ON ALUMINA AND THE PRODUCT THEREOF

Thomas M. O'Grady, Chicago Heights, and Arnold N. Wennerberg, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

Filed May 25, 1962, Ser. No. 197,728
7 Claims. (Cl. 252—443)

2. A catalyst composition consisting essentially of 1 to 25 weight percent sodium and 0.1 to 10.0 weight percent Fe_2O_3 on a gamma-type alumina support.

4. The catalyst composition of claim 2 also containing 0.4 to 2.0 weight percent sodium carbonate.

5. A method of preparing a catalyst composition consisting essentially of metallic sodium promoted with an oxide of a transition metal of Periods 4 and 5 of the Periodic Table supported on a metal oxide composition consisting essentially of alumina which method comprises calcining said alumina at a temperature above 400° C. and up to 900° C., and depositing on the surface of said alumina metallic sodium and an oxide providing compound of transition metal of Periods 4 and 5 of the Periodic Table to provide from 1 to 25 weight percent metallic sodium and 0.1 to 10.0 weight percent said transition metal oxide.

3,260,680

SYNTHETIC ALUMINA, SILICA-ALUMINA HYDROCARBON CRACKING CATALYST AND METHOD FOR HYDROCARBON CRACKING

Robert A. Sanford, Homewood, and Henry Erickson, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 4, 1963, Ser. No. 321,301
7 Claims. (Cl. 252—455)

7. A hydrocarbon cracking catalyst composite characterized by increased resistance to the poisoning effect of nickel containing about 40 to 55% total alumina in the composite and consisting essentially of about 75 to 91% of synthetic silica-alumina particles containing about 25 to 35% alumina, the balance being essentially silica, mixed with about 9 to 25% alumina selected from the group consisting of amorphous hydrous alumina particles and boehmite of about 25 to 40 A. crystallite size, said catalyst containing less than about 0.5% sulfate.

3,260,681

SYNTHETIC ALUMINA, SILICA-ALUMINA HYDROCARBON CRACKING CATALYST AND METHOD FOR HYDROCARBON CRACKING

Robert A. Sanford, Homewood, and Henry Erickson, Park Forest, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 4, 1963, Ser. No. 321,348
4 Claims. (Cl. 252—455)

1. A synthetic catalyst consisting essentially of a dried composite of a catalyst precursor having about 50 to 90% by weight of a silica-alumina hydrogel having a silica content of about 65 to 80% by weight and an alumina content of about 20–35% by weight, mixed with about 10 to 50% by weight of an alumina hydrogel, said amounts being sufficient to provide a total alumina content of the silica-alumina hydrogel-alumina hydrogel precursor of about 40–65%, said percentages being on a dry basis.

3,260,682

CATALYST COMPOSITIONS CONSISTING OF COBALT MOLYBDATE AND VARIOUS MOLYBDATE HARDENERS

George Calvin, Newcastle-upon-Tyne, Barrie Wood, Epsom, and Rowland Harris Jenkins, West Ewell, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed July 30, 1964, Ser. No. 386,442
Claims priority, application Great Britain, Jan. 25, 1961, 2,883/61
8 Claims. (Cl. 252—464)

1. An oxidation catalyst suitable for catalyzing the vapour phase oxidation of an unsaturated aldehyde selected from the group consisting of acrolein or methacrolein to produce the corresponding unsaturated acids which consists essentially of cobalt molybdate together with from 0.01 to 20 moles percent of one of the molybdates selected from the group consisting of manganese, cadmium, tin, antimony, chromium, uranium, aluminum, thorium and zirconium characterized by a hardness on standard attrition test of not more than 5% breakdown.

6. A process for the preparation of a catalyst for catalyzing the vapor phase oxidation of acrolein or methacrolein to the corresponding acids which comprises adding ammonia to an aqueous solution which contains (1) a water soluble cobalt salt, (2) a salt selected from the group consisting of water soluble salts of manganese, cadmium, tin, antimony, chromium, uranium, aluminum, thorium and zirconium, and (3) a compound selected from the group consisting of molybdic acid and water soluble salts thereof, recovering resulting precipitate and thereafter heating said precipitate at 250° C. to 600° C., pelletizing, and again heating at 500° C. to 650° C.

3,260,683

METHOD OF PREPARING A CATALYST COMPOSITION CONSISTING OF THE OXIDES OF COBALT AND MAGNESIUM AND THE PRODUCT THEREOF

Harry Hermann Alfred Endler, Ferrara, Italy, assignor to Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed June 26, 1961, Ser. No. 119,349
Claims priority, application Italy, June 27, 1960, 11,389/60
5 Claims. (Cl. 252—473)

1. The process of preparing a catalyst for reducing carboxylic compounds by means of molecular hydrogen,

which comprises reacting an aqueous solution of a cobalt salt and a magnesium salt with an ammonium salt of a dibasic organic acid selected from the group consisting of oxalic, succinic, adipic, tartaric and phthalic acids, thermally decomposing the resulting precipitate in non-reducing gas stream, said cobalt salt and said magnesium salt being in a molecular ratio between 10:1 and 1:2.

4. A hydrogenation catalyst consisting of cobaltous oxide and magnesium oxide in a molecular ratio of 10:1 to 1:2 expressed as the nitrates, in a fine crystalline powder, said powder having a specific surface of at least 50,000 sq. cm./g. and average particle diameter less than 5μ.

3,260,684

CATALYTIC PROCESS FOR POLYMERIZING TETRAHYDROFURAN

Margot Becke and Arno Debo, both of Heidelberg, Germany, assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Aug. 9, 1961, Ser. No. 130,260
Claims priority, application Germany, Aug. 26, 1960, B 59,136
1 Claim. (Cl. 260—2)

Process for the polymerization of tetrahydrofuran compounds selected from the group consisting of tetrahydrofuran and alkyl tetrahydrofurans comprising heating said tetrahydrofuran compound at a temperature between about 50° C. and the atmospheric boiling point of said tetrahydrofuran in contact with a catalytic amount of an oily polymer of a phosphonitrile dihalide selected from the class consisting of chloride and bromide and of a highly dissociated salt selected from the group consisting of ammonium chloride, sodium chloride, calcium chloride, potassium chloride, potassium bromide, ammonium bromide, sodium sulfate, potassium sulfate, ammonium sulfate, sodium carbonate, potassium carbonate, sodium acetate, ammonium acetate, tetramethylenediamine dihydrochloride and tetraethyl ammonium chloride.

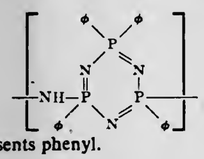
3,260,685

NOVEL HALO AND AMIDO SUBSTITUTED PHENYLTRIPHOSPHONITRILES AND PREPARATION THEREOF

Rip G. Rice and Bernard Grushkin, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed June 11, 1963, Ser. No. 286,955
27 Claims. (Cl. 260—2)

12. A phosphonitrilic polymer possessing the repeating structural unit



wherein ϕ represents phenyl.

3,260,686

ION EXCHANGE RESINS PREPARED FROM THE SAPONIFICATION OF COPOLYMERS OF THE N-VINYLIMIDES OF DICARBOXYLIC ACIDS AND A CROSS-LINKING AGENT CONTAINING AT LEAST TWO NON-CONJUGATED VINYLIDENE GROUPS

Hans Selfert, Bergisch Neukirchen, Herbert Corte, Leverkusen, and Otto Netz, Cologne, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Aug. 8, 1961, Ser. No. 130,003
Claims priority, application Germany, Aug. 29, 1960, F 31,991
9 Claims. (Cl. 260—2.1)

1. A process for preparing ion-exchange resins which comprises copolymerizing a vinylimide of a dicarboxylic acid in the presence of a cross-linking monomer containing at least two non-conjugated $CH_2=C<$ moieties; said monomer being a member selected from the group consisting of divinylbenzene, divinyl toluene, trivinyl benzene, triallyl cyanurate, divinyl ether, 1,3,5-hexahydrotriacrylyl-s-triazine, ethylene glycol dimethacrylate, ethylene glycol diacrylate, divinyl sulfide, divinyl sulfone, diallyl phthalate, diallyl maelate, and diallyl ether; in the presence of an active amount of a polymerization catalyst, said cross-linking monomer being present in an amount of 1 to 40 percent by weight of the monomer quantity to be used as a whole, saponifying the resulting copolymer and recovering the resin product.

3,260,687

FLAME-RESISTANT URETHANE FOAMS AND METHOD FOR PREPARING SAME

Steven M. Postol, Irvington, N.Y., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 12, 1960, Ser. No. 75,095
8 Claims. (Cl. 260—2.5)

8. A flame-resistant polyurethane foam composition consisting essentially of (1) 0.5 to about 15 percent by weight based on the reaction mixture of antimony trioxide in admixture with the reaction product of (2) a halogen containing polyether having at least two hydroxyl groups and prepared by the condensation of an epihalohydrin with a polyol, (3) a non-halogen containing polyether polyol, and (4) an organic polyisocyanate in the presence of (5) a blowing agent.

3,260,688

RESIN COMPOSITIONS FOR PRODUCING CELLULAR MASSES AND PROCESS FOR PRODUCING A CELLULAR PRODUCT

Takeshi Watanabe, Kamakura, Kanagawa, Masayuki Namba, Otaku, Tokyo, and Shigeo Makino, Kamakura, Kanagawa, Japan, assignors to Toyo Koatsu Industries, Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 10, 1962, Ser. No. 216,066
14 Claims. (Cl. 260—2.5)

1. Unsaturated polyester resin composition for producing cellular masses comprising a non-gas producing salt selected from the group consisting of an inorganic salt of sodium, potassium, calcium, magnesium, and aluminum and a salt of an ethanolamine of an organic ester of phosphoric acid and an alcohol from the group consisting of aliphatic hydrocarbon monohydric alcohols containing from 1 to 30 carbon atoms, aliphatic hydrocarbon dihydric alcohols containing from 2 to 30 carbon atoms and aryl alkyl alcohols containing from 7 to 40 carbon atoms, and a polymerizable mixture of an unsaturated polyester resin obtained by the esterification of an alpha,beta-unsaturated dibasic acid with an aliphatic glycol and a co-polymerizable ethylenically unsaturated monomer, said salt being present in an amount of 0.1 to 50 weight parts per 100 weight parts of said polymerizable mixture.

3,260,689

POLYESTER AND POLYAMIDE COMPOSITIONS HAVING IMPROVED DYEING PROPERTIES AND PROCESSES FOR THE PRODUCTION OF SUCH COMPOSITIONS

Charles J. Kibler and Alan Bell, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed May 27, 1960, Ser. No. 32,143
19 Claims. (Cl. 260—22)

1. A normally solid polymeric composition capable of being shaped into fibers having improved dyeing properties comprising a linear condensation polymer selected from the group consisting of linear polyesters and linear polyamides having uniformly dispersed therein from 0.1 to 2% by weight, calculated as metal, of a fatty acid salt of a metal selected from the group consisting of nickel, cobalt, and chromium; said fatty acid salt containing 4 to 20 carbon atoms and having a melting point no higher than the temperature at which the polymeric composition is spun into a fiber.

3,260,690

COATED PAPER CONTAINERS, METHOD OF COATING AND COMPOSITIONS THEREFOR

Arthur F. Bohnert, Park Ridge, and William A. Vanick, Hinsdale, Ill., assignors to Enterprise Paint Manufacturing Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed July 31, 1961, Ser. No. 127,815
The portion of the term of the patent subsequent to July 31, 1978, has been disclaimed
13 Claims. (Cl. 260—29.7)

1. As a method of improving the resistance of paper to staining and penetration by ordinary foods and beverages, both hot and cold, the steps of coating a surface of the paper with a layer of an aqueous emulsion of polymeric material selected from the group consisting of (a) water emulsified styrene-butadiene copolymer and (b) water emulsified polystyrene mixed with water emulsified styrene-butadiene copolymer, said emulsion further containing an amount between about 5 and 30% by weight of water emulsified lower alkene polymer from the group consisting of polypropylene and polyethylene having a molecular weight in the order of 15,000 to 30,000 which is sufficient to introduce non-blocking characteristics to the fused film left on the surface after heating without interrupting the continuity of the film, the butadiene moieties of said polymeric material not exceeding approximately one-half thereof and the styrene moieties being not less than one-half thereof, removing the water from the aqueous emulsion layer thereafter fusing the remaining solids with heat into a continuous film, and then cooling to near room temperature so as to leave a clear transparent protective film strongly adherent to the paper.

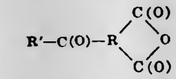
3,260,691

COATING COMPOSITIONS PREPARED FROM CONDENSATION PRODUCTS OF AROMATIC PRIMARY DIAMINES AND AROMATIC TRICARBOXYLIC COMPOUNDS

Edward Lavin, Longmeadow, Albert H. Markhart, Wilbraham, and James O. Santer, Springfield, Mass., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 20, 1963, Ser. No. 281,784
5 Claims. (Cl. 260—30.2)

1. A soluble polyamide that is the polymeric condensation product of an aromatic primary diamino compound containing from 6 to about 25 carbon atoms selected from the group consisting of phenylene diamines, diphenylene diamines, triphenylene diamines, ditolyl diamines, and derivatives of the foregoing two ring compounds, wherein the aromatic nuclei are connected with divalent members selected from the class consisting of oxygen, sulfur and alkylene radicals, wherein the alkylene radical contains from 1 to 3 carbon atoms with a tricarboxylic compound containing from 9 to about 18 carbon atoms and having the formula:



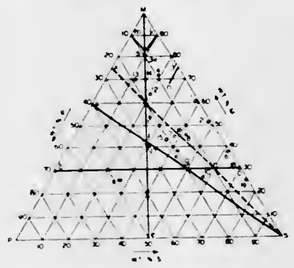
wherein R is a trivalent aromatic radical and R' is selected from the group consisting of hydroxyl, chlorine, bromine and fluorine; wherein the proportion of reactants may vary from about 5% molar excess of the tricarboxylic compound to about 70% molar excess of the primary diamino compound.

3,260,692

VINYL CHLORIDE POLYMERS PLASTICIZED WITH MORPHOLIDES OF FATTY ACIDS AND DIMERIZED FATTY ACIDS

Frank C. Magne, Evald L. Skau, and Robert R. Mod, New Orleans, La., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Feb. 19, 1963, Ser. No. 260,100
5 Claims. (Cl. 260—30.4)



1. A plastic composition consisting essentially of a mixture containing a vinyl chloride polymer selected from the group consisting of polyvinyl chloride and a vinyl chloride-vinyl acetate copolymer which contains a predominant amount of vinyl chloride, and from 10% to 70% by weight based on the weight of the polymer of a plasticizer comprising a mixture of morpholides of dimerized long chain fatty acids which acids consist essentially of dibasic acids containing from 32–44 carbon atoms and which dibasic acids result from the dimerization of C_{18} to C_{22} unsaturated fatty acids.

3,260,693

POLYTETRAFLUOROETHYLENE DISPERSIONS

Mille Stand, Bronx, N.Y., assignor to Sealectro Corporation, Mamaroneck, N.Y.

No Drawing. Filed May 23, 1963, Ser. No. 282,556
1 Claim. (Cl. 260—30.4)

A fluid composition in the form of a dispersion of polytetrafluoroethylene in a liquid medium, which medium consists essentially of a mixture of

(1) a liquid, polar fluoro-organic compound of a solubility parameter δ of from 5 to 7 and which can be evaporated to leave no residue at a temperature below the sintering temperature of polytetrafluoroethylene, said compound being selected from the group consisting of trichlorotrifluoroacetone, monochlorodifluoro acetic acid and dichlorotetrafluoroacetone, and

(2) as a diluent an organic liquid selected from the group consisting of trichloroethylene, methyl ethyl ketone, methylisobutyl ketone, dimethylformamide, tetrahydrofuran, carbon tetrachloride and hexachloroethane.

3,260,694

CROSS-LINKED CHLORINATED POLYETHYLENE

Leopold T. Wang, New York, N.Y., assignor to Phelps Dodge Copper Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 9, 1962, Ser. No. 165,224
14 Claims. (Cl. 260—41)

1. A curable halogenated polyethylene composition comprising a high molecular weight halogenated polyethylene having a molecular weight of at least 35,000, a low molecular weight halogenated polyethylene having a molecular weight no greater than 20,000, and a catalytic amount of a cross-linking agent for said halogenated polyethylenes wherein the ratio of high molecular weight halogenated polyethylene to low molecular weight halogenated polyethylene is between 30:70 to 90:10.

3,260,695

STRESS CRACK RESISTANT POLYETHYLENE COMPOSITION CONTAINING ZINC-2-BENZAMIDOTHIOPHENATE

George L. Bata, Montreal, Quebec, and Donald C. Fraser, North Vancouver, British Columbia, Canada, assignors to Union Carbide Canada Limited, Ontario, Canada, a corporation of Canada

No Drawing. Filed June 4, 1962, Ser. No. 199,647
4 Claims. (Cl. 260—41)

1. A polyethylene composition characterized by resistance to stress cracking consisting essentially of a normally solid low density homopolymer of ethylene, said polymer having a melt index from 0.01 to about 4 and being prone to stress cracking, in admixture with at least 2 percent by weight of said composition of zinc-2-benzamidothiophenate.

3,260,696

CIS-POLYBUTADIENE COMPOSITIONS

Robert C. Wheat, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 27, 1960, Ser. No. 78,323
7 Claims. (Cl. 260—41.5)

1. A method for reducing the tendency of a cis-polybutadiene to cold-flow which comprises blending a polybutadiene containing at least 85 percent cis 1,4-addition with an inorganic oxide selected from the group consisting of silica, alumina and titania, the amount of said inorganic oxide being in the range of 0.5 to 5.0 parts by weight per 100 parts by weight of the total of said polybutadiene and said inorganic oxide.

3,260,697

POLYAMIDE COMPOSITIONS CONTAINING A PHENOL, A PHOSPHATE, A MANGANESE SALT, AND AN ACID ANHYDRIDE AS STABILISERS

Siegfried Babler, Emmenbrucke, near Lucerne, Switzerland, assignor to Societe de la Viscose Suisse, Emmenbrucke, near Lucerne, Switzerland, a Swiss body corporate

No Drawing. Filed Nov. 21, 1962, Ser. No. 239,330
Claims priority, application Great Britain, Nov. 24, 1961, 42,177/61
5 Claims. (Cl. 260—45.75)

1. Synthetic polyamide compositions which are substantially free from colour and of good stability against discoloration by heat and light, in which have been incorporated during polycondensation (1) between 0.02 and 0.2% of a thermally stable phenol containing at least one tertiary-butyl group selected from the class consisting of 2,5-di-tert-butyl-hydroquinone, 2,2'-methylene-bis-(4-methyl-6-tert-butyl-phenol), 2,2' - methylene-bis-(4-ethyl-6-tert-butyl-phenol), and 4,4'-butylidene bis-(6-tert-butyl-m-cresol), (2) between 0.05 and 0.5% of a compound selected from the class which consists of salts and esters of inorganic phosphorus oxy-acids, (3) between 20 and 80 parts of manganese per million parts of said polyamide composition in the form of a compound selected from the class consisting of manganous lactate, manganous oxalate and manganous hypophosphite, and (4) between 0.2 and 1% of a mononuclear cyclic organic acid anhydride selected from the group which consists of the anhydrides of benzoic acid and hexahydrophthalic acid, the proportions being based on the total weight of the composition.

3,260,698

CRYSTALLINE POLYVINYL ETHERS PREPARED WITH CHROMIC ANHYDRIDE CATALYSTS

Senji Nakano, Koichiro Iwasaki, and Hideo Fukutani, all of Setagaya-ku, Tokyo, Japan, assignors to Mitsubishi Chemical Industries Limited, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Jan. 5, 1962, Ser. No. 164,596
Claims priority, application Japan, Jan. 20, 1961, 36/1,485
12 Claims. (Cl. 260—45.95)

1. A method of producing crystalline polyvinyl ethers which consists essentially in placing in a reaction vessel a vinyl ether of the formula—

$$CH_2=CH—OR$$

where R is a radical having 1 to 18 carbon atoms taken from the class consisting of alkyl, aryl, aralkyl and cycloalkyl radicals, introducing into said vessel finely divided chromic anhydride as a catalyst, and heating said mixture to a temperature above about 30° C. and up to about 200° C. for a sufficient time to polymerize said ether.

5. A method according to claim 1 characterized in that a substituted phenol antioxidant is present in the reaction mixture, the substituent being taken from the class consisting of alkyl, aryl, aralkyl and cycloalkyl, and OH derivatives thereof, said substituent having 1–8 carbon atoms.

3,260,699

PROCESS FOR MAKING ORGANOPOLYSILOXANES

Gustav A. Schmidt, Malvern, Pa., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Mar. 15, 1963, Ser. No. 265,366
3 Claims. (Cl. 260—46.5)

1. A process which comprises (1) agitating to a temperature up to 60° C., a solution of organohalosilanes and an aliphatic monohydric alcohol, where there is utilized in said solution a proportion of said aliphatic monohydric alcohol which is sufficient to completely alkoxylate all of the hydrolyzable halogen attached to silicon by silicon-halogen bonds in said solution, (2) separating hydrogen halide from said solution of (1) resulting from the reaction of said organohalosilanes and said aliphatic monohydric alcohol until the residual concentration of hydrogen halide does not exceed 12 percent by weight of the resulting mixture, (3) passing steam into the resulting mixture of (2) to provide for the separation therefrom at a temperature in the range of between 100° C. to 170° C. of said aliphatic monohydric alcohol and (4) recovering the resulting organopolysiloxane hydrolyzate from the mixture of (3), where the organohalosilanes utilized in said mixture of (1) have an average ratio of from about 1 to about 1.6 organo radicals per silicon atom, which are attached to silicon by carbon-silicon linkages and are selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals.

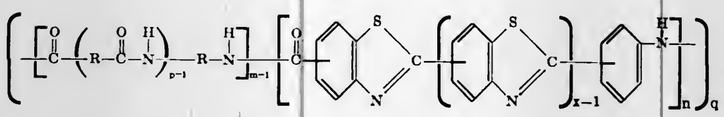
3,260,700

BENZOTHIAZOLE POLYAMIDES

Bernard Rudner and Phillip E. Brumfield, Pittsburgh, and Paul M. Hergenrother, Wampum, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Sept. 19, 1962, Ser. No. 224,824
8 Claims. (Cl. 260—47)

1. A solid polymer consisting essentially of the following recurring structural unit



wherein R is a member selected from the group consisting of oxy-bis-phenylene, arylene radicals having from 6–16 carbon atoms and alkylene radicals having from 2–12 carbon atoms, p is an integer having a value of 1 to 2, x is an integer having a value of 1 to 5, m has a minimum value of 1 and a maximum value such that the ratio of $m-1/n$ is no greater than 20, n has a value of 1, and q is an integer having a value of at least 2.

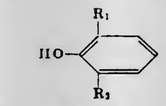
3,260,701

PREPARATION OF AROMATIC POLYETHERS WITH LEAD DIOXIDE CATALYST

Edward J. McNelis, Wallingford, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 12, 1962, Ser. No. 244,019
12 Claims. (Cl. 260—47)

1. Method for preparing aromatic polyethers which comprises contacting a material having the general formula



wherein R_1 and R_2 are selected from the group consisting of hydrogen, alkoxy radicals having from 1 to 3 carbon atoms and alkyl radicals having from 1 to 3 carbon atoms with lead dioxide at a temperature in the range of from 20° C. to 250° C. for a period of time ranging between 10 seconds and 10 hours and thereafter recovering said aromatic polyether product.

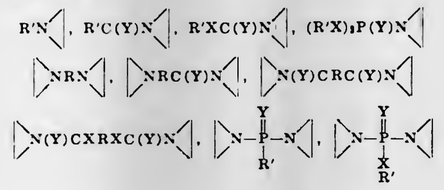
3,260,702

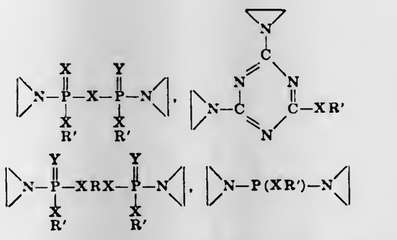
DECOLORIZED AND STABILIZED ORGANIC POLYISOCYANATE COMPOSITIONS

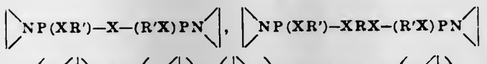
Tomohisa Murakami, Kanagawa-ken, Shinichi Morisaki, Yokosuga-shi, and Koshiro Hiiro, Yokohama, Japan, assignors to Hodogaya Chemical Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed June 4, 1963, Ser. No. 285,197
11 Claims. (Cl. 260—77.5)

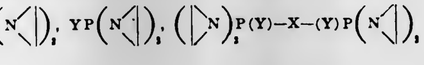
1. A decolorized and stabilized organic polyisocyanate composition which comprises an organic polyisocyanate and 0.001 to 1% by weight, based on the weight of the organic polyisocyanate, of a material selected from the group consisting of compounds having the general formulas of







and

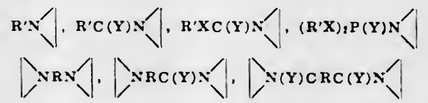


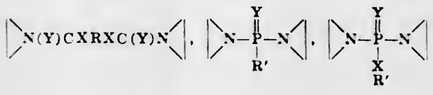
wherein R' is selected from the group consisting of lower alkyl, cycloalkyl, aryl, and aralkyl groups, R is selected from the group consisting of lower alkylene, cycloalkylene, arylene and aralkylene groups, X is selected from the group consisting of O, S or NH, Y is selected from the group consisting of O or S, and

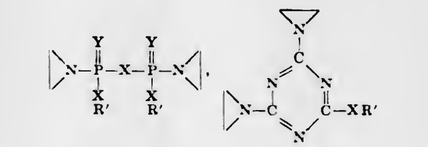


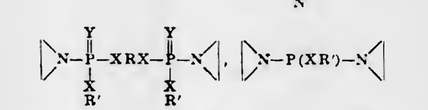
represents an ethyleneimine ring.

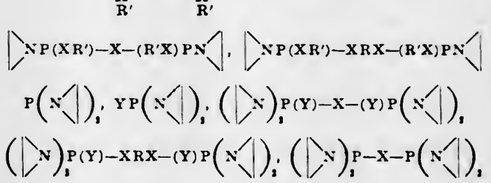
11. In a method for synthesizing a polyurethane compound from an organic polyisocyanate and a compound having a plurality of hydroxyl groups, an improvement for the production of a less colored polyurethane compound characterized by adding to the organic polyisocyanate 0.001 to 1% by weight, based on the weight of the organic polyisocyanate, of a material selected from the group consisting of compounds having the general formulas of



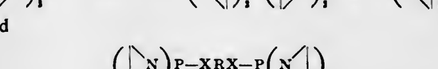








and



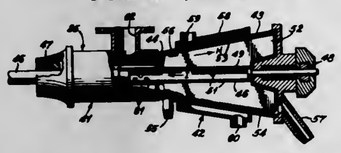
wherein R' is selected from the group consisting of lower alkyl, cycloalkyl, aryl, and aralkyl groups, R is selected from the group consisting of lower alkylene, cycloalkylene, arylene and aralkylene groups, X is selected from the group consisting of O, S or NH, Y is selected from the group consisting of O or S, and

represents an ethyleneimine ring.

3,260,703
CONDENSATION POLYMER FINISHING PROCESS

Alva C. Coggeshall, Pensacola, Fla., assignor to Monsanto Company, a corporation of Delaware

Filed Sept. 8, 1964, Ser. No. 394,702
6 Claims. (Cl. 260—78)



1. A process for preparing a film and fiber-forming poly-condensation polymer from a further polycondensable polymer selected from the group consisting of polyhexamethylene adipomide and poly-epsilon-caproamide having a relative viscosity between 8 and 20 measured as an 8.4% solution of polymer in 90% formic acid at 25° C., and polymethylene terephthalates having a relative viscosity between 6 and 20 measured as a 10% by weight solution of polymer in a solvent mixture of 6 parts by weight 2,4,6-trichlorophenol and 10 parts phenol at 25° C. said relative viscosities being measured as the ratio between the absolute viscosity of the polymer solution and the absolute viscosity of pure solvent at the same temperature, comprising the steps of:

(a) feeding said polycondensable polymer into the smaller end of a heated reaction zone having a frusto-conical shape;

(b) continuously mechanically moving said further polycondensable polymer through said heated reaction zone in the form of a radially expanding continuous dynamic thin film;

(c) continuously axially removing vapors radially expelled from the polycondensation of said polycondensable polymer thus producing a film and fiber-forming polymer having a relative viscosity between 30 and 80, said relative viscosity being determined for the particular polymer as above; and

(d) removing said film and fiber-forming polymer from the larger end of said heated frusto-conical shaped reaction zone.

3,260,704
HYDROXYLATED INTERPOLYMERS AND PREPARATION

Robert J. Slocombe, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 13, 1963, Ser. No. 280,147
18 Claims. (Cl. 260—78.5)

1. An interpolymer of vinyl chloride, fumaric acid diester and isobutylene in which the esterifying groups are selected from the group consisting of hydroxyalkyl groups containing no more than 6 carbon atoms and alkyl groups containing no more than 10 carbon atoms, the vinyl chloride being in the range of 45 to 90%, the fumaric acid diester 8 to 53%, and isobutylene, 2 to 20% of the interpolymer with the amounts of the foregoing monomers being limited to a total of 100% by weight of the interpolymer and the interpolymer being produced by free-radical catalyzed polymerization of the foregoing monomers in admixture.

3,260,705
PROCESS FOR POLYMERIZING VINYL CHLORIDE AND A FUMARATE ESTER

Robert J. Slocombe, Kirkwood, and Robert Z. Greenley, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 13, 1963, Ser. No. 280,148
12 Claims. (Cl. 260—78.5)

1. The method of preparing interpolymers of vinyl chloride and a diester of fumaric acid in which one esterifying group is an hydroxy (oxa) hydrocarbyl group and the other esterifying group is selected from the group consisting of alkyl, aryl and hydroxy(oxa) hydrocarbyl groups and some fumarate with free carboxyl is present in said diester, which comprises polymerizing such monomers in the presence of an organic amine in amount sufficient to approximately neutralize the acid content of the diester by contacting such monomers with a free-radical catalyst.

3,260,706
ALKALI-SOLUBLE POLYMERIC CARBOXY ESTER LACTONES

Louis M. Minsk and Edward P. Abel, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 26, 1963, Ser. No. 304,676
7 Claims. (Cl. 260—78.5)

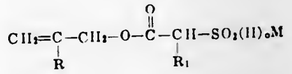
1. A method of preparing alkali soluble polymeric carboxy ester lactones which comprises reacting one part of a soluble interpolymer of a compound selected from the group consisitng of the unsaturated alpha-beta-dicarboxylic acids and anhydrides and a vinyl organic ester having an inherent viscosity in acetone at a concentration of 0.25 gram per 100 ml. of solution of not more than 0.30 with at least 5 parts of a liquid free of monohydroxy acid composed of one molar proportion of water and 0–0.59 molar proportions of a lower monohydric alcohol together with a mineral acid catalyst having a strength on the order of sulfuric acid at above room temperature until lactonization of the polymer has occurred.

3,260,707
ALLYL AND METHALLYL ESTERS OF SULFO-ALIPHATIC ACIDS, AND INTERPOLYMERS THEREOF WITH ACRYLONITRILE

John R. Caldwell and George P. Touey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

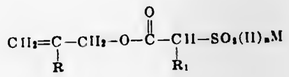
No Drawing. Filed Oct. 24, 1962, Ser. No. 232,900
15 Claims. (Cl. 260—79.3)

1. A polymer selected from the group consisting of (1) a bipolymer of from 2–20% by weight of a salt compound represented by the general formula:



and from 98–80% by weight of acrylonitrile, and (2) a terpolymer of from 2–20% by weight of the said salt compound and from 50–93% by weight of acrylonitrile and from 3–48% by weight of a different polymerizable compound containing a —CH=C< group, wherein R represents a member selected from the group consisting of a hydrogen atom and a methyl group, R_1 represents a member selected from the group consisting of a hydrogen atom and an alkyl group of from 1–7 carbon atoms, and M represents a member selected from the group consisting of an alkali metal atom, a a saturated tertiary aliphatic amine of from 3–12 carbon atoms, and a tertiary heterocyclic amine containing in the ring from 4–5 carbon atoms and a single nitrogen atom, and wherein *n* is zero when M represents the said alkali metal ion and 1 when M represents the said tertiary amine.

9. A compound represented by the general structural formula:



wherein R represents a member selected from the group consisting of a hydrogen atom and a methyl group, R_1 represents a member selected from the group consisting of a hydrogen atom and an alkyl group of from 1–7 carbon atoms, and M represents a member selected from the group consisting of an alkali metal atom, a saturated tertiary aliphatic amine of from 3–12 carbon atoms, and tertiary heterocyclic amine containing in the ring from 4–5 carbon atoms and a single nitrogen atom, and wherein n is zero when M represents the said alkali metal atom and 1 when M represents the said tertiary amine.

3,260,708
ELASTOMERIC OLEFINIC COPOLYMERS AND PROCESS FOR PRODUCING THE SAME

Giulio Natta, Giorgio Mazzanti, Alberto Valvassori, Guido Sartori, and Nazzareno Cameli, all of Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed Oct. 16, 1962, Ser. No. 231,031
Claims priority, application Italy, Oct. 18, 1961, 18,834/61; May 24, 1962, 10,340/62
34 Claims. (Cl. 260—79.5)

1. Sulfur-vulcanizable, substantially linear, amorphous, high molecular weight copolymers of (1) ethylene, (2) at least one aliphatic alpha-olefin having the formula

$$CH_2{=}CHR$$

in which R is an alkyl radical containing from 1 to 6 carbon atoms, and (3) a monocyclic, non-conjugated polyene selected from the group consisting of

cycloheptadiene-1,4,
cyclooctadiene-1,5,
cyclooctadiene-1,4,
cyclodecadiene-1,6,
cyclodecadiene-1,5,
cyclododecadiene-1,7,
cyclodecatriene-1,5,9,
1-methyl-cyclooctadiene-1,5,
3-methyl-cyclooctadiene-1,5,
3,4-dimethyl-cyclooctadiene-1,5, and
3,7-dimethyl-cyclooctadiene-1,5,

said copolymers having an intrinsic viscosity higher than 0.5, consisting essentially of macromolecules containing unsaturations and each of which contains units of the monomers (1), (2) and (3) in the macromolecular main chain, and being further characterized in that units of the monomer (3) are not directly linked to each other in the main chain.

7. The process for preparing sulfur-vulcanizable, substantially linear copolymers as defined in claim 1, which process comprises polymerizing a mixture of the monomers (1), (2) and (3), in a liquid phase, in contact with a catalyst obtained by mixing

(1) a vanadium compound selected from the group consisting of (a) vanadium halides and vanadium oxyhalides, and (b) vanadium compounds in which at least one of the vanadium valences is satisfied by a heteroatom selected from the group consisting of oxygen and nitrogen linked to an organic group, with

(2) a second catalyst-forming component selected from the group consisting of organometallic compounds of metals belonging to groups I to III inclusive of the Mendeléeff Periodic Table, hydrides of said metals, complex organo-metallic compounds of said metals, and complex hydrides of said metals, the second catalyst-forming component (2) containing halogen at least when component (1) is a vanadium compound of tyye (b).

3,260,709
COPOLYMERS OF CYANO-CONTAINING COMPOUNDS

Eric Nield, Stevenage, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,618
Claims priority, application Great Britain, Aug. 16, 1962, 31,495/62
8 Claims. (Cl. 260—85.5)

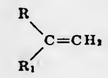
1. A copolymer of ethyl α-cyanocrotonate and a vinyl compound containing the structure $CH_2{=}CH-$ selected from the group consisting of alkenes having from 3 to 5 carbon atoms, vinyl alkyl ethers in which the alkyl groups contain from 1 to 5 carbon atoms, styrene, derivatives of styrene in which an aromatically-bound hydrogen atom has been replaced by a radical selected from halogen atoms and a methyl group, vinyl halides, compounds having the structure $CH_2{=}CH.COOR$ and compounds having the structure $CH_2{=}CH.OCOR$ where R is selected from the group consisting of hydrogen, methyl and ethyl, the amount of ethyl α-cyanocrotonate being up to about 50 molar percent, said polymer being the product obtained by copolymerizing a monomer mixture of ethyl α-cyanocrotonate and said vinyl compound in the presence of a free radical catalyst.

3,260,710
LUBRICANT ADDITIVES COMPRISING COPOLYMERS OF ALKENES WITH ACETALS OR KETALS

Cecil G. Brannen, Highland, and James A. Wuellner, Gary, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

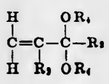
No Drawing. Filed June 28, 1962, Ser. No. 205,863
6 Claims. (Cl. 260—88.1)

1. The copolymer obtained by polymerizing a polymerizable mixture consisting of (A) from about 90 to about 99.9 mole percent of a $C_{2\text{-}20}$ alkene hydrocarbon monomer having the formula



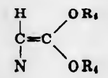
wherein R is hydrogen or methyl and R_1 is hydrogen or $C_{1\text{-}17}$ alkyl; (B) from about 0.1 to about 10 mole percent of a monomer selected from the group consisting of unsaturated compounds represented by the following general formulas:

(I)



and

(II)



wherein R_2 is hydrogen or methyl, R_3 is hydrogen, alkyl or aryl, and R_4 is alkyl or aryl; and (C) from about 1 to 20 weight percent, based upon the total amount of said monomers A and B, of a cationic polymerization catalyst; under cationic polymerization conditions to form a copolymer of said monomers A and B, said copolymer having a molecular weight of from about 2,000 to about 120,000.

3,260,711
PRODUCTION OF VINYL CHLORIDE POLYMERS

Gilbert P. Christen, Lyon, and Michel Ruaud, Bron, France, assignors to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed Jan. 18, 1963, Ser. No. 252,323
Claims priority, application France, Jan. 30, 1962, 886,369
10 Claims. (Cl. 260—92.8)

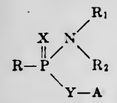
1. In the production of polyvinyl chloride by the polymerisation of vinyl chloride in the presence of a free radical-generating catalyst in an aqueous medium containing a protective colloid, the improvement which consists in carrying out the polymerisation at a temperature between −25° C. and −5° C. using as the aqueous medium a solution of at least one mineral salt inert towards vinyl chloride, the concentration of the salt in the medium being at least sufficiently high to cause the medium to remain liquid at the polymerisation temperature but below the minimum at which salt will separate from the medium at the said temperature.

3,260,712
ALKYL PHOSPHONIC AND THIOPHOSPHONIC ARYL ESTER AMIDES

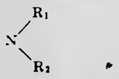
Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed July 17, 1961, Ser. No. 124,378
Claims priority, application Germany, Apr. 16, 1959, F 28,228
8 Claims. (Cl. 260—949)

1. A compound of the formula



wherein R stands for a member selected from the group consisting of lower alkyl and cyclohexyl,



stands for a member selected from the group consisting of dilower alkyl amino, piperidino and morpholino, X and Y stand for a chalcogen having an atomic number from 8 to 16, at least one being 16, and A stands for a disubstituted phenyl selected from the group consisting of mononitro and monochloro substituted phenyl, monolower alkyl and monolower alkyl mercapto substituted phenyl and monochloro and monolower alkyl substituted phenyl.

3,260,713
WATER-SOLUBLE MONOAZO-DYESTUFFS

Jonas O. St. Alban, West Warwick, R.I., assignor to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed May 6, 1963, Ser. No. 278,478
Claims priority, application Germany, May 5, 1962, F 36,724
8 Claims. (Cl. 260—163)

1. Water-soluble monoazo-dyestuffs of the formula

$$A—N=N—B—SO_2—NH—CO—NH_2$$

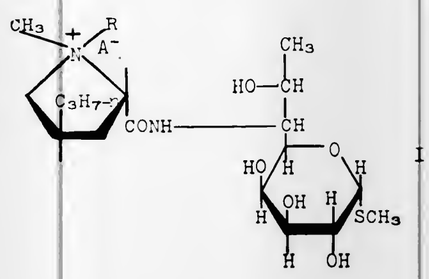
wherein A is a benzene, naphthalene, acetoacetylaminobenzene, acetylamino-naphthalene or pyrazolone azo coupling component having a hydroxyl group on a carbon atom adjacent the diazo bridge and at least one carboxylic acid or sulfonic acid substituent, and B represents a member selected from the group consisting of radicals of the benzene and naphthalene series.

3,260,714
QUATERNARY AMMONIUM SALTS OF LINCOMYCIN

William Schroeder, Pavilion Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 14, 1964, Ser. No. 367,572
2 Claims. (Cl. 260—210)

1. A compound of the formula:



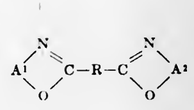
wherein R is alkyl containing up to and including 20 carbon atoms; and wherein A^- is a halide radical.

3,260,715
FLUORESCENT BIS-BENZOXAZOLYL STILBENES

David G. Saunders, Wealdstone, Harrow, England, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 16, 1963, Ser. No. 273,283
Claims priority, application Great Britain, Dec. 17, 1962, 47,527/62
9 Claims. (Cl. 260—240)

1. A fluorescent compound of the formula



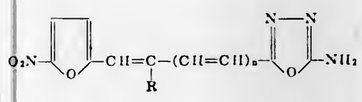
wherein R is a bivalent 4,4'-stilbene radical and each of the radicals A^1 and A^2 is an o-phenylene radical.

3,260,716
PROCESS FOR THE PREPARATION OF NEW 5-NITROFURYL COMPOUNDS

Akira Takai, Isamu Saikawa, Toyoo Maeda, Yutaka Kodama, Ikuko Takamichi, Yasumasa Matsubara, and Shiro Hirai, all of Toyama, Japan, assignors to Toyama Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan

No Drawing. Filed Sept. 6, 1963, Ser. No. 307,006
Claims priority, application Japan, Sept. 11, 1962, 37/38,950; Dec. 4, 1962, 37/53,597
4 Claims. (Cl. 260—240)

1. A compound having the formula



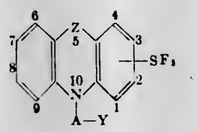
wherein R is hydrogen, a lower alkyl group, which may be either straight or branched and contains from 1 to 5 carbon atoms, or phenyl and *n* is an integer 0 or 1.

3,260,717
NOVEL SUBSTITUTED PHENOTHIAZINES

Paul N. Craig, Roslyn, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 23, 1963, Ser. No. 282,577
6 Claims. (Cl. 260—243)

1. A chemical compound of the class consisting of a free base and its nontoxic acid addition salts, the free base having the formula:



in which:

Z is a member selected from the group consisting of S, SO and SO_2;
Y is a member selected from the group consisting of dimethylamino, pyrrolidinyl, piperidinyl, piperazinyl, morpholinyl, thiamorpholinyl, N-methylpiperazinyl, N-hydroxyethylpiperazinyl, N - acetoxyethylpiperazinyl and N-hydroxyethoxyethylpiperazinyl; and
A is an alkylene chain of from 2 to 6 carbon atoms and separating the nitrogen to which it is attached by at least 2 carbon atoms.

3,260,718
MERCAPTOETHYLATING AGENT: 2-MERCAPTOETHYLTRICHLOROACETATE

Dee Lynn Johnson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 31, 1963, Ser. No. 255,181
10 Claims. (Cl. 260—247.1)

1. The process which comprises contacting 2-mercaptoethyltrichloroacetate with a stoichiometric excess of an amine of the formula:



wherein R, taken singly, is selected from the group consisting of:
(a) hydrogen and
(b) R^1
and R^1, taken singly, is selected from the group consisting of:
(a) alkyl,
(b) aralkyl and
(c) cycloalkyl
and R and R^1, when taken collectively with the nitrogen atom to which they are attached, form a heterocyclic compound selected from the group consisting of:
(a) morpholine and
(b) piperidine.

5. A method of producing morpholinoethanethiol which comprises contacting 2-mercaptoethyltrichloroacetate with a stoichiometric excess of morpholine.

3,260,719
ORGANO-PHOSPHORUS s-TRIAZINE DERIVATIVES

Arthur John Floyd, Bracknell, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 17, 1964, Ser. No. 338,321
11 Claims. (Cl. 260—249.9)

6. O-methyl S-methyl S-4,6-diamino s-triazin-2-ylmethyl phosphorodithioate.

7. O - methyl S - ethyl 4,6 - diamino - s - triazin - 2-ylmethyl phosphorodithioate.

3,260,720
PROCESS OF PREPARING 2-AMINOQUINOXALINE

Edward W. Berndt, Charles City, Iowa, assignor to Salsbury Laboratories, a corporation of Iowa

No Drawing. Filed May 31, 1963, Ser. No. 284,332
8 Claims. (Cl. 260—250)

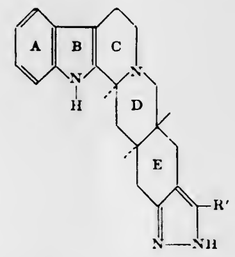
1. The process of preparing 2-aminoquinoxaline comprising the steps of reacting o-phenylenediamine with diisonitrosoacetone to form 2-isonitrosomethylquinoxaline, treating this compound with a dehydrating agent to produce 2-quinoxalinenitrile, subjecting said nitrile to a hydrolysis so as to form 2-quinoxalinecarboxamide, and finally converting said carboxamide to 2-aminoquinoxaline by treating it with an alkaline hypohalite.

3,260,721
HETEROCYCLIC DERIVATIVES OF YOHIMBÉ ALKALOIDS

Jay Donald Albright and Leon Goldman, Nanuet, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

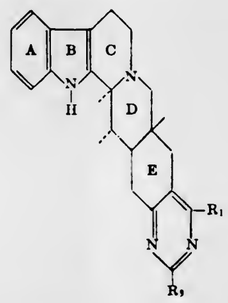
No Drawing. Filed Jan. 27, 1965, Ser. No. 428,551
16 Claims. (Cl. 260—256.4)

1. A compound selected from the group consisting of ring E substituted yohimbanes of the formula:



and the tautomer thereof, wherein R′ is selected from the group consisting of hydrogen, lower alkyl, lower carboalkoxy, phenyl, (lower alkyl)phenyl, (halo)phenyl, (lower alkoxy)phenyl and 3,4,5-tri(lower alkoxy)phenyl; and the pharmaceutically acceptable acid-addition salts thereof.

12. A compound selected from the group consisting of ring E substituted yohimbanes of the formula:



wherein R_1 is selected from the group consisting of hydrogen, lower alkyl, phenyl, (lower alkyl)phenyl, (halo)phenyl, (lower alkoxy)phenyl and 3,4,5, tri(lower alkoxy)phenyl, and R_2 is selected from the group consisting of hydrogen, hydroxy, amino, lower alkylthio, phenyl, (lower alkyl)phenyl, (halo)phenyl, (lower alkoxy)phenyl and 3,4,5-tri(lower alkoxy)phenyl; and the pharmaceutically acceptable acid-addition salts thereof.

3,260,722
5-METHYL RESERPINE AND A PROCESS OF MAKING SAME

Leon Velluz, Paris, and Georges Muller, Nogent sur Marne, France, assignors, by mesne assignments, to Roussel-UCLAF, S.A., Paris, France, a corporation of France

No Drawing. Filed Feb. 19, 1959, Ser. No. 794,222
Claims priority, application France, Feb. 27, 1958, 759,277
4 Claims. (Cl. 260—287)

1. 5a-methyl reserpine, levorotatory in pyridine, of the melting point of about 150° C.

2. In a process of producing 5a-methyl reserpine, the steps which comprise

(a) condensing racemic 1 - (6'-methoxy-3'-indolyl)-2-propylamine with the dextrorotatory (in pyridine) methyl ester of 1β-carboxy methyl-2β-methoxy carbonyl-3α-methoxy-4β-acetoxy-6β-formyl cyclohexane in a non-polar organic solvent;

(b) reducing the resulting methyl ester of 18β-acetoxy - 11,17α-dimethoxy - 16β-methoxy carbonyl - 5 - methyl-2,3,3,4-diseco-$\Delta^{4(21)}$,20α-yohimbene - 3 - carboxylic acid dissolved in said non-polar organic solvent by means of an alkali metal boronhydride in a lower aliphatic alcohol;

(c) saponifying the 18β - hydroxy-11,17α-dimethoxy-16β-methoxy carbonyl - 5 - methyl-3-oxo-2-3-seco-20α-yohimbane by means of an alcoholic alkali metal hydroxide solution to yield 16β-carboxy-18β-hydroxy-11,17α-dimethoxy-5-methyl-3-oxo-2-3 - seco - 20α - yohimbane;

(d) converting said saponification product into the corresponding lactone by heating with acetic aid anhydride in acetic acid in the presence of an alkali metal acetate;

(e) dissolving the resulting lactone of 16β-carboxy-18β - hydroxy - 11,17α - dimethoxy - 5 - methyl - 3 - oxo-2-3-seco-20α-yohimbane in ethyl acetate, allowing the solution to crystallize, and separating the crystallized C_5-isomer of the a-series from the dissolved C_5-isomeric lactone of the b-series remaining in the mother liquors from the 5a-isomer;

(f) cyclizing said crystallized C_5-isomer of the a-series by means of phosphorus oxychloride;

(g) reducing the resulting quaternary base of the lactone of 16β-carboxy-18β-hydroxy-11,17α-dimethoxy-5a-methyl-Δ^3,20α-yohimbene by means of an alkali metal boronhydride dissolved in a mixture of water and an alcohol miscible with water to the lactone of 16β-carboxy - 18β - hydroxy - 11,17α - dimethoxy-5a - methyl - 20α - yohimbane;

(h) converting said lactone into the corresponding 3β-isomer by heating with formic acid;

(i) subjecting said 3β-isomer to methanolysis by the action of an alkali methanolate in methanol; and

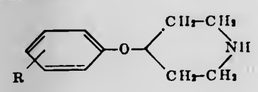
(j) esterifying the resulting 18β - hydroxy - 11,17α - dimethoxy - 16β - methoxy carbonyl - 5a - methyl - 3β,20α-yohimbane by means of 3,4,5-trimethoxy benzoylchloride to yield the 5a-methyl reserpine.

3,260,723
4-PHENOXY PIPERIDINES; α4-PHENOXY PIPERIDEINES

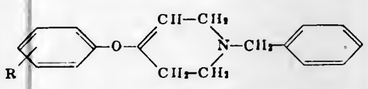
Yvon J. L'Italien, Plymouth, and Alfred Campbell, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Filed Aug. 27, 1963, Ser. No. 304,960
10 Claims. (Cl. 260—294.7)

1. A compound of the group consisting of 4-phenoxypiperidines of formula



4-phenoxy-1,2,3,6-tetrahydropyridines of formula



and acid addition salts of said 4-phenoxypiperidines; where R is a member of the group consisting of hydrogen and fluorine atoms.

2. 4-phenoxypiperidine.

3,260,724
ORGANO - BORON - CONTAINING QUATERNARY AMMONIUM COMPOUNDS AND A PROCESS FOR THEIR PRODUCTION

Theodore L. Heying, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Jan. 23, 1963, Ser. No. 254,543
19 Claims. (Cl. 260—295)

1. A method for the preparation of an amine salt of an organoboron dicarboxylic acid which consists in reacting a compound of the formula

$$RR'B_{10}H_8[C(COOH)]_2$$

wherein R and R' are each selected from the class consisting of hydrogen and alkyl of from 1 to 5 carbon atoms, with a material selected from the group consisting of ammonia, pyridine, hydrazine, primary amines of the formula NH_2R^a, wherein R^a is alkyl of not more than 5 carbon atoms, secondary amines of the formula NHR_2^b, wherein R^b is alkyl of not more than 5 carbon atoms, and tertiary amines of the formula NR_3^c, wherein R^c is alkyl of not more than 5 carbon atoms.

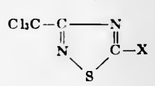
7. The method of claim 1 wherein the said material is pyridine.

3,260,725
3-TRICHLOROMETHYL-5-SUBSTITUTED-1,2,4-THIADIAZOLE

Hansjuergen A. Schroeder, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Mar. 15, 1961, Ser. No. 95,829
9 Claims. (Cl. 260—302)

1. A 3-trichloromethyl-5-substituted-1,2,4-thiadiazole having the formula



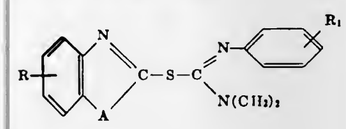
in which X is selected from the group consisting of Cl, NH_2, NHR, NR_2, OR and SR where R is an alkyl group of 1 to 4 carbon atoms.

3,260,726
2-(HETEROCYCLIC)-ISOTHIOUREA

Klaus Sasse, Engelbert Kühle, and Ludwig Eue, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Aug. 1, 1963, Ser. No. 299,174
Claims priority, application Germany, Sept. 5, 1962, F 37,752
5 Claims. (Cl. 260—306.6)

1. A compound of the formula



in which

R is a member selected from the group consisting of hydrogen, lower alkyl, chloro, methoxy, trifluoromethyl, and nitro;

R_1 is a member selected from the group consisting of hydrogen and chloro; and

A is a member selected from the group consisting of =NH, =S and =O.

3,260,727
CERTAIN ARYL-SUBSTITUTED-1,1-ETHYLENE-BIS-LACTAM COMPOUNDS

Richard A. Hickner and William W. Bakke, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 2, 1962, Ser. No. 170,831
3 Claims. (Cl. 260—307)

1. 4 - methyl - 3 - (1-(2-oxo-1-pyrrolidinyl)ethyl)-5-p-tolyl-2-oxazolidinone.

2. 5 - tertiarybutyl - 3 - (1-(2-oxo-4-phenyl-1-pyrrolidinyl)ethyl)-2-oxazolidinone.

3. 5 - (paratertiarybutylphenyl) - 3 - (1-(3-p-cumenyl-2 - ethyl - 5 - oxo-1-pyrrolidinyl)ethyl)-4-methyl-2-oxazolidinone.

3,260,728
PROCESS FOR POLYMERIZING ETHYLENE WITH LAURYL METHACRYLATE AND N-VINYL-2-PYRROLIDONE

Stephan Ilnyckyj, Sarnia, Ontario, Canada, assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 4, 1964, Ser. No. 372,700
5 Claims. (Cl. 260—326.14)

1. Process for the manufacture of an improved pour depressant and sediment improver which comprises introducing a benzene solvent into a reaction zone, maintaining the reaction zone at a temperature in the range from 200° to 400° F., thereafter pressurizing the same with ethylene to a pressure in the range from 500 to 2000 p.s.i.g., thereafter introducing into said recation zone a monomer selected from the group consisting of lauryl methacrylate and lauryl methacrylate and N-vinyl-2-pyrrolidone and a promoter and maintaining said zone at said pressure and temperature conditions for a period of from two to three hours, thereafter recovering a polymer having a molecular weight in the range from 700 to 3500 therefrom.

3,260,729
BENZOATE OF 1-(6'-METHOXY-3'-INDOLYL)-2-PROPYLAMINE

Andre Allais, Paris, France, assignor to Roussel-Uclaf, S.A., Paris, France, a corporation of France

No Drawing. Filed Oct. 16, 1962, Ser. No. 230,989
Claims priority, application France, Sept. 30, 1957, 748,371; July 17, 1962, 904,208
1 Claim. (Cl. 260—326.14)

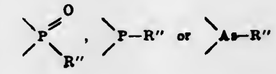
The benzoate of 1 - (6' - methoxy-3'-indolyl) - 2-propylamine.

3,260,730
REACTION OF METAL CARBONYLS WITH 5-MEMBERED CYCLIC DIENES AND COMPOUNDS PRODUCED THEREBY

Karl W. Hubel and Erwin Ludwig Weiss, Brussels, Belgium, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 16, 1960, Ser. No. 56,366
Claims priority, application Great Britain, Jan. 9, 1958, 840/58; Belgium, Sept. 21, 1959, 582,877
15 Claims. (Cl. 260—332.1)

11. A process for making organometallic complexes which comprises reacting (1) a carbonyl compound of a transition metal of the 6th, 7th or 8th subgroup of the Periodic Table, said carbonyl compound containing only metal atoms and carbonyl groups, with (2) a five-membered cyclic diene, (a) the 1-position of said cyclic diene comprising one of the groups



wherein R'' is lower alkyl or phenyl, and (b) the other metal atoms and carbonyl groups with (2) a five-membered ring members of said cyclic diene being carbon atoms substituted only with hydrogen, lower alkyl, phenyl or halophenyl.

12. A process for making organometallic complexes which comprises reacting (1) a carbonyl compound of a transition metal of the 6th, 7th or 8th subgroup of the Periodic Table, said carbonyl compound containing only bered cyclic diene, (a) the 1-position of said cyclic diene comprising the group $>SO_2$, and (b) the other ring members of said cyclic diene being carbon atoms substituted only with hydrogen, lower alkyl, phenyl or halophenyl.

13. The organometallic complexes produced by the process which comprises reacting (1) a carbonyl compound of a transition metal of the 6th, 7th or 8th subgroup of the Periodic Table, said carbonyl compound containing only metal atoms and carbonyl groups, with (2) a five-membered cyclic diene, (a) the 1-position of said cyclic diene comprising one of the groups >C=NR' or $>C=CR_2''$, wherein R' is hydrogen or lower alkyl and R'' is lower alkyl or phenyl, and (b) the other ring members of said cyclic diene being carbon atoms substituted only with hydrogen, lower alkyl, phenyl or halophenyl.

3,260,731
PROCESS FOR PREPARING FURONITRILE

Thomas J. Jennings, Lafayette, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 2, 1964, Ser. No. 348,827
4 Claims. (Cl. 260—346.1)

1. In the process of producing furonitrile by intimately contacting

(a) furfural,

(b) ammonia,

(c) molecular oxygen and

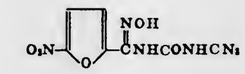
(d) a molybdenum-containing compound as catalyst, in the vapor phase at a temperature of from 400° C. to 500° C. at a substantially atmospheric pressure, the improvement which comprises limiting any contact time of said furfural and said ammonia prior to said contacting of furfural, ammonia, molecular oxygen and catalyst to less than 0.1 second.

3,260,732
N-(METHYLCARBAMYL)-5-NITRO-2-FURAMIDOXIME

Harry Raymond Snyder, Jr., Norwich, N.Y., assignor to The Norwich Pharmacal Company, Norwich, N.Y., a corporation of New York

No Drawing. Filed Jan. 15, 1964, Ser. No. 337,747
1 Claim. (Cl. 260—347.3)

The compound-N-(methylcarbamyl)-5-nitro-2-furamidoxime of the formula:

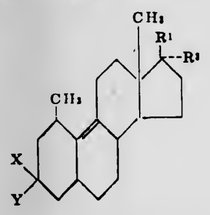


3,260,733
1β-METHYL STEROIDS

Theodore J. Foell, King of Prussia, and Leland L. Smith, Malvern, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 25, 1964, Ser. No. 378,045
5 Claims. (Cl. 260—397.3)

1. A compound having the formula:



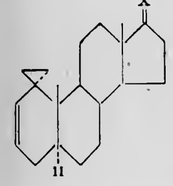
wherein R^1 is selected from the group consisting of hydroxy and lower acyloxy; R^2 is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl and R^1 and R^2 taken together are keto; X is selected from the group consisting of hydroxy and lower acyloxy; Y is hydrogen and X and Y taken together are keto.

3,260,734
1,1-ETHYLENE-17α-ALKYL-Δ²-5α-ANDROSTENE-17β-OL COMPOUNDS

Hans Müller, Friedmund Neumann, and Rudolf Wiechert, Berlin, Germany, assignors to Schering AG, Berlin, Germany

No Drawing. Filed Nov. 27, 1964, Ser. No. 414,452
Claims priority, application Germany, Feb. 1, 1964, Sch 34,562
13 Claims. (Cl. 260—397.3)

1. A compound of the formula:



wherein X is selected from the group consisting of



wherein R_1 is selected from the group consisting of hydrogen and acyl derived from an aliphatic carboxylic acid of up to 12 carbon atoms, and wherein R_2 is lower alkyl.

4. 1,1-ethylene-Δ²-5α-androstene-17-one.

3,260,735
PROCESS FOR REDUCING THE SEDIMENT IN ORGANIC POLYISOCYANATES AND PRODUCT

Eugene L. Powers, New Martinsville, W. Va., assignor to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Nov. 2, 1962, Ser. No. 235,113
6 Claims. (Cl. 260—453)

1. A method of reducing the sediment in an organic polyisocyanate which has been prepared by a process which comprises reacting an aromatic amine selected from the group consisting of aniline, ortho, meta and para-toluidine, xylene amine, tolylene diamine, and ortho, meta and para-xylene diamine, with an aldehyde or ketone having the formula



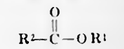
wherein R is hydrogen or a group having up to 7 carbon atoms which is aryl, aralkyl, cycloalkyl or alkyl to prepare a mixture of aromatic polyamines linked together by a group resulting from said aldehyde or ketone and phosgenating the resulting mixture of amines to prepare a corresponding mixture of organic polyisocyanates which comprises reacting said mixture of organic polyisocyanates with sufficient chlorine or bromine until about 0.5 to about 35% by weight of chlorine or bromine becomes chemically combined with said organic polyisocyanate whereby said organic polyisocyanate is free of sediment at a temperature of from about minus 10° C. to about 50° C.

3,260,736
PREPARATION OF THIOLESTERS

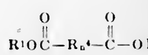
James C. Martin and Russell Gilkey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 20, 1960, Ser. No. 76,997
13 Claims. (Cl. 260—455)

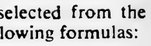
1. A process for preparing a thiolester comprising heating at a temperature up to about 320° C. in the presence of a basic ester interchange catalyst a phenyl ester of a carboxylic acid selected from the group consisting of those having the following formulas wherein R′ represents said phenyl in the form of phenyl radicals:



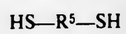
and



with a mercaptan selected from the group consisting of those having the following formulas:

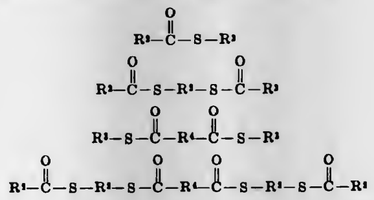


and

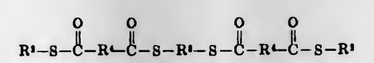


whereby said phenyl radicals from said phenyl ester and hydrogen atoms from the —SH radicals of said mercaptan react to form a phenol which is removed by vaporization during said heating at a temperature at least sufficient to produce said vaporization, said mercaptan having a boiling point higher than said phenol, said phenyl radicals (R^1) are selected from the group consisting of unsubstituted phenyl, chloro-substituted phenyl, methyl-substituted phenyl, and nitro-substituted phenyl radicals, R^2 is a monovalent radical selected from the group consisting of phenyl radicals, aliphatic radicals containing from 1 to 18 carbon atoms, cycloaliphatic radicals containing from 4 to 18 carbon atoms, said radicals having methyl-substituents and said radicals having nitro-substituents, R^3 is a monovalent radical selected from the group consisting of phenyl radicals, aliphatic radicals containing from 8 to 18 carbon atoms, said radicals having methyl-substituents and said radicals having nitro-substituents, R^4 is a divalent radical containing from 1 to 10 carbon atoms selected from the group consisting of o-phenylene, m-phenylene, p-phenylene, an aliphatic divalent radical, a cycloaliphatic radical, said radicals having methyl-substituents and said radicals having nitro-substituents, R^5 is a divalent radical selected from the group consisting of o-phenylene, m-phenylene, p-phenylene, an alkylidene diphenyl radical containing up to 18 carbon atoms, an aliphatic radical containing from 4 to 10 carbon atoms, said radicals having methyl-substituents and said radicals having nitro-substituents, n is a cardinal number of from 0 to 1, said thiolester produced by this process having a

formula wherein the symbols have been defined above which is selected from the gorup consisting of:



and

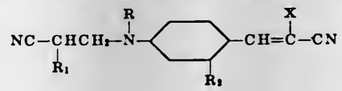


3,260,737
N-BETA-CYANOETHYL-N-LOWER ALKYL-ALPHA-CYANO-CINNAMO-NITRILE, CINNAMATE AND CINNAMIC ACID AMIDE COMPOUNDS

James M. Straley, David J. Wallace, and Max A. Weaver, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Apr. 3, 1963, Ser. No. 270,144
8 Claims. (Cl. 260—465)

1. Methine compounds having the general formula



wherein

R and R_2 each represents a lower alkyl group,

R_1 represents a member of the class consisting of hydrogen and lower alkyl groups,

X represents a member of the class consisting of CN, $CONH_2$ and COOY radicals in which Y represents a member of the class consisting of lower alkyl and lower cycloalkyl groups.

3,260,738
HYDRACRYLATE ESTER PRODUCTION

James D. McClure, Berkeley, and Rudolph F. Fischer, Oakland, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 9, 1965, Ser. No. 478,452
10 Claims. (Cl. 260—484)

1. In the process for the production of hydracrylate esters by the carbonylation of ethylene oxide with carbon monoxide, the improvement which comprises conducting the carbonylation in substantially anhydrous alcoholic solution comprising primary monohydric alkanol of up to 8 carbon atoms and up to about 400% wt. based on the alkanol of hydrocarbon co-solvent, the molar ratio of said alkanol to ethylene oxide being from about 2:1 to about 20:1, in the presence of from about 0.00001 mole to about 0.5 mole of cobalt carbonyl carbonylation catalyst per mole of ethylene oxide, at a temperature from about 50° C. to about 150° C. and a pressure from about 1000 p.s.i. to about 10,000 p.s.i.

6. In the process for the production of hydracrylate esters by carbonylation of ethylene oxide with carbon monoxide, the improvement which comprises conducting the carbonylation in substantially anhydrous alcoholic solution comprising primary monohydric alkanol of up to 8 carbon atoms and up to about 400% by weight based on the alkanol of hydrocarbon co-solvent, the molar ratio of said alkanol to ethylene oxide being from about 2:1 to about 20:1, in the presence of from about 0.00001 mole to about 0.5 mole of cobalt carbonyl carbonylation catalyst per mole of ethylene oxide and from about 0.00001 mole to about 0.5 mole of basic co-catalyst per mole of ethylene oxide, at a temperature of from about 50° C. to about 150° C. and a pressure from about 1000 p.s.i. to about 10,000 p.s.i.

3,260,739
PRODUCTION OF VINYL ACETATE BY OXIDATION OF ETHYLENE WITH A PALLADOUS SALT-CONTAINING CATALYST AND CATALYST REGENERATION WITH OXYGEN AND A NITRITE OR NITROGEN OXIDE

William D. Schaeffer, Pomona, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Dec. 26, 1961, Ser. No. 161,932
2 Claims. (Cl. 260—497)

2. The production of vinyl acetate from ethylene which comprises:

(1) contacting ethylene with an anhydrous acetic acid solution containing between about 0.001 and about 5.0 weight percent palladium as palladous ion, between about 1 and about 25 weight percent copper as cupric ion and between about 0.1, about 5.0 weight percent of a halide ion and from 1×10^{-6} to 1×10^{-1} parts by weight of a soluble nitrite salt, said contacting being effected at a temperature between about 25° and about 250° C. and at a pressure sufficient to maintain said solution in liquid phase;

(2) removing a solution containing vinyl acetate, acetic acid, reduced palladium metal and cuprous ion from step (1);

(3) removing said vinyl acetate from said solution by distillation;

(4) contacting the residue of said distillation with oxygen at a temperature between about 50° and 250° centigrade to oxidize said cuprous ion to cupric ion and said palladium metal to palladous ion;

(5) distilling the water formed in step (4) from said solution; and

(6) returning said solution to contact with ethylene.

3,260,740
SALTS OF α-METHYLBENZYLHYDRAZINE WITH PHARMACEUTICALLY ACCEPTABLE SULPHONATED POLYSTYRENE RESINS

Albert Frederick Crowther and Edwin Harry Paterson Young, both of Macclesfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 17, 1964, Ser. No. 397,282
Claims priority, application Great Britain, Dec. 23, 1958, 41,454/58; June 22, 1959, 21,291/59
1 Claim. (Cl. 260—501)

A salt of α-methylbenzylhydrazine with a pharmaceutically-acceptable sulphonated polystyrene resin.

3,260,741
SULFOXIDATION PROCESS

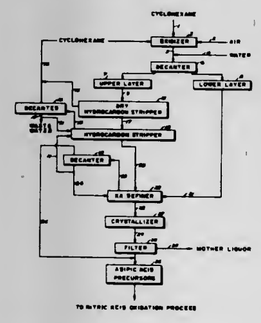
John Mackinnon, Menlo Park, and Adolph A. Austin, Colonia, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Nov. 9, 1962, Ser. No. 236,699
3 Claims. (Cl. 260—513)

1. In a method for producing sulfonic acids by reacting substantially straight chain hydrocarbons of about 12 to 24 carbon atoms per molecule with oxygen and sulfur dioxide in the liquid phase in a reaction zone at temperatures of about 70–150° F. at pressures of from about 20 to 300 p.s.i.g. for a sufficient time to convert about 5 to 50% of the hydrocarbon feed stocks into reaction products which include persulfonic acids, said reaction being initiated by a free radical producing means and thereafter proceeding quite readily in the absence of further initiation by the continuous addition of hydrocarbon feed, oxygen and sulfur to the persulfonic acid-

containing reaction mixture in the reaction zone the improvement which comprises supplying oxygen and sulfur dioxide to the reaction zone in a molar ratio of from about 1:2 to about 1:10, the amount of sulfur dioxide supplied being more than that stoichiometrically necessary to sulfoxidize the hydrocarbon feed, withdrawing reaction mixture from the reaction zone, maintaining the withdrawn reaction mixture under essentially the same pressure as in the reaction zone to maintain excess sulfur dioxide in contact with the sulfoxidized feed, contacting the withdrawn sulfur dioxide-containing reaction mixture with a sufficient quantity of water to reduce substantially all of the persulfonic acids in said mixture to sulfonic acids and recovering sulfonic acids of light color from the reduced reaction mixture.

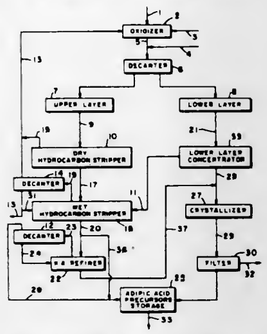
3,260,742
PROCESS FOR RECOVERY OF ADIPIC ACID PRECURSORS
Wylie Barrow Hogeman, Pensacola, Fla., assignor to Monsanto Company, a corporation of Delaware
Filed Sept. 18, 1962, Ser. No. 224,435
5 Claims. (Cl. 260—533)



1. In the manufacture of adipic acid by oxidizing cyclohexane in liquid phase with molecular oxygen in suitable means at a temperature of 130° C. to 190° C. and superatmospheric pressure to cyclohexane oxidation product comprising adipic acid precursors followed by nitric acid oxidation of said adipic acid precursors to adipic acid, the continuous process for separation of said adipic acid precursors from said cyclohexane oxidation product which comprises, in combination, the steps of:

a. injecting water into said cyclohexane oxidation product;
b. decanting the resulting mixture into a first oil phase and a first aqueous phase;
c. stripping substantially all unoxidized cyclohexane from said first oil phase;
d. distilling stripped said first oil phase in the top portion of a distillation means operated with a top temperature controlled at 80° C. to 120° C.;
e. distilling said first aqueous phase simultaneously in the bottom portion of said distillation means operated with a bottom temperature controlled at 100° C. to 140° C;
f. controlling the pressure in said distillation means between subatmospheric and superatmospheric to permit only the water from said first aqueous phase to contact said stripped first oil phase in said distillation means and go overhead therewith in the distillate;
g. decanting said distillate from said distillation means into a second oil phase and a second aqueous phase;
h. precipitating adipic acid precursors at a subatmospheric pressure and a temperature of 30° C. to 60° C. from bottoms from said distillation means; and
i. combining precipitated adipic acid precursors and said second oil phase as feed for said nitric acid oxidation to adipic acid.

3,260,743
PROCESS FOR RECOVERY OF ADIPIC ACID PRECURSORS
Wylie B. Hogeman, Pensacola, Fla., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Sept. 18, 1962, Ser. No. 224,443
4 Claims. (Cl. 260—533)

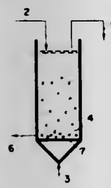


1. In the manufacture of adipic acid by oxidizing cyclohexane in the liquid phase with molecular oxygen at a temperature between 130° C. and 190° C. and superatmospheric pressures to a cyclohexane oxidation product, comprising adipic acid precursors followed by oxidation of said adipic acid precursors to adipic acid by nitric acid oxidation, the process for the separation of the adipic acid precursors from said cyclohexane oxidation product which comprises, in combination, the steps of:

a. injecting water into the effluent from a liquid phase cyclohexane oxidation step;
b. decanting the resulting aqueous mixture into a first oil phase and a first aqueous phase;
c. subjecting said first aqueous phase to distillation conditions in a first distillation means operated at atmospheric pressure with a top temperature of 80° C. to 120° C. and a bottom temperature of 100° C. to 140° C. to obtain an aqueous distillate and an adipic-acid-rich precursor tail stream;
d. subjecting concurrently said first oil phase and said aqueous distillate to distillation conditions in a second distillation means operated at atmospheric pressure and a top temperature of 60° C. to 100° C. to remove substantially all unoxidized cyclohexane from the combined first oil phase and said aqueous distillate;
e. subjecting at least a part but not all of the resulting substantially cyclohexane-free first oil phase and aqueous distillate to distillation conditions in a third distillation means operated at atmospheric pressure and a top temperature of 80° C. to 120° C. and a bottom temperature of 100° C. to 140° C.;
f. combining any tail stream from said third distillation means with said adipic-acid-rich precursor tail stream from said first distillation means;
g. precipitating, at a temperature between 30° C. and 60° C. and a pressure less than atmospheric, adipic acid precursors from the resulting combined mixture of said any tail stream from said third distillation means and said adipic-acid-rich precursor tail stream;
h. decanting the distillate from said third distillation means into a second oil phase and a second aqueous phase;
i. combining:
(1) the precipitated adipic acid precursors,
(2) said second oil phase, and
(3) that part of said resulting substantially cyclohexane-free first oil phase and aqueous distillate not subjected to distillation

to prepare an adipic acid precursor feed stock for subsequent nitric acid oxidation.

3,260,744
METHOD OF OPTICALLY RESOLVING RACEMIC AMINO ACIDS
Kenkichi Ito, Midarebashi, Kamakura-shi, Kanagawa-ken, Takekazu Akashi, Kawasaki-shi, Kanagawa-ken, and Susumu Tatsumi, Kamakura-shi, Kanagawa-ken, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan
Filed Oct. 9, 1963, Ser. No. 315,006
Claims priority, application Japan, Sept. 28, 1958, 33/27,649
12 Claims. (Cl. 260—534)



1. A method of optically resolving a racemate of an amino acid selected from the group consisting of glutamic acid, glutamic acid hydrochloride, and threonine, said racemate forming a conglomerate of crystals of the two enantiomorphs thereof which comprises:

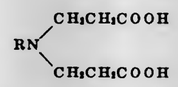
(a) keeping a supersaturated solution of said racemate in contact with seed crystals of one of the enantiomorphs thereof in a crystallization zone until a portion of the one enantiomorph in said racemate is preferentially deposited on said seed crystals; and
(b) continuously replenishing the supersaturated racemate solution in said zone at a rate sufficient to keep the concentration of the optically active free form of the other enantiomorph in the solution in said zone below five percent of the combined concentration of said other enantiomorph and of said racemate.

3,260,745
N-t-ALKYL-BETA-AMINO PROPIONIC ACIDS
Harry J. Andress, Jr., Pitman, and Paul Y. C. Gee, Woodbury, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Original application Apr. 18, 1962, Ser. No. 188,564. Divided and this application June 25, 1964, Ser. No. 378,035
2 Claims. (Cl. 260—534)

1. As a new chemical compound, adapted for use as addition agents for distillate fuel oils, a compound from the group consisting of:

(*a*) $RNHCH_2CH_2COOH$

and

(*b*) 

wherein R is an alkyl group containing from about 4 to about 30 carbon atoms and having a tertiary carbon atom attached to the nitrogen atom.

3,260,746
BIS-(N-ACETYLHYDRAZINO-N'-CARBONYL-METHYL)DISULPHIDE
Wallace Broadbent, Francis Leslie Rose, and Arthur Leonard Walpole, all of Macclesfield, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain
No Drawing. Filed July 23, 1962, Ser. No. 211,849
Claims priority, application Great Britain, Aug. 1, 1961, 27,871/61
1 Claim. (Cl. 260—561)

A compound of the formula:

$(SCH_2CONHNHCOCH_3)_2$

3,260,747
PROCESS FOR PREPARING SCYLLO-INOSAMINE
Alexander D. Argoudelis and Brian Bannister, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Original application Nov. 15, 1962, Ser. No. 238,047, now Patent No. 3,207,780, dated Sept. 21, 1965. Divided and this application Aug. 31, 1964, Ser. No. 393,374
2 Claims. (Cl. 260—563)

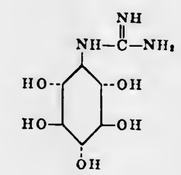
1. A process which comprises reacting a compound selected from the group consisting of bluensidine and hexaacylbluensidine wherein the acyl radical is selected from the class consisting of hydrocarbon carboxylic acid acyl of from 2 to 12 carbon atoms, inclusive with an alkaline material selected from the group consisting of alkali metal hydroxides, alkaline earth metal hydroxides, alkali metal carbonates, and strongly basic anion exchange resins to produce scyllo-inosamine.

3,260,748
S-(4-VINYLBENZYL)-ISOTHIOUREA AND ISOTHIOURONIUM CHLORIDE
Samuel J. Nelson, Jr., Grosse Pointe, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 6, 1963, Ser. No. 263,110
3 Claims. (Cl. 260—564)

1. A compound selected from the group consisting of S-(4-vinylbenzyl)isothiouronium chloride and S-(4-vinylbenzyl)isothiourea.

3,260,749
DESCARBAMOYLBLUENSIDINE AND PROCESS FOR THE PREPARATION THEREOF
Alexander D. Argoudelis and Brian Bannister, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Original application Nov. 15, 1962, Ser. No. 238,047, now Patent No. 3,207,780, dated Sept. 21, 1965. Divided and this application Aug. 31, 1964, Ser. No. 393,373
5 Claims. (Cl. 260—564)

1. Descarbamoylbluensidine, a compound which has the structural formula:



or its acid addition salts.

3,260,750
PROCESS FOR PREPARING HYDRAZOBENZENES

Adnan A. R. Sayigh, North Haven, and Alec Odinak, New Haven, Conn., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Oct. 14, 1963, Ser. No. 316,177
7 Claims. (Cl. 260—569)

1. In a process for the production of an o,o'-di(lower-alkyl)hydrazobenzene by catalytic hydrogenation of the corresponding o-(lower-alkyl)nitrobenzene in the presence of a noble metal hydrogenation catalyst and an alkali metal hydroxide the improvement which comprises initially maintaining the temperature of the reaction mixture within the range of about 0° C. to about 40° C. until the amount of hydrogen consumed corresponds to approximately 1.5 moles per mole of starting o-(lower-alkyl)nitrobenzene, and thereupon raising the reaction temperature to between about 60° C. and about 100° C. until further uptake of hydrogen ceases.

3,260,751
METHOD OF PREPARING POLYAMINES

Eugene L. Powers and Irvin B. Van Horn, New Martinsville, W. Va., assignors to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 13, 1963, Ser. No. 287,522
6 Claims. (Cl. 260—570)

1. A method of preparing polyamines which comprises mixing continuously under turbulent flow conditions at a Reynolds number of from about 4500 to about 100,000, an amine which is aniline, chloroaniline, ortho-, meta- and paratoluidine, ortho-, meta- and para-phenetidine, ortho-, meta- and para-anisdine, ortho-, meta- and para-xylidine, ortho-, meta- and para-xenyl amines, nitroaniline 2,4-tolylene diamine or 2,6-tolylene with an aldehyde or ketone which is formaldehyde, acetaldehyde, propionaldehyde, butyraldehyde, benzaldehyde, cyclohexanealdehyde, acetone, methyl ethyl ketone, methyl-n-propyl ketone, diethyl ketone, hexanone-2, hexanone-3, di-n-propyl ketone or cyclohexanone, the reactants being continuously present in the reaction zone in proportions of from about 1.4 to about 4 mols of amine per mole of aldehyde or ketone, said reaction being carried out in the presence of an acid catalyst for the condensation of said amine with said aldehyde or ketone.

3,260,752
PROCESS FOR THE PREPARATION OF DIAMINES FROM OLEFINICALLY UNSATURATED NITRILES

Arthur F. Miller, Lyndhurst, and Milena Salehar and John Williams, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 28, 1963, Ser. No. 254,434
7 Claims. (Cl. 260—583)

1. In the process for production of trimethylene diamine by the reaction of a mixture of acrylonitrile, ammonia and hydrogen in the presence of a hydrogenation catalyst and water wherein the molar ratio of ammonia to acrylonitrile is from 5:1 to 40:1 and the molar ratio of water to ammonia is up to 10:1 the improvement comprising conducting the reaction at a temperature in the range of 50 to 350° C. and at a pressure in the range of 15 to 200 atmospheres and replacing a major proportion and up to about 95% of the water with a high boiling solvent having the formula

R—O—R'—O—R''

wherein R is a member selected from the group consisting of hydrogen and an alkyl group having from one to four carbon atoms, R' is an alkylene group having from two to four carbon atoms and R'' is a member selected from the group consisting of hydrogen, an alkyl group having from one to four carbon atoms and a monohydroxy alkyl group having from two to four carbon atoms.

3,260,753
CATALYTIC PROCESS FOR PREPARING ACROLEIN

Edgar L. McDaniel and Howard S. Young, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 14, 1963, Ser. No. 316,159
18 Claims. (Cl. 260—604)

16. A catalyst composition comprising a calcined mixture of from 10 to 50% by weight of bismuth oxide and from 10 to 50% by weight of silicovanadotungstic acid.

3,260,754
PREPARATION OF REACTION PRODUCTS OF DIBORANE AND CONJUGATED DIOLEFINS

Eugene J. DeLorenzo, Bronx, N.Y., and Robert V. Wright, North Highland, Calif., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Apr. 20, 1961, Ser. No. 104,474
16 Claims. (Cl. 260—606.5)

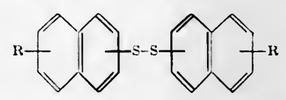
1. A method for the preparation of reaction products of diborane and a conjugated diolefin which comprises reacting 1 to 10 moles of diborane per mole of a conjugated diolefin hydrocarbon containing 4 to 5 carbon atoms at a temperature within the range from about 0° C. to about 200° C. while the reactants are in admixture with a hydrocarbon solvent.

3,260,755
PREPARATION OF AROMATIC DISULFIDES

Edward J. McNelis, Wallingford, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Aug. 23, 1963, Ser. No. 304,264
14 Claims. (Cl. 260—608)

1. Method for preparing aromatic disulfides having the general formula



wherein R is selected from the group consisting of hydrogen and an alkyl radical containing from 1 to 15 carbon atoms which comprises heating an aromatic mercaptan having the general formula



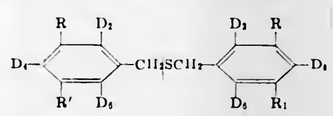
in the presence of activated manganese dioxide at a temperature in the range of from 20° C. to 250° C. for a period of time in the range of from 5 minutes to 25 hours and thereafter recovering said aromatic disulfide.

3,260,756
METHOD OF PREPARING BIS HYDROXY BENZYL SULFIDES

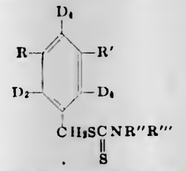
Francis X. O'Shea, Wolcott, and Frank B. Root, Waterbury, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 1, 1963, Ser. No. 299,148
11 Claims. (Cl. 260—609)

1. The method of preparing a product of the formula



by reacting an intermediate of the formula



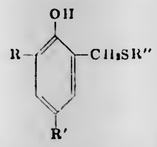
with an alkali metal sulfide or an alkali metal hydrosulfide precursor thereof; wherein any two of the substituents D_2, D_4 and D_6 are hydrogen while the third of the said substituents is an hydroxyl group, and wherein R and R' are each alkyl, cycloalkyl or aralkyl groups having less than 13 carbon atoms each, and wherein R'' and R''' are alkyl groups of less than 6 carbon atoms each.

3,260,757
METHOD OF PREPARING A 2,4-DIALKYL-6-HYDROXYBENZYL ALKYL SULFIDE

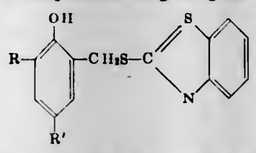
Francis X. O'Shea, Wolcott, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 1, 1963, Ser. No. 299,167
3 Claims. (Cl. 260—609)

1. A method of preparing a compound having the general formula



in which R and R' are selected from the group consisting of alkyl, cycloalkyl and aralkyl groups of up to 12 carbon atoms each, and R'' is selected from the group consisting of alkyl, hydroxyalkyl, cycloalkyl, aryl and aralkyl groups of up to 18 carbon atoms, comprising treating one molar equivalent of a compound having the general formula



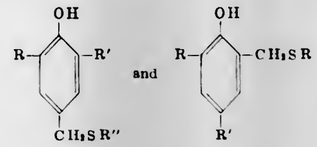
in which R and R' are as previously defined, with one molar equivalent of an alkali metal hydroxide and at least one molar equivalent of a mercaptan of the general formula R''SH in which the R'' is as previously described in a liquid medium comprising an organic solvent at a temperature from about 20° C. to about 100° C.

3,260,758
METHOD OF MAKING CERTAIN DIALKYL-HYDROXYBENZYL ALKYL SULFIDES

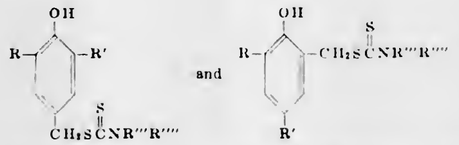
Francis X. O'Shea, Wolcott, and Frank B. Root, Waterbury, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 1, 1963, Ser. No. 299,183
7 Claims. (Cl. 260—609)

1. A method of preparing a compound selected from the group of those of the formulas:



in which R and R' are selected from the group consisting of alkyl, cycloalkyl and aralkyl groups of up to 12 carbon atoms each and R'' is selected from the group consisting of alkyl, hydroxyalkyl, aryl, cycloalkyl and aralkyl groups of up to 18 carbon atoms, comprising heating one molar equivalent of a compound selected from the group consisting of those of the general formulas:



in which R and R' are as previously defined and R''' and R'''' are lower alkyl radicals in admixture with one molar equivalent of an alkali metal hydroxide and at least one molar equivalent of a mercaptan of the general formula:

R''SH

in which R'' is as previously defined, at a temperature from room temperature to 100° C.

3,260,759
INCREASED CATALYST LIFE IN THE HYDROGENATION OF HYDROXYALDEHYDES TO POLYOLS

John R. Skinner, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 27, 1961, Ser. No. 141,023
10 Claims. (Cl. 260—635)

1. In a process for converting a water-soluble aliphatic hydroxyaldehyde having 2 to 10 carbon atoms per molecule which contains only carbon, hydrogen, and hydroxyl and aldehyde oxygen atoms to the corresponding polyol by subjecting said aldehyde to catalytic hydrogenation using a catalyst of the group consisting of ruthenium and nickel at about 50° to below about 200° C. and under a hydrogen pressure of at least 200 p.s.i.g., the method of increasing the effective life of the hydrogenation catalyst of,

starting the reaction by feeding the aldehyde into prediluted aqueous reaction medium under hydrogenation conditions so the initial contact of catalyst with aldehyde takes place with the concentration of free aldehyde in the mixture below 0.05 equivalents of aldehyde per kilogram of reaction mixture, and

continuing the feed of said aldehyde to the reaction mixture under hydrogenation conditions at a rate of 0.05 to 500 pounds of hydroxyaldehyde per hour per pound of hydrogenation catalyst at which said aldehyde concentration is continued to be maintained below 0.05 equivalent of aldehyde per kilogram of reaction mixture throughout the mixture at all times during the reaction.

3,260,760
STABILIZED CHLORINATED HYDROCARBON COMPOSITIONS

Charles Domen and André Ryckaert, Brussels, Belgium, and Charles Jegge, Zurzach, Aargau, Switzerland, assignors to Solvay & Cie, Brussels, Belgium, a Belgian company

No Drawing. Filed Oct. 8, 1963, Ser. No. 314,650
Claims priority, application Belgium, Oct. 31, 1962, 628,330
6 Claims. (Cl. 260—652.5)

1. A stabilized chlorinated hydrocarbon containing a stabilizing amount of a mixture of a phenolic compound selected from the group consisting of lower-alkyl phenol, catechol, and lower-alkyl catechol and an epoxide selected from the group consisting of glycidol, 1,2-epoxy-3-cyclo-

pentanol, glycidyl acetate, 1,2-epoxy-3-methoxypropane, 1,2-epoxy-3-ethoxypropane, allyl-glycidyl ether, 1,2,3,4-diepoxybutane.

3,260,761

PRODUCTION OF TRICHLORETHYLENE

Harry O. Burrus, Lewiston, and Ronald F. Mason, Wilson, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 4, 1962, Ser. No. 199,604
9 Claims. (Cl. 260—654)

1. In a process for the production of perchlorethylene and trichlorethylene from a chlorinated material selected from the group consisting of carbon tetrachloride, hexachlorethane and mixtures thereof, the steps comprising:

(a) converting the said chlorinated material to perchlorethylene by heating with a chlorine acceptor selected from the group consisting of aromatic hydrocarbons, partially chlorinated aromatic hydrocarbons and mixtures thereof at a temperature of at least about 300° C.,

(b) hydrochlorinating a portion of said perchlorethylene to pentachlorethane by heating with hydrogen chloride at a pressure of at least 500 p.s.i.g. and a temperature of at least about 100° C. in the presence of a Friedel-Crafts catalyst selected from the group consisting of metal and metalloid halides,

(c) dechlorinating said pentachlorethane of step (b) to trichlorethylene by heating with a chlorine acceptor of the group set forth in step (a) at a temperature in the range of about 200° C. to about 450° C.

7. The process for converting perchlorethylene to trichlorethylene comprising:

(a) hydrochlorinating perchlorethylene to pentachlorethane by heating with hydrogen chloride gas at a pressure of at least 500 p.s.i.g. and a temperature of about 100° C. to about 200° C. in the presence of a Friedel-Crafts catalyst selected from the group consisting of metal and metalloid halides, and

(b) dechlorinating said pentachlorethane of step (a) to trichlorethylene by heating with a chlorine acceptor selected from the group consisting of aromatic hydrocarbons, partially chlorinated aromatic hydrocarbons and mixtures thereof at a temperature in the range of about 200° C. to about 450° C.

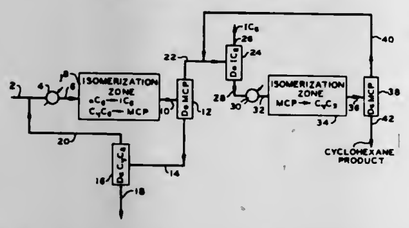
8. The process of converting pentachlorethane to trichlorethylene by heating said pentachlorethane with a chlorine acceptor selected from the group consisting of aromatic hydrocarbons, chlorinated aromatic hydrocarbons and mixtures thereof at a temperature in the range of about 200° C. to about 450° C.

3,260,762

ISOMERIZATION PROCESS

John T. Cabbage, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 2, 1963, Ser. No. 277,635
6 Claims. (Cl. 260—666)



1. A process for the production of high-purity cyclohexane from a feed containing cyclohexane, dimethylpentanes, isohexanes, n-hexane and benzene in addition to other close-boiling hydrocarbons comprising passing said feed through a first isomerization zone containing a fixed bed isomerization catalyst, maintaining conditions therein suitable for isomerizing said cyclohexane to methylcyclopentane, recovering from the effluent of said first zone a first fraction concentrated in methylcyclopentane and being substantially free of said dimethylpentanes, passing said first fraction through a second isomerization zone containing a fixed bed isomerization catalyst, maintaining conditions in said second zone suitable for isomerizing said methylcyclopentane to cyclohexane, and recovering high purity cyclohexane from the effluent from said second zone.

3,260,763

AROMATIC ALKYLATION PROCESS

Stephen M. Kovach, Highland, Ind., and Glenn O. Michaels, Park Forest, Ill., assignors to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 19, 1961, Ser. No. 139,055
6 Claims. (Cl. 260—671)

1. A process for alkylating an alkylatable aromatic hydrocarbon with an alkylating agent comprising contacting the alkylatable aromatic hydrocarbon with an alkylating agent under alkylation conditions including a temperature of about 400 to 1000° F. in the presence of a catalyst consisting essentially of a catalytic amount of chromia on a silica-alumina support, said catalyst having a pore volume in excess of about 0.5 cc. per gram.

3,260,764

TRANSMETHYLATION AND DISPROPORTIONATION OF AROMATICS

Stephen M. Kovach, Highland, Ind., and Glenn O. Michaels, Park Forest, Ill., assignors to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 5, 1962, Ser. No. 164,601
The portion of the term of the patent subsequent to Feb. 2, 1982, has been disclaimed
8 Claims. (Cl. 260—672)

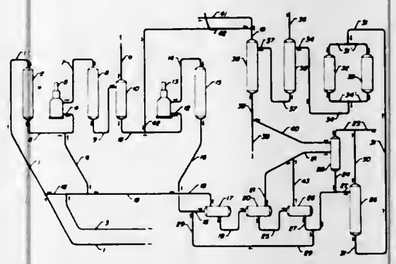
1. A process for treating polyalkyl aromatics which comprises contacting a polyalkyl aromatic feedstock under transmethylation and disproportionation conditions at a temperature between about 400 to 1000° F. and in the presence of a catalyst consisting essentially of about 1 to 20 weight percent boria, about 1 to 20 weight percent chromia on a calcined alumina base.

3,260,765

TREATMENT OF ALKYL-SUBSTITUTED AROMATIC COMPOUNDS

George F. Asselin, Mount Prospect, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed May 25, 1965, Ser. No. 458,648
6 Claims. (Cl. 260—672)



1. A process for producing aromatic hydrocarbons from an olefin-containing, alkyl-substituted aromatic hydrocarbon charge stock containing contaminants selected

from the group consisting of nitrogenous compounds, sulfurous compounds and mixtures thereof which process comprises reacting said charge stock with hydrogen in a first reaction zone at hydrogenation conditions including a temperature below 500° F. to hydrogenate diolefins and partially hydrogenate at least a portion of said alkyl-substituted hydrocarbons, passing the resultant substantially diolefin-free effluent into a second reaction zone and further reacting said effluent with hydrogen in contact with a catalytic composite having hydrogenation-dehydrogenation activity at reaction conditions including a temperature above 500° F. to convert nitrogenous compounds into hydrocarbons and ammonia and to dehydrogenate the partially hydrogenated aromatic hydrocarbons formed in said first zone, removing ammonia from the resulting second reaction zone effluent, and further reacting the remainder of said second reaction zone effluent with hydrogen in a third reaction zone in contact with a dealkylation catalyst at dealkylation conditions to convert said alkyl-substituted aromatic hydrocarbons to the corresponding aromatic hydrocarbons.

3,260,766

PROCESS FOR TREATING OLEFIN MONOMERS

Walter Nudenberg, West Caldwell, and Edward A. Delaney, Morris Plains, N.J., assignors to Texas-U.S. Chemical Company, Port Neches, Tex., a corporation of Delaware

No Drawing. Filed May 20, 1963, Ser. No. 281,808
16 Claims. (Cl. 260—677)

1. A process for preparing polymerization grade olefin monomers which comprises contacting an olefin-containing hydrocarbon stream with an anhydrous solvent selected from the group consisting of aliphatic hydrocarbons substituted with at least two hydrophilic radicals selected from the group consisting of hydroxyl radicals, amino radicals and mixtures thereof, anhydrides and polyamines of said hydrophilic substituted aliphatic hydrocarbons, said anhydrous solvent containing a dissolved cuprous salt and separating from said anhydrous solvent a raffinate containing an olefin monomer of substantially reduced moisture, acetylene and carbonyl content.

3,260,767

HYDROCARBON DEHYDROGENATION

Laimonis Bajars, Princeton, N.J., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed Dec. 4, 1962, Ser. No. 242,097
5 Claims. (Cl. 260—680)

1. The method for preparing aliphatic diolefins which comprises heating in the vapor phase at a temperature in the range of about 400° C. to about 800° C. a mono-olefinic hydrocarbon containing 4 to 6 carbon atoms with oxygen in a molar ratio of about one-fourth to about two mols of oxygen per mol of mono-olefin, an iodine liberating material in amount greater than 0.001 mol to 0.1 mol of iodine per mol of mono-olefin, the amount of oxygen employed being greater than one mol of oxygen per atom of iodine, the partial pressure of said mono-olefin being less than about 10 inches mercury, in the presence of a catalyst consisting essentially of palladium oxide.

3,260,768

OXIDATIVE DEHYDROGENATION OF OLEFINS USING AN ANTIMONY OXIDE-IRON OXIDE CATALYST

James L. Callahan, Bedford, Ohio, Berthold Gertisser, New York, N.Y., and Robert Grasselli, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 11, 1962, Ser. No. 201,330
6 Claims. (Cl. 260—680)

1. The process for the oxidative dehydrogenation of olefins to diolefins which comprises contacting a mixture of oxygen and an olefin having at least four up to about eight nonquaternary carbon atoms, of which at least four are arranged in a series, in the vapor phase at a temperature at which the oxidative dehydrogenation proceeds with a catalyst consisting essentially of an active catalytic oxide complex of antimony and iron, the Sb:Fe atomic ratio being within the range from about 1:50 to about 99:1, said complex being formed by heating the mixed oxides of antimony and iron in the presence of oxygen at an elevated temperature of above 500° F. but below their melting point for a time sufficient to form said active catalytic oxide complex of antimony and iron.

3,260,769

PRODUCTION OF OLEFINES FROM ALKYL BORATES

Dennis Marshall, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Sept. 22, 1965, Ser. No. 489,390
Claims priority, application Great Britain, Oct. 6, 1964, 40,723/64
12 Claims. (Cl. 260—682)

1. A process for the production of olefines in which an alkyl or cycloalkyl borate is brought into contact at elevated temperature with a catalyst selected from the group consisting of hydrogenation/dehydrogenation, hydration/dehydration and hydrocarbon cracking catalysts.

3,260,770

PROCESS FOR THE PRODUCTION OF METHYLPENTENES

James Keith Hambling, Sunbury-on-Thames, England, assignor to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed July 3, 1962, Ser. No. 207,385
Claims priority, application Great Britain, Aug. 4, 1961, 28,349/61
8 Claims. (Cl. 260—683.15)

1. A process for the production of methylpentenes from propylene comprising: continuously passing propylene over a dimerisation catalyst comprising sodium dispersed on potassium carbonate to obtain a dimerisation product predominating in 4-methylpentene-1, continuously passing the dimerisation product over an isomerisation catalyst comprising potassium deposited on alumina whereby isomerisation of said methylpentene takes place; periodically discontinuing the flow of propylene over the dimerisation catalyst and regenerating the said catalysts by passing hydrogen at elevated temperature over the catalyst and passing the off-take hydrogen stream obtained therefrom at elevated temperature over the other catalyst and thereafter restoring the flow of propylene over the dimerisation catalyst and of said dimerisation product over the isomerisation catalyst.

3,260,771

2,4-DIHYDROXY-2'-METHYLBENZOPHENONE AS ULTRAVIOLET ABSORBER FOR AN UNSATURATED ALKYD-STYRENE RESIN MIXTURE

Lester N. Stanley, Delmar, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

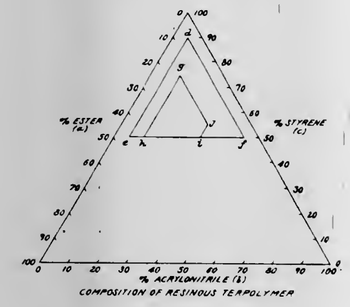
No Drawing. Filed May 11, 1962, Ser. No. 194,181
1 Claim. (Cl. 260—866)

A polymer composition stabilized against ultraviolet light degradation consisting essentially of an unsaturated alkyd-styrene resin mixture having incorporated therein 2,4-dihydroxy-2'-methylbenzophenone in an amount ranging from 0.01% to 5% by weight of said polymer.

3,260,772
FLAME-RESISTANT RUBBER-RESIN COMPOSITION

William Cummings, Woodbury, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 1, 1963, Ser. No. 299,355
11 Claims. (Cl. 260—876)



1. A graft copolymer comprising, by weight, in 100 parts,

(I) from 50 to 95 parts of a resin-forming monomer mixture comprising

(*a*) a polymerizable monoethylenically unsaturated ester of a halogen-containing monoalcohol with an alpha monoethylenically unsaturated carboxylic acid

(*b*) acrylonitrile, and

(*c*) styrene,

the said halogen-containing monoalcohol containing at least two holagen atoms selected from the group consisting of bromine and chlorine and containing from two to twelve carbon atoms, the said halogen atoms being spaced from the hydroxyl group of said alcohol by at least one carbon atom,

and (II) from 50 to 5 parts of a butadiene rubber spine on which said resin-forming monomers are graft copolymerized.

11. A high impact strength flame-resistant thermoplastic composition comprising, by weight,

(A) 70 to 95% of a resinous terpolymer, and correspondingly,

(B) 30 to 5% of a rubbery polymer,

the said resinous terpolymer (A) being a resinous terpolymer of

(*a*) bis(2,3-dibromopropyl) fumarate

(*b*) acrylonitrile, and

(*c*) styrene,

the percentages by weight of (*a*), (*b*) and (*c*) in the terpolymer being such that they fall within the triangle *def* having the following triangular coordinates:

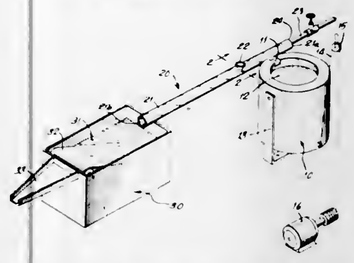
Point	*d*	*e*	*f*
(*a*) Bis(2,3-dibromopropyl)fumarate	5	45	5
(*b*) Acrylonitrile	5	5	45
(*c*) Styrene	90	50	50

the said rubbery polymer (B) being a terpolymer of butadiene, acrylonitrile, and bis(2,3-dibromopropyl) fumarate, containing at least 60% of butadiene, up to 15% of bis(2,3-dibromopropyl) fumarate, and at least 14% of acrylonitrile.

3,260,773
PRODUCTION OF BRONZE POWDERS

Harry E. Thornton, Plainfield, N.J., assignor to Bound Brook Bearing Corporation of America, Middlesex, N.J., a corporation of Delaware

Filed Apr. 9, 1964, Ser. No. 358,537
4 Claims. (Cl. 264—12)

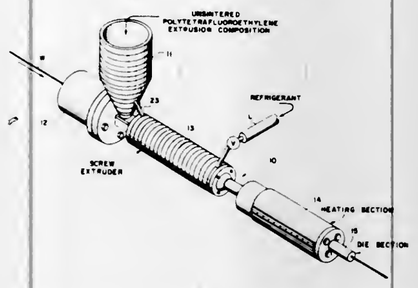


1. Process for the production of particulate embrittled bronze from a melt comprising forming an essentially horizontal stream of pressurized water spray; metering liquid molten bronze essentially perpendicularly into said stream; producing particulate bronze and water mixture by impact at the intersection of said spray with said molten bronze; guiding said mixture in an essentially horizontal concurrent flow while boiling and turbulence are occurring therein; and collecting said mixture.

3,260,774
METHOD FOR THE CONTINUOUS EXTRUSION OF UNSINTERED POLYTETRAFLUOROETHYLENE POWDER

Norman R. Harlow, Central Valley, N.Y., assignor to Tensolite Insulated Wire Co., Inc., Tarrytown, N.Y., a corporation of Delaware

Filed Jan. 21, 1963, Ser. No. 252,874
4 Claims. (Cl. 264—28)

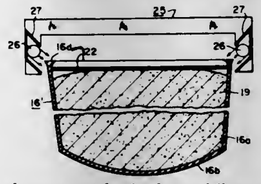


1. A method for extruding unsintered polytetrafluoroethylene which includes reducing the temperature of an unsintered polytetrafluoroethylene powdered extrusion composition to a reduced temperature at which the particles of unsintered polytetrafluoroethylene lack coherence and are granular, continuously advancing such composition through a confined zone while maintaining such composition at a said reduced temperature, compacting said composition under increasing mechanical pressure as the composition is advanced through said confined zone to form a densely compacted mass, thereafter passing said compacted mass through a confined heating zone under the mechanical pressure developed in said first confined zone and heating said composition to a temperature at which the polytetrafluoroethylene particles in said composition are coherent and when lengthened form fibers, and thereafter extruding the heated composition from said second confined zone under the mechanical pressure developed in said first confined zone.

3,260,775
METHOD FOR MAKING CONTAINER LID FITTING

John B. Orr, Great Barrington, Mass., assignor to Sheffield Plastics, Inc., Sheffield, Mass., a corporation of Massachusetts

Filed Sept. 18, 1962, Ser. No. 224,386
6 Claims. (Cl. 264—94)

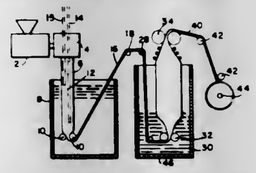


3. A continuous method of providing a progression of filled and closed-off container assemblies which comprises, successively blow-forming open-mouth resin containers from expanded resin material, successively filling each container with a suitable material up to but below a lip edge of the open mouth thereof, successively somewhat loosely placing a closure lid within the open mouth of each container to rest on its underside upon the material; and while employing the material to support the lid in position within the container, successively applying a localized heat about the open mouth wall area of each container to expand the resin material in such localized wall area, without the application of an external deforming pressure and without confining to the localized wall area thickening the resin material in such heated localized wall area and inwardly-deforming it from the closure lid toward the lip edge, and cooling the heated localized wall area to securely seal and lock the closure lid in position within the container and upon the material contained therein.

3,260,776
PRODUCTION OF BIAXIALLY STRETCH ORIENTED POLYPROPYLENE FILM

Carl A. Lindstrom, Jr., Arlington, Mass., William G. Baird, Jr., Spartanburg, S.C., Arthur L. Besse, Jr., Weston, Mass., and Donald J. d'Entremont, Greenville, S.C., assignors to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

Filed Oct. 29, 1964, Ser. No. 407,375
18 Claims. (Cl. 264—95)



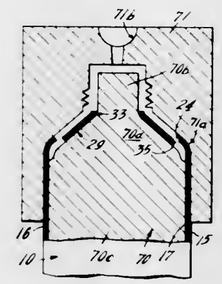
1. A method of making an oriented tubular article of isotactic polypropylene which consists of melt extruding a tube of said polymer, immersing and quenching said extruded tube in a bath of a non-solvent liquid for said polymer at a temperature of about 7 to 10° C. and at a distance of from ⅛ to 4 inches from the die, then heating said quenched tube to a temperature within its softening range and biaxially stretching said heat softened tube.

3,260,777
METHOD OF MAKING A COLLAPSIBLE CONTAINER STRUCTURE

Roger Brandt, Wayland, Mass., assignor to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Dec. 7, 1962, Ser. No. 242,991
5 Claims. (Cl. 264—262)

1. A method of producing collapsible dispensing containers, which comprises providing a laminated base material which includes a metallic interlayer and first and second thermoplastic layers bonded to the opposite surfaces thereof, shaping said laminated base material to tubular form with said first and second layers bonded to one another in seamed relation, positioning said tubular form upon a male die member, locating upon said die member an annular barrier disc spaced upwardly

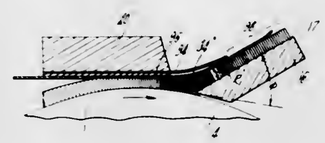


from the marginal edge portion of said tubular form, positioning said male die member with tubular form and barrier disc thereon in a female die member, and molding a quantity of thermoplastic material to the configuration of a headpiece while encasing said barrier disc with said material and simultaneously bonding said headpiece to the first and second layers of said tubular form along a band area at one end thereof.

3,260,778
TREATMENT OF MATERIALS

Richard R. Walton, 10 W. Hill Place, Boston, Mass.

Filed Jan. 23, 1964, Ser. No. 342,589
20 Claims. (Cl. 264—282)



1. A machine for treating lengthwise traveling material comprising a driving member, means to press said material against said driving member to drive it forward, a retarding member adapted to slippably contact said material, said retarding member located on the same side of the material as the driving member, said retarding member having a widthwise extending leading part located adjacent to said driving member substantially throughout the widthwise extent of the material to be treated and having a surface adapted to direct said material away from the surface of said driving member at an acute angle to the direction of movement of said driving surface, and a surface means extending over both said driving member and said retarding member in the region where the material moves from said driving member to said retarding member, said surface means arranged to slippably contact said material during its passage through said region, said surface means and the driving member defining a passage which diverges to said retarding member and said surface means and the retarding member defining a retarding passage that converges forwardly from said leading part.

3,260,779
PROCESS FOR THE PRODUCTION OF INK TRANSFER MEDIA

Albert E. Tarbox, Bridgewater Township, Somerset County, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Nov. 30, 1961, Ser. No. 156,165. Divided and this application Aug. 5, 1963, Ser. No. 305,571

11 Claims. (Cl. 264—293)

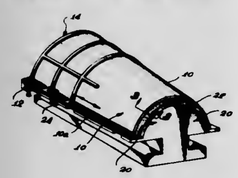
1. Process for the production of a printing plate which comprises in sequence the steps of heating a cross-linked shaped article formed from a thermoplastic resin composition having an organic peroxide content of from about 1% to about 6%, to a temperature such that the surface of said article is softened, pressing a matrix board having an imprint on its surface into intimate contact with the softened surface of said cross-linked shaped article whereby the surface of said matrix board is imprinted on the surface of said cross-linked shaped article, appearing as a mirror image thereon, cooling said cross-linked shaped article to about room temperature while maintaining said cross-linked shaped article in contact with said matrix board and thereafter separating said cross-linked shaped article from said matrix board.

3,260,780
PROCESS FOR SHAPING THERMOPLASTIC SHEET

Stanley A. Wright, Saugus, and Terry D. Fortin, Reseda, Calif., assignors to Fortin Plastics, Inc., Saugus, Calif., a corporation of California

Filed Oct. 2, 1962, Ser. No. 227,833

6 Claims. (Cl. 264—313)



1. A process for shaping thermoplastic sheet, which comprises:

facing the working surface of a die member having a desired curvature with a non-fibrous, fine cellular, resilient layer of insulative material;

adding a lubricant material to said resilient layer of insulative material;

heating said sheet to a temperature above its heat distortion point;

placing said heated sheet directly onto said resilient layer of insulative material;

simultaneously cooling said heated sheet while reciprocally moving said sheet with respect to said die member and resilient layer mounted thereon; and

removing said sheet from said die member after it has cooled below its heat distortion point.

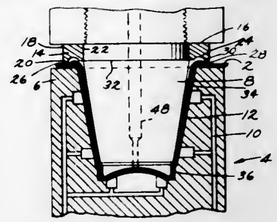
3,260,781
PROCESS FOR THERMOFORMING A SHRINK-RESISTANT FOAMED POLYSTYRENE CUP

John H. Lux, Charlestown, Md., and James R. Tiffin, Newark, Del., assignors to Haveg Industries, Inc., a wholly-owned subsidiary of Hercules Powder Company, New Castle, Del., a corporation of Delaware

Filed July 2, 1963, Ser. No. 292,374

12 Claims. (Cl. 264—321)

1. In the process of thermoforming a container for hot liquids from a sheet of a foamed styrene polymer, said polymer having a softening point below 90° C., said process including the step of thermoforming by stretching the foamed styrene polymer to form a container side wall, the improvement comprising carrying out the stretching step at a temperature of at least 96° C. and below the temperature at which the foamed core is destroyed and also below the temperature at which the styrene polymer



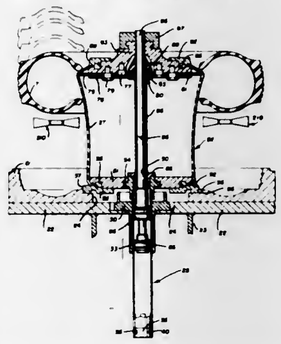
is too fluid to maintain its shape in the mold whereby said container can receive an aqueous liquid at 100° C. without substantial distortion and shrinkage.

3,260,782
PRESS FOR SHAPING AND CURING PNEUMATIC TIRES

Leslie E. Soderquist, Silver Lake, Ohio, assignor to McNeil Corporation, Akron, Ohio, a corporation of Ohio

Filed Feb. 3, 1964, Ser. No. 341,999

17 Claims. (Cl. 264—334)



1. A method for removing a cured tire from a press having opposed separable mold sections and a permanent bag center mechanism carried by and extending axially of one of the mold sections, comprising, opening the press by relative movement of the mold sections, stripping the cured tire from the mold section carrying the center mechanism by increasing the effective diameter of that portion of the bag which is adjacent the opposed mold section, and discharging the cured tire after decreasing the effective diameter of the entire bag.

5. In a press for the shaping and curing of tires and having opposed separable mold sections and a permanent bag center mechanism, the bag of said center mechanism being a deformable and radially distensible cylinder open at both ends, a stationary member located axially of one of said mold sections and extending away from both of said mold sections, an elongate shaft extending toward the opposed mold section from within said stationary member, a first assembly carried on the projecting end of said shaft for closing one end of said bag, a second assembly extending radially of said stationary member for closing the other end of said bag, a sleeve enclosing a portion of said shaft exteriorly of said bag, radially movable elements carried on the surface of said first assembly which is facing the second assembly and interiorly of said bag, and actuator means on said sleeve for selectively moving said radially movable elements to increase the effective diameter of that portion of said bag adjacent the first assembly.

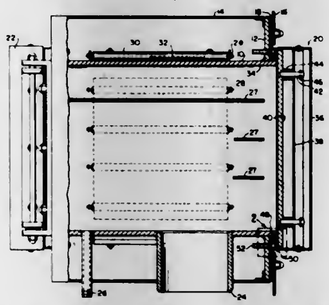
ELECTRICAL

3,260,783
VACUUM OVEN

Frank A. Potenzo and Raymond L. Shearer, Kennebunk, Maine, assignors to The Baker Company, Inc., Biddeford, Maine, a corporation of Maine

Original application Feb. 17, 1961, Ser. No. 90,090, now Patent No. 3,160,404, dated Dec. 8, 1964. Divided and this application Oct. 23, 1964, Ser. No. 411,666

2 Claims. (Cl. 13—31)



1. In a vacuum oven, a ferrous metal muffle having side, top and bottom walls and having end walls, electrical resistance heating means arranged in intimate heat transfer relation over the majority of the area of the outer surface of each of said side, top and bottom walls of the muffle, at least one of said end walls being formed by a door which closes one end of the muffle and which includes a ferrous metal plate-like member extending across said one end of the muffle in sealed relation thereto, a Black Oxide coating on the inner surfaces of all of the aforementioned walls of the muffle, said Black Oxide coating being evenly distributed over the entire area of the muffle walls and materially improving the thermal emissivity of said top, bottom, and side walls and materially improving the uniformity of heat distribution both vertically and horizontally through the interior of the muffle when the over is operated at a vacuum, and means for drawing a vacuum on the interior of the muffle.

3,260,784
ELECTRONIC MUSICAL INSTRUMENT HAVING ONE OR MORE KEYBOARDS

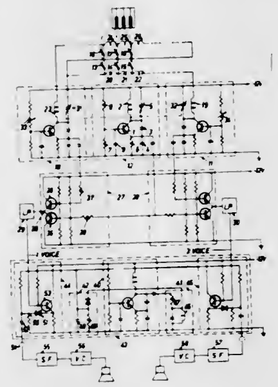
Wolfgang J. Wehrmann, 3 Jungherrnsteig, Vienna, Austria

Filed Nov. 5, 1964, Ser. No. 409,331

Claims priority, application Austria, Nov. 7, 1963, A 8,893/63

11 Claims. (Cl. 84—1.01)

1. An electronic musical instrument having one or more keyboards which permits a duophonic playing on each playing manual in such a manner, that upon depression of a plurality of keys of one manual the lowest of the depressed keys defines on musical voice and the highest of the depressed keys defines the other musical voice, comprising in combination per playing manual at least three oscillators, two of said oscillators being tunable in steps by means of said keys, two modulators or mixers each fed by one tunable and one fixed oscillator and followed by a low-pass or band-pass filter to obtain the differential mixing frequencies, the variable frequency of one tunable oscillator being lower than the constant frequency of the respective fixed oscillator and the variable frequency of the other tunable oscillator being higher than the constant frequency of the respective fixed oscillator, the frequencies of the tunable oscillators being varied by switching similar serially connected frequency determinant elements in both oscillators, the switching contacts of said keys being so connected in circuit that upon depression of a plurality of keys the tunable oscillator, the frequency of which is lower than the frequency of the fixed oscillator, is being tuned to



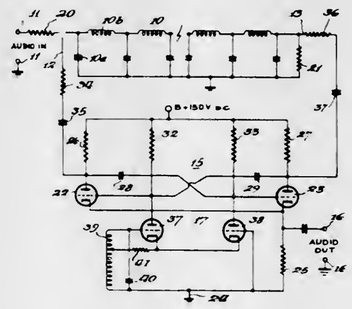
its respective highest frequency by the lowest depressed key, the tunable oscillator, the frequency of which is higher than the frequency of the fixed oscillator, is being tuned to its respective highest frequency by the highest depressed key, and sound forming and producing means connected to the output of said low pass or band pass filter.

3,260,785
VIBRATO CIRCUIT

William H. Krug, 1221 Jerome Ave., Janesville, Wis.

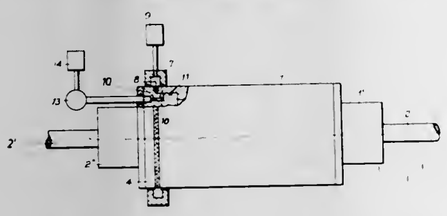
Filed Oct. 17, 1963, Ser. No. 316,886

9 Claims. (Cl. 84—1.25)



1. A vibrato circuit for a musical instrument, comprising: a phase shift network having a signal input terminal and at least two outputs; a switch connected with the outputs of said phase shift network for deriving a composite output signal comprising sequential signal portions from each of said outputs; and means for varying the relative period of operation of said switch to vary the signal portion derived from each output.

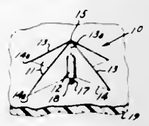
3,260,786
HOUSING ARRANGEMENT FOR ELECTRICAL APPARATUS IN SUBMARINE CABLE INSTALLATIONS
Wolfgang Katzschner, Cologne-Mulheim, Germany, assignor to Felten & Guilleaume Carlswerk Aktiengesellschaft, Cologne-Mulheim, Germany
Filed Aug. 9, 1963, Ser. No. 301,112
Claims priority, application Germany, Aug. 17, 1962, F 37,613
3 Claims. (Cl. 174—11)



1. A housing arrangement for water and pressure tightly enclosing an electrical apparatus to be connected as an intermediary member in a submarine cable installation and apparatus for testing the tightness of the arrangement, comprising, in combination, a first preassembly including a housing body having one open end and being closed on the other end thereof and a portion of a first submarine cable introduced into the interior of said body through one of its walls and sealed and anchored therein, said one open end being of predetermined shape and dimensions and bounded by a rim portion; a second preassembly including a housing lid and a portion of a second submarine cable passed through said lid from the outer side to the inner side thereof and sealed and anchored therein, said lid having an inwardly projecting portion shaped and dimensioned so as to fit substantially tightly into said open end of said housing body, and a lid rim portion adjacent to said projecting portion, said projecting portion being inserted into said open end of said housing body, said lid rim portion facing said rim portion of said housing body and said rim portions being joined by a single circumferential weld seam, said lid being further provided with a duct extending from said outer side thereof to a surface of said projecting portion, said duct being adapted to be used for testing the tightness of the housing arrangement; a movable channel-shape annular member fitting substantially tightly over both said rim portions in a position in which the interior of said annular member straddles said single circumferential weld seam, said annular member having an inlet opening for introducing a pressure fluid into said interior thereof; pressure means for applying outside pressure to said weld seam by introduction of a pressure fluid into said annular member; and suction means for applying suction to the interior of the housing arrangement through said duct in said lid thereof, so that lack of said pressure fluid being removed by said suction means indicates tightness of said housing arrangement.

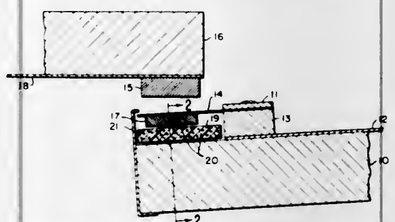
3,260,787
TRANSISTOR HEAT DISSIPATORS
Horace T. Finch, Arcadia, Calif., assignor to The Birtcher Corporation, Los Angeles, Calif., a corporation of California
Filed Dec. 20, 1962, Ser. No. 246,173
4 Claims. (Cl. 174—15)

1. A heat dissipating device for electrical circuit means comprising:
- a thin metal sheet folded inwardly at a plurality of locations to form a plurality of spaced fins extending outwardly from a common vertical axis;
- each of said fins comprising a pair of triangular shaped walls adjacent one another and having inner edges located at said vertical axis;



- said walls being connected together at another edge and being separated at a third edge;
- all of said connected edges meeting at a common tip;
- said inner edges of said walls being deformed to jointly form a cavity for receiving said circuit means.

3,260,788
MAGNETIC RADIO FREQUENCY SEAL FOR SHIELDED ENCLOSURES
Russell Stetson, Sharon, Mass., assignor to Emerson & Cuming, Inc., Canton, Mass., a corporation of Massachusetts
Filed Mar. 11, 1964, Ser. No. 351,046
8 Claims. (Cl. 174—35)



1. A radio-frequency seal for an RF shielded enclosure structure forming an opening, and a separable closure structure, said seal comprising two mutually magnetically attractive elements extending about the peripheries of the opening in the enclosure and of the closure, respectively; said seal having two separable electrically-conductive surfaces extending about the peripheries of the opening and of the closure, respectively, for mutual surface engagement in a closed position of the closure; each of said magnetically attractive elements backing a corresponding one of said conductive surfaces to compress said surfaces together therebetween in the closed position; at least one of said magnetically attractive elements and the corresponding one of said conductive surfaces being flexible with respect to the corresponding one of said structures, whereby the conductive surfaces are forced into substantially complete mutual surface contact although portions thereof may have an irregular conformation.

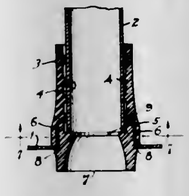
3,260,789
BUNDLED CONDUCTOR SPACER DAMPER
Aubrey T. Edwards, 35 Carolyn Drive, Oakville, Ontario, Canada
Filed Dec. 20, 1963, Ser. No. 332,210
2 Claims. (Cl. 174—42)



1. Spacer damper assembly is connected to a pair or more of conductors in a bundled conductor transmission line comprising:
- a plurality of cable clamps, each bolted to one of said conductors;
- a plurality of energy absorption or dissipation means, each having one end connected to one said cable clamp;

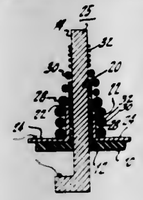
- said energy absorption or dissipation means comprising a helical spring composed of stranded wire to provide a high coefficient of internal friction;
- a mass centrally disposed between said clamps and coupled to the other end of said energy absorption or dissipation means to provide relative motion between the conductors and said mass upon movement of said conductors;
- said mass having a greater weight per unit of axial length than said energy absorption means.

3,260,790
DEFORMABLE NON-METALLIC CONDUIT COUPLING WITH GROUNDING CONNECTIONS
W. Homer Alsup, 1537B 18th St., San Francisco, Calif.
Filed Feb. 17, 1964, Ser. No. 345,381
1 Claim. (Cl. 174—51)



A coupling for electrical circuit enclosing conduits, comprising a molded plastic body member with an extending cylindrical end for insertion through an opening in a junction box, radially spaced outwardly projecting barbs upon said extending end adapted and arranged to engage the inner wall of a metallic junction box and secure the same thereto, characterized by the fact that said member has an oppositely extending cylindrical portion having an internal bore with inwardly projecting ribs that will become deformed when a length of conduit is driven into said bore, and a metallic current conducting means embedded in said molded plastic body members exposed at points to form a grounding connection between a length of conduit driven into the cylindrical portion and the wall of a metallic junction box upon which the coupling is to be mounted.

3,260,791
COAXIAL CABLE TERMINAL CONNECTION AND METHOD
Steven M. Shelley, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 28, 1963, Ser. No. 319,424
4 Claims. (Cl. 174—68.5)



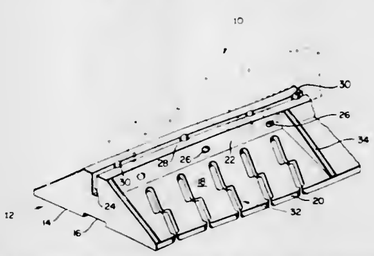
2. A coaxial connection comprising, in combination,
- (a) a coaxial cable having a free end portion which has an exposed inner conductor and an adjacent portion having an exposed outer conductor,
- (b) a coaxial terminal having a free end portion which has an exposed inner conductor formed with at least one corner and an adjacent portion having an exposed outer conductor, said last-named adjacent portion also having at least one corner,
- (c) at least one of said coaxial cable and said coaxial terminal having an intermediate portion between said exposed inner conductor end portion and said exposed outer conductor portion, said intermediate portion having exposed insulation around the inner conductor thereof, and
- (d) said coaxial cable being wound about said coaxial terminal under tension with said exposed outer conductor portions in electrical contact with each other and insulated from said inner conductor end portions and with said inner conductor end portions in electrical contact with each other and insulated from said outer conductors.

3,260,792
METAL BRAIDED INDUCTION HEATING CONDUCTOR COIL
Otto Kreisel, Robin Road, Warren Township, Plainfield, N.J.
Filed Feb. 5, 1962, Ser. No. 170,894
1 Claim. (Cl. 174—130)



An alternating current electrical cable having sufficient flexibility to be helically coiled about a pipe of relatively small diameter for induction heating of the latter and comprising a plurality of uninsulated, longitudinally-extending electrical conductors each consisting of a plurality of uninsulated strands of nickel plated copper wire and having a generally circular transverse cross section, said conductors being assembled in a bunch of generally circular transverse cross section, and a braided wire conduit closely surrounding said bunch of conductors to maintain the generally circular cross sectional contour thereof, the wires of said braid being uninsulated nickel plated copper wires.

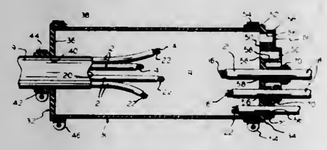
3,260,793
FANNING STRIP FOR ELECTRICAL CONDUCTORS
Milton B. Edelman, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed May 28, 1964, Ser. No. 370,952
4 Claims. (Cl. 174—135)



1. A fanning strip having at least one aperture therethrough for receiving a group of wire conductors of a given diameter, said aperture including a first restricted opening portion having one end thereof communicating with an edge of said strip, a first slotted portion having one end thereof communicating with the other end of said first restricted opening portion, the size of said first restricted opening portion being substantially equal to said given diameter, and the width of said first slotted

portion being much greater than said given diameter, said aperture further including a second slotted portion offset with respect to said first slotted portion and a second restricted opening portion connecting the other end of said first slotted portion with one end of said second slotted portion, the size of said second restricted opening portion being substantially equal to said given diameter and the width of said second slotted portion being much greater than said given diameter, whereby each wire conductor in said group of wire conductors may be snapped one at a time through said first and second restricted opening portions into said first and second slotted portions respectively.

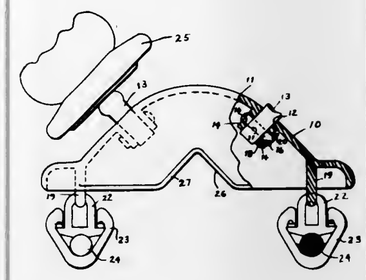
3,260,794
PROTECTIVE COVER FOR CABLE SPLICE
Fred Kohler, Chicago, Ill., assignor to Kohler & Besser Electronics, Inc., a corporation of Illinois
Filed Apr. 23, 1964, Ser. No. 362,154
3 Claims. (Cl. 174—138)



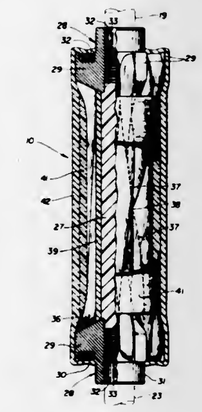
1. As an article of manufacture, a protective splice cover adapted to enclose a splicing region wherein the lead wires associated with a series of incoming cables are joined to the lead wires associated with a series of outgoing cables, said cover comprising in combination: a tubular jacket having an entrance end through which the incoming cables are adapted to extend and an exit end through which the outgoing cables are adapted to extend, means defining a closure for said entrance end of the jacket and through which the incoming cables are adapted to sealingly extend, and a removable end cap normally closing the exit end of said jacket, said end cap comprising a one-piece integral body of resilient material of generally cup-shape and including a web provided with a continuous peripheral flange telescopically fitting over the rim region of said exit end of the jacket, with said web effectively closing said exit end, said web having a series of circular openings therein for individual reception therethrough of said outgoing cables, each of said opening having a surrounding outwardly extending flange adapted to be constricted about a respective outgoing cable, said outwardly extending flanges being arranged in concentric circular rows, the flanges in a given circular row being of substantially the same axial extent, and the axial extent of the flanges in succeeding circular rows outward from the center of the web having decreasing axial extent.

3,260,795
APPARATUS FOR SUSPENDING A CONDUCTOR FROM AN INSULATOR
Malcolm Bethea, Jr., P.O. Box 1407, Birmingham, Ala.
Filed Jan. 13, 1965, Ser. No. 425,216
4 Claims. (Cl. 174—144)

1. In apparatus for suspending a conductor from an insulator attachment fitting comprising:
(a) a relatively wide downwardly opening shell-like body having a convexly curved outer surface,
(b) a pair of spaced apart lugs carried by and extending downwardly from the under surface of said body inwardly of the sides thereof, and wholly within the confines of said body,
(c) there being an opening through said body between said lugs of a size to receive one end of the insulator attachment fitting with the other end of said fitting extending outwardly of said convexly curved outer surface,
(d) there being aligned openings through said lugs and said one end of said insulator attachment fitting,
(e) a pin wholly within the confines of said body extending through said aligned openings and connecting said insulator attachment fitting to said body,
(f) a lug depending from the under surface of said body inwardly of the sides thereof, and
(g) a conductor supporting clamp operatively connected to said lug and having a conductor receiving recess therein.

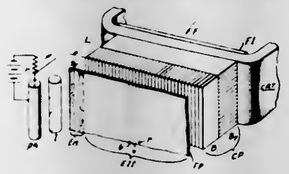


3,260,796
INSULATED CONNECTOR AND METHOD
Henry J. Hirtzer, 1308 Martino Road, Lafayette, Calif.
Filed Jan. 21, 1965, Ser. No. 426,827
14 Claims. (Cl. 174—178)



1. In an insulated conductor capable of sustaining a high tensile load, a pair of spaced fittings, said fittings having a plurality of circumferentially spaced, radially and outwardly extending fingers having substantially U-shaped recesses formed therein facing outwardly in a direction substantially parallel to the longitudinal axis extending between the fittings, a plurality of fibers of insulating material formed into strands, the strands extending longitudinally between the fittings and being looped into the recesses, said longitudinal strands forming a substantially solid mass in cross-section, and a plastic resin forming said fibers into a rigid solid unitary mass.

3,260,797
OPTICAL COLLIMATOR
Georges Valensi, 3 Rue des Chaudronniers, Geneva, Switzerland
Filed Feb. 5, 1963, Ser. No. 256,278
Claims priority, application France, Feb. 28, 1962, 889,517; Apr. 3, 1962, 893,090; Apr. 17, 1962, 894,747; June 27, 1962, 902,167
11 Claims. (Cl. 178—5.4)



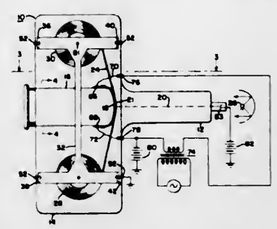
1. Optical collimator for guiding light in an accurate predetermined direction made of two stratified blocks of thin sheets of transparent material coated with appropriate adhesive, said two blocks being superimposed on each other so that their respective thin sheets are orthogonal, and some substance having the same refraction index as said transparent material being laid between said two blocks in order to avoid any undesired reflection or refraction of the light which propagates in said predetermined direction.

3. Collimator in accordance with claim 1 acting as optical parallax corrector located against the wall of a cathode ray tube bearing the fluorescent screen, for improving the definition and the contrast of the luminous images produced by said tube, comprising in combination: a first block of thin sheets of transparent material resistant to ultraviolet radiation and having a great light transmission efficiency, said first block being located against the wall of said tube and a thin layer of light-absorbing material being inserted between consecutive sheets of said first block, a second block of thin sheets of transparent material with great light-transmission efficiency, a thin layer of light-reflecting material being inserted between consecutive sheets of said second block, said second block being superimposed upon said first block so that the thin sheets of one are orthogonal to those of the other, and a thin layer of same refraction index as the transparent material of said thin sheets being inserted between said first and second blocks, whereby said two blocks cooperate for producing the same light-guiding effect as a bundle of very thin fibers of very small cross section, but at a much smaller cost.

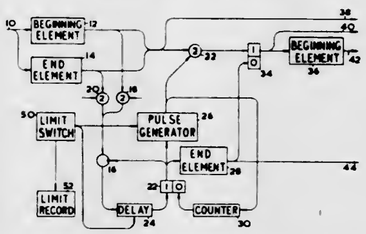
8. Optical parallax corrector in accordance with claim 3 and located between a cathode ray tube for black and white television and a photographic film bearing juxtaposed elemental areas of the three primary colors specified for color television, in which all the sheets of said corrector act as light-guides with a uniformly great light-transmission efficiency in the whole visible spectrum, and in which the sheets located against the wall of said tube bearing the fluorescent screen are made of a material resistant to ultraviolet-radiation, whereby a color television receiver can be operated with the cheap cathode ray tubes for monochrome television.

3,260,798
OUTPUT WINDOW ARRANGEMENT FOR A LIGHT VALVE PROJECTOR
Von C. Campbell, Syracuse, Carlyle S. Herrick, Alplaus, and Harold A. Hornbeck, Scotia, N.Y., assignors to General Electric Company, a corporation of New York
Filed Oct. 25, 1963, Ser. No. 318,932
6 Claims. (Cl. 178—7.87)

1. In a light valve projection apparatus, an arrangement for controlling the viscosity of a deformable medium comprising; an evacuated electron discharge device having an output window; a film of transparent conductive material deposited upon the surface of the window; means for transporting a strip of tape having a deformable medium supported thereon along the surface of the output window; and means for applying electric potential to said film in a manner for causing a current to flow in and heat said film.



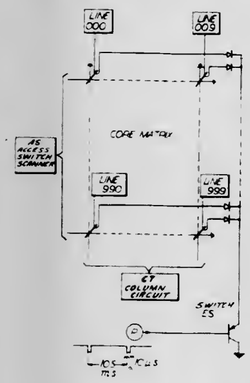
3,260,799
TELEGRAPHIC SIGNAL DISTORTION MONITOR
Bernard Leonard Simpson and Anthony Joseph Gibson, Medmenham, Marlow, England, assignors to Minister of Aviation in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed July 3, 1962, Ser. No. 207,201
Claims priority, application Great Britain, July 5, 1961, 24,247/61
12 Claims. (Cl. 178—69)



1. A telegraphic signal monitoring system including a first counter for counting the number of elements of a received telegraph signal; electrically-controllable reference pulse generating means for generating rectangular reference pulses whose edges correspond to selected acceptance limits for the timing of changeovers occurring in the received signal; changeover pulse generating means for generating a changeover pulse at each changeover in the received signal; comparison means, connected to the reference pulse generating means and to the changeover pulse generating means, for providing an output signal whenever at least one of the changeovers in a character of the received signal is displaced in time beyond one of the selected acceptance limits, and for providing an output signal whenever at least one of the changeovers in a character of the received signal is displaced in time beyond the other of the selected acceptance limits; a second counter, connected to the output of the comparison means, for counting the output signals from the comparison means; and selection means, connected to the said first and second counters and to the said reference pulse generating means for controlling the pulse generating means so that the timing of the edges of the reference pulses will be altered to correspond to broader acceptance limits whenever the proportion of distorted characters counted by the second counter to the total number of elements coupled by the first counter becomes greater than a predetermined ratio and will be altered to correspond to

narrower acceptance limits whenever the proportion of distorted characters counted by the second counter to the total number of elements counted by the first counter becomes less than a predetermined ratio.

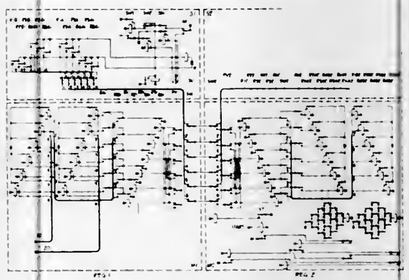
3,260,800
ELECTRICAL PULSE ARRANGEMENTS
Frederick Harry Bray and Francesco Ambrosino, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 5, 1962, Ser. No. 185,421
Claims priority, application Great Britain, Apr. 7, 1961, 12,624/61
1 Claim. (Cl. 179—9)



An electrical pulse storage system for storing information obtained as electrical meter pulses from a plurality of similar sources, said storage system comprising magnetic core matrix means having only one of said cores individual to each of said sources, said cores capable of being set responsive to the individual passage therethrough of said electrical pulses, switching means common to all of said sources, switching control pulse generating means connected to said switching means for generating enabling pulses that periodically cause the operation of said switching means to enable said matrix for a period less than the width of spurious pulses but greater than the set time of said cores, and repeating said operation periodically so that at least two such operations occur within the width of any of said meter pulses, and coupling means operated responsive to said switching means in a closed position for enabling the passage of said meter pulses from any of said sources through the said individually associated core to set said associated core responsive to said meter pulses while precluding setting said other of said cores responsive to spurious pulses, said coupling means including lines extending from each of said sources through the associated core and unidirectional means in each of said lines for controlling the current direction through said lines.

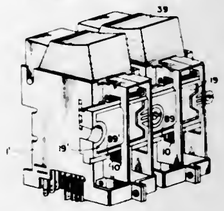
3,260,801
ARRANGEMENT FOR CODE SIGNALLING IN AUTOMATIC TELEPHONE EXCHANGES
Manfred Buchmayer and Bernhard K. V. Lillsunde, Hagersten, Sweden, assignors to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Apr. 1, 1963, Ser. No. 269,422
Claims priority, application Sweden Apr. 17, 1962, 4,240/62
8 Claims. (Cl. 179—84)

1. An arrangement for transmitting code signals consisting of a number of signal elements representing 0 or 1 condition from a sending means to a receiving means in automatic telephone exchanges, comprising a number of voltage responsive means in the receiving means corresponding to the number of signal elements in the code signal and being divided into two groups, a voltage source in the receiving means, means connecting the voltage responsive means in one of said groups to one pole of a voltage source, means connecting the voltage responsive means in the other of said groups to the opposite pole of said voltage source, a conductor individually coupled to



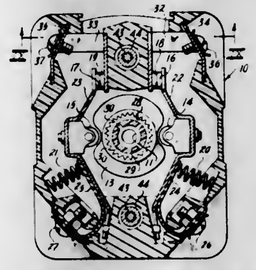
each voltage responsive means and extending from the receiving means to the sending means, a switching circuit in the sending means having contact means for coupling selected conductors in the two groups to each other, and selecting means in the sending means for operating the switching circuit to close selected ones of the contact means in accordance with the signal elements forming the code signal to be transmitted so that different combinations of the voltage responsive means are operated representing the transmitted code signal.

3,260,802
TWO-STEP PUSHBUTTON SWITCH
Yuichiro Yamauchi and Shoichi Sakagami, Kawasaki, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Mar. 23, 1964, Ser. No. 354,171
Claims priority, application Japan, Mar. 23, 1963, 38/15,190; Dec. 28, 1963, 38/97,966
8 Claims. (Cl. 200—5)



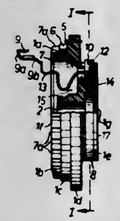
1. A two-step pushbutton switch, comprising contacts movable between two switching positions, a pushbutton slider displaceable from a normal to a depressed position, a return spring biasing said slider to normal position, means on said slider for moving said contacts from one to the other of said switching positions by depressing movement of said slider, a latch pin mounted on said slider for movement therewith, a latch plate member, means movably mounting said latch plate member for movement transversely of the displacement direction of said slider, said latch plate member having a groove engaged by said latch pin, said groove having a closed-loop shape in a plane parallel to said displacement direction and forming a stop shoulder for latching said pin in depressed position of said slider, spring means biasing said latch plate member to a given start position of said groove relative to said pin, said latch plate member having opposite said shoulder a sloping groove wall guidingly engageable by said pin upon repeated depression of said slider to then release said pin for return of said slider to normal position, and said latch plate member having respective mating coupling means on opposite lateral sides to permit joining said latch plate member with the corresponding member of an adjacent switch.

3,260,803
SEGMENTAL ROTARY GANG SWITCH WITH SEGMENTED SPLINED CAM SHAFTS
Mitsuru Moroishi, 3–15 Shinmeicho, Kasugamachi, Tsukushigun, Fukuoka Prefecture, Japan
Filed May 18, 1964, Ser. No. 368,262
Claims priority, application Japan, July 10, 1963, 38/52,097
6 Claims. (Cl. 200—6)



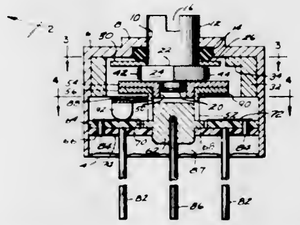
1. A switch comprising a plurality of insulating supports provided with registering rotor and bolt holes, each support being provided with at least one fixed contact and movable contact means mounted for movement into and out of contact with said fixed contact, a rotor segment for each insulating support dimensioned to fit in the rotor hole thereof, each rotor segment being provided with cam means for acting on said movable contact means, each rotor segment comprising at one end a tubular portion provided with internal axial splines and at its other end an axially split radially expansible tubular portion provided with mating axially extending external splines, and resilient means biasing said axially slit tubular portion radially outward, said rotor segments being separably but drivingly engaged with each other by insertion of said externally splined tubes within said internally splined tubes, and segmental bolt means comprising a separate segment for each insulating support, said segmental bolt means being received in said bolt holes and holding said supports together.

3,260,804
TRANSIT WHEEL FOR ROTOR WITH STATIONARY AND RADIAL MOVABLE CONTACTS
Ugo Buzzi, Zug, Switzerland, assignor to Anstalt Europaische Handelsgesellschaft, Vaduz, Liechtenstein, a corporation of Liechtenstein
Filed Jan. 10, 1964, Ser. No. 337,080
Claims priority, application Switzerland, Jan. 16, 1963, 523/63
12 Claims. (Cl. 200—8)



1. A transit wheel, particularly, for rotors for enciphering apparatus, comprising a body member formed of insulating material and having opposed sides, means provided at both of said opposed sides of said body member for supporting individual contacts, said supporting means at one side of said body member being constructed to permit radial movement of each supported contact, at least one element including opposed end portions and formed of a single piece and having a respective contact at each end portion, each said element and associated contacts defining an integral through-conductor for passage of electrical energy from the contact at one end portion of said element to the contact at the other end portion thereof, the contact at each respective end portion of said element being positioned to engage with the respective supporting means provided at a respective side of said body member, and a ring member formed of elastic material carried by said transit wheel at said one side for exerting a resilient action upon each of the radial movable contacts.

3,260,805
ROTARY SWITCH WITH DETENT
George E. Pihl, Abington, Mass., assignor to Miniature Electronic Components Corp., Holbrook, Mass., a corporation of Massachusetts
Filed June 19, 1964, Ser. No. 376,522
11 Claims. (Cl. 200—11)

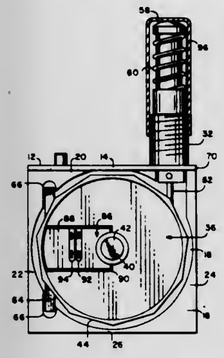


1. A rotary switch comprising a housing; a printed circuit board assembly secured in one end of said housing; said assembly comprising a plurality of conductive switch segments and terminal leads connected to said segments and accessible for circuit connections outside of said housing; a shaft rotatably mounted in and protruding from the other end of said housing; a sleeve extension on the inner end of said shaft; bearing means supported by said circuit board assembly and coacting with said sleeve to limit movement of said shaft toward said circuit board and also to maintain said shaft in alignment within said housing, said bearing means comprising a stud having a first portion that fits within said sleeve and a second portion adapted to engage the end of said sleeve; a wiper assembly connected to said shaft, said wiper assembly including a contact member for engaging each switch segment in turn as said shaft is rotated; and another terminal lead electrically coupled to said wiper assembly through said bearing means, said another terminal lead secured directly to said stud.

3,260,806
DIRECT DRIVE PUSH BUTTON ROTARY SWITCH
Richard Terral Jeans, San Diego County, Calif., assignor to Cubic Corporation, San Diego, Calif.
Filed Aug. 6, 1964, Ser. No. 387,847
7 Claims. (Cl. 200—11)

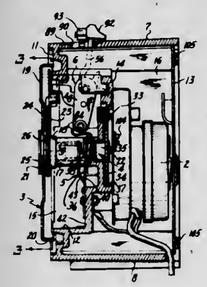
1. A switch of the class described including the combination of:
- a housing at least partially enclosing a space;
- a cylindrical number wheel rotatably disposed in said housing;
- a cylindrical rim on the wheel;
- a series of indicia spaced around the rim of the wheel;
- a window in said housing aligned with the rim of the

wheel, said window being positioned to permit viewing of only one indicia at a time;
a separate ramp on said wheel for each indicia, said ramps being radially disposed around said wheel;
a push button reciprocally mounted on the housing;
a detent interconnected with said push button, and



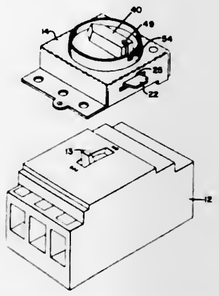
effective to engage a ramp and advance the wheel and position the succeeding indicia in registry with the window whenever said push button is depressed; and
a second detent effective to ride over said ramp when said push button is depressed and preventing said wheel rotating in the reverse direction.

3,260,807
AUTOMATIC AND MANUAL TIME SWITCH
Roger David Rulseh, Two Rivers, and William Horace Pierson, Manitowoc, Wis., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Dec. 23, 1963, Ser. No. 332,677
15 Claims. (Cl. 200—38)



1. In a time switch, the combination of
a support;
an electrical switch including contacts mounted on said support;
a switch actuator operating said switch, said actuator being operable to a first position to open said switch contacts, and a second position to close said switch contacts;
manual means moving said actuator to said first and second positions to manually operate said switch;
first time controlled means automatically moving said actuator from said first position to said second position to close said switch contacts at a preselected time;
second time controlled means automatically moving said actuator from said second position to said first position to open said switch contacts at a preselected time;
said time controlled means each being manually adjustable to preset the time at which they move said actuator; and
manually operable restraining means selectively locking said actuator in said first position, and in said second position against the action of said first and second time controlled means, to prevent automatic operation of said switch by said time controlled means, when said restraining means is operated.

3,260,808
ELECTRIC SWITCH WITH LOCKABLE ROTARY OPERATOR
Herbert M. Dimond, West Hartford, and George E. Gauthier, Plainville, Conn., assignors to General Electric Company, a corporation of New York
Original application Sept. 15, 1961, Ser. No. 138,526, now Patent No. 3,192,334, dated June 29, 1965. Divided and this application Nov. 4, 1964, Ser. No. 408,938
2 Claims. (Cl. 200—42)

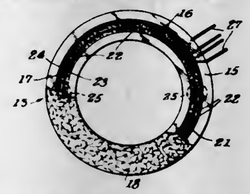


1. An electric switch comprising an enclosure having a generally planar top surface, a manually operable handle member pivotally mounted on said planar top surface on an axis of rotation generally perpendicular thereto, said manually operable handle being movable about said axis of rotation between spaced "on" and "off" positions, a raised circular ridge surrounding said manually operable handle, said operating handle having a locking slide slidably supported therein and movable therein to a position in which at least a portion of said locking slide projects outwardly from one end of said manually operable handle, at least a portion of said raised circular rim lying closely adjacent the path of movement of said end of said manually operable handle member, said raised circular rim having a notch cut therein at the position corresponding to the position of said slide when said handle is in said "off" position whereby said slide may be drawn out of said handle when said handle is in said "off" position, and an opening in said locking slide to permit the insertion of a locking means said locking means preventing the movement of said locking slide fully within said operating handle and said locking slide preventing the movement of said handle away from said "off" position.

3,260,809
MOISTURE-SHORTABLE FUSE FOR A MOTOR CIRCUIT
Steven F. Leasko, Torrance, Calif. (% Les-Ko Industries, 1146 S. Inglewood Ave., Inglewood, Calif.)
Filed July 17, 1964, Ser. No. 383,456
5 Claims. (Cl. 200—61.04)

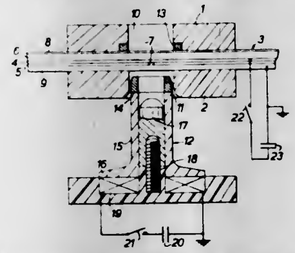
1. A moisture-shorted fuse comprising:
(a) a dielectric member having a groove in one face thereof,

(b) two fusible wires disposed in said groove, the same being conductors in an electric circuit,
(c) a water-soluble mass of material in said groove and in contact with said two wires, and



(d) porous means receptive of moisture and to conduct the same to said material to dissolve portions thereof and render the same electrically conductive, thereby causing shorting across said wires to interrupt the current in the circuit.

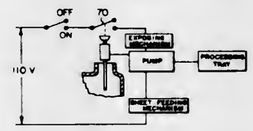
3,260,810
ELECTRIC SWITCH WITH FRANGIBLE AND EXPENDABLE ELECTRODES
Liviu Leonard Alston, Abingdon, and Patrick Joseph Rogers, Oxford, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Nov. 20, 1964, Ser. No. 412,674
6 Claims. (Cl. 200—61.08)



1. An electric switch comprising an inner metallic layer sandwiched between first and second layers of electrically-insulating material which in turn are sandwiched between two expendable electrodes, two main electrodes between which the sandwich is held such that the two main electrodes contact the two expendable electrodes respectively, the electric supply to be switched being arranged to be connected across the main electrodes, an aperture extending through the first layer substantially normal to the general plane of the sandwich, a pair of aligned apertures in the main electrodes substantially normal to the general plane of the sandwich, a plunger, and means operated when the switch is to be closed to cause an electric discharge from one main electrode via the aperture in the first layer to the inner metallic layer whereby said second layer is ruptured and an electric path is thereby completed between the main electrodes, said means also causing the plunger to be forced into the apertures in the main electrodes such that the sandwich is pierced and deformed portions of the expendable electrodes are in contact and complete a low resistance electric path between the main electrodes.

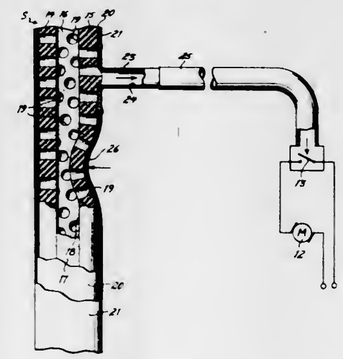
3,260,811
INTERLOCK SWITCH MECHANISM FOR A SOLUTION HANDLING APPARATUS
Hans O. Stoever, Rush, and George S. Jones, Webster, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 11, 1963, Ser. No. 329,764
3 Claims. (Cl. 200—61.41)

1. In an apparatus having a tray, a solution reservoir removable from said apparatus, and electric motor drive means for operating a portion of said apparatus, the combination comprising:
(1) first means movable between a first position for hydraulically connecting the contents of said reservoir to said tray and a second position for hydraulically disconnecting the two; and
(2) interlock means for disabling said electric motor drive means except when said first means is in said first position and said reservoir is properly positioned in the apparatus, said interlock means including
(a) a member movable from a normally inopera-



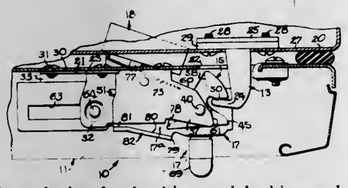
tive position to an operative position in response to movement of said first means to its first position, and
(b) electrical switch means controlling said electric motor drive means and movable to an operative position in response to movement of said member to its operative position and in which operative position said switch means is actuated by the proper positioning of said reservoir in the apparatus, to render said electric motor drive means operative.

3,260,812
PNEUMATIC SAFETY EDGE FOR POWER OPERATED DOORS
Norman K. Miller, Havertown, Pa., assignor to Miller Brothers, Upper Darby, Pa., a partnership
Filed Jan. 31, 1964, Ser. No. 341,639
1 Claim. (Cl. 200—61.43)



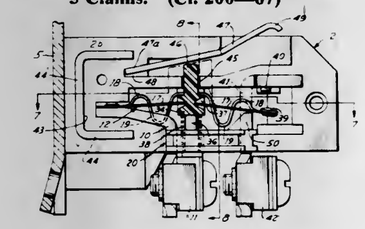
The combination of an electric motor operated door with a switch controlling the operation of the motor, and a safety edge for said door, said safety edge comprising an elongated wall structure of perforated foam rubber with the wall structure defining a central recess, an air-impervious vinyl lining enclosing said wall structure, a fabric casing about said lining, said lining and casing including a tab which attaches said safety edge to the door, a nipple carried by said casing and communicating with said recess, and a flexible tube operatively connecting said nipple to said switch, said nipple and tube having a bore of a cross-section smaller than the cross-section of said recess.

3,260,813
DOOR LATCHING AND LOCKING DEVICE
Carl J. Dargene, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed July 1, 1964, Ser. No. 379,670
7 Claims. (Cl. 200—61.64)



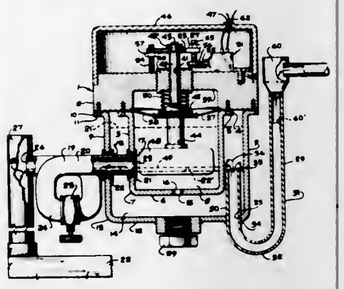
4. In a device for latching and locking a door releasably in a closed position relative to a frame, the combination of, a base mountable on said door, a bolt pivoted on said base for rotation between successive angularly spaced unlatched, latched and tight-sealing positions, spring means acting on said bolt when the latter is in said unlatched and latched positions, a locking slide guided on said base for back and forth manual movement between locking and unlocking positions along a path generally parallel to the plane of said door and adjacent one side of said bolt, means on said bolt for engaging a strike and latching said door when the bolt is in said latched position and the slide is in said unlocking position, a cam on said slide engageable with said bolt when the latter is in said latched position and as the slide moves toward said locking position and operable during such movement to rotate the bolt into said tight-sealing position, and means on said slide for holding said bolt in said tight-sealing position when the slide is in said locking position.

3,260,814
SINGLE POLE SNAP SWITCH WITH A GUIDE-PLATE DETACHABLY MOUNTED BETWEEN JUXTAPOSED CASING ELEMENTS
Merlin Y. Turnbull, Brookfield, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Aug. 19, 1964, Ser. No. 390,539
5 Claims. (Cl. 200—67)



1. A snap switch comprising a hollow casing,
a pair of contacts therein movable relative to each other into and out of contact,
snap acting means movable in opposite directions to positions to cause the contacts to snap into and out of contact, respectively,
a guide plate of electrical insulating material detachably mounted in the casing,
an actuating slider in the casing mounted on the plate for movement in directions relatively toward and away from the plate and connected to the snap acting means for moving the snap acting means in opposite directions upon movement of the slider in opposite directions, respectively,
means carried by the body and accessible for operation from the exterior thereof for moving the slider in one of said directions,
said casing comprising two separate companion casing elements of electrical insulating material with inner faces, respectively, which are detachably juxtaposed against each other in fitting relation when the elements are in assembled relation, said elements having cavities opening at said faces, respectively, and having bottom wall portions which, when the elements are in assembled relation, provide a bottom wall extending normal to the path of movement of the slider, the bottom wall portions having slots, respectively, opening at said faces and extending transversely of the casing, and having guides at the edges of the slots, said guide plate being accommodated in the slots and having guides at its edges cooperable with the guides of the slot edges for constraining the guide plate from movement out of the slots when the elements are in assembled relation to each other and for supporting the guide plate for attachment and detachment from the elements by endwise movement of the plate relative to the slots in opposite directions, respectively, when the elements are separated from each other.

3,260,815
FLOAT TYPE FLOW RESPONSIVE SWITCH WITH FLOW RESISTANCE MEANS IN FLOAT CHAMBER OUTLET
Lea G. Trimmer, 504 Campbell, Kansas City, Mo.
Filed Feb. 24, 1964, Ser. No. 346,922
3 Claims. (Cl. 200—81.9)



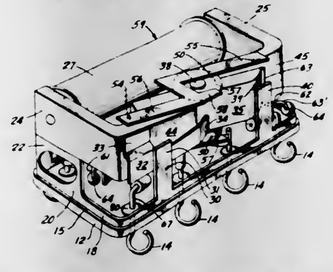
1. A liquid flow meter for indicating slight changes in flow rate comprising:
(a) a body forming a chamber, means forming an inlet passageway and an outlet passageway communicating with said chamber, said outlet passageway being positioned with respect to said chamber and continuously open to continuously drain said chamber from a high liquid level to a low liquid level,
(b) means forming a pressure variable resistance to outlet flow through said outlet passageway which decreases as flow rate decreases and increases as flow rate increases producing a proportionally more rapid decrease and increase in liquid level in said chamber than change in flow rate into said chamber,
(c) a member contained in said chamber and responsive to said decrease and increase in liquid level, and
(d) means associated with said member and controlled thereby for producing a signal in response to a predetermined change in said liquid level.

3,260,816
PRESSURE SWITCH
Charles A. Schad, Tulsa, Okla., assignor to Murdock Associates, Inc., Tulsa, Okla., a corporation of Oklahoma
Filed Sept. 25, 1963, Ser. No. 311,407
6 Claims. (Cl. 200—83)

1. A pressure switch comprising:
a body member divided by a partition wall into an upper measuring chamber and a lower chamber, said upper measuring chamber having a level indicating opening therein;
a diaphragm dividing said lower chamber into a lower pressure receiving chamber and an upper dampening chamber, said body member having a pressure passage opening at the lower end thereof communicating with said pressure receiving chamber, said partition wall having a shaft receiving opening and a dampening fluid passageway therein communicating said dampening chamber with said measuring chamber;
a switch means supported to said upper chamber;
a shaft having the lower end thereof affixed to said diaphragm, said shaft extending slidably through said shaft receiving opening in said partition wall, the upper end of said shaft extending to contact said switch means and to actuate said switch means upon displacement of said diaphragm;
spring means downwardly constraining said diaphragm;
dampening fluid filling said dampening chamber and said dampening fluid passageway, said dampening fluid forced upwardly from said dampening chamber through said fluid passageway and into said measuring chamber as said diaphragm is moved upwardly by pressure in said lower pressure receiving chamber;
and a transparent liquid level indicating panel closing said level indicating opening of said upper chamber.

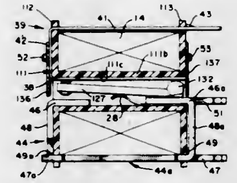


3,260,817
ELECTROMAGNETIC RELAY
William F. Auer, Des Plaines, Ill., assignor to Comar Electric Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 23, 1963, Ser. No. 318,311
6 Claims. (Cl. 200—87)



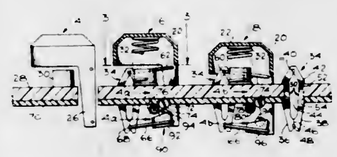
1. In an electromagnetic relay comprising a base, an operating assembly including an operating coil, pole pieces and armature pivotally mounted for movement into contact with said pole pieces, contact means on the base operated by said armature, terminal connectors rigidly secured to said base and leading to the opposite side of said base, said operating coil having wire wound thereon, said coil wire being fragile and of substantially less thickness than said terminal connectors, and metallic foil means electrically interconnecting a coil wire to a terminal connector to facilitate connection between said coil wire and said terminal connector and to prevent breaking of said coil wire at said terminal connector with vibrations.

3,260,818
RELAY
Bryant W. Fisher, Frederick, and Charles F. Miller, Walkersville, Md., assignors to Consolidated Electronics Industries Corp., New York, N.Y., a corporation of Delaware
Filed Nov. 27, 1963, Ser. No. 326,576
9 Claims. (Cl. 200—87)



1. A relay comprising: a bobbin; a coil of wire thereon; a pair of electrically conductive ferromagnetic members extending into said bobbin within said coil of wire from opposite ends of said bobbin, said ferromagnetic members being electrically insulated from each other; an electrically conductive ferromagnetic armature within said bobbin overlapping the proximal ends of said ferromagnetic members to be drawn magnetically into electrical contact with both said members when said coil is energized by an electric current; a spring bearing against said armature to hold said armature out of electrical and mechanical contact with one of said ferromagnetic members, except when said coil is energized by an electric current; and a pair of washers holding said armature within said bobbin.

3,260,819
MANUALLY ACTUATABLE SWITCH ASSEMBLY
Thomas J. Scuitto, Malibu, Arthur J. Devine, Lawndale, and Harald E. Karlson, Santa Monica, Calif., assignors to Wyle Laboratories, El Segundo, Calif., a corporation of California
Filed July 21, 1964, Ser. No. 384,055
13 Claims. (Cl. 200—87)

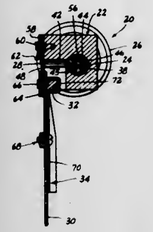


1. A switch assembly including:
a mounting plate defining a first pair of openings therein;
a switch actuator having a pair of spaced legs depending therefrom and extending through said openings for limited movement perpendicularly with respect to said plate;
a pair of posts secured to and extending above and below said mounting plate;
at least one link terminally pivoted between each of said posts and one of said legs, said links having a length greater than the limited distance said legs can move.

3,260,820
MAGNETIC FLOW SWITCH

Edward J. O'Brien, Jr., Des Peres, Mo., assignor to The O'Brien Corporation, St. Louis, Mo., a corporation of Missouri

Filed Sept. 8, 1964, Ser. No. 394,940
3 Claims. (Cl. 200—87)

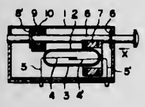


1. In combination, an explosion-proof flow switch comprising a compact casing, supporting means connected to said casing, a magnetic reed switch sealed within said casing, electrical wires operatively connected to said magnetic reed switch and extending from said casing, a flexible hinge member connected to said casing and extending therefrom, a materials engaging paddle connected to said hinge member and extending therefrom, a permanent magnet mounted on said paddle for movement therewith adapted to move the magnetic reed switch in one position thereof, and a magnet holder removably and adjustably trapping said permanent magnet against said paddle for quick removal and adjustment, the magnet holder being adjustable vertically on the paddle to vary the swinging moment.

3,260,821
PUSH SWITCH

Yusaku Yokoo, 28—12 Ikegami Tokumochi-cho, Ohta-ku, Tokyo, Japan

Filed Sept. 21, 1964, Ser. No. 397,697
Claims priority, application Japan, Oct. 4, 1963, 38/53,374
2 Claims. (Cl. 200—87)

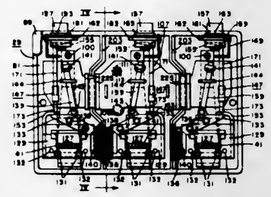


1. A push switch comprising a housing made of non-magnetic material and having opposite side walls;
- a push rod loosely inserted through both side walls of said housing;
- within said housing a switching part comprising two movable contact pieces, formed of a magnetic material, contained in a sealed container; a permanent magnet fixed to said push rod and loosely fitted around said switching part; a first cylindrical permanent magnet fixed to an end part of said push rod;
- a second cylindrical permanent magnet fixed to a wall of said housing; said first cylindrical permanent magnet being movably loosely inserted in said second cylindrical permanent magnet;
- said push rod switch being characterized in that said push rod is so arranged as to be quickly returned to an initial position by magnetic attraction between said first and second cylindrical permanent magnets when the first cylindrical magnet is pushed out of the second cylindrical magnet.

3,260,822
CIRCUIT BREAKER WITH IMPROVED ARMATURE ADJUSTMENT MEANS AND ARMATURE PIVOT MEANS

William I. Stephenson, Jr., Beaver, and Eugene J. Walker, Borough Township, Beaver, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Original application Mar. 2, 1960, Ser. No. 12,379, now Patent No. 3,211,860, dated Oct. 12, 1965. Divided and this application Feb. 3, 1965, Ser. No. 430,116
8 Claims. (Cl. 200—88)

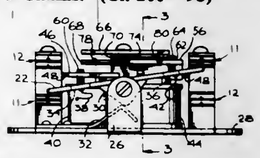


7. A circuit breaker having relatively movable contacts and a trip device for effecting automatic opening of said contacts, said trip device comprising an energizing winding, a U-shaped core member disposed to be energized by said winding, said core member comprising two outermost laminations and at least one inner lamination, a V-shaped pivot formed on one leg of said inner lamination, said outermost laminations forming sidewalls adjacent the opening defined by the legs of said V-shaped pivot, a movable armature comprising two outermost laminations and at least one inner lamination, said inner lamination comprising a knife-edge pivoting portion pivotally supported on said V-shaped pivot on said one leg of said core member, said armature extending over the other leg of said core member and being spaced from said other leg whereby there is an air gap between said armature and said other leg, said armature upon the occurrence of an overload current above a predetermined value through said energizing winding pivoting toward said other leg to close said air gap to effect automatic opening of said contacts, said side walls of said core member engaging said pivoting portion of said armature to prevent movement of said armature in a direction normal to a plane generated by said pivotal movement of said armature, means for adjusting said trip device by varying the dimension of said air gap, said adjusting means comprising a cam member and a cam follower, said cam follower being disposed between said cam member and said armature and being movable by movement of said cam member to move said armature to vary said magnetic air gap, and said cam follower being adjustable to vary said magnetic air gap to permit calibration of said trip device.

3,260,823
SINGLE IMPULSE LATCHING RELAY

Clarence S. McClellan, Woodland Hills, Calif., assignor to United Electronics Incorporated, Humacao, Puerto Rico, a corporation of Delaware

Filed June 29, 1964, Ser. No. 378,689
9 Claims. (Cl. 200—98)



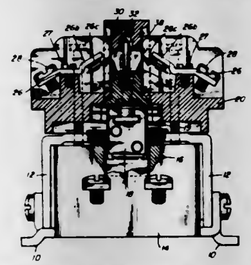
3. In combination:
a voltage source;
first and second relay coils; and

first and second circuit paths respectively connecting said source to said first and second relay coils;
said first circuit path including first and second serially connected switches;
said second circuit path including third and fourth serially connected switches;
said first and third switches being normally closed;
means closing either said second or fourth switches to respectively energize either said first or second relay coil;
means for closing said fourth switch and opening said third switch in response to said first relay coil being energized; and
means for closing said second switch and opening said first switch in response to said second relay coil being energized.

3,260,824
LOW ENERGY NON-ARCING ELECTRIC RELAY CONSTRUCTION

Harold E. Schleicher, West Hartford, Conn., assignor to The Arrow-Hart & Hegeman Electric Company, Hartford, Conn., a corporation of Connecticut

Filed July 29, 1963, Ser. No. 298,209
7 Claims. (Cl. 200—104)



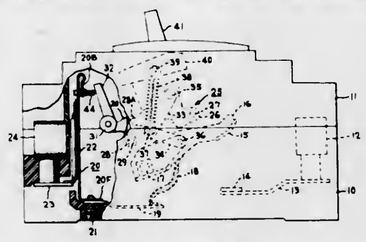
1. In a low energy relay switch, electromagnetic operating means, an insulation support moved by said operating means, a pair of fixed contacts positioned adjacent opposite sides of said support having their contact surfaces directed at an acute angle with respect to the direction of movement of said support by said operating means, flexible bridging contact means on said insulating support, said bridging contact means being U-shaped and symmetrical with the end portions of its arms being out-turned at an acute angle, said end portions having contact surfaces directed at a substantially supplementary angle with respect to the angle of said fixed contact surfaces and engaging obliquely with said fixed contact surfaces and slidable over said fixed contact surfaces as said bridging contact flexes after said engagement, and a positioning member engaged with said bridging contact means at spaced points, said positioning member having means to damp the vibrations of said flexible contact member as said fixed and bridging contact members separate.

3,260,825
CIRCUIT BREAKER WITH AMBIENT COMPENSATING MEANS

Henry E. S. Owen, Unionville, and Keith W. Klein, Simsbury, Conn., assignors to General Electric Company, a corporation of New York

Filed Feb. 10, 1964, Ser. No. 343,821
5 Claims. (Cl. 200—116)

1. An electric circuit breaker comprising:
- (a) an insulating casing;
- (b) at least one pair of relatively movable contacts in said insulating casing;
- (c) operating mechanism in said casing for said relatively movable contacts comprising a trip member releasable to cause automatic opening of said contacts;
- (d) a current responsive element comprising an elongated strip of bimetallic material rigidly mounted at one end thereof in said insulating casing;
- (e) said bimetallic strip having a first, substantially straight, portion adjacent said rigidly mounted end;
- (f) said bimetallic strip having a second, generally U-shaped, portion remote from said rigidly mounted end, said U-shaped portion including a first section extending in substantially straight-line alignment with said first portion and a second section extending in parallel spaced relation to said first section;
- (g) means for heating said first portion only of said bimetallic strip in accordance with current passing through said contacts;
- (h) tripping means carried by said second section of

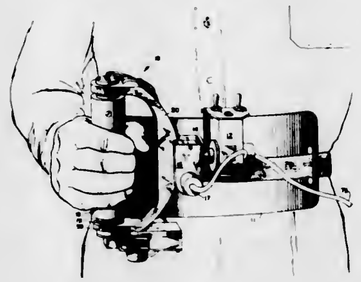


said bimetallic strip, said tripping means being moved in a first direction by said first portion of said bimetallic strip upon deflection thereof in accordance with current through said contacts to cause release of said trip member and opening of said contacts;
- (i) said tripping means being moved in a direction opposite to said first direction upon movement of said second section of said U-shaped portion of said bimetallic strip with respect to said first portion in response to an increase in ambient temperature to provide an ambient-temperature compensating action, and
- (j) means limiting movement of said second section with respect to said first section to limit said ambient temperature compensating action.

3,260,826
THREE-AXIS AND TRANSLATIONAL MOVEMENT CONTROLLER

Richard M. Johnson, Dallas, Tex., assignor to Ling-Temco-Vought, Inc., Dallas, Tex., a corporation of Delaware

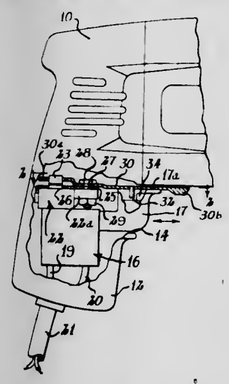
Filed Oct. 26, 1964, Ser. No. 406,369
6 Claims. (Cl. 200—157)



1. In a hand controller, a substantially tubular hand grip, a supporting shank for said hand grip, said hand grip encompassing said shank and being slidingly mounted thereto to permit lateral movement of said handgrip in a fixed diametrical direction, spring and stop means for positioning said hand grip diametrically in a normal position relative to sand shank, a first control device having a

spring return actuator positioned to cause operation of said device in response to lateral movement of said hand grip from its normal position, a handgrip support, a spring and stop means for positioning said shank axially in a normal position relative to said handgrip support, and a second control device having an actuator positioned to be operable in response to axial movement of said shank as a result of application of axial force to said hand grip.

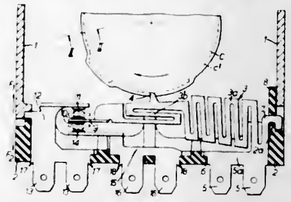
3,260,827
MOTOR REVERSING MECHANISM FOR ELECTRICALLY POWERED PORTABLE TOOLS
Carl John Frenzel, Chicago, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed July 12, 1965, Ser. No. 471,289
10 Claims. (Cl. 200—157)



1. In a hand-manipulatable power tool of the type including a housing enclosing a reversible electric motor, a trigger mounted from the housing and connected with the tool motor for energizing the same upon squeezing of the trigger by a person's finger, the improvement comprising, a reversing mechanism including a reversing lever mounted in said housing for movement between two opposite positions, which lever has one end thereof extending exteriorly of said housing and disposed closely adjacent said trigger generally above and forwardly of the same so that a person's finger may simultaneously engage said trigger and said one end of the lever for moving the same between said two positions, said reversing mechanism further including reversing switch means in said housing and connected with said motor for reversing the direction of rotation thereof, said lever being connected with said reversing switch means for operation of the latter upon movement of the former between said two positions.

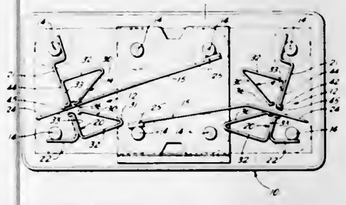
3,260,828
SWITCH AND BLADE THEREFOR HAVING MEANDERING SECTIONS FOR CONTACT PRESSURE
Roger J. Cartier, Milan, Italy, assignor to Controls Company of America, Melrose Park, Ill., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,215
Claims priority, application France, Jan. 14, 1963, 921,336
7 Claims. (Cl. 200—166)

1. A switch blade which is adapted to be supported at one end and to flex in the plane containing its longitudinal edges in order to open and close switch contacts, said blade being planar and having proximal and distal portions, the proximal portion of the blade being of serpentine shape defined by slots extending transversely thereof, a blade actuating point carried by the blade and adapted to receive a pressure impulse to flex said blade, switch contacts carried by the blade with at least one of said contacts being disposed on the distal portion of the blade and facing in the direction in which the blade moves in response to a blade flexing impulse, the distal portion of



the blade having at least one slot formed therein which, for a major portion of the length thereof, extends longitudinally of said blade, said blade actuating point and said one contact being respectively disposed laterally of and on opposite sides of said slot.

3,260,829
ELECTRICAL SWITCH CONTACTS WITH A FOLLOWER CONTACT SURFACE
William F. Auer, Des Plaines, Ill., assignor to Comar Electric Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 3, 1964, Ser. No. 408,644
8 Claims. (Cl. 200—166)

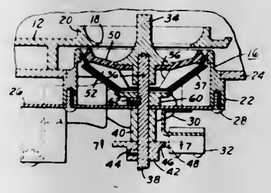


1. An electrical switch contact adapted to be engaged by another switch contact and to maintain an electrical path to said other switch contact during contact bounce between said switch contacts, said switch contact comprising, an integral body member, a first contact surface on said body member for engagement with said other switch contact, a second contact surface on said body member juxtaposed to engage said other switch contact prior to engagement of said other switch contact and said first contact surface, and a flexible portiton on said body member carrying said second contact surface and being flexible from its free position by said other switch contact, said flexible portion urging said second contact surface to follow and to maintain engagement between said second contact surface and said other switch contact to prevent formation of a spark between said first contact surface and said other switch contact.

3,260,830
GLOW RING INDICATOR DIAL
Edward E. Albright, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,514
4 Claims. (Cl. 200—167)

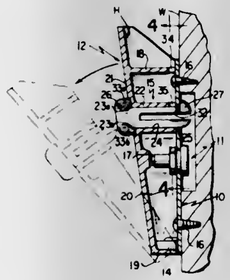
1. In an indicator dial assembly the combination of, a light source, means including a rotatable element, an annular transparent member on said element defining a viewing field completely around said element, a light shield interposed between said viewing field and said light source having a light reflective upper surface, said light shield blocking said light source from said viewing field,

means forming an aperture in said light shield for directing light from said source against said reflective upper surface, said reflective upper surface directing light from said source for diffusion throughout said annular transparent member to form a glow ring around said rotatable element, a colored light transmittable element secured to said rotatable element for rotation therewith interposed between said light source and said aperture to color the



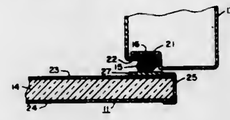
diffused light through said annular member for indicating a general control range, and indicia means within said field of vision for indicating specific control points, said light source being located in close proximity to said light shield aperture for producing a sharply illuminated planar area in said glow ring including a specific indicia means set forth thereby to indicate a specific control point.

3,260,831
FRANGIBLE KEY FOR LOCKING ALARM SIGNAL STATIONS
John H. Fasal, New York, N.Y., and Charles Emanuel Zimmerman, Jr., West Caldwell, N.J., assignors to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Mar. 4, 1964, Ser. No. 349,351
17 Claims. (Cl. 200—168)



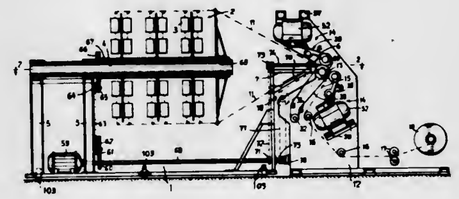
7. In alarm signal station apparatus, the combination of a back plate for mounting the apparatus on wall structure, a push button switch mounted on said plate having a forwardly facing operating element, a front box closed by said plate for concealing and enclosing said switch and having a front wall for operating said switch element, hinge means connecting the lower edges of said plate and said box for pivotally mounting one end of said box on one end of said plate, a boss on the back of said front wall formed with a keyway extending from front to back, said back plate having a slot in registry with said keyway when said plate closes said box, and a key structurally independent of said plate and said box and inserted into and extending through said keyway and said slot and having a frangible detent for catching the back of said plate.

3,260,832
OVEN
Stewart C. Johnson, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 28, 1963, Ser. No. 319,173
2 Claims. (Cl. 219—10.55)



1. In apparatus for heating material in a housing supplied with microwave energy, having a doorway to the exterior and a door covering the doorway, a first conductive member at the exterior surface of the housing about the doorway, a second conductive member at the adjacent interior surface of the door, and therebetween a door seal comprising a resilient conductive gasket and a thin nonconductive gasket contiguous therewith, the conductive gasket being generally Q-shaped in transverse cross-section, with the tail of the Q secured in a complementarily recessed portion of the housing about the doorway, and the nonconductive gasket being secured adhesively to the adjacent surface of the door.

3,260,833
METHOD OF AND APPARATUS FOR THE PRODUCTION OF WELDED JOINTS IN MESHWORK UNITS
Walter Rösler, Soest, Westphalia, Germany, assignor to Drahtwerke Rösler K.G., Soest, Westphalia, Germany
Filed Jan. 22, 1963, Ser. No. 253,209
Claims priority, application Germany, Jan. 24, 1962, D 37,982
14 Claims. (Cl. 219—56)

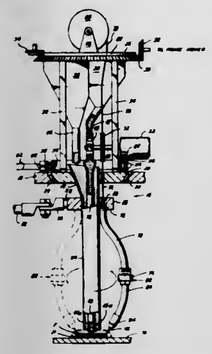


13. An apparatus for forming meshwork units from wires and the like wherein the wires intersect diagonally, said apparatus comprising a member having insulating means therearound defining a plurality of longitudinally spaced grooves, said insulating means including portions defining surface contours for having wires of the meshwork unit seated therein fixed closing relation with the wires intersecting in alignment with said grooves, and electrode means disposed in said grooves for pressurized contact with the wires at the points of intersection.

3,260,834
WELDING METHOD AND APPARATUS
Roman F. Arnoldy, Houston, Tex., assignor to R. I. Patents, Inc., Houston, Tex., a corporation of Texas
Filed Sept. 22, 1964, Ser. No. 398,177
25 Claims. (Cl. 219—73)

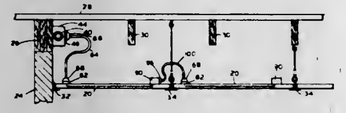
1. A method of welding comprising,
depositing weld particles on work to be welded,
forming a puddle on the work with the weld particles and a metal electrode,
rotating the metal electrode about the deposited particles in spaced relation to the puddle,

feeding the metal electrode to the work during such rotating, and



maintaining an arc from the electrode to the puddle during the rotating and the feeding of the metal electrode.

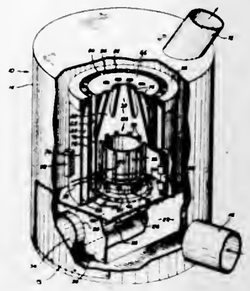
3,260,835
RADIANT HEATING SYSTEM
Frank J. Soukey, 255 S. Third St., and Nicholas E. McDougall, 834 Oneida St., both of Fulton, N.Y.
Filed Feb. 4, 1964, Ser. No. 342,401
3 Claims. (Cl. 219—213)



1. An electrical radiant heating panel for use in a suspended ceiling construction comprising a rectangular supporting member of heat insulating material having a reflective sheet and a radiant heating electrical resistance applied to one side thereof, said member having on its other side and affixed thereto adjacent one end a plug having two contact blades, and adjacent the other end a receptacle having two contacts for receiving a complementary two contact plug, said receptacle having shunting means for establishing electrical contact between said contacts in the absence of a plug, and a series electrical circuit including said resistance, contacts and shunting means connected to said plug blades.

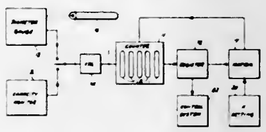
3,260,836
AIR HEATING FURNACE
Camille Villeneuve, 242 Dunraven Drive, Toronto, Ontario, Canada
Filed May 25, 1964, Ser. No. 369,882
Claims priority, application Canada, July 3, 1963, 879,225
2 Claims. (Cl. 219—365)

1. An air heating furnace comprising, an inner chamber, heating means located within said inner chamber and disposed to permit the air contained within said inner chamber to circulate in intimate contact therewith to provide rapid heating of said air when said heating means is activated, an intermediate heat retaining chamber surrounding and in heat receiving relation to said inner chamber, heat retaining means contained within said intermediate chamber, said heat retaining means receiving heat from said heating means and the circulating air when said heating means is activated and giving up heat to said circulating air when said heating means is not activated, an outer chamber surrounding and in heat receiving relation to said intermediate chamber, a first passage to permit air to enter said inner chamber, passage means for circulating said air in close proximity to said intermediate heat retaining chamber, said passage means including a second passage extending through said intermediate chamber to permit air to pass out of said inner chamber



into said outer chamber, said outer chamber forming a third passage for circulating said air in intimate contact with said heat retaining chamber, outlet means opening from said outer chamber to permit heated air to pass from the furnace.

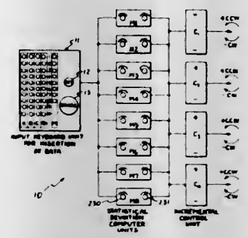
3,260,837
APPARATUS FOR MULTIPLYING AND DIVIDING SUCCESSIVELY OCCURRING FREQUENCIES
Georg Dornberger, Union, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 19, 1962, Ser. No. 180,624
8 Claims. (Cl. 235—92)



1. A computer for making addition or subtraction calculations involving successively occurring signal frequencies comprising a counter, means for applying successive signal frequencies to the counter, a first memory unit operable by said counter for storing a first count, a second memory unit operable by said counter for storing a second count, means for switching between memory units for successive counts, a matrix unit for registering the stored counts and performing the required calculations, and means for feeding back the matrix result to the counter to establish a new time base for performing calculations involving succeeding signal frequencies.

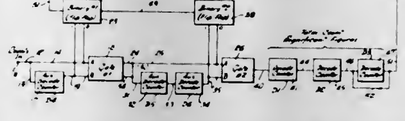
3,260,838
DEVIATION CONTROL SYSTEM
Wilmer C. Anderson, Greenwich, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 22, 1963, Ser. No. 253,195
6 Claims. (Cl. 235—92)

1. A deviation control system for controlling a variable in a manufacturing process or the like to minimize the number of out-of-tolerance final products produced by such process, which comprises, a first adjustable counter for counting the number of final products having tolerances which exceed the upper limit of tolerance and for producing an output signal when the counter is full, a second adjustable counter for counting the number of final products having tolerances which are below the lower limit of tolerance and for producing an output signal when the counter is full, an adjustable reference counter for counting the total number of final products and for producing an output signal when the counter is full, a control device associated with the manufacturing process, means for adjusting the control device in one direction



when the first adjustable counter is the first to be filled and for adjusting the control device in the opposite when the second adjustable counter is the first to be filled, and means for resetting all the counters to an initial condition when the reference counter is the first to be filled.

3,260,839
SCALE CHANGE PULSE COUNTER
William F. Brown, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 13, 1963, Ser. No. 258,316
6 Claims. (Cl. 235—92)

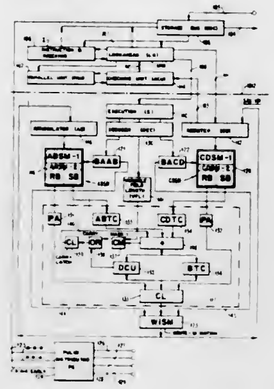


1. A scale change system for a totalizing pulse counter, said counter having a plurality of decade units one for each significant figure of the total count and said total count having a wide range of variation so that the number of significant figures is less than the maximum number of figures of the maximum total count provided for, comprising gate means having two paths therethrough, decade pulse count means having an input thereof connected to receive said pulses and an output thereof connected to one path of said gate means, binary control means for said gate means, and circuit means for actuating said binary control means from the output of the highest order one of said decade units to cause said gate means to switch from one of said paths to the other and permit output pulses from said pulse count means to pass through said gate means in order to change the scale of the total count indicated.

3,260,840
VARIABLE MODE ARITHMETIC CIRCUITS WITH CARRY SELECT
Lewis E. King, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 28, 1961, Ser. No. 162,893
5 Claims. (Cl. 235—169)

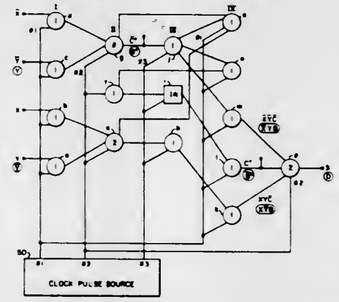
3. An arithmetic circuit comprising:
cyclically operating adder means having a predetermined number of positions, each position having means for providing a carry out;
means for supplying pairs of operands to said adder during successive cycles, said operands being represented in a plurality of radices;

means for determining the radix of each said pair of operands;
mode control means for establishing gating and control signals according to the radices of said operands;
individual carry select means respectively associated with said adder, and respectively operable during particular ones of said modes;



means for activating a particular said carry select means when operands having a related radix are encountered;
and storage means gated in common by any carry select; means activated during one cycle to thereby store a carry out from said adder for use in a subsequent cycle.

3,260,841
TUNNEL DIODE MAJORITY LOGIC SERIAL BINARY ADDER/SUBTRACTOR
Leland E. Hayden, Baltimore, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 27, 1963, Ser. No. 312,126
6 Claims. (Cl. 235—172)



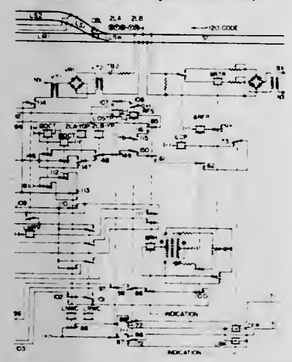
1. A binary adder/subtractor circuit operative with input signals comprising, a first row of logic elements including four one-unit input logic elements, each receiving as an input one of said input signals; a second row of logic elements including two-unit input logic elements and one-unit input logic elements, said two-unit logic elements of said second row receiving as inputs the outputs of selected ones of said one-unit logic elements of said first row; a third row of logic elements including one-unit input logic elements and an inverter logic element, said one-unit logic elements of said third row receiving as inputs the outputs of said two-unit logic elements of said second row, said inverter logic element receiving as an input the output of said one-unit logic element of said second row;

a fourth row of logic elements including one-unit input logic elements, a plurality of said one-unit logic elements of said fourth row receiving as inputs the output of one of said one-unit logic elements of said fourth row, selected ones of said plurality of one-unit input logic elements of said fourth row providing as outputs inputs to said logic elements of said second row, another of said one-unit input logic elements of said fourth row receiving as an input the output of said inverter logic element of said third row, another of said one-unit logic elements of said fourth row receiving as an input the output of one of said one-unit input logic elements of said third row; an output two-unit input logic element receiving as inputs the outputs of selected ones of said one-unit input elements of said fourth row to provide either one of a sum and difference signal of said input signals; and a clock pulse source operative to provide selectively reset pulses in a timed phase relationship as inputs to the logic elements with the reset pulses blocking information from being transmitted through a logic element to which it is applied while the absence of a reset pulse permits information to be transmitted therethrough.

3,260,842
REMOTE CONTROL SYSTEM FOR RAILWAY VEHICLES

Gordon W. Davison, Rochester, and Robert K. Cross, Spencerport, N.Y., assignors to General Signal Corporation, a corporation of New York

Continuation of application Ser. No. 74,821, Dec. 9, 1960. This application May 6, 1965, Ser. No. 454,248
22 Claims. (Cl. 246—4)



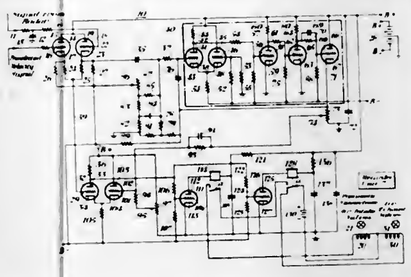
13. In a system for controlling a railway vehicle in a track layout including a track switch, the combination of, a detector track circuit surrounding said track switch for registering the presence of said vehicle adjacent said track switch, coding means responsive to the position of said track switch and the desired direction of travel of said vehicle over said track switch for transmitting coded information in the track rail portion of said detector track circuit to be travelled over by said vehicle distinctive of the desired operation of said vehicle on said detector track circuit, and means carried on said vehicle responsive to said transmitted coded information for providing a registration of said desired vehicle operation.

3,260,843
CONTROL CIRCUITS

Richard D. Campbell, Harmarville, and James A. Cook, Jr., Wilkinsburg, Pa., assignors to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Aug. 7, 1957, Ser. No. 676,732
9 Claims. (Cl. 246—182)

1. A control circuit for electrically controlled railroad car retarders comprising, means receiving a first voltage proportional to the velocity of a car being retarded, means receiving a second voltage proportional to a preselected velocity, means combining said first and second voltages to provide a third voltage proportional to said first and second voltages; means differentiating said first

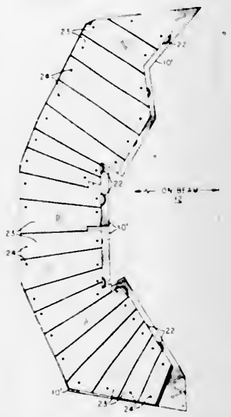


voltage, means combining said third voltage and the differentiated voltage to provide a control voltage, and means responsive to said control voltage and arranged to actuate said retarders whereby said car is retarded to said preselected velocity.

3,260,844
CALUTRON WITH MEANS FOR REDUCING LOW FREQUENCY RADIO FREQUENCY SIGNALS IN AN ION BEAM

Elwood D. Shipley, Knoxville, and Oliver C. Yonts and Allen M. Veach, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 31, 1964, Ser. No. 341,816
5 Claims. (Cl. 250—41.9)



1. Apparatus for substantially reducing low frequency radio frequency signals in an ion beam which is magnetically oriented in a predetermined trajectory within an evacuated region defined by electrically conductive walls, comprising a plurality of units disposed along the path of said ion beam with half of said units forming one group and being positioned on one side of said ion beam between said ion beam and one of said walls and the other half of said units forming a second group and being positioned on the other side of said ion beam between said ion beam and another of said walls, a conductive plate for supporting said one group of said units and being spaced from said one wall in parallel relation thereto, a second conductive plate for supporting said second group of said units and being spaced from said another of said walls in parallel relation thereto, each of said units including a pair of insulators mounted on one of said conductive plates, a conductive plate member mounted on said insulators and spaced from said one conductive plate and the edge of said ion beam in parallel relation thereto, a multi-turn, conductive coil encircling one of said pair of insulators and being connected to ground through said one conductive plate and also being connected to said conductive plate member, said plate member being provided with inclined edges such that said edges overlap in non-contacting relation with the edges of similar plate members of adjacent units such that each plate member extends through about 10° of said trajectory of said ion beam, and means for adjusting the position of said conductive plates and said units affixed thereto with respect to said ion beam such that the faces of said plate members of each of said groups are parallel to and positioned a selected distance from the edge of said ion beam, whereby said radio frequency signals are substantially reduced such that said ion beam is maintained stable and well focused for all operating pressures of said apparatus in the range from 5×10^{-4} to 7×10^{-7} mm. Hg.

3,260,845
METHOD FOR THE ANALYSIS OF X-RAYS FROM AN ELECTRON PROBE DEVICE

Peter Duncumb, Great Shelford, England, assignor to T. I. (Group Services) Limited, Birmingham, England, a British company

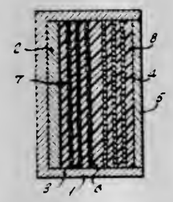
Filed July 10, 1962, Ser. No. 208,717
3 Claims. (Cl. 250—49.5)

1. A method of testing materials to determine their constituents by spectrometry comprising bombarding the material with an electron beam to produce pulses of characteristic X-rays from the material, detecting said X-ray pulses to produce electrical pulses, analyzing the electrical pulses by producing a display of the pulse height distribution characteristic of the material, producing a second display synthesized by combining signals characteristic of electrical pulses produced by spectrometry from known materials, adjusting mechanically the relative proportions of these last mentioned signals until the two displays match each other, and establishing from the degree of mechanical adjustment of the last mentioned signals an indication of the proportions of the constituents of the material under test.

3,260,846
BETA RAY LIGHT SOURCE STRUCTURE

Irving Feuer, Elmhurst, N.Y., assignor to Canrad Precision Industries, Inc., New York, N.Y., a corporation of New York

Filed Apr. 9, 1963, Ser. No. 271,770
7 Claims. (Cl. 250—77)

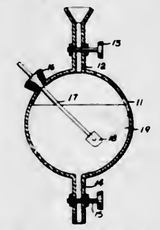


1. An improved radioactive light source which comprises a casing having disposed therein a radioactive region containing a material giving off beta rays, a phosphor region positioned in front of said radioactive region in the direction of light discharged from said source, said phosphor region being of sufficient thickness to absorb a substantial portion of beta rays without substantial absorption of light rays, a light reflective and beta ray-reflective heavy metal reflecting region positioned behind and enclosing the back portion of said radio-active region, said heavy metal having an atomic number of at least 45 and having a thickness sufficient to reflect beta rays, said metal being positioned adjacent to said radioactive region and in direct contact with the beta rays given off by said radioactive region and having a front facing light reflecting surface so that said reflecting region serves to reflect both light and beta rays forwardly, said forwardly directed beta rays exciting said phosphor region and being converted into light.

3,260,847
NEUTRON SOURCE

Saadia Amiel and Aharon Nir, Rehovoth, Israel, assignors to Yeda Research and Development Co., Ltd., Rehovoth, Israel, a company of Israel

Filed June 5, 1962, Ser. No. 200,258
Claims priority, application Israel, June 6, 1961, 15,593
4 Claims. (Cl. 250—84.5)

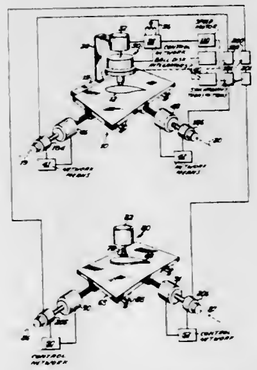


1. A neutron source comprising a container, a solid radioactive emitter of α-particles which have an energy of at least 4 mev., means providing said radioactive emitter of α-particles in the interior of said container, a fluid oxygenous target material enriched in O^{18} atoms filling at least a portion of said container and in contact with said radioactive emitter of α-particles, and valve means extending through the wall of said container for draining said fluid oxygenous target material from said container, thereby to sever the said α-emitter from said target to interrupt neutron emission at will.

3,260,848
LINE FOLLOWER CONTROL APPARATUS

Robert E. Gordon, Brooklyn Center, Minn., assignor to Honeywell Inc., a corporation of Delaware

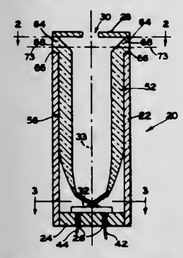
Filed Apr. 1, 1963, Ser. No. 269,579
12 Claims. (Cl. 250—202)



12. In a line follower control, a table, a sensing head, means mounting said table and said sensing head for relative movement along a pair of displacement axes, a templet adapted to be mounted on said table and oriented with respect to said sensing head such that an axis of said head is in alignment with a line contour of said

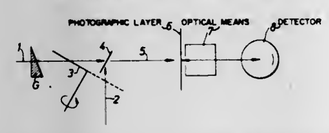
templet, said sensing head including photocell detectors adapted to be positioned at a predetermined relationship with respect to the line contour of the templet through relative movement of said table and said head, means controlled by the signal output of said photocell detectors to provide a pair of signals, drive means connected to and energized from said signals for producing said relative movement of said table and said sensing head, slow down control means included in said drive means and responsive to deviations of said sensing head from the line contour of said templet to slow down the operation of said drive means, and auxiliary means included in said sensing head and responsive to separate indicia on said templet, said auxiliary means being included in said drive means and being effective to modify the operation of said slow down control to stop operation of the drive means upon said sensing head reaching said separate indicia.

3,260,849
LIGHT SENSITIVE ORIENTING DEVICE
William R. Polye, River Edge, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Mar. 9, 1962, Ser. No. 178,610
11 Claims. (Cl. 250—203)



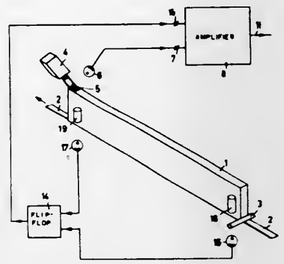
1. A single light sensing device for determining the attitude of the device relative to a light source, comprising a light sensitive detector providing an electrical signal when exposed to light, a coarse optical system for detecting the light source over a substantial solid angle and a fine optical system for detecting the light source within a relatively small solid angle, the coarse optical system and the fine optical system having light gathering means disposed at substantially 90 degrees to one another and being positioned and arranged relative to the detector to direct light from the source onto the same segments of the detector to provide signals corresponding to the attitude of the detector relative to the light source.

3,260,850
MEASURING THE WATER CONTENT OF PHOTOGRAPHIC LAYERS
Konrad Bunge and Otto Koch, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Mar. 13, 1963, Ser. No. 264,975
Claims priority, application Germany, Apr. 6, 1962, F 36,483
4 Claims. (Cl. 250—219)



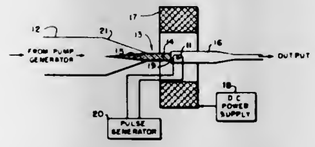
1. In an apparatus for continuously measuring the water content of photographic layers in the production of photographic films which apparatus comprises a device for producing a beam of light rays of a wavelength of 1.95μ for measuring the water content, a device for producing a second beam of light rays of a reference wavelength lying between 1.7 and 1.8μ, these beams penetrating the water-containing layer to be measured substantially at the same point, and a photoelectric detector which is arranged behind the object to be measured and which compares the light output of the two rays of light, the improvement which comprises arranging between the photographic layer to be measured and the said photoelectric detector an optical means capable of receiving substantially all of the radiation coming in the half space between the photographic layer to be measured and the photoelectric detector and capable of passing on at least a part of said received radiation, said received radiation being independent of the angle distribution of the radiation leaving the photographic layer and having sufficient intensity for releasing a measurable signal of the said photoelectric detector.

3,260,851
APPARATUS FOR VISUAL INVESTIGATION OF OBJECTS BY MEANS OF PHOTOCELL
Einar Gosta Birger Jacobsson, Bandhagen, Sweden, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 14, 1963, Ser. No. 251,236
Claims priority, application Sweden, Jan. 31, 1962, 1,089/62
11 Claims. (Cl. 250—223)



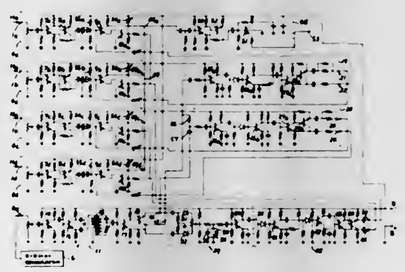
3. Apparatus for optically examining an object to detect imperfections, comprising means for projecting a light beam onto a surface of said object, means for moving said light beam and said object relative to one another so that said light beam scans the surface of said object and beyond the leading and trailing edges thereof, photoelectric means positioned to intercept at least a portion of the light from said beam directed thereto by said illuminated surface, said photoelectric means producing an electric signal determined by the light received, signal amplifier means having an input circuit coupled to said photoelectric means and an output circuit for producing an output signal proportional to the light received by said photoelectric means, said input circuit comprising a resistance-capacitance differentiating circuit and variable impedance means for controlling the passage of said electric signal to said amplifier means, and control means synchronized with said moving means for producing a control signal at the passage of said light beam past the leading and trailing edges of said object, means for applying said control signal to said variable impedance means thereby to control the impedance thereof so as to permit the passage of said electric signal to said amplifier means during the period said light beams scans said surface and to block the passage of said electric signal to said amplifier means at the points said light beam scans the leading and trailing edges of said object and beyond the edges of said surface.

3,260,852
FERRITE FREQUENCY CONVERTER WITH DIELECTRIC LOW PASS FILTER
George Ludwig Helter, Stanford, Calif., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 3, 1963, Ser. No. 249,302
4 Claims. (Cl. 307—88.3)



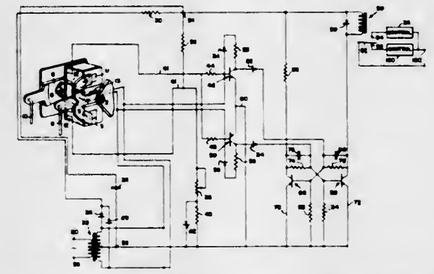
1. A signal generator comprising a first waveguide, a ferrite sphere positioned within said first waveguide, a second pump frequency waveguide having a cross-sectional area greater than that of said first waveguide, a waveguide filter positioned between said first and second waveguides for passing said pump frequency signal but rejecting all frequencies above said pump frequency, said waveguide filter containing a dielectric material having a dielectric constant which varies nonlinearly with respect to frequency over the desired frequency range, to an extent greater than an inverse square root law, and output waveguide means connected to said first waveguide for extracting from said ferrite a signal of a frequency higher than said pump frequency.

3,260,853
SIGNAL CHANGE-OVER DEVICE
Nobutoshi Kihara, Tokyo, Japan, assignor to Sony Corporation, a corporation of Japan
Filed Oct. 11, 1960, Ser. No. 61,940
Claims priority, application Japan, Oct. 15, 1959, 34/32,383
6 Claims. (Cl. 307—88.5)



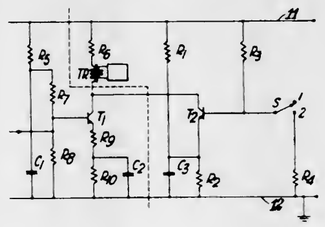
1. A signal change-over device comprising a plurality of gate circuits, a first phase splitting circuit adapted to receive a signal having a predetermined frequency, a frequency multiplying circuit connected to the output of said first phase splitting circuit for producing a multiplied frequency signal, a second phase splitting circuit connected to the output of said frequency multiplying circuit for producing two out-of-phase components at said multiplied frequency, said plurality of gate circuits being transistorized, one of said transistors in each of said gate circuits being biased through a variable resistor, and the outputs of said first and second phase splitting circuits being connected to said plurality of gate circuits in such a manner that said plurality of gate circuits are alternately gated by pairs of signals at said predetermined frequency and said multiplied frequency.

3,260,854
CIRCUITRY FOR EFFECTING VARIABLE RANGE CONTROL
Prathivadhi Bayankaram Krishnaswamy, Hatboro, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed Aug. 11, 1961, Ser. No. 130,972
3 Claims. (Cl. 307—88.5)



1. In combination, means providing an alternating variable amplitude and reversible phase input signal, a pair of amplifiers, means supplying to said respective amplifiers reference signals of opposite phases at the frequency of said input signal, each of said amplifiers receiving said input signal, means providing a direct bias to each of said amplifiers to drive them simultaneously to similar limit conditions of operation such that amplitude values of said input signal less than a predetermined value fail to produce a condition of said amplifier out of said limit condition while amplitude values of said input signal exceeding said predetermined value produce a condition of said amplifier out of said limit condition to provide an output therefrom varying with said input signal, and a bistable multivibrator receiving the outputs from both of said amplifiers and arranged to be tripped to one stable state by one of said outputs and to its other stable state by the other of said outputs.

3,260,855
SWITCHING CLICK SUPPRESSOR CIRCUIT
Agoston Zoltan Kiss, Richmond, England, assignor to Modern Telephones (Great Britain) Limited, London, England, a British company
Filed June 22, 1962, Ser. No. 204,471
Claims priority, application Great Britain, June 22, 1961, 22,697/61
3 Claims. (Cl. 307—88.5)



1. A tone keyer for controlling a signal source potential having an alternating and a direct component, comprising

a first transistor having emitter, collector and base electrodes,

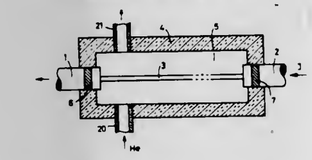
said signal source being applied to the input of said transistor,

a load connected to the output of said transistor,

said emitter electrode being coupled to a common conductor,

a second transistor having emitter, collector, and base electrodes,
a capacitor for providing a shunt path to said alternating component, said capacitor being connected between said emitter electrode of said second transistor and said common conductor,
said collector electrode of said second transistor being connected to said collector electrode of said first transistor,
biasing means for said second transistor,
switch means arranged to apply selectively first and second biasing potentials from said biasing means to said base electrode of said second transistor, to render the same respectively into a conductive and a non-conductive state,
said transistor when in said conductive state forming a series circuit with said capacitor for short-circuiting said alternating component,
said transistor when in said non-conductive state preventing any significant attenuation of said alternating component at the collector electrode of said first transistor,
and the direct component of the potential difference between said emitter and collector electrodes of said second transistor being maintained substantially zero at all times, whereby the production of switching clicks at the collector electrode of said first transistor is eliminated.

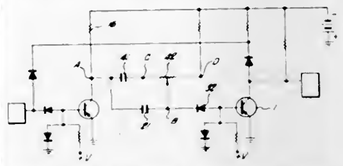
3,260,856
SUPERCONDUCTOR CIRCUIT ASSEMBLY
Wilhelm Kafka, Tennenlohe, near Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Feb. 15, 1963, Ser. No. 258,799
Claims priority, application Germany, Feb. 16, 1962, S 78,059
7 Claims. (Cl. 307—88.5)



1. An electric superconductor circuit assembly, comprising a cryogenic superconductor and ordinary conductance-type conductor means electrically joined with each other, and two circuit branches each interposed between said superconductor and conductor means at the junction location thereof and electrically joined with both in mutually parallel relation, said circuit branches each including thermoelectric semiconductor means of respectively opposite conductance types and semiconductor diodes of respectively opposite polarity for reducing heat supply from said conductor means to said superconductor when traversed by electric current.

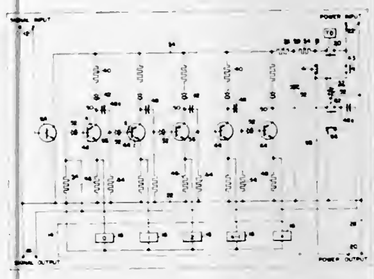
3,260,857
MULTIVIBRATOR CIRCUITS HAVING A WIDE RANGE OF CONTROL
Frank W. Weber, Duarte, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed July 11, 1963, Ser. No. 294,293
7 Claims. (Cl. 307—88.5)

1. A multivibrator having a stable state and a set state; a variable timing means in said multivibrator for selectively varying the time said multivibrator is held in said set state, said timing means comprising: a first capacitive means, a second capacitive means, resistive means series connected with said second capacitive means, means connecting one end of each of said first and second capacitive means, and means selectively variable between two limits for connecting said first and second
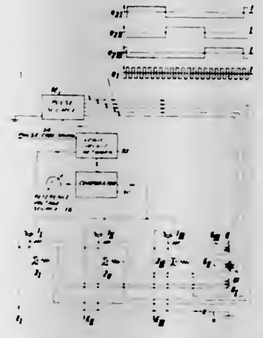


capacitive means in a purely capacitive parallel circuit at one limit, and for connecting said first capacitive means in parallel with said series connected resistive means and second capacitive means at the other limit.

3,260,858
COUNTING DEVICE, UTILIZING CONTROLLED RECTIFIERS, WITH PARTICULAR SEQUENCING MEANS
Paul F. Kueber, Clearwater, Fla., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 19, 1963, Ser. No. 302,915
3 Claims. (Cl. 307—88.5)



2. In a counting mechanism; a plurality of discontinuous control type electric valves; each said valve having a pair of main electrodes and a control electrode operable to initiate conduction between its said main electrodes and ineffective to interrupt conduction therebetween: a plurality of impedance devices; each of said impedance devices having a first and a second terminal; a plurality of storage elements; each of said storage elements having a first and a second terminal; a first and a second bus; sequencing means associated with said buses and effective to reduce and thereafter restore the potential therebetween; a plurality of sequentially actuated current conducting paths connected between said buses; each said path comprising an individual one of said valves and an individual one of said impedance devices, the said valve which is included in the said path having one of its said main electrodes connected to said second bus, said impedance device which is included in the said path having its said first terminal connected to said first bus and its said second terminal connected to the other of said main electrodes of said valve which is included in the said path; a plurality of charging circuit means of a number equal to the number of said paths; each said circuit means individually connecting an individual one of said storage elements between said buses through a first of said main electrodes and said control electrode of an individual one of said valves whereby said storage elements are charged as a consequence of current flow through said control and said first main electrodes established by the potential between said buses; a plurality of discharging circuit means of a number equal to the number of said paths; each said discharging circuit means individually including an individual one of said storage elements and individually including said main electrodes of an individual one of said valves whereby said paths are sequentially rendered conducting by said sequencing means.

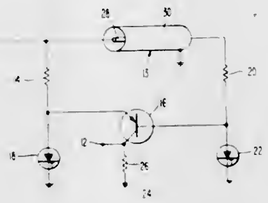
3,260,859
SELECTIVELY CONTROLLED SHUNT TRANSISTOR CONTROLLING CONDUCTION OF SERIES TRANSISTOR AND SIGNAL TRANSMISSION
Roger Dessoulavy, 45 Ave. Vulliemin, Lausanne, Switzerland
Filed Sept. 19, 1963, Ser. No. 310,033
Claims priority, application Switzerland, Sept. 20, 1962, 11,109/62
3 Claims. (Cl. 307—88.5)



1. Electronic switching and circuit interrupting network for governing the application of a voltage through a line having a potential relative to a line of reference potential, comprising:
a first transistor having its emitter-collector path inserted in said line to be governed;
a first control voltage source resistively connected to the base and one of the collector and emitter electrodes of said first transistor;
a second transistor;
a source of fixed voltage potential connected in series circuit connection to the emitter-collector path of said second transistor,
said series circuit connection being connected between said base of said first transistor and said reference line;
and a second control voltage connected between said reference line and the base of said second transistor,
said first and second control voltages connected to respectively render said first and second transistor selectively conductive and nonconductive, whereby said second transistor when conductive, overrides the control effect of said first control voltage and blocks said first transistor.

3. Electronic switching and control network for applying voltages from a plurality of channel lines to a common comparator input line, there being a common reference line, the combination comprising:
a plurality of first transistors, one for each of said plurality of channel lines,
said first transistors each having one of their collector and emitter electrodes connected to said common input line, while the other one of said collector and emitter electrodes connects to the respective channel line;
a common source of clock pulses;
a transformer having its primary winding connected to said source of clock pulses and having a plurality of secondary windings, one for each of said first transistors;
resistive means for respectively connecting said secondary windings to the base electrodes and said other electrodes of said first transistors;
a second transistor for each first transistor;
a source of fixed voltage connected to the emitter collector path of each second transistor, each said second transistor with fixed voltage source connected to the base of one first transistor and said reference line;
and a second control voltage connected between said reference line and the base of each said second transistors,
said first and second control voltages connected to respectively render said first and second transistor selectively conductive and nonconductive, whereby said second transistor when conductive, overrides the control effect of said first control voltage and blocks said first transistor.

3,260,860
PULSE SHAPER
Joseph L. Kozikowski, Broomall, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 9, 1963, Ser. No. 314,984
11 Claims. (Cl. 307—88.5)

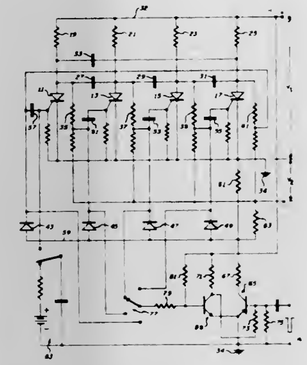


1. The combination comprising:
current-valve means, having first and second control terminals and an output terminal, for providing an output voltage only while receiving an input voltage on said first control terminal and no input voltage on said second control terminal;
delay means having a first terminal and a second terminal electrically connected to said first and second control terminals, respectively, whereby a voltage applied to said first control terminal is conducted to said second control terminal after a predetermined period of time;
first and second negative resistance means coupled, respectively, between the first and second terminals of said delay means and the output terminal of said current-valve means; and
an input terminal electrically connected to said first control terminal for applying input pulses thereto, whereby an output pulse is provided by said current-valve means at said output terminal which pulse has a time width approximately equal to the delay time of said delay means.

3,260,861
STEPPING SWITCHES EMPLOYING BLOCKING MEANS SELECTIVELY DISABLING STEPPING
James E. Dalley, Reading, Pa., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Nov. 27, 1963, Ser. No. 326,558
9 Claims. (Cl. 307—88.5)

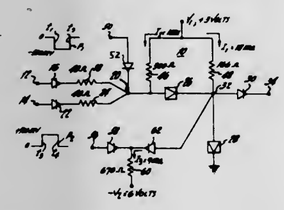
1. A stepping switch comprising a pair of stepping switch stages; means in each stage to provide an enabling voltage whenever the stage is actuated; coupling means connected between said stages, said coupling means being

responsive to an enabling voltage in one of said stages to permit input pulses to pass to the other of said stages; input means connected to pass input pulses to said coupling means; blocking means to disable said input means



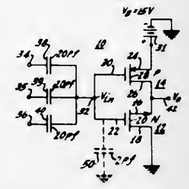
in response to an enabling voltage; and switching means connected to couple an enabling voltage from either stage through the blocking means to the input means.

3,260,862
TUNNEL DIODE CIRCUIT
Michael Cooperman, Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Mar. 9, 1964, Ser. No. 350,222
6 Claims. (Cl. 307—88.5)



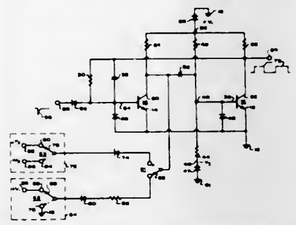
1. An electrical circuit,
comprising in combination,
first and second serially connected tunnel diodes each exhibiting relatively low and high voltage operating regions corresponding to first and second binary levels, respectively,
input means coupled to the serial combination of said diodes for applying input signals of said first and second binary levels thereto,
means for quiescently operating said first and second tunnel diodes in their low voltage regions so that the application of a pair of binary signals of said second level switches said first tunnel diode to its high voltage region but not said second tunnel diode,
said first tunnel diode in its high voltage region providing isolation between said input means and said second tunnel diode to block the application of said binary signals to said second tunnel diode, and
means for applying to said second tunnel diode a clock signal having an amplitude to switch said second tunnel diode to its high voltage region when added to one binary signal of said second level in the absence of the switching of said first tunnel diode to its high voltage region.

3,260,863
THRESHOLD CIRCUIT UTILIZING FIELD EFFECT TRANSISTORS
Joseph R. Burns, Trenton, N.J., and Robert A. Powlus, Yardley, Pa., assignors to Radio Corporation of America, a corporation of Delaware
Filed Mar. 19, 1964, Ser. No. 353,146
6 Claims. (Cl. 307—88.5)



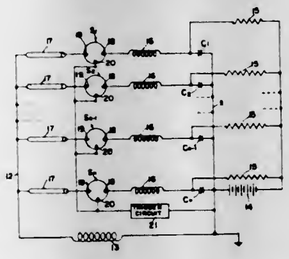
1. A threshold circuit comprising, in combination,
a pair of field-effect transistors of opposite conductivity types with each having first and second electrodes separated by a channel defining a conductive path for said transistors, and a control electrode for controlling the conductance of said channel,
means for directly connecting together the control electrodes of said transistors,
means for serially connecting together the first-to-second electrode conductive paths of said transistors so that one transistor functions as a load on the other,
means for capacitively coupling input signals to the junction of the control electrodes of said pair of transistors, and
means for deriving output signals from the junction of said first-to-second electrode conductive paths of said pair of transistors,
said output signals exhibiting an abrupt change from one signal level to another when said input signals exceed a predetermined threshold signal level.

3,260,864
VARIABLE DELAY TIME PULSE GENERATOR
Carl-Ernst G. Nourney, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 1, 1964, Ser. No. 393,535
4 Claims. (Cl. 307—88.5)



1. A multivibrator circuit for producing a pulse of variable duration, said multivibrator circuit comprising:
first and second gain elements, each having an input and an output;
first circuit means interconnecting said first and second gain elements, said first circuit means including an energy storage device connected between the output of said first gain element and the input of said second gain element for providing the multivibrator circuit with at least one unstable electrical condition in which said first gain element is nonconductive of current and said second gain element is conductive of current for an interval of time during which the output pulse is produced;
a unidirectional conducting element having a pair of terminals, one of which is connected to said first circuit means at a point intermediate to said energy storage device and the output of said first gain element for being supplied with an electrical potential;
switching means having a plurality of states and being connected to the other terminal of said unidirectional conducting element for supplying a different electrical potential for each of said states to said other terminal to reverse bias said unidirectional conducting element at the beginning of said unstable electrical condition; and
second circuit means connected to said energy storage device for altering during said unstable electrical condition the amount of energy stored in said energy storage device to alter the electrical potential supplied to said one terminal so as to forward bias said unidirectional conducting element, whereby said unstable electrical condition is terminated at a different time for each state of said switching means.

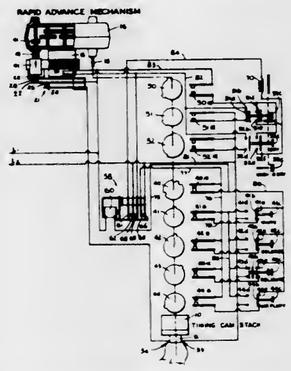
3,260,865
GENERATOR OF HIGH-ENERGY ELECTROMAGNETIC SURGES
Peter Jelinek-Fink, Julich, Hermann Jordan, Aachen, Willibald Anger, Julich, Hans Beerwald, Cologne-Klettenberg, Hermann Fay, Aachen, and Eduard Hintz, Solingen-Grafrath, Germany, assignors to Kernforschungsanlage Jülich des Landes Nordrhein-Westphalia, Julich, Rhineland, Germany, a corporation of Germany
Filed July 2, 1962, Ser. No. 207,473
Claims priority, application Germany, July 1, 1961, K 44,152, K 44,153
17 Claims. (Cl. 307—109)



1. A circuit arrangement for the resonant discharge of capacitively stored electrical energy through an inductive load, comprising a multiplicity of capacitive storage units, normally open individual switch means for each storage unit, conductor means with branches individual to said storage units and the associated switch means for connecting all of said storage units in parallel across said load in the closed condition of said switch means, inductive impedance means in each of said branches having a magnitude which is large compared with that of the load inductance, charging means for said storage units, and means normally effective to close all of said switch means at substantially the same time; said storage units, switch means and branches being so numerous that the parallel combination of all of said inductive impedance means in the closed condition of said switch means results in an overall series inductance for said load which is small in comparison with the load inductance.

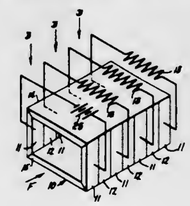
3,260,866
PROGRAM CONTROL FEATURE
Paul A. Martin, Newton, Iowa, assignor to The Maytag Company, Newton, Iowa, a corporation of Delaware
Filed Nov. 6, 1962, Ser. No. 235,743
9 Claims. (Cl. 307—141)

7. In an automatic control system, the combination comprising: timing means for controlling a series of operations; timer motor means for driving said timing means at normal slow speeds; rapid advance means for driving said timing means at high speeds; selection means for choosing said series of operations; first circuit means under the control of said selection means to initiate operation of said rapid advance means for a short period and to initiate operation of said timing means at the selected start position in said series of operations, said selection means being responsive to manual initiation; optional modification means including second circuit means and actuatable for energizing said rapid advance means through said second circuit means to modify said cycle of operation by omitting at least one portion of said



series of operations; solenoid means for returning said modification means to an unactuated condition; and third circuit means including first switch means actuatable to a closed position in response to actuation of said modification means, second switch means actuatable to an open position during periods of operation of said rapid advance means and third switch means actuatable to the closed position in response to termination of said series of operations, said third circuit means being operable for energizing said solenoid means through said first, second, and third switch means whereby said cycle modification means is returned to said unactuated condition only at completion of the modified series of operations and not during periods of rapid advance of said timing means.

3,260,867
METHOD OF ELECTRIC POWER GENERATION
Henry Hurwitz, Jr., Schenectady, N.Y., and George Walter Sutton, Lafayette Hill, Pa., assignors to General Electric Company, a corporation of New York
Filed Mar. 31, 1961, Ser. No. 99,751
5 Claims. (Cl. 310—11)



1. A method of generating electric power which comprises the steps of providing a heated gas which, at operating temperature, is essentially devoid of molecular energy states lower than the energy of electrons in said gas to avoid transfer of energy thereto by collisions with said electrons; introducing said gas into a magnetic field

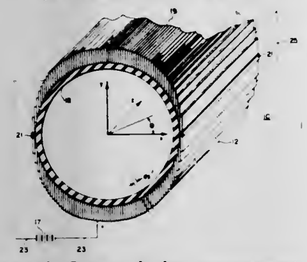
at a right angle to the lines of force thereof; controlling the relative values of said magnetic field and the density of said gas to provide a product of electron angular cyclotron frequency and mean collision time in the range of 3–5; providing a completed electrical circuit including a load for electric current generated by the interaction of said magnetic field and said gas; maintaining a ratio of voltage across the load to open circuit voltage in the range of 0.5 to 0.9; and utilizing a potential gradient across said gas in a direction parallel to the flow thereof to increase the temperature of said electrons relative to that of said gas.

3,260,868

MAGNETIC FLUX PRODUCING ARRANGEMENT

William C. Brenner, Fox Chapel, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 31, 1963, Ser. No. 320,409
6 Claims. (Cl. 310—11)



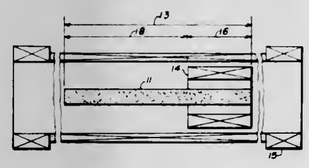
1. A magnetic flux producing arrangement comprising elongated hollow generally cylindrical winding means energizable from a suitable source, said winding means having elongated conductor means, means for supporting said conductor means so that said conductor means extend in the longitudinal direction and are disposed about the circumferential direction, and means for providing a sheet of axially directed current in said conductor means such that the current is substantially sinusoidally distributed about the circumferential direction of said winding means to produce a substantially uniform magnetic flux field within and transaxially of said winding means.

3,260,869

METHOD FOR REVERSIBLY EXTRACTING ENERGY FROM A PLASMA BY MAGNETIC PUMPING

Laurence S. Hall, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Original application Feb. 21, 1962, Ser. No. 174,925, now Patent No. 3,116,209, dated Dec. 31, 1963. Divided and this application Nov. 20, 1963, Ser. No. 325,194
5 Claims. (Cl. 310—11)



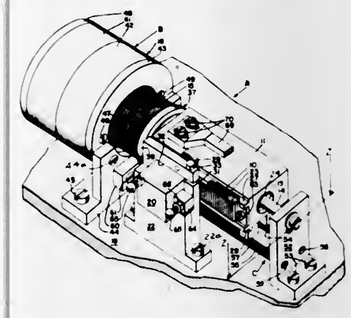
1. A method of extracting energy from a plasma comprising the steps of:
(a) confining a plasma by a first externally-imposed static magnetic field, said first magnetic field having a constant magnitude H_0 for at least a substantial portion thereof;
(b) applying a second externally-imposed time-varying magnetic field to at least a portion of said confined plasma;
(c) causing said time-varying field to fall from a magnitude H_{max} to a magnitude H_{min} in a time interval τ_F;
(d) causing said time-varying field to increase from said magnitude H_{min} to said magnitude H_{max} in a time interval τ_R, wherein the following time relationships are simultaneously satisfied:
(1) τ_F is substantially less than τ_R,
(2) both τ_F and τ_R are substantially greater than τ_{cy}, where τ_{cy} is the cyclotron period,
(3) $\tau_{cy} << \tau_F << \tau_{tr}$, τ_{coll}; where τ_{tr} is the ion transit time, and τ_{coll} is the time for a 90° deflection of an ion,
(e) and repeating steps (b) through (d) above until the desired energy is extracted from the plasma.

3,260,870

MAGNETIC DETENT MECHANISM

Laurence R. Beach, Jr., San Jose, and Robert J. Black, Saratoga, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 28, 1962, Ser. No. 247,947
7 Claims. (Cl. 310—14)



1. A magnetic detent mechanism comprising;
(a) a positional member mounted for free movement along a path,
(b) drive means for driving the positional member to each of a plurality of selected positions along such path,
(c) dent mechanism for accurately centering the positional member in each of such selected positions, said detent mechanism comprising a first plurality of simultaneously magnetized magnetic elements mounted on the positional member in equally spaced, aligned relation along and parallel to such path, and
(d) a second plurality of magnetic elements fixedly mounted in the same spaced, aligned relation closely adjacent and parallel to such path, and spaced slightly from the first plurality of magnetic elements, and so positioned that in each of such selected positions of the positional member a plurality of the teeth of both pluralities thereof are in directly opposite relation to each other to magnetically center and retain the positional member in such position.

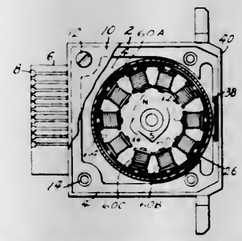
3,260,871

STEP MOTOR FOR USE WITH AN INDICATOR

Elliot R. Lang, Hamden, Conn., assignor to The Patent Button Company, Waterbury, Conn., a corporation of Connecticut

Filed Feb. 12, 1964, Ser. No. 344,337
3 Claims. (Cl. 310—49)

1. In an electromagnetic indicator of the type utilizing a stator having an annular ferromagnetic core for establishing any one of a plurality of discretely oriented magnetic fields, the core having a plurality of radial poles protruding inwardly equal distances, the stator including a plurality of windings, each winding being mounted upon a different radial pole and being arranged to be separately energized by an electrical signal, and
a rotor having a magnet mounted to rotate within the enclosure of the annular core about a pivotal axis at the core's geometric center, the magnet having



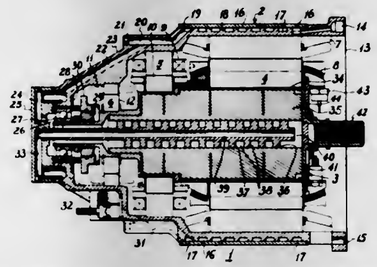
two salient poles of opposite magnetic polarity whereby the magnet rotates into substantial alignment with the magnetic field established by the stator,
the improvement wherein:
the salient pole magnet is mounted so that its two poles are unequal distances from the pivotal axis, and
the radial poles are spaced around the annular core so that when one salient pole of the magnet is aligned with a radial pole the other salient pole is between two other radial poles.

3,260,872

OIL COOLED GENERATOR DESIGN

Frederick Milton Potter, Little Silver, N.J., assignor to The Bendix Corporation, Eatontown, N.J., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,049
7 Claims. (Cl. 310—54)



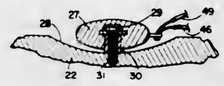
1. A dynamoelectric machine comprising a stator and a rotor, means for circulating a liquid coolant in a closed circuit in heat transfer relation with said stator and rotor, said means comprising two groups of parallel spiral grooves surrounding said stator, an input channel connecting one end of one group of said parallel spiral grooves, a longitudinally extending channel in said rotor, a first connecting channel connecting the other end of said one group of parallel grooves to one end of said longitudinally extending channel, a spiral channel in said rotor, a reservoir connecting the other end of said longitudinally extending channel to one of said spiral channel in said rotor, a second connecting channel connecting the other end of said rotor spiral channel to one end of the other of said groups of parallel grooves, and an output channel connected to the other end of said other groups of parallel grooves.

3,260,873

MOUNTING AND COOLING MEANS FOR AN ENERGY-DISSIPATING RESISTOR IN AN ELECTRICALLY-OPERATED DEVICE

Alexander C. R. Wilson, Towson, and William F. Saffell, Rocks, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland

Filed Aug. 16, 1963, Ser. No. 302,539
4 Claims. (Cl. 310—62)



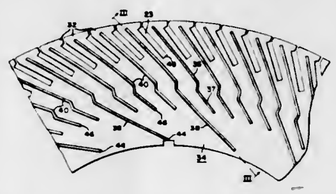
1. Mounting and cooling means for an energy dissipating resistor in an electrically-operated device, comprising, in combination:
(a) a housing;
(b) an electric motor in said housing, said motor including a field having a core of magnetic material;
(c) said housing having at least one air inlet opening formed therein rearwardly of said motor and at least one air exhaust opening formed therein forwardly of said motor;
(d) a fan driven by said motor for drawing cooling air from said inlet opening, axially through said housing, and for discharging the air through said exhaust opening; and
(e) an energy-dissipating resistor secured in a dwell formed in said core of magnetic material; said resistor being disposed radially between said motor and said motor housing, and axially within the path of cooling air for said motor, thereby providing for the mounting and cooling of said resistor.

3,260,874

ROTOR FOR A DYNAMOELECTRIC MACHINE

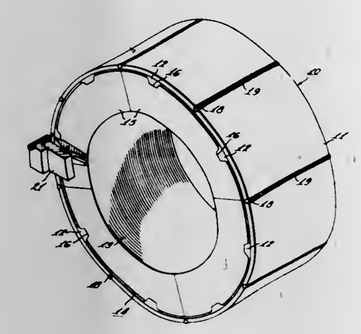
Robert C. Robinson, Wilkinsburg, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 30, 1963, Ser. No. 305,796
5 Claims. (Cl. 310—64)



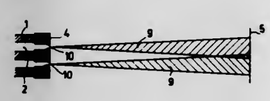
1. A rotor for a dynamoelectric machine comprising core and shaft members through which an axial coolant air intake is provided, said core having a plurality of conductors disposed in slots extending in the axial direction about the outer periphery thereof and further having at least one vent duct extending generally in the radial direction and dividing said core into axial core segments, a plurality of elongated blades disposed in said vent duct to space said core segments from each other, said blades spaced from each other in the circumferential direction, each of said blades extending generally outwardly through said vent duct and disposed at an angle to a diametrical reference line through the inner end thereof so as to produce efficient air flow through said vent duct, means for securing said blades to at least one of said core segments and said conductor slots being disposed at an angle with a diametrical reference line through the inner end thereof so that said conductors can also be angularly inclined to produce efficient air flow through said vent duct.

3,260,875
DYNAMOELECTRIC MACHINE CORE AND METHOD OF MAKING SAME
Earl S. Evans, Franklin, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Aug. 30, 1963, Ser. No. 305,777
3 Claims. (Cl. 310—217)



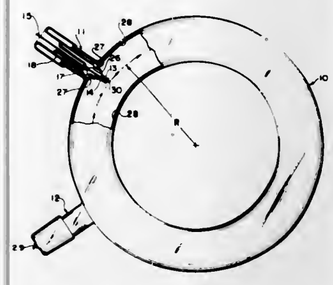
1. A core for a dynamoelectric machine comprising: a cylindrical shell, arcuately spaced mounting bars attached to the interior surface of said shell, iron laminations stacked in said shell to form a core, said laminations having grooves in their radially outer edge engaging said mounting bars, means for compressing said laminations axially of said shell, clamping means for holding said laminations in place, longitudinally extending grooves in the outer surface of said shell and welding material in said grooves to shrink said shell and exert radial pressure on said stacked laminations.

3,260,876
IMAGE INTENSIFIER SECONDARY EMISSIVE MATRIX INTERNALLY COATED TO FORM A CONVERGING LENS
Brian William Manley, Burgess Hill, John Adams, East Grinstead, Derek Washington, Redhill, and Michael Brannen, Burgess Hill, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 15, 1964, Ser. No. 359,855
Claims priority, application Great Britain, Dec. 6, 1963, 13,205/63
1 Claim. (Cl. 313—68)



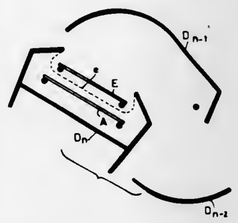
A cathode-ray tube comprising a source of electrons and a fluorescent screen, and having, parallel to the fluorescent screen, a matrix for passing the electrons and made of material of poor electrical conductivity, having closely arranged, narrow passages extending in the direction of the electron paths, the two surfaces of said matrix, where the passages open out, being coated with electrically conductive layers, said passages having secondary-emissive surfaces, characterized in that on the exit side of the electrons the surfaces of the passages are coated over a small part of their length with electrically conductive material which is integral with the coating on the same side of the matrix.

3,260,877
MULTIPLE-BEAM INJECTOR FOR MAGNETIC INDUCTION ACCELERATORS
Carl M. Lucas, Stamford, Conn., assignor to Machlett Laboratories, Incorporated, Springdale, Conn., a corporation of Connecticut
Filed Apr. 17, 1963, Ser. No. 273,591
13 Claims. (Cl. 313—70)



1. An electron tube structure for a magnetic induction accelerator comprising a plurality of electron-emissive elements for injecting electrons into a circular orbit of a given radius and a given direction, said elements being radially spaced apart outside of said orbit, focussing means disposed about each electron-emissive element for directing emitted electrons in said given orbital direction, and an anode structure disposed about said electron-emissive elements and said focussing means, said anode structure including a surface having a plurality of apertures therein, each aperture being aligned with and disposed in said given orbital direction from one of said electron-emissive elements whereby a plurality of streams of electrons are emitted in the given orbital direction.

3,260,878
ELECTRON MULTIPLIER
René Legoux, Sceaux, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 13, 1962, Ser. No. 223,470
Claims priority, application France, Sept. 27, 1961, 874,266
4 Claims. (Cl. 313—104)

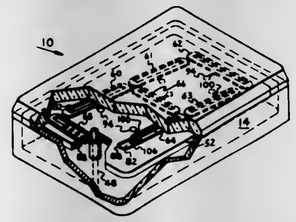


1. An electron multiplier device comprising a photocathode and a multiplier chain of dynode electrode elements, the last dynode element in said chain comprising an open channel-shaped member, a grid-shaped anode disposed within said channel-shaped member, a grid-shaped electrode located between said anode and the open side of said channel-shaped member, means to apply given potentials to each of said dynode elements in said chain and said anode, and means to apply a potential to the grid electrode disposed within the channel-shaped member intermediate that applied to the anode and that applied to the preceding dynode of the chain.

3,260,879
ELECTROLUMINESCENT ZINC SULFIDE OF OPTIMUM LUMINOSITY PER GRAM
Irving Feuer, Elmhurst, N.Y., assignor to Conrad Precision Industries, Inc., New York, N.Y., a corporation of New York
Filed May 26, 1965, Ser. No. 461,600
4 Claims. (Cl. 313—108)

1. A composition of matter consisting essentially of an electroluminescent zinc sulphide phosphor particles substantially uniformly dispersed in dielectric, substantially all of said particles having diameters below 2 microns which at least about 80% of the phosphor particles having diameters below about 0.8 micron and at least 95% of the phosphor particles having diameters of above about 0.05 micron with the proviso that at least 5% of the phosphor particles have diameters of greater than about 0.8 micron and less than about 2 microns, said phosphor having increased luminosity per gram as compared with coarser phosphor particles.

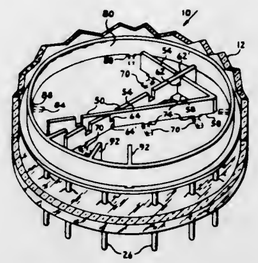
3,260,880
ELECTRO-OPTICAL INDICATOR DEVICES WITH MULTIPLE ANODES FOR EACH CELL
George A. Kupsky, Plainfield, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 6, 1961, Ser. No. 115,128
31 Claims. (Cl. 313—109.5)



6. An electrooptical indicator device including
a plurality of light-producing cells lying in substantially a common stratum and adapted to be selectively energized in groups to provide representations of different characters,
each cell including a separate light-producing means and a light-producing medium adjacent to said light-producing means,
and a plurality of separate and discrete actuating means associated with each cell,
each of the separate actuating means associated with one particular light-producing means having an operating portion which is disposed in operative relation with the one particular light-producing means,
the actuating means being electrically connected in different combinations with each combination including one actuating means from each of a plurality of cells,
each combination of actuating means thus being adapted to energize a different combination of light-producing means to provide a plurality of different character representations.

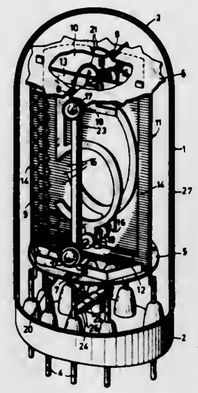
3,260,881
COMPACT COLD CATHODE INDICATOR TUBE WITH THIN RIBBON VERTICAL CATHODES
Saul Kuchinsky, Somerville, N.J., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Sept. 18, 1961, Ser. No. 138,793
25 Claims. (Cl. 313—109.5)

1. A cold cathode gaseous glow tube comprising an envelope filled with a gas adapted to sustain cathode glow,
said envelope having a viewing window,
and a plurality of uninsulated electrodes each adapted to exhibit cathode glow over its entire surface when energized with respect to an anode electrode,
all of said electrodes lying in substantially the same stratum in said envelope,
said electrodes comprising metal strip material and



having greater width than thickness so that said electrodes have narrow edges,
said electrodes being mounted on an edge and having the opposite edge facing said viewing window so that each electrode, when it glows, appears to glow along its edge facing said viewing window, said opposite edge being shaped to represent at least a portion of a character, all of said opposite edges lying in the same plane.

3,260,882
GLOW DISCHARGE INDICATOR TUBE
Jan Horseling, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 2, 1962, Ser. No. 191,825
Claims priority, application Netherlands, Jan. 31, 1962, 274,225
6 Claims. (Cl. 313—109.5)

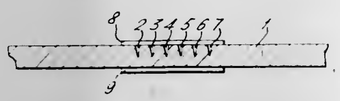


1. A glow-discharge indicator tube comprising an envelope containing an ionizable gaseous medium, and a plurality of character-like electrodes arranged in parallel planes one behind the other, a character-electrode of smaller length than the other character electrodes comprising two like portions spaced a relatively short distance one behind the other, and having a width not greater than that of the other character electrodes.

3,260,883
SWITCH FOR FAST ELECTRICAL DISCHARGE HAVING A PLURALITY OF ELECTRODES WITH A NON-POROUS DIELECTRIC MATERIAL INSERTED BETWEEN THE ELECTRODES

John Christopher Martin, Tadley, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Jan. 7, 1963, Ser. No. 249,853
Claims priority, application Great Britain, Jan. 9, 1962, 799/62
3 Claims. (Cl. 313—268)

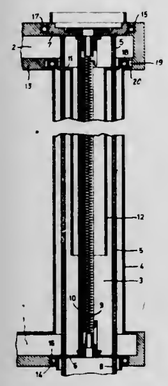


1. A switch for establishing a conducting path between two electrodes and comprising a pair of spaced electrodes, a sheet of non-porous dielectric insulating material sandwiched between said spaced electrodes, said sheet being provided with a plurality of blind channels having substantially the same dimensions and extending from one surface of said sheet towards the other surface thereof, said channels terminating at a predetermined distance from said other surface to produce enhanced electrical stress in said material at the blind ends of said channels when a voltage is applied between the electrodes.

3,260,884
TERMINAL CONNECTION FOR ELECTRON DISCHARGE DEVICE

Johannes Antonius Bernardus Dechering, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Feb. 1, 1962, Ser. No. 171,329
Claims priority, application Netherlands, Feb. 7, 1961, 260,920
3 Claims. (Cl. 315—3.5)

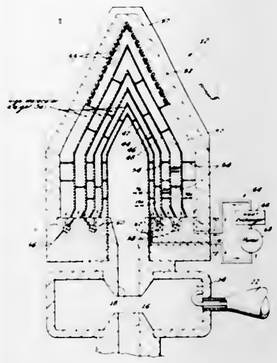


1. A terminal connection for connecting a disc-shaped electrode lead with a cylindrical edge of an electron discharge device to a conductive wall provided with a circular recess having a rectangular cross-section, said terminal connection comprising a torus-shaped helically wound spring in contact with the upper and lower sides of the recess and which encloses the edge of the electrode lead, and a rigid annular member movable in a radial direction in the circular recess enclosing the torus-shaped spring.

3,260,885
ANODE STRUCTURES PROVIDING IMPROVED COOLING FOR ELECTRON DISCHARGE DEVICES

Paul W. Crapuchettes, Atherton, Calif., assignor to Litton Precision Products, Inc., a corporation of Delaware

Filed Sept. 26, 1961, Ser. No. 140,783
7 Claims. (Cl. 315—5.38)

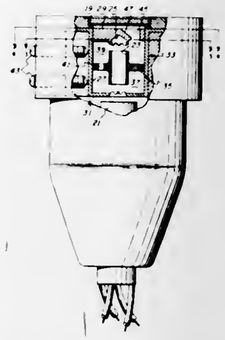


1. In combination, a vacuum envelope, a cathode, an anode structure and means for directing a beam of electrons from said cathode to said anode, said anode structure comprising a conductive surface for collecting electrons in the beam and at least one thin electron permeable cylindrical tapered beryllium membrane spaced from said conductive surface and facing said beam and means for circulating a cooling fluid in the volume between said conductive surface and said membrane to remove and dissipate heat generated in said membrane and said conductive surface by said electron beam.

3,260,886
VELOCITY MODULATION DEVICE HAVING A COAXIAL OUTPUT

Berl C. Winters, Gainesville, Fla., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed July 2, 1962, Ser. No. 206,628
8 Claims. (Cl. 315—5.38)

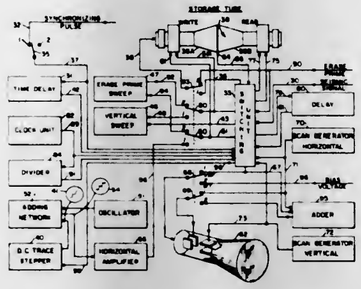


1. A velocity modulation device comprising a tube body, a flat wave-permeable window in one surface of the tube body, a toroidal cavity resonator mounted within the tube body, and a collector disc forming a transverse wall of the toroidal cavity resonator parallel to the wave-permeable window, said collector disc containing an output iris in a region beneath said window.

3,260,887
SEISMIC DISPLAY SYSTEM

Warren A. Alexander and Roscoe W. Mitchell, Jr., Tulsa, Okla., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Oct. 2, 1962, Ser. No. 227,778
2 Claims. (Cl. 315—9)



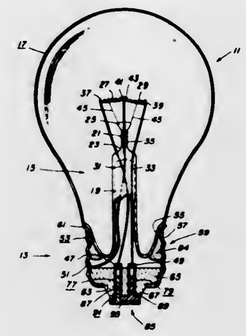
2. A system for use in displaying a seismic signal which comprises: an electronic charge storing means having a write section and a read section; first vertical sweep generator means; first horizontal scan generator means; a second vertical sweep generator means; a second horizontal scan generator means; an oscilloscope means; means connecting said first vertical sweep generator means to the vertical coil means of said write section and the horizontal scan generator means to the horizontal coils of said write section; means connecting the seismic signal to the grid of said write section; means connecting the second vertical sweep generator means to the read section and connecting the horizontal scan generator means to the horizontal coils of the said read section and to the horizontal plate means of said oscillator means; means connecting the read electrode of said storage tube to the grid of said oscilloscope means; a delay line; switching means operable to disconnect said read electrode from the grid of said oscilloscope means and connect same to said delay line and to connect the output of said delay to the input grid of said write section, said switching means operable to disconnect the vertical and horizontal coil means of said read section from said second scan generator and said second vertical scan generator and to connect same to the first vertical sweep generator means and to said first horizontal scan generator means.

3,260,888
TWO FILAMENT LAMP WITH SELECTOR OR SWITCH

John K. Webb, Jr., 4156 Aldebaran Way, Mobile, Ala.

Filed Nov. 19, 1962, Ser. No. 238,807
1 Claim. (Cl. 315—68)

In an incandescent lamp of the type having a sealed glass envelope and a base fixedly attached thereto, a first filament and a second filament, means mounting said first and second filaments in said envelope, a first socket and a second socket, insulating means mounting said first and second sockets in said base, a first lead-in wire connected adjacent one end of said first filament and sealingly extending through said mounting means to the exterior of said envelope and connected to said first socket, a second lead-in wire connected adjacent one end of said second filament and sealingly extending through said mounting means to the exterior of said envelope and connected to said second socket, a third lead-in wire respectively connected to the opposite ends of said first and second filaments from their respective connections with said first and second lead-in wires and with said third lead-in wire sealingly extending through said mounting means to the exterior of said envelope and connected to said base; a plug including a contact, an insulated prong, a conducting prong connected to said contact, and means fixedly interconnecting said insulated prong and said conducting prong to hold said insulated prong and said conducting prong in spaced parallel relationship; said plug being selectively manually movable between a first position and a second position, when in said first

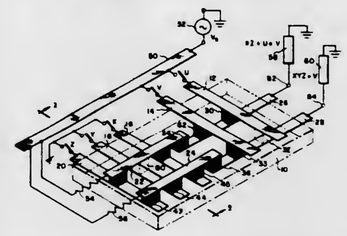


position said conducting prong being received in said first socket and said insulated prong being received in said second socket whereby said contact is connected to said first filament for lighting said first filament when said lamp is placed in a receptacle, and when in said second position said conducting prong being received in said second socket and said insulated prong being received in said first socket whereby said second filament is connected to said contact for lighting said second filament when said lamp is placed in a receptacle.

3,260,889
SIGNAL TRANSLATOR

Hans G. Blank, Bronx, N.Y., assignor to General Telephone and Electronics Laboratories, Inc., a corporation of Delaware

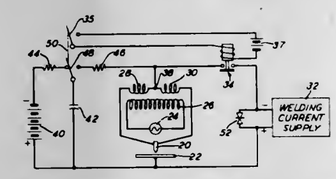
Filed Dec. 5, 1962, Ser. No. 242,428
14 Claims. (Cl. 315—169)



1. A signal translator comprising
(a) an electrically non-linear layer having first and second surfaces, the electrical impedance of said layer decreasing as the magnitude of a voltage applied thereacross increases,
(b) a first group of spaced input electrodes including first and second electrode sets affixed to the first and second surfaces of said layer respectively, said first and second sets of electrodes extending generally in a first direction, and
(c) a second group of spaced electrodes including third and fourth electrode sets affixed to the first and second surfaces of said layer respectively, said third

and fourth sets of electrodes extending generally in a second direction, selected electrodes of both said first and fourth sets being conductively connected to said layer only at the locations where said selected first and fourth sets electrodes cross and selected electrodes of both said second and third sets being conductively connected to said layer only at the locations where said selected second and third set electrodes cross.

3,260,890
POWER ARC INITIATION BY PREHEAT AND CAPACITOR DISCHARGE
Neil J. Normando, Livingston, and Philip F. Beischer, Belleville, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 24, 1963, Ser. No. 282,925
1 Claim. (Cl. 315—173)

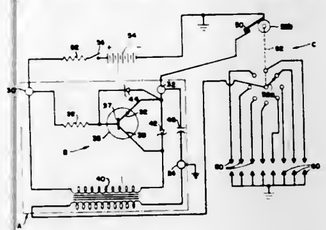


In the art of electric arc welding and cutting in which a power arc is maintained in a shielding atmosphere comprising essentially argon between a tungsten electrode as a cathode and the work to be welded or cut as an anode the improvement which comprises starting said gas shielded arc by

(a) spacing the arc end of said electrode a preselected distance from the work to form an arc gap,
(b) heating the arc end of said electrode by energy supplied by an auxiliary heating circuit to a temperature sufficient to facilitate electron emission therefrom,
(c) charging a capacitor from a first source of current to a potential of the order of from 700 to 1000 volts,
(d) disconnecting said capacitor from said source,
(e) discharging said charged capacitor at a controlled rate through a non-oscillatory circuit including said arc gap having a time constant of the order of $\frac{1}{10}$ second to establish a conductive path across said arc gap with the electrode negative and the work positive, and
(f) following the discharge of said capacitor across said arc gap with a sustained power arc of the same polarity by connecting a second source of current suitable to sustain a power arc across said arc gap when the voltage across said gap decays to a level not substantially higher than the open circuit voltage of said second source, and thereafter maintaining the said capacitor disconnected from said first source.

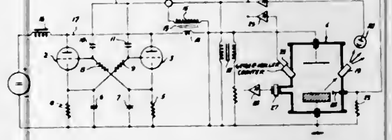
3,260,891
INTEGRATED TRANSISTORIZED IGNITION CONTROL SYSTEM
William H. Judson, Wayne, Pa., assignor to Judson and Judson, Conshohocken, Pa., a partnership of Pennsylvania
Filed Apr. 1, 1964, Ser. No. 356,526
8 Claims. (Cl. 315—212)

1. In an ignition system for internal combustion engines having a rotary distributor communicating sequentially with a plurality of spark plugs and a battery coupled to points of said distributor; an integrally packaged electronic control unit comprising a coil having primary and secondary windings, a transistor having a base, a collector, and emitter electrodes, a condenser having one plate coupled to said emitter electrode, a reverse biased diode connected across said collector and emitter electrode, a diode coupled across said base and said emitter electrodes, and a resistor having one end connected to said base, the other end of said resistor being coupled to one end of said coil primary and being further coupled to one battery terminal, the



other end of said coil primary being connected to said collector electrode, said emitter electrode being further connected to said points, one end of said coil secondary being connected to the rotary element of said distributor, and the other end of said coil secondary being coupled to the other plate of said condenser through a ground reference.

3,260,892
DEVICE FOR AVOIDANCE OF IRREGULAR CHANGES OF THE DISCHARGE CONDITION FOR DISCHARGE VESSELS PROVIDED FOR HIGH CURRENT GLOW DISCHARGES
Bernhard Berghaus, Grand Hotel Dolder, Zurich, Switzerland, and Hans Muster, Zelgacker, Hadlikon, Zurich, Switzerland
Filed Nov. 29, 1962, Ser. No. 240,910
Claims priority, application Switzerland, Dec. 1, 1961, 13,973/61
26 Claims. (Cl. 315—306)

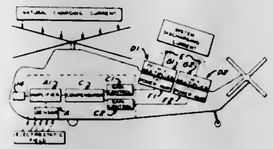


1. A device for controlling a high current glow discharge between electrodes in a vessel wherein operating voltage is impressed on said electrodes and wherein changes in the character of said discharge portend formation of an arc or spark discharge, comprising: a plurality of means for shunting said electrodes, said means each comprising a capacitor and switching means for placing the capacitor in shunting relation to said electrodes; control means for sensing said changes in the character of said discharge and effecting operation of said switching means; and means responsive to shunt current in one of said shunting means for conditioning another shunting means for subsequent operation.

3,260,893
ELECTROSTATIC DISCHARGING SYSTEM FOR AIRCRAFT
Juan de la Cierva, Philadelphia, and Adolf A. Perlmutter, Dresher, Pa., assignors to Dynasciences Corporation, Fort Washington, Pa., a corporation of Pennsylvania
Filed Jan. 6, 1964, Ser. No. 335,785
15 Claims. (Cl. 317—2)

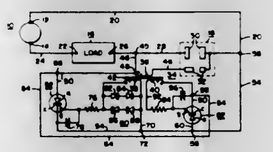
8. An automatic electrostatic discharging system for aircraft comprising sensing means for continuously measuring with respect to the aircraft frame the polarity and

electrostatic potential of the electrostatic field immediately surrounding the aircraft and providing an electrical output signal which is a function of the potential difference being measured, D.C. high voltage generator means adapted to deliver an output of each polarity, probe discharging means supported exteriorly on the aircraft, electrically insulated therefrom, and having discharging portions remotely located with respect thereto, said probe means being coupled to the high side of said high voltage



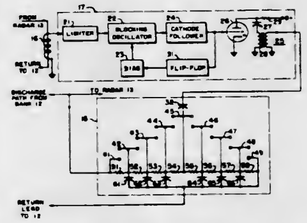
generator means, and means receiving the electrical output signal from said sensing means discriminating the polarity thereof and actuating the high voltage generator means so that the D.C. voltage thereacross will cause a current to be discharged from said probe means into the atmosphere whereby the potential gradient between the airframe and its environmental field will be reduced to a predetermined level so as to enable the aircraft to be maintained constantly at substantially the same potential level as its environs.

3,260,894
PROTECTIVE MEANS FOR CIRCUIT INTERRUPTING DEVICES
Clinton L. Denault, Hickory Township, Sharpsville County, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 11, 1964, Ser. No. 388,846
6 Claims. (Cl. 317—11)



1. A circuit interrupting device comprising first and second contact means, means for opening and closing said first and second contact means, means for causing said first contact means to open prior to the opening of said second contact means, transformer means having a plurality of windings, said second contact means being connected in series circuit relation with one of said plurality of windings, said serially connected second contact means and winding being connected in parallel circuit relation with said first contact means, first and second controlled rectifiers each having main and control electrodes, means connecting the main electrodes of each of said first and second controlled rectifiers in separate parallel circuits around said series connected second contact means and winding, said first and second controlled rectifiers being poled in opposite directions, means connecting another of said plurality of windings in circuit relation with the control electrode of said first controlled rectifier, and means connecting another of said plurality of windings in circuit relation with the control electrode of said second controlled rectifier, said windings applying signals of opposite polarity to the control electrodes of said first and second controlled rectifiers when current having a predetermined magnitude flows through said series connected second contact means and winding.

3,260,895
ELECTRONIC CIRCUIT PROTECTION DEVICE PROVIDING A LOW RESISTANCE PATH THROUGH A SERIES OF SPARK GAPS CONNECTED ACROSS SAID ELECTRONIC CIRCUIT
Anthony J. Buffa, West Long Branch, Sol Schneider, Little Silver, and Mortimer H. Zinn, West Long Branch, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Mar. 14, 1963, Ser. No. 265,607
5 Claims. (Cl. 317—16)



1. A device for selectively providing for a predetermined time a low resistance path across a high-power utilization device upon the detection of an abnormal rise in current in said utilization device comprising a series of electrodes mounted to form a plurality of spark gaps connected in series with each other and extending across said utilization device, a plurality of resistors connected in series with each other and connected across said utilization device, each of said resistors being connected across a different one of said spark gaps, the first electrode in said series being connected directly to one side of said utilization device and the last electrode of said series being connected directly to the other side of said utilization device, a plurality of capacitors each connected between said other side of said utilization device and to a different one of said electrodes except for said first, said last, and an intermediate electrode, and trigger means connected to said intermediate electrode for providing pulses for said predetermined time and of sufficient value to cause successive breakdown of said spark gaps from said intermediate gap to said first and last gaps upon the detection of an abnormal rise in current in said utilization device by a current detector connected thereto.

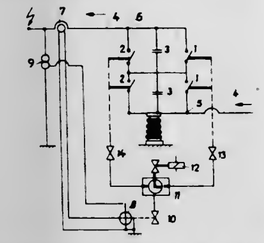
3,260,896
POWER INTERRUPTING SYSTEM FOR HIGH VOLTAGE CIRCUITS
Herbert Wutz, Frankfurt am Main, Germany, assignor to Continental Elektroindustrie Aktiengesellschaft Voigt & Haeffner, Frankfurt am Main, Germany
Filed Jan. 14, 1963, Ser. No. 251,439
Claims priority, application Germany, Jan. 13, 1962, C 25,994
15 Claims. (Cl. 317—35)

1. A power interrupting system for interrupting electric high-voltage circuits comprising in combination:

(a) an electric high-voltage circuit;
(b) a pair of power circuit breakers having different interrupting performance characteristics included in said circuit, said pair of circuit breakers including a first circuit breaker particularly adapted to interrupt major fault currents and said pair of circuit breakers including a second circuit breaker particularly adapted to interrupt relatively small currents including capacitive currents;

(c) tripping means for initiating opening of said pair of circuit breakers;

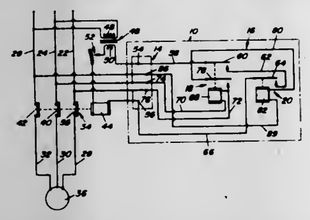
(d) change-over means having two positions for selectively determining the sequence of opening of said



first circuit breaker and of said second circuit breaker in response to said tripping means; and

(e) sensing means under the control of the current flowing in said circuit for operating said change-over means in response to a parameter of said current.

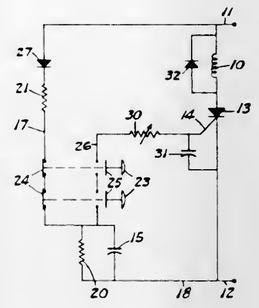
3,260,897
PROTECTION DEVICE FOR PLURAL PHASE ELECTRICAL LOADS CONSISTING OF A PLURALITY OF MONITORING RELAYS CONTROLLING THE ENERGIZATION OF THE LOAD
Roy Parker III, P.O. Box 774, Americus, Ga.
Filed Aug. 23, 1963, Ser. No. 304,020
3 Claims. (Cl. 317—46)



1. In combination with a circuit breaker for polyphase power lines connected to a load having a circuit holding coil energized by power supplied from two of said power lines to hold the circuit breaker closed, a power failure protection device comprising a plurality of relay devices, terminal means connecting said relay devices to the power lines on the input side of the circuit breaker for energization of one of the relay devices including conductors connecting said one of the relay devices across two of the powers lines, relay switch means closed in response to energization of said one relay device for connecting all of the relay devices across different pairs of the power lines respectively to simultaneously energize all of the relay devices, and means responsive to deenergization of any of said relay devices for deenergizing said holding coil and automatically reenergizing the holding coil upon restoration of power to all of said power lines.

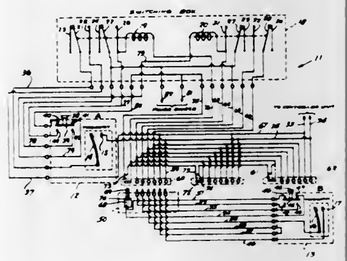
3,260,898
TWO-HAND ELECTRIC CONTROL FOR MACHINES
Clarence O. Jones, Jr., Eggertsville, N.Y., assignor to Niagara Machine & Tool Works, Buffalo, N.Y.
Filed June 7, 1963, Ser. No. 286,429
6 Claims. (Cl. 317—135)

1. A two-hand tripping control for cyclic actuation of machinery comprising a machine actuating solenoid winding and means requiring intermittent energization thereof for effecting successive cycles with predetermined time intervals between such intermittent energizations, said means comprising a silicon controlled rectifier in series with said winding and having a gate terminal, an operating circuit for applying potential to said gate terminal to render said rectifier operative to energize said solenoid winding, a pair of normally closed switches and a capacitor connected in series in said circuit for applying a positive charge to one side of said capacitor, a conductor



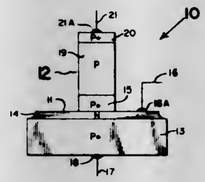
between said side of said capacitor and said gate terminal and a pair of normally open switches in series therein, a pair of spaced switch operators each controlling one of said normally closed switches and one of said normally open switches, and a resistance connected in parallel with said capacitor.

3,260,899
REMOTE TEMPERATURE CONTROL SYSTEM
Alan C. Green, 1480 Pleasant Valley Way, West Orange, N.J.
Filed Apr. 10, 1964, Ser. No. 358,842
8 Claims. (Cl. 317—137)



2. In a zoned temperature control system, a pair of control conductors adapted to be connected to a device to be thermostatically controlled, a first thermostat switch, a second thermostat switch at a different location, a first relay having contacts closing responsive to energization of the relay, means to hold said contacts closed subsequent to such energization, means to connect said first thermostat switch to said control conductors responsive to closure of said relay contacts, a second relay having contacts closing responsive to the energization of said second relay, means to connect said second thermostat switch to said control conductors responsive to closure of said second-named relay contacts, means to hold said second-named relay contacts closed subsequent to energization of said second relay, means to open one set of said relay contacts when the other set of relay contacts is closed, a source of current, respective control switches located physically adjacent the thermostat switches, and means connecting each relay to said source of current through a respective control switch, whereby the relays may be selectively energized.

3,260,900
TEMPERATURE COMPENSATING BARRIER LAYER SEMICONDUCTOR
Donald J. Shombert, Berkeley Heights, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
Filed Apr. 27, 1961, Ser. No. 105,923
1 Claim. (Cl. 317—234)

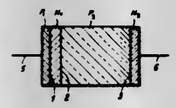


A temperature-compensated semiconductor unitary solid circuit structure, comprising

a semiconductor device having a plurality of layers of single crystalline semiconductor material in contiguous physical relationship and forming at least one PN junction between them and having an electrical resistance which decreases as its temperature increases; and

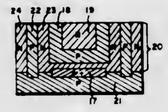
a semiconductor resistor body in juxtaposition with a layer of said semiconductor device and forming one of said plurality of layers of said semiconductor device, said semiconductor resistor body having an electrical resistance which varies in a sense opposite to that of said semiconductor device and increases as its temperature increases, all of said layers being at substantially the same ambient temperature.

3,260,901
SEMI-CONDUCTOR DEVICE HAVING SELF-PROTECTION AGAINST OVERVOLTAGE
Jakob Luescher and Bogdan Zega, both of Geneva, Switzerland, assignors to Compagnie Generale d'Electricite, Paris, France, a firm
Filed Mar. 8, 1962, Ser. No. 178,351
Claims priority, application Switzerland, Mar. 10, 1961, 2,880/61
6 Claims. (Cl. 317—235)



1. A semiconductor device having self-protection against over-voltage, comprising four layers of monocrystalline material of alternately opposite conductivity type forming two outer p-n junctions and an inner p-n junction, the outer two of said layers being degenerate layers and the outer two junctions being relatively thin junctions, one of the inner two of said layers having a relatively weak conductivity type determining impurity concentration adjacent to said inner junction and having an increased conductivity type determining impurity concentration at least approaching degeneracy adjacent to one of said outer junctions, and the other of said inner layers having a conductivity type determining impurity concentration of a lower value than degeneracy adjacent to said inner junction and increasing at least to approach degeneracy adjacent to the other of said outer junctions.

3,260,902
MONOCRYSTAL TRANSISTORS WITH REGION FOR ISOLATING UNIT
Edwin Herbert Porter, Stanford, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, Long Island, N.Y., a corporation of Delaware
Continuation of application Ser. No. 228,576, Oct. 5, 1962. This application June 10, 1964, Ser. No. 374,027
6 Claims. (Cl. 317—235)



1. An improved isolated epitaxial transistor comprising a body of semiconductor material including an emitter, a base, and a collector region; and

a fourth region adjacent to said collector region of the same conductivity type as said collector region and having a lower resistivity and lesser lateral extent than said collector region; and

an isolating region surrounding said transistor of the opposite conductivity type from said collector region, a part of which is adjacent to said fourth region.

3,260,903
ELECTRICAL LIQUID LEVEL GAUGE
Teruo Kumano and Tatsuo Nozaki, Tokyo, Japan, assignors to Nippon Denshi Sokki Kabushiki-Kaisha, Tokyo, Japan
Filed July 24, 1964, Ser. No. 384,985
Claims priority, application Japan, July 30, 1963, 38/54,871
1 Claim. (Cl. 317—246)



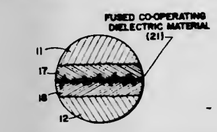
An electrical liquid level gauge consisting essentially of a pair of coaxial cylindrical electrodes, and a plurality of spacers for separating said pair of coaxial cylindrical electrodes from each other, each of said spacers being of an insulating material selected from the group consisting of tetrafluoroethylene, copolymers of hexafluoropropylene, and tetrafluoroethylene, polyethylenes, polyamides, polyesters, polycarbonates, polyvinyl chlorides, glasses and ceramics, and being in the form of a rivet having a head portion of a predetermined fixed axial dimension corresponding to the radial distance between the internal cylindrical surface of the external electrode and the external surface of the internal electrode and a stem portion, said plurality of spacers being disposed on that surface of one of the electrodes facing the other electrode along a helical line at substantially equal intervals measured along said helical line, the last-mentioned surface having a plurality of small recesses into which the stem portions are fitted.

3,260,904

ELECTRICAL CAPACITOR HAVING AN OXIDE DIELECTRIC AND A COOPERATING DIELECTRIC MATERIAL

James M. Booe, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Aug. 21, 1963, Ser. No. 303,619
2 Claims. (Cl. 317—258)



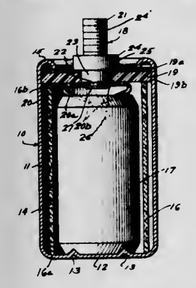
1. In an electrical capacitor, a plurality of adjacent electrodes of high purity aluminum foil having substantially smooth surface finishes, said aluminum foil having a rigid dielectric oxide film formed thereupon, said oxide film being adapted to maintain physical separation between said electrodes, means to enhance the dielectric properties of said oxide film, said means comprising aryl-substituted silanes from the group consisting of Tetra-P-Biphenylylsilane, Diphenyldi - P - Biphenylylsilane, Triphenyl-P-Biphenylylsilane, and Phenyltri - P - Biphenylylsilane, said aryl-substituted silanes being flowable during assembly and filling interstices throughout abutting surfaces of said oxide film while integrating with said film, and means for housing and electrically terminating said electrodes.

3,260,905

CAPACITOR AND TERMINAL STUD ASSEMBLY THEREFOR

Anthony Wayne Rigazio, Oglesby, Ill., assignor to Electrical Utilities Company, La Salle, Ill., a corporation of Illinois

Filed Aug. 28, 1961, Ser. No. 134,316
20 Claims. (Cl. 317—260)



8. A terminal stud assembly for insertion as a unit into an open end of a capacitor container including a terminal stud with an axially facing annular shoulder intermediate its opposite ends, a circular washer and a spring stacked on one of said opposite ends with the washer engaged against the shoulder and with the spring engaged against said washer, said spring being mounted coaxially of said circular washer and with said spring having a base of smaller dimension than a diameter of said circular washer, said one of said opposite ends being enlarged and maintaining the spring and the washer in assembled relation with said stud.

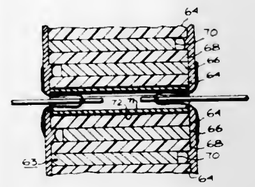
11. A capacitor which comprises a cup-shaped shell defining a cup, a paper tube in said cup, a winding disposed inside said paper tube in said cup, and a lead wire assembly disposed in an open end of said cup, said lead wire assembly including an insulated wire, a washer and a spring secured to one end of said insulated wire and with an end of said wire projecting through said washer and being locked in assembly therewith, and connecting means joining said end with said spring, said spring being engaged against said winding, said spring, washer and said insulated wire being removable from said cup and insertable into said cup in unison together, said shell having a bead at its open end engaged against said washer securing said spring and said winding under compression in said shell.

3,260,906

WOUND CAPACITOR AND METHOD OF MAKING THE SAME

David Kellerman, 1485 S. Cardiff St., Los Angeles, Calif.

Filed Jan. 17, 1964, Ser. No. 338,351
11 Claims. (Cl. 317—260)



2. An improved capacitor comprising, in combination:
a flexible dielectric, tubular core member;
a multi-layer film member comprising alternate layers of dielectric material and conducting material tightly wound around said core member and a first of said layers of conducting material comprising a first capacitor electrode and a second of said layers of conducting material comprising a second capacitor electrode;
a first capacitor lead having a connecting portion interior a first end of said core member;
a second capacitor lead having a connecting portion interior a second end of said core member;
a flexible first wire means coupled to said connecting portion of said first capacitor lead and to said first capacitor electrode;
and a flexible second wire means coupled to said connecting portion of said second capacitor lead and to said second capacitor electrode.

8. An improved method of making a wound capacitor of the type having a multi-layer film member, including alternate layers of conductive material and dielectric material in which a first edge of a first half of the layers of conducting material is spaced inwardly a preselected distance from a first edge of said layers of dielectric material and the first edge of the second half of the layers of conductive material is spaced inwardly a preselected distance from a second edge opposite said first edge of said dielectric material, and the second edge of said first half of said layers of conducting material is substantially coextensive with the second edge of said dielectric material and the second edge of said second half of said layers of conducting material is substantially coextensive with said first edge of said dielectric material, comprising the steps of:
spirally winding said film member around a pair of tubular dielectric flexible core members and said core members having portions extending a preselected distance exterior said first edge and said second edge of said layers of dielectric material;
spraying a metallic coating over said second edge of said first half of said layers of conducting material;
spraying a metallic coating over said second edge of said second half of said layers of conducting material;
trimming said core members substantially coplanar with the edges of said layers of dielectric material;
connecting a first wire member to a connecting portion of a first capacitor lead;

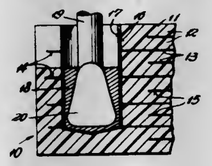
connecting a second wire member to a connecting portion of a second capacitor lead;
soldering said first wire member to said metallic coating over said second edge of said first half of said layers of conductive material;
soldering said second wire member to said metallic coating over said second edge of said second half of said layers of conductive material;
and inserting said connecting portions of said first and said second capacitor leads to a preselected distance into said tubular core members.

3,260,907

ELECTRICAL UNIT AND TERMINAL LEAD CONNECTION THEREFOR

Barton L. Weller, Monroe, and Edmund A. Bolton, Easton, Conn., assignors to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware

Original application June 19, 1962, Ser. No. 203,600. Divided and this application Sept. 26, 1963, Ser. No. 311,736
7 Claims. (Cl. 317—261)



4. A terminal lead connection to an electrically conductive element wholly embedded in a substantially rigid monolithic body comprising a flexible terminal lead wire disposed in a recess in said body extending at least into said electrically conductive element therein, said recess being of substantially greater diameter than said lead wire so that an annular space is provided between said lead wire and said body, and a shock absorbing bonding material disposed in said annular space for forming an annular cushion around said lead wire and bonding the same in position, said lead wire having electrical connection with said element and said cushion increasing the effective surface area of the bond relative to the surface area of the bonded portion of the lead wire, whereby stress resulting from flexing of the lead wire is dissipated.

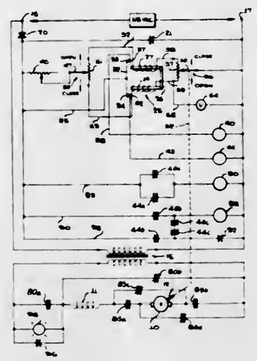
3,260,908

FOLLOW UP MOTOR CONTROL SYSTEM INCLUDING PROVISION FOR BRAKING

Robert A. Bostwick, Saginaw, Mich., assignor to A. T. Ferrell & Co., Saginaw, Mich., a corporation of Michigan

Filed Mar. 8, 1963, Ser. No. 263,774
7 Claims. (Cl. 318—28)

6. A motor control system including an electric motor having an output shaft adapted to be connected to a driven member and precisely and smoothly stop a driven member in a selected position, said system including a motor control circuit connected with said motor, said control circuit including input terminals adapted to be connected with a source of electrical energy, a motor shorting braking circuit connected with the motor for dynamically stopping the motor when the braking circuit is closed, said motor control circuit including first means for connecting said motor to said terminals and driving the motor in a forward or reverse direction, means operated by said first means for opening and closing said braking circuit, said motor control circuit including control means for controlling the operation of said first means for driving the motor in either direction as desired, said control means including a balanced relay switch means operatively connected with said first means, said control means including a selectively operable variable impedance means, a second variable impedance means, said second variable impedance means including a movable means drivingly connected with said output shaft, said balanced relay switch



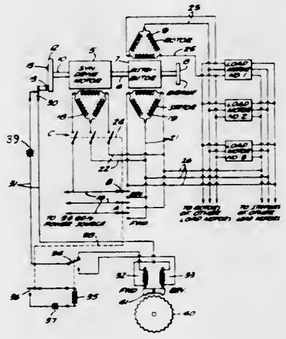
means and both said variable impedance means being connected to define a bridge circuit, and motor reversing means operated by said first means for reversing the polarity of the motor at substantially the time said braking cricuit is closed to stop the motor.

3,260,909

REVERSIBLE SYNCHRONOUS REERECORDING SYSTEM

Albert P. Green, Van Nuys, and Joseph T. Wissmann, Burbank, Calif., assignors to Warner Bros. Pictures, Inc., New York, N.Y., a corporation of Delaware

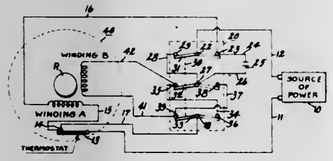
Continuation of application Ser. No. 230,220, Oct. 12, 1962. This application Aug. 23, 1965, Ser. No. 483,024
13 Claims. (Cl. 318—41)



4. In a system for maintaining the optimum interlocking synchronous frequency between any combination of a plurality of sound reproducing machines, at least one recording machine, and at least one motion picture projector, said machines and projector having load motors, a distributor, and a synchronous drive motor for said distributor, each of said load motors and said distributor having stator and rotor windings, said drive motor, said distributor, and said load motors being adapted to be connected to a three-phase power source, means for connecting said load motors, said three-phase source to drive said

motors in a certain direction, the frequency of said three-phase source providing the optimum frequency of the interlocking current between said load motors and said distributor, and means for driving said load motors in the reverse direction with the same frequency as the interlocking frequency of the current between said load motors and said distributor, said interlocking current being obtained by reversing one phase of said drive motor, distributor, and said load motors.

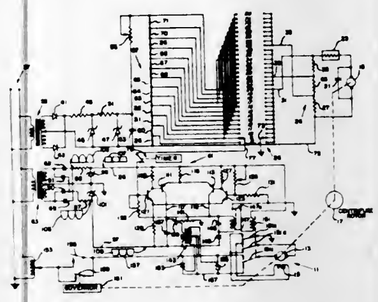
3,260,910
DUAL SPEED WINDING ARRANGEMENT
Charles W. Spindler, Kettering, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 16, 1962, Ser. No. 209,886
14 Claims. (Cl. 318—225)



1. A winding arrangement for use in a slotted stator magnetic core to permit dual speed operation with a single speed motor, comprising, first and second winding portions dissimilar as to each other in at least one of respective features in a group characteristically including wire size, number of turns of wire as well as both wire size and number of turns of wire as fitted into differing slots and having a juncture as to each other at one end thereof, a capacitor means connected across remaining opposite ends of said winding portions, and a switching means having contacts connected from power supply to said juncture of said first and second winding portions as well as alternately to opposite ends of said capacitor means for use thereof at all times during operation at differing speeds.

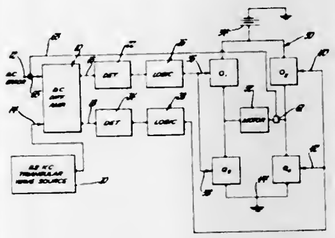
3,260,911
HIGH SPEED CENTRIFUGE AND SPEED CONTROL CIRCUIT THEREFOR
Svein B. Rasmussen, Mountain View, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Jan. 30, 1963, Ser. No. 254,959
5 Claims. (Cl. 318—338)

5. A speed control system for motor driven devices including motors of the type having rotor and field windings comprising a tachometer mounted to produce an electrical potential having a magnitude dependent upon speed, a source of reference potential, means for receiving the tachometer potential and the reference potential and providing a difference signal, an amplifier connected to receive said difference signal and providing a first output signal when the difference signal is above a predetermined level and a second output signal when the difference signal is below said level, a source of power for driving said motor, means for controlling the power applied from the source to the motor in response to said first signal to control the speed of the motor in a desired direction, switching means including a circuit comprising a coil connected in parallel with the capacitor and in series with the rectifier responsive to the second signal for reversing the direction of current in the field winding and applying



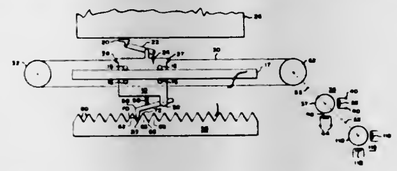
power directly from the power source to the motor, and means for applying the potential across said circuit to the input to said amplifier to stabilize the system.

3,260,912
POWER AMPLIFIER EMPLOYING PULSE DURATION MODULATION
James F. Gregory, Woodland Hills, Calif., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 19, 1963, Ser. No. 289,079
10 Claims. (Cl. 318—341)



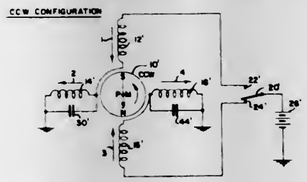
9. A power amplifier circuit comprising: a load; a source of unidirectional electrical energy; a first pair of transistors having input and output electrodes, the output electrodes thereof being connected in series with the source and the load and on opposite sides of the load to define a first energy path through the load when conductive; a second pair of transistors having input and output electrodes, the output electrodes thereof being connected in series with the source and the load and on opposite sides of the load to define, when conductive, a second energy path through the load opposite in direction to the first path; means normally maintaining selected ones of the first and second transistor pairs which are on opposite sides of the load in a conductive state thereby to short out the load; means normally maintaining the remaining transistors in a nonconductive state; first control means connected to the input electrode of one transistor in each pair which transistors are of opposite normal conductivity, the control means being responsive to signals of a first character to reverse the conductivity of the transistors connected therewith to complete said first energy path; second control means connected to the input electrodes of the other transistor in each pair and responsive to signals of a second character to reverse the conductivity of the transistors thereby to complete the second energy path; and means for alternately providing signals of said first and second character to the first and second control means respectively, for durations which are related to a preselected variable.

3,260,913
POSITIONING MECHANISM CONTROL CIRCUIT
Herbert F. Welsh, Philadelphia, and James B. Deysher, Ambler, Pa., and Beverly L. Crew, Rockville, Md., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Original application June 17, 1960, Ser. No. 36,964, now Patent No. 3,124,791, dated Mar. 10, 1964. Divided and this application Aug. 19, 1963, Ser. No. 307,760
8 Claims. (Cl. 318—369)



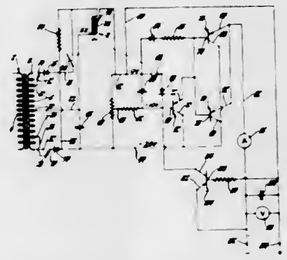
8. A positioning mechanism comprising: a member; a carriage movable adjacent said member; a rack having a plurality of V-shaped teeth, the junction between each tooth defining a step position; a spring biased pawl mounted on said carriage for engagement with the teeth of said rack; a motor coupled to move said carriage with respect to said rack; control means for selectively energizing said motor with a source of power for moving said carriage from one step position to another, said energization being applied for a predetermined period of time sufficient in duration to cause said motor to move said carriage along said rack a distance to move said pawl from a step position junction along the base and over the point of its associated tooth to the opposite face thereof; and a tachometer coupled in driving relationship with said motor and said carriage and electrically coupled to said control means in a manner to oppose the energization of said motor by said source, said tachometer being effective to brake the motion of said carriage as the spring bias of the pawl causes said pawl to move along said opposite face of said associated tooth to its associated junction defining the next step position, whereby overshoot of said next step position is substantially prevented.

3,260,914
SERVO MOTOR
Anthony P. Morreale, 9908 Lampson St., Whittier, Calif., and Katumi Egawa, 4055 E. Slauson Ave., Maywood, Calif.
Filed July 1, 1963, Ser. No. 291,702
1 Claim. (Cl. 318—443)



An electric motor comprising a plurality of windings including two windings spaced at 180° apart, a source of electrical energy for said windings, said windings having relation to the armature of the motor such that the armature has predetermined positions when individual of said two windings are energized, means for individually increasing and decreasing the energization of each of said two windings, means for momentarily energizing other windings at the time of decreasing the energization of said certain windings, said other windings having relationship to the said armature to induce rotation thereof in a given direction whereby as a result of cyclically changing the energization of said two individual windings, the rotor will rotate in a given direction having predetermined static positions associated with energization of each of said two windings, said momentary energizing means, including condenser means associated with said other windings whereby to discharge and individually energize said other windings at the time the energization of one of said two windings is reduced whereby to insure angular movement in a predetermined direction, said condensers being connected in parallel with said other windings.

3,260,915
TRANSISTORIZED POWER SUPPLY WITH PROTECTIVE CIRCUIT INCORPORATED THEREIN
James L. Gregg, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 20, 1962, Ser. No. 246,122
4 Claims. (Cl. 321—11)

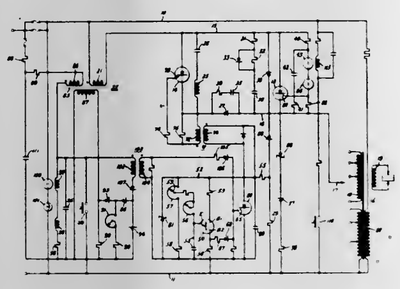


1. In a transistorized power supply system, a source of alternating current power, rectifier means connected to said source of alternating current power to convert the same to direct current power, potentiometer means formed of an elongated resistor and an adjustable tap thereon, said resistor being connected to the rectifier means across which the direct current power is applied which can be adjusted by movement of the tap to provide the desired voltage at the output, an output circuit for supplying direct current power to a load, transistorized current control means connected in series between the output circuit and the potentiometer means to control the current flow in the output circuit, transistor regulating means connected to the tap on the potentiometer means and to the transistorized current control means to regulate the flow of current therethrough depending upon the potentiometer tap setting and protective means including further transistor means to protect the transistorized current control means, said protective means being connected between the output circuit and the transistor regulating means, said protective transistor means being normally nonconductive when the system is operating properly to supply direct current of the proper polarity to a load but which becomes conductive upon the application of improper polarity D.C. source to the output circuit to bias the transistor regulating means to cut off current flow in the transistorized current control means as long as the improper polarity source is connected to the output circuit so that the transistorized current control means will not be overloaded.

3,260,916
OVERLOAD DETECTION MEANS
Donald L. Watrous, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 21, 1963, Ser. No. 266,903
17 Claims. (Cl. 321—13)

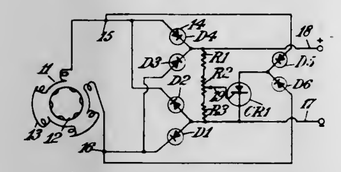
1. An overload detection circuit comprising, a current transformer having a magnetic core, a primary winding on the core adapted to be energized by current to be sensed, and a secondary winding on the core; a capacitor,

first impedance means across the capacitor for producing a voltage to charge the capacitor, second impedance means connected to said secondary winding for producing a voltage when traversed by current resulting from voltage induced in the secondary winding in response to current flow in the primary winding, a breakdown device across said second impedance means included in the dis-



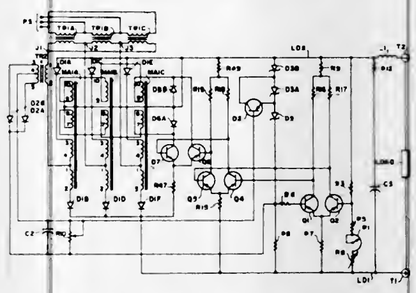
charge path for said capacitor, said breakdown device being transferred from a nonconducting condition to a conducting condition to effect discharge of said capacitor when the voltage produced by said second impedance means attains a predetermined value, and means for producing a control signal in response to discharge of said capacitor.

3,260,917
ELECTRICAL SUPPLY SYSTEMS WITH MEANS RESPONSIVE TO THE OUTPUT OF SAID SYSTEM
Rodney Haydn Shimwell and Edward Leyburn Robinson, London, England, assignors to Simms Motor Units Limited, London, England, a British company
Filed Aug. 7, 1961, Ser. No. 129,691
Claims priority, application Great Britain, Aug. 9, 1960, 27,587/60
2 Claims. (Cl. 321—18)



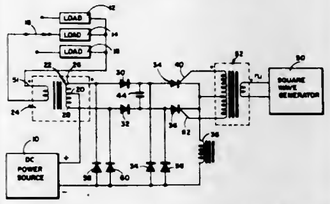
1. An electrical supply system comprising in combination an alternator having an alternator output including at least two output terminals, rectifier means electrically connected in a low resistance circuit between the alternator output and the said output terminals to provide across the output terminals a rectifier output derived from substantially the entire alternator output energy, a conducting path switchable to a low resistance electrically coupled across the alternator output in a circuit in parallel with the circuit supplying the said rectified output to the said output terminals comprising a controlled silicon rectifier having a triggering control electrode as a switching device, means connected to the alternator output and the triggering control electrode to provide to the triggering control electrode a voltage instantaneously dependent on the voltage across the output terminals, said last mentioned means including structure for triggering the controlled silicon rectifier to switch in said path the low resistance when the voltage across the output terminals exceeds a predetermined value to shunt the alternator output and thereby reduce the supply from the alternator to the said output terminals.

3,260,918
REGULATED POWER SUPPLY
Earl C. Rhyne, Jr., Millis, Mass., assignor to The Warren Manufacturing Company, Inc., Littleton, Mass., a corporation of Massachusetts
Filed Jan. 26, 1962, Ser. No. 168,911
12 Claims. (Cl. 321—18)



1. A regulated rectifier power supply circuit for energizing a load having two terminals, comprising alternating-current power input means connected across the load, diode rectifying means connected between said input means and the load, load-voltage responsive control means connected to said rectifying means for varying the impedance of said rectifying means whereby the load voltage is regulated, said control means including constant potential means for establishing a constant load voltage and having a member exhibiting a constant voltage over a range of currents therethrough, circuit means in said control means for establishing a current through said member, and load current responsive means connected across said constant potential means for drawing off current therefrom so as to vary its potential when the load current exceeds a predetermined value.

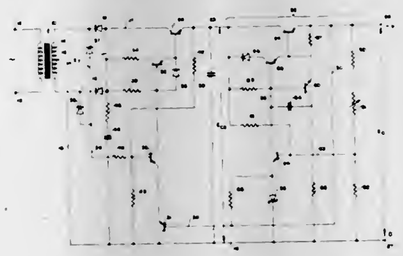
3,260,919
REGULATED INVERTER CIRCUIT
Charles T. Kleiner, Long Beach, Calif., assignor to North American Aviation, Inc.
Filed Apr. 2, 1962, Ser. No. 184,124
6 Claims. (Cl. 321—18)



1. A circuit for converting a D.-C. voltage into an A.-C. voltage comprising:
- a transformer having a center-tapped primary winding and a secondary winding;
- first and second rectifiers, each having one electrode of each of at least two kinds of electrodes designated the anode and cathode electrodes, said rectifiers being connected by said first kind of electrode to opposite ends of said primary winding;
- a capacitor connected between the second said kind of electrodes of said rectifiers;
- third and fourth rectifiers, each having one electrode of each of said two kinds of electrodes and each having a control electrode, said third and fourth rectifiers having their second said kind of electrodes connected together, and the said first kind of electrode of said third and fourth rectifiers being connected to opposite terminals of said capacitors;

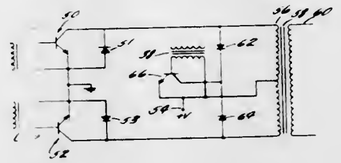
- a source of cyclic control voltage, connected to apply phase-opposing voltage to said control voltage electrodes;
- an inductor connected by a first terminal to the second said kind of electrode of said third and fourth rectifiers;
- first, second, third and fourth clamping diodes each having one electrode of each of said two kinds of electrodes, the first said kind of electrode of said clamping diode being connected together to the second terminal of said inductor, the second said kind of electrode of said first and second clamping diodes being connected to opposite ends of said primary winding, the second said kind of electrode of said third and fourth diode being connected to opposite terminals of said capacitors; and a source of D.-C. voltage connected between said center tap and the second terminal of said inductor.

3,260,920
LOW DISSIPATION POWER SUPPLY
William E. Shoemaker, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California
Filed Sept. 27, 1962, Ser. No. 226,549
5 Claims. (Cl. 321—18)



5. In a low dissipation power supply including input terminals for receiving an alternating current, a transformer having a primary winding connected to said input terminals and a center tapped secondary winding, a full wave rectifier connected with said secondary winding to rectify said alternating current to provide a rectified output voltage, a first capacitance, a voltage regulator including a series regulator transistor, first means connecting said first capacitance to said voltage regulator, second means connecting said voltage regulator to output terminals to provide a regulated output direct current voltage, the center tap of said secondary winding serving as a common voltage conductor and being connected to one of said output terminals, a potential divider connected across said output terminals and having an intermediate terminal, the improvement comprising
- a first semiconductor device connected in series between said rectifier and said first means whereby said first semiconductor device, said first means and said series regulator transistor are connected in series between said rectifier and one of said output terminals, and said first capacitance is connected between the junction of said first semiconductor device and said first means and the common voltage conductor, said first semiconductor device operating in an in-phase relationship with respect to the frequency of said alternating current,
- second and third semiconductor devices connected in series,
- a fourth semiconductor device coupled with said first semiconductor device and coupled with, and under the control of, said second and third semiconductor devices,
- a first resistance connected between said rectifier and said second semiconductive device to apply a control voltage thereto,
- a second resistance connected between said common voltage conductor and said second semiconductive device to apply a control voltage thereto,
- a third resistance connected from the junction of said first semiconductive device and first means to said second semiconductive device to apply a control voltage thereto,
- a fourth resistance and a second capacitance connected in series between said rectifier and said common voltage conductor,
- fifth and sixth semiconductor devices connected in series across a junction of said series regulator transistor,
- a control circuit connected with said common voltage conductor, said potential divider intermediate terminal and said sixth semiconductor device to control the operation of said series regulator transistor, said fifth semiconductor device operating in conjunction with said series regulator transistor and said sixth semiconductor device to maintain the output voltage of the power supply at a predetermined fixed level below the voltage of said first capacitance when the voltage of said first capacitance is below a predetermined level to prevent said first semiconductor device from turning on or remaining on for a sufficient period of time to keep said first capacitance from becoming fully charged when severe loads are applied to said power supply.

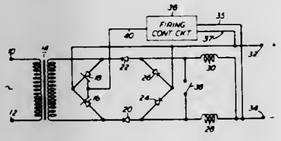
3,260,921
INVERTER CLAMPING CIRCUIT
Charles B. Brahm, Ellington, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 26, 1962, Ser. No. 233,228
8 Claims. (Cl. 321—45)



2. An output clamping circuit for a pulse width modulated inverter comprising:
- a direct current source,
- a first semiconductor having a first control electrode and a first output electrode,
- a second semiconductor having a second control electrode and a second output electrode,
- an output transformer having a primary and a secondary winding,
- said primary winding having a center tap electrically connected to said direct current source,
- means for electrically connecting said primary winding across said first and second output electrodes,
- means for generating a constant frequency signal having variable pulses and variable dwell times and applying said constant frequency signal to said first and second control electrodes for rendering said semiconductors alternately conductive during said pulses and jointly nonconductive during said dwell times,
- semiconductor means responsive to said constant frequency signal and electrically connected across said primary winding for reducing the voltage across said primary winding during said dwell times, and

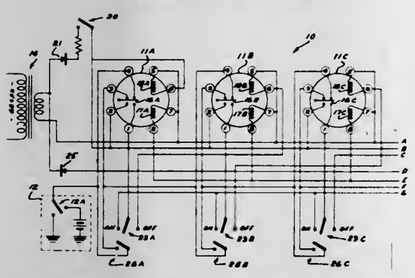
biasing means including a reference voltage and connected to said semiconductor means for clamping said primary winding voltage to said reference voltage when both said first and second semiconductors are cut off by said constant frequency signal.

3,260,922
POWER SUPPLY
John W. Rieke, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 27, 1962, Ser. No. 205,793
8 Claims. (Cl. 321—47)



1. A power supply comprising a source of alternating current, a rectifier, means for coupling said source to the input of said rectifier, first and second inductors, an output circuit, means for coupling the output of said rectifier to said output circuit including circuit means effective to release energy stored in said inductors through said output circuit and circuit means effective to restore energy in said inductors alternately on opposite half cycles of the alternating-current signal.

3,260,923
CIRCUIT FOR PROVIDING A PULSE TYPE OUTPUT
Norman L. De Jarld, Lockport, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 16, 1962, Ser. No. 187,773
5 Claims. (Cl. 321—70)



4. A frequency divider, responsive to a sinusoidal control signal of alternating polarity, for producing a pulse-type output signal wherein the frequency and the periods of the pulses are regulatable, which comprises:

a plurality of bistable mercury relays;

each of said mercury relays having primary and secondary input windings and primary and secondary contact terminals;

said primary input winding being energizable to close said primary contact terminals in response to a prescribed instantaneous level of the control signal of a first polarity;

said secondary input winding being energizable to close said secondary contact terminals in response to a prescribed instantaneous level of the control signal of opposite polarity;

means for selectively connecting said secondary contact terminals of each relay to said secondary input winding of a next succeeding relay and alternatively to the secondary input winding of a last one of the relays in the succession, the closure of said secondary contact terminals of each relay serving to apply the control signal to the secondary input winding connected thereto so that a selected number of relays may be successively energized accordingly;

each of said mercury relays having an operating time greater than the duration of the prescribed level of the first polarity control signal within a single cycle, whereby the selected number of relays are successively actuatable to close said secondary contact terminals thereof only upon successive cycles of the alternating control signal;

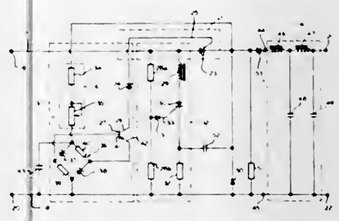
said secondary contact terminals of said last relay in the succession being arranged in series with the primary input winding of all of said relays to apply the prescribed level of the opposite polarity control signal thereto, so that after the selected number of relays have been successively actuated, all of said primary input windings are energized to close all primary contact terminals and to open all secondary contact terminals;

a first power source for producing an output signal;

said primary contact terminals of each relay being arranged to form a series circuit connectable to said first power source, and serving to interrupt said series circuit upon energization of the secondary input winding of the corresponding relay and until energization of the primary input windings of all the relays, the total number of relays successively actuated to interrupt said series circuit being determinative of the frequency of the pulse-type output signal; and

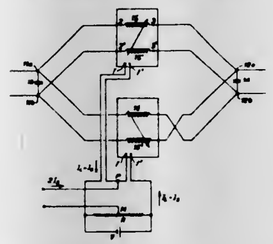
switch means for shorting out the primary contact terminals of a selected number of relays beginning with the first in the succession, to negate the open-circuiting effect in said series circuit of energization of the secondary input windings of the corresponding relays, whereby a first completed output circuit may be maintained prior to interruption for a prescribed number of cycles of the alternating control signal corresponding to the number of relays having shorted primary contact terminals, to produce a pulse for a regulatable period of duration.

3,260,924
DIRECT CURRENT VOLTAGE CONVERTER
Richard C. Bridgeman, Clarendon Hills, Ill., assignor to Vapor Corporation, Chicago, Ill., a corporation of Delaware
Filed Feb. 10, 1964, Ser. No. 343,831
4 Claims. (Cl. 323—18)



1. A direct current converter for transforming direct current voltage at one level to direct current voltage at a lower level, said converter comprising input and output terminals, a first silicon controlled rectifier connected in series between the input and output terminals for interrupting the voltage at said one level to produce a pulsating direct current voltage, a time base oscillator connected in parallel with said first silicon controlled rectifier for turning off the same periodically, said oscillator including a choke, a second silicon controlled rectifier and a resistor in series across the input terminals at the input end of the first rectifier, and voltage divider means between said input terminals to constantly impose on the gate of said second rectifier a portion of the voltage at said one level, a commutating condenser between the output ends of said rectifiers, means at the output end of said first rectifier to produce an average output voltage, and detector means for detecting the average output voltage at the output end of said first rectifier to impose a turn-on voltage on the gate of said first rectifier.

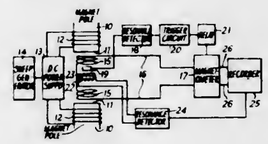
3,260,925
TRANSFORMER DEVICES FOR ELECTRICAL COMPUTERS AND OTHER APPLICATIONS
Etienne Honoré and Emile Torcheux, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, a corporation of France, and Societe Marocaine de Recherches, d'Etudes et de Developpements Somarede, a corporation of Morocco
Filed Aug. 8, 1961, Ser. No. 130,165
Claims priority, application France, Aug. 8, 1960, 835,268
15 Claims. (Cl. 323—76)



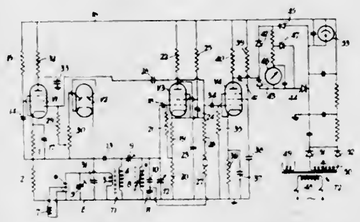
1. In a quadripole of the type having a pair of input terminals and a pair of output terminals, and a set of fixed capacitors and adjustable inductors for interconnecting said input terminals to said output terminals, said quadripole being tuned to a fixed operating frequency, when one pair of terminals of shorted: at least one set of adjustable inductors, said inductors comprising at least two magnetic circuits identical to each other and in each circuit: a first coil surrounding at least one part of said magnetic circuit; means for feeding to said first coils of said first and second circuits, respectively first and second adjustable D.C. currents having a constant sum, whereby the permeability of the magnetic circuits is caused to vary under action of a D.C. control, the magnitudes of the currents being such that the admittances of the related coils are substantially linear functions of the related currents; second coils surrounding at least a part of said magnetic circuit, said second coils of said first and said second circuits having respectively pairs of terminals respectively connected to said input and said output terminals of said quadripole.

3,260,926
MAGNETIC FIELD MEASUREMENT METHOD AND APPARATUS
Barry A. Coles, 16 Bradmore Road, Oxford, England
Filed June 3, 1963, Ser. No. 284,990
Claims priority, application Great Britain, June 5, 1962, 21,745/62
13 Claims. (Cl. 324—.5)

9. A method of studying magnetic resonance phenomena comprising the steps of placing in a magnetic field a sample of the material to be studied, two coil windings, a first surrounding the sample, and detecting means arranged to give an indication when the magnetic field strength reaches a predetermined value, connecting said first coil winding to a resonance detector, arranging that the output from a high gain, phase reversing, D.C. amplifier having a feedback capacitor between its output and input and a series-connected input resistor is held at zero, automatically applying the voltage from said second coil winding to said amplifier input and simultaneously releasing said amplifier from being held at zero output when an indication from said detecting means is given, and simultaneously measuring the output from said amplifier and that from said resonance detector to determine the difference in field between the value at which said sample resonates and said predetermined value.



3,260,927
INSTRUMENT FOR MEASURING THE THICKNESS OF A NON-CONDUCTING FILM ON A BASE METAL WITH COMPENSATION FOR BASE RESISTIVITY AND AMBIENT TEMPERATURE
Reginald Searles Young, Higher Denham, near Uxbridge, England, assignor to The British Aluminium Company Limited, London, England, a company of Great Britain
Filed Sept. 1, 1961, Ser. No. 141,234
Claims priority, application Great Britain, Sept. 1, 1960, 30,219/60
11 Claims. (Cl. 324—34)

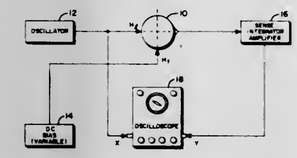


1. An instrument for measuring the thickness of a substantially non-electrically conducting film on a base metal comprising an oscillatory circuit including an inductor movable into proximity to said film and operable to change the frequency and amplitude of oscillation of said circuit in the sense opposite to changes in the resistivity of the base metal and to change the amplitude of oscillation of said circuit in the same sense as changes in the spacing of said inductor from said base metal whilst changing the frequency of oscillation in the opposite sense to such changes in spacing, a feed-back loop across said oscillatory circuit, said loop including a parallel inductive-capacitive circuit in series with a cathode follower tube, said parallel inductive-capacitive circuit being tuned to a frequency lower than the frequency of oscillation of said oscillatory circuit and responsive to changes in the frequency of oscillation of said oscillatory circuit to oppose and compensate for changes in amplitude of such oscillations due to changes in resistivity of the base metal and to assist changes in amplitude of such oscillations due to changes in the spacing of said movable inductor from said base metal and a temperature responsive element electrically connected between the cathode circuit of said cathode follower tube and said parallel tuned circuit to modify the feed-back in said loop in the sense to oppose any variation in the Q of said parallel tuned circuit due to variations in ambient temperature.

3,260,928
METHOD OF MEASURING THE EASY-AXIS AND H_k PROBABILITY DENSITY FUNCTIONS FOR THIN FERROMAGNETIC FILMS USING THE LONGITUDINAL PERMEABILITY HYSTERESIS LOOP

Arlon J. Hunt, Minneapolis, and Henry N. Oredson, Ernest J. Torok, and Robert A. White, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 21, 1963, Ser. No. 252,742
5 Claims. (Cl. 324—34)

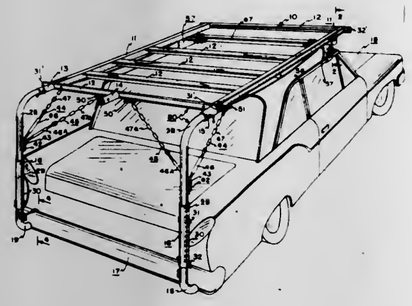


1. A method of determining the H_k and easy axis probability density functions of a thin ferromagnetic film having an easy axis comprising the steps of:
applying a steady bias field to said film orthogonal to said film's easy axis,
applying a small oscillating field of less than 0.020 H_k to said film along said film's easy axis,
varying the magnitude and direction of the said bias field with respect to said film's easy axis,
recording the energy loss due to irreversible changes of the film's magnetization per cycle of said small oscillating field.

3,260,929
SUPPORT FRAME STRUCTURE FOR VEHICLES

Edward B. Hedgepeth, 432 East 27th South St., Apt. 38, Salt Lake City, Utah

Filed Nov. 6, 1963, Ser. No. 321,880
2 Claims. (Cl. 224—42.07)

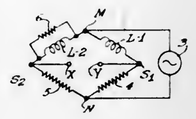


1. In combination, a support frame for disposition above the top of a vehicle, and support structure means for so supporting said support frame above said vehicle, said support structure including bearing support cross-member means transversely disposed over the top of said vehicle and secured to said drain strips thereof, said cross-member means including a cross-member having upstanding ears, said support frame including longitudinal members having outwardly extending lower flanges, and guide means adjustably disposed through and directed inwardly with respect to said upstanding ears for constraining the movements of said longitudinal members and said lower flanges below said guide means.

3,260,930
MAGNETIC FIELD DETECTING DEVICE

Shin-ichi Kawada, Meguro-ku, Tokyo, Japan, assignor to Kabushiki-Kaisha Tokyo Keiki Seizosho (Tokyo Keiki Seizosho Co., Ltd.), Tokyo, Japan, a corporation of Japan

Filed Dec. 26, 1962, Ser. No. 247,063
Claims priority, application Japan, Dec. 29, 1961, 36/47,929
12 Claims. (Cl. 324—43)

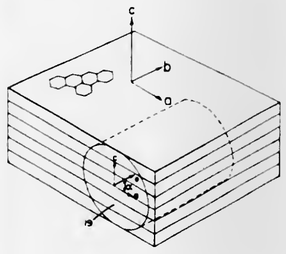


1. A magnetic field detecting device comprising:
a toroidal coil assembly having a saturable ring core and a two-coil winding,
one of said coils having an impedance connected in parallel therewith,
a first of said two coils being wound uniformly on one-half of said saturable ring core,
a second of said two coils being wound uniformly on the other half of said saturable ring core,
a bridge circuit consisting of said two coils and two other impedances,
an alternating current source which is connected to one pair of the diagonal points of said bridge circuit,
said one pair of the diagonal points being formed by the connection point of said two coils and the connection point of said two impedances, and
a converter circuit including a dead band circuit which becomes conductive only when a plus or minus input voltage beyond a predetermined value is supplied to said converter circuit,
the input terminals of said converter circuit being connected to the other pair of the diagonal points of said bridge circuit and a load being connected in series to the output side of said converter circuit.

3,260,931
DIAMAGNETIC GAUSSMETER

Lewis I. Mendelsohn, Swampscott, Mass., assignor to General Electric Company, a corporation of New York

Filed Dec. 30, 1964, Ser. No. 422,177
8 Claims. (Cl. 324—43)

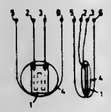


1. In a gaussmeter having a rotatably supported shaft, the improvement comprising a shaft including a portion made from an anisotropic diamagnetic material having its anisotropic axis at right angles to the axis of rotation of said shaft.

3,260,932
MAGNET-FIELD MEASURING DEVICE WITH A GALVANOMAGNETIC RESISTANCE PROBE

Herbert Weiss, Nurnberg, and Hans Martens, Erlangen, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed May 7, 1964, Ser. No. 365,833
Claims priority, application Germany, May 10, 1963, S 85,142
11 Claims. (Cl. 324—46)

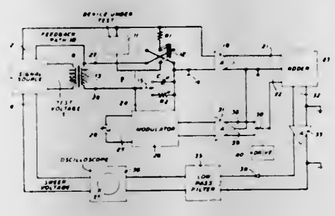


1. A device for measuring magnetic fields comprising a galvanomagnetic resistor for response to the field to be measured, current supply means connected to said resistor for passing current therethrough during measuring operation, magnetic means for superimposing an auxiliary magnetic field upon said resistor, alternating-current supply means connected with said magnetic means for producing said auxiliary field at a high frequency compared with the changes of the field to be measured, measuring means, and a filtering circuit connecting said measuring means to said galvanomagnetic resistance for controlling said measuring means substantially only in response to voltage changes caused along said resistor by said measuring field.

3,260,933
IMPEDANCE TESTING CIRCUIT TO AUTOMATICALLY DISPLAY THE REAL AND IMAGINARY COMPONENTS OF A COMPLEX IMPEDANCE OR ADMITTANCE FOR A SWEPT FREQUENCY BAND

Frieder G. Eggers, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 13, 1962, Ser. No. 237,223
8 Claims. (Cl. 324—57)

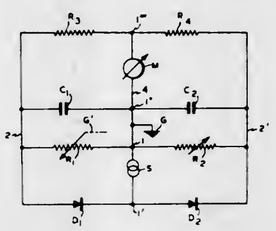


1. An electrical testing circuit for separately displaying the real and the imaginary components of the impedance or admittance of an electrical device over a selected range of frequencies comprising a source having an input port and two output ports, the first output port providing a test voltage which periodically sweeps over the selected range and the second output port providing a unidirectional saw-tooth sweep voltage synchronized with the sweep frequency of the test voltage, a closed transmission loop connected across the first output port, the loop including three serially connected elements, the first two of these elements, counting from a terminal of the first output port being, in the order named, the device under test and a first resistor when admittance is being measured, and the order of these two elements being reversed when impedance is being measured, a feedback path from the terminals of the first of these two elements to the input port of the source of maintaining a constant voltage drop across the first element over the swept frequency range, a linear adder having two input ports, a transmission path from the terminals of the second element in the loop to the first input port of the adder, the third element in the loop being a second resistor when the reactance or susceptance of the device under test is being measured and being a reactor when resistance or conductance is being measured, an amplitude modulator, a transmission path from the terminals of the third element in the loop to an input port of the modulator, an amplifier having two output ports with reversed voltage, a transmission path from the output port of the modulator to the input port of the amplifier, means for selectively impressing the voltage at one of the output ports of the modulator upon the second input port of the adder, an oscilloscope having a screen and two sets of deflection plates, means for demodulating the output voltage from the adder, means for suppressing any test frequencies present in the demodulated voltage, means for applying the resultant voltage to one set of plates, and means for applying the sweep voltage from the source to the other set of plates, whereby an envelope curve representing at each frequency the magnitude of the quantity being measured appears on the screen.

3,260,934
MULTI-ARM TRANSDUCER BRIDGE

Kurt S. Lion, 9 Herbert Road, Belmont, Mass.

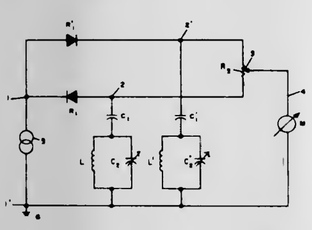
Filed Dec. 10, 1962, Ser. No. 243,233
8 Claims. (Cl. 324—57)



1. A transducer multi-arm bridge having, in combination, a pair of input and a pair of output terminals one of each of which is common and is grounded, means for applying alternating-current voltage of predetermined frequency between the pair of input terminals, a direct-current voltage output circuit connected between the pair of output terminals, a first pair of similar arms connected in parallel with one another between the said one common terminal and the other of the said pair of input terminals and each comprising a rectifier and a series-connected resistance element variation of which may be transduced into an output signal in the output circuit, a second pair of similar arms connected in parallel with one another between the said one common terminal and the other of the said pair of output terminals and each comprising an energy-storage element and series-connected resistance of value greater than the resistance of the said resistance elements, each of the energy-storage elements being connected in parallel with one of the said resistance elements and the time-constant of each energy-storage element and its parallel-connected resistance element being adjusted to enable substantial storage and discharge of rectified voltage at the frequency of the alternating-current voltage.

3,260,935
TRANSDUCER BRIDGE CIRCUIT UTILIZING STAGGER TUNED RESONANT CIRCUITS TO OBTAIN A LINEAR D.C. OUTPUT WITH A CHANGING INPUT FREQUENCY

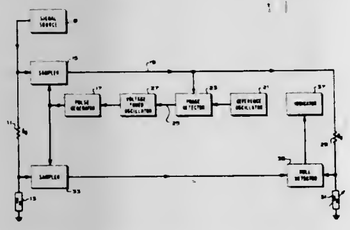
Knrt S. Lion, 9 Herbert Road, Belmont, Mass.
Filed Dec. 10, 1962, Ser. No. 243,353
7 Claims. (Cl. 324—57)



1. A transducer bridge having, in combination, a pair of input terminals, one of which is grounded and between which an alternating-current voltage source of predetermined frequency is connected, a pair of branch circuits each connected between the input terminals and each comprising a rectifier connected at one terminal thereof in series circuit with direct-current blocking capacitance and a tank circuit of variable capacitance, the variation of which may be transduced into electrical variations, a further circuit series connecting the said one terminals of the rectifiers together, and a direct-current voltage output circuit connected between the further circuit and ground, the said tank circuits being tuned to resonate at about the said predetermined frequency or multiples thereof.

3,260,936
HIGH FREQUENCY IMPEDANCE BRIDGE UTILIZING AN IMPEDANCE STANDARD THAT OPERATES AT A LOW FREQUENCY

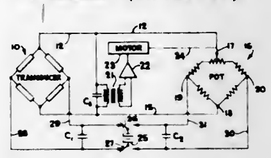
William R. Hewlett, Palo Alto, Calif., and Harald T. Friis, Rumson, N.J., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Apr. 24, 1964, Ser. No. 362,300
4 Claims. (Cl. 324—57)



1. A measurement circuit comprising:
a source of trigger signals;
first and second samplers, each having a signal input and a trigger input and being connected to receive said trigger signals at said trigger input for producing an output signal having an amplitude related to the amplitude of a signal on said signal input at each occurrence of a trigger signal;
a source of test signal;
means connected to said source of test signal for applying the test signal to the element under test and to the signal input of the first sampler;
means connected to the signal input of the second sampler for applying thereto the signal appearing across the element under test;
a source of reference frequency;
means connected to said source of reference frequency and to the output of one of the first and second samplers for producing a control signal related to the phase relationship between the reference frequency and a selected frequency component of the variations in amplitude of the signal at the output of said one of the samplers;
means to apply said control signal to the source of trigger signals for altering the repetition rate thereof;
an impedance standard;
means connected to the output of at least one of said samplers for applying the signal appearing thereon to said impedance standard; and
means connected to said impedance standard for providing an indication related to the signal appearing thereacross.

3,260,937
TRANSDUCER NULL BALANCE POTENTIOMETER CIRCUIT HAVING SINGLE ENERGIZING SOURCE ALTERNATELY CONNECTED IN PARALLEL TO THE TRANSDUCER AND BRIDGE

Alfred N. Ormond, 11969 Riviera Road, Santa Fe Springs, Calif.
Filed Nov. 9, 1961, Ser. No. 151,383
4 Claims. (Cl. 324—99)



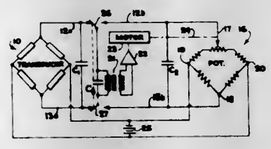
1. An improved potentiometer circuit for indicating the value of an ouput signal from a transducer by nulling the same in a potentiometer bridge, including: a variable resistance in said potentiometer bridge; a servo-amplifier and motor system connected to operate said variable resistance in response to an error signal constituting a function of the difference between said output signal and a known signal generated in said bridge to effect nulling of said error signal; a single D.-C. source; and dual switch means positioned in two pairs of conductors, respectively, for alternately connecting said transducer and potentiometer bridge in parallel across said D.-C. source so that said transducer and bridge are energized by an identical potential whereby spurious signals as a consequence of variations in the power respectively supplied to said transducer and bridge are eliminated, said switches operating at a given frequency to effect a chopping of said error signal and provide an A.-C. component for operating said servo-amplifier and motor system.

3,260,938
TRANSDUCER NULL BALANCE POTENTIOMETER CIRCUIT HAVING SINGLE ENERGIZING SOURCE AND DUAL SWITCH MEANS FOR ALTERNATELY CONNECTING TRANSDUCER AND BRIDGE OUTPUTS TO SERVO-MOTOR

Alfred N. Ormond, 11969 Riviera Road, Santa Fe Springs, Calif.
Filed Nov. 9, 1961, Ser. No. 151,384
5 Claims. (Cl. 324—99)

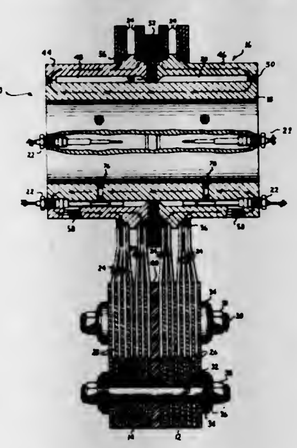
1. An improved potentiometer circuit for indicating the value of an output signal from a transducer by nulling the same in a potentiometer bridge, including: a variable resistance in said potentiometer bridge; a servo-amplifier and motor system connected to operate said variable resistance in response to an error signal constituting a function of the difference between said output signal and a known signal generated in said bridge to effect nulling of said error signal; a single D.-C. source for energizing

said transducer and bridge so that said transducer and bridge are energized by an identical quantity whereby spurious signals as a consequence of variations in the power respectively supplied to said transducer and bridge are eliminated; two pairs of signal conductors connected to the outputs of said transducer and potentiometer bridge and carrying said output signal and known signal respectively; and dual switch means for effecting alternate connections in parallel from said two pairs of signal conductors respectively, to said servo-amplifier and motor system at a given frequency to chop said error signal and provide an A.-C. component for operating said servo amplifier and motor system.



3,260,939
CYLINDRICAL INSTRUMENT SHUNT FOR LARGE MAGNITUDE CURRENTS

Luke M. Harvey, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1962, Ser. No. 163,831
11 Claims. (Cl. 324—126)

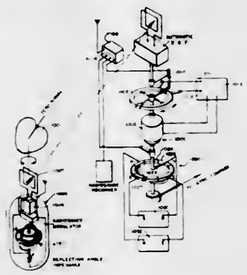


7. A current measuring shunt comprising: a pair of radially spaced electrically conductive concentric cylinders providing a gap therebetween and having at least one pair of respective ends in axial alignment; means electrically conductively joining said ends; positive and negative terminals respectively connected electrically to each of said cylinders; and magnetic field sensing means located in said gap and providing an indication of the magnitude of current flowing through the shunt.

3,260,940
RADIOSONDE FOR WEATHER TELEMETERING

Delbert A. Deisinger, West Long Branch, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed July 3, 1951, Ser. No. 235,085
6 Claims. (Cl. 325—113)

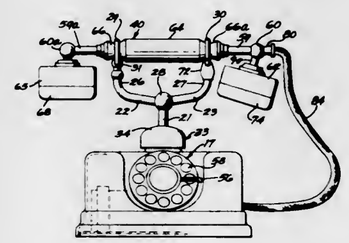
1. A device which upon release from an airborne vessel and during its subsequent fall to earth transmits prevailing meteorological conditions, said device comprising in combination a bomb-shaped housing, at least one gyroscope within said housing having a stabilized spin axis, tilt measuring means operatively associated with said gyroscope for measuring the tilt of said device relative



to said spin axis due to the velocity of winds prevailing during said fall to earth, and means connected to said tilt measuring means for transmitting said tilt data from said device.

3,260,941
EUROPEAN TYPE OF TELEPHONE INSTRUMENT FITTED WITH TRANSISTORIZED RADIO RECEIVER

Michael Young, 142 E. 33rd St., New York, N.Y.
Filed Dec. 9, 1963, Ser. No. 328,885
2 Claims. (Cl. 325—310)

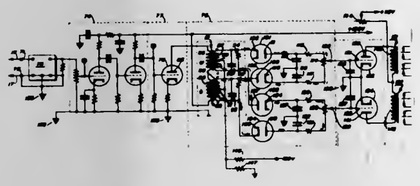


1. In combination with a simulated European type of telephone instrument having a hollow base of substantially rectangular cross-section, a handset support bracket supported by and extending upward from the base, a handset removably supported by the handset support bracket, a transistorized radio receiver mounted in the interior of the base of the simulated telephone instrument, a rotatable control dial mounted adjacent one wall of the base, means operatively connecting the control dial to the transistorized radio receiver, the handset of the simulated radio receiver having a pair of hollow substantially cylindrical heads attached adjacent the ends thereof, a speaker fitted to the interior of each of the cylindrical heads attached to the handset, a bottom plate attached to the bottom of the base, the transistorized radio receiver being supported by the bottom plate, means separating the radio receiver from the bottom plate, a plurality of formed plate springs attached to the bottom plate and extending upward therefrom, each of said plate springs including a flat lower flange attached to the bottom plate, an upper flange integral with each of the plate springs removably engaging the upper end of the radio receiver, means integral with each of the plate springs connecting the upper flange of each of the plate springs with the lower flanges thereof, and the upper flanges of the plate springs being operative to removably support the radio receiver.

3,260,942
FREQUENCY DISCRIMINATOR

Robert J. Gilman, Wayne, N.J., assignor to Radio Frequency Laboratories, Inc., Boonton, N.J., a corporation of New Jersey

Original application Nov. 17, 1960, Ser. No. 70,011, now Patent No. 3,225,348. Divided and this application Mar. 26, 1965, Ser. No. 447,942
4 Claims. (Cl. 325—349)

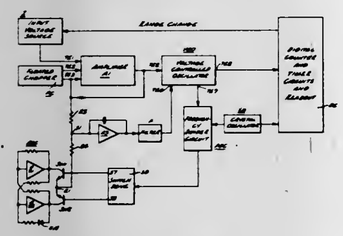


1. A frequency discriminator comprising first and second resonant circuits tuned to first and second frequencies, respectively, first and second load circuits, a first pair of diode rectifiers connected together through the first load circuit and a second pair of diode rectifiers connected together through the second load circuit, means connecting the first load circuit to both resonant circuits through the first pair of diode rectifiers and the second load circuit to both resonant circuits through the second pair of diode rectifiers, and means applying a signal input to both resonant circuits, a unidirectional voltage of one polarity being produced at the first load circuit and a unidirectional voltage of opposite polarity being produced at the second load circuit with a signal input of a first frequency applied to both resonant circuits, a unidirectional voltage of the said opposite polarity being produced at the first load circuit and a unidirectional voltage of the said one polarity being produced at a second load circuit with a signal input of a second frequency applied to both resonant circuits.

3,260,943
CONVERTER

Ken A. Huelsman, Oceanside, and Joe E. Deavenport, San Diego, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Mar. 30, 1964, Ser. No. 355,608
9 Claims. (Cl. 328—69)

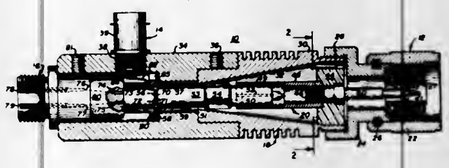


1. A converter circuit comprising:
converter circuit means having input signal circuit means, having a correction signal input circuit, and having an output signal circuit, for receiving an input signal and producing an electrical output signal differing from said input signal;
control means having an input circuit coupled to said input signal circuit means and having an output circuit coupled to said correction signal input circuit;
a reference voltage circuit;
a switching circuit coupling said reference voltage circuit to said input circuit of said control means;
and circuit means including a digital counter, coupled to and controlled by said output signal circuit of said converter circuit means and having an output circuit coupled to said switching circuit for producing discrete switching signals having a frequency depending upon said output signal for controlling said switching circuit.

3,260,944
THERMIONIC DIODE DETECTOR

Walter Revis Ayers, Sunnyvale, Calif., assignor to Huggins Laboratories, Inc., Sunnyvale, Calif., a corporation of California

Filed May 21, 1963, Ser. No. 282,072
7 Claims. (Cl. 329—162)



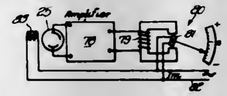
1. A detector comprising:
a tubular housing;
an axially disposed structure within said housing, including, in sequence,
an input pin member,
an anode holder having one end rigidly connected to said pin member, the other end of said anode holder being formed with a clamping means,
a thermionic diode having an anode shank portion and a cathode shank portion, said anode shank portion being engaged by said clamping means,
a cathode holder engaging said cathode shank portion, and
a heater connector means, said cathode holder engaging said heater connector means and including locking means for locking said heater connector means to said cathode holder;
coaxial output connector means radially disposed with respect to said housing, the outer conductor of said coaxial connector means being conductively connected to said tubular housing and the inner conductor of said coaxial connector projecting into said housing for contact with said cathode holder;
conductive means coupling said tubular housing to the portion of said axially disposed structure mediate said input pin member and said anode shank portion; and
capacitive means coupling said tubular housing to said cathode shank portion.

3,260,945
DEVICE FOR THE AMPLIFICATION OF MINUTE SPACE CURRENTS

Henry P. Kalmus, 3000 University Terrace NW., Washington, D.C., and George O. Striker, Katona J. Utca 23/a, Budapest XIII, Hungary

Division of application Ser. No. 756,145, Aug. 20, 1958, now Patent No. 2,952,813, dated Sept. 13, 1960, which is a continuation of abandoned application Ser. No. 273,526, Feb. 14, 1952, which in turn is a division of application Ser. No. 22,648, Apr. 22, 1948, now Patent No. 2,605,428, July 29, 1952. Divided and this application July 12, 1960, Ser. No. 42,379
6 Claims. (Cl. 330—10)

1. A system of the type described comprising a sealed vessel, a pair of electrodes in said vessel across which a steady space current will flow upon energization of said electrodes, means to energize said electrodes, means to generate an alternating magnetic field of predetermined frequency in the space between said electrodes, which field acts to modulate said space current, means for the A.C. amplification of a modulated signal thus produced by said modulated space current, and a synchronous detection output device connected to the output of said amplifier means, said device being operative solely in response to a

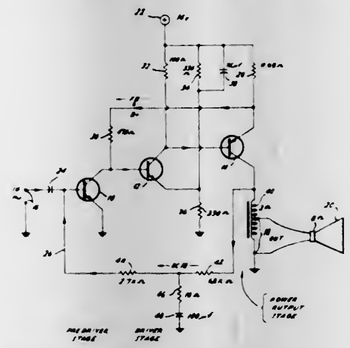


single frequency component of the amplified signal, said device comprising an electro-magnetic unit having a field winding connected to said amplifier output and a rotor associated with said unit which is provided with a winding energized in synchronism with said magnetic modulating field.

3,260,946
TRANSISTOR AMPLIFIER WITH BIAS COMPENSATION

John F. Beres, Southampton, and Harold Larry Weil, Philadelphia, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed May 23, 1963, Ser. No. 282,647
10 Claims. (Cl. 330—17)

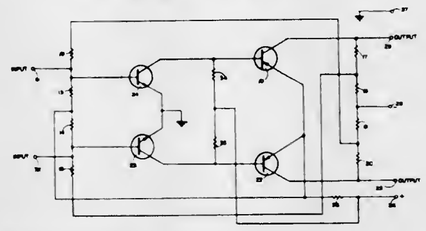


1. A transistor amplifier, comprising:
(a) a first amplifier stage including a first transistor of one conductivity type arranged in the common emitter configuration,
(b) a second amplifier stage including a second transistor of said one conductivity type arranged in the common emitter configuration, the output of said first stage being direct-current coupled to the input of said second stage,
(c) a third amplifier stage including a third transistor of an opposite conductivity type arranged in the common emitter configuration, the output of said second stage being direct-current coupled to the input of said third stage,
(d) a source of operating potential for said three stages, means connected one terminal of said source to the emitter of said first and second transistors and to the collector of said third transistor, said means including a load impedance connected to the collector of said third transistor, additional means connecting the other terminal of said source to the collectors of said first and second transistors via respective load impedances and to the emitter of said third transistor,
(e) means for supplying negative direct-current feedback from the output of said third stage to the input of said first stage, said means comprising a feedback path whose impedance to feedback signals increases with frequency.

3,260,947
DIFFERENTIAL CURRENT AMPLIFIER WITH COMMON-MODE REJECTION AND MULTIPLE FEEDBACK PATHS

Adrian K. Dorsman, Bellflower, Calif., assignor to North American Aviation, Inc.

Filed Nov. 1, 1963, Ser. No. 320,689
8 Claims. (Cl. 330—17)



3. In combination:
first and second transistors of like conductivity type;
a direct-current conductive connection from the emitter of said first transistor and the emitter of said second transistor to a common point;
means for applying a signal between the base electrodes of said first and second transistors and said common point;
a third transistor of type complementary to said first transistor having its base connected to the collector of said first transistor;
a fourth transistor of type complementary to said second transistor having its base connected to the collector of said second transistor;
a first resistor connecting the collector of said third transistor to a first junction point;
a second resistor connecting a first power supply from said common point to said first junction point;
a third resistor connecting the collector of said fourth transistor to a second junction point;
a fourth resistor connecting said first power supply to said second junction point;
a fifth resistor connecting said first junction point to the base of said second transistor;
a sixth resistor connecting said second junction point to the base of said first transistor;
a seventh and eighth resistor connecting a second power supply from said common point to the bases of said first and second transistors respectively;
a direct-current conductive connection from the emitters of said third and fourth transistors to said second power supply;
a ninth and tenth resistor connecting the collection of said first and second transistors respectively to said second power supply;
a means for detecting the output signal.

3,260,948
FIELD-EFFECT TRANSISTOR TRANSLATING CIRCUIT

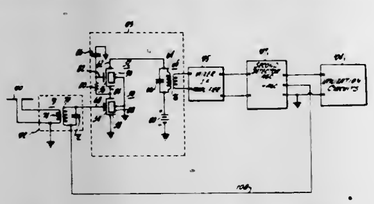
Gerald E. Theriault, Hopewell, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 19, 1963, Ser. No. 274,182
10 Claims. (Cl. 330—18)

5. A signal translating circuit comprising,
first and second semiconductor devices each having first and second electrodes defining a current path and a control electrode for determining the current flow through said current path,
a source of operating potential,
a tuned output circuit having a predetermined passband characteristic,
circuit means coupling said current paths of said first and second semiconductor devices and said tuned out-

put circuit in series in the order named between a point of fixed reference potential and said source of operating potential,

circuit means coupled between the control electrode of said first semiconductor device and said point of reference potential to provide a signal input circuit,



automatic gain control circuit means coupled to said input circuit for applying a control voltage that tends to increase the current flow through said current paths as the level of said input signal increases, and

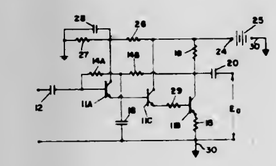
means coupling the control electrode of said second semiconductor device to said point of reference potential for signal frequencies.

3,260,949

HIGH INPUT IMPEDANCE DIRECT-COUPLED TRANSISTOR AMPLIFIER INCLUDING NEGATIVE-FEEDBACK MEANS

Ernst W. Voorhoeve, Ambler, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 27, 1963, Ser. No. 312,151
3 Claims. (Cl. 330—19)



1. A transistor-type A.C. amplifier having at least two stages and supplied from a D.C. source having grounded and ungrounded terminals of opposite polarity characterized in that

the transistors of successive stages are conductively coupled in emitter-to-base configuration with the emitters of all transistors except that of the final stage having no D.C. connection to said grounded terminal;

the emitter of the final-stage transistor is connected to said grounded terminal solely by an unbypassed first resistance means which is traversed by the total D.C. emitter current of all stages and is common to the A.C. input and A.C. output circuits of the amplifier;

the collector of each transistor except that of the final stage is connected to a point of fixed D.C. reference potential with respect to said grounded terminal;

the collector of the final-stage transistor is connected to said ungrounded terminal of the D.C. source by a second resistance means and to the base of the input-stage transistor by third resistance means of a feedback circuit;

for temperature-stabilization of the D.C. operating points of all transistors and high input-impedance of the amplifier,

(a) the resistance value of said second resistance means is of the same or high order relative to said first resistance means, and

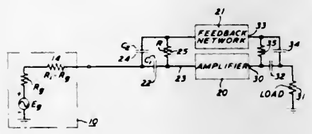
(b) the resistance value of said third resistance means is of the order of megohms and great relative to the resistance values of said first and second resistance means.

3,260,950

CAPACITOR COUPLED FEEDBACK AMPLIFIER

Veikko R. Saari, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 8, 1963, Ser. No. 322,352
6 Claims. (Cl. 330—28)



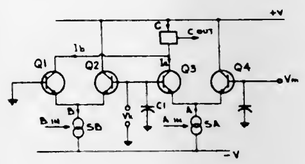
2. A negative feedback amplifier circuit comprising, in combination, an amplifier having an input and an output, a circuit input terminal and a circuit output terminal, a negative feedback network having two terminals, a first capacitor directly connecting said amplifier input terminal to said circuit input terminal, a second capacitor directly connecting a first terminal of said negative feedback network to said circuit input terminal, a third capacitor directly connecting said amplifier output to said circuit output terminal, and a fourth capacitor directly connecting the second terminal of said feedback network to said circuit output terminal.

3,260,951

FADER AMPLIFIER UTILIZING MECHANICAL GAIN CONTROL MEANS

Alan R. Kaye, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Jan. 21, 1964, Ser. No. 339,215
3 Claims. (Cl. 330—29)



1. A variable gain circuit comprising

(a) a direct voltage source,

(b) first, second, third and fourth transistors all of like conductivity type,

(c) means connecting the collector-emitter elements of said first and second transistors in parallel to form a first parallel circuit,

(d) means connecting the collector-emitter elements of said third and fourth transistors in parallel to form a second parallel circuit,

(e) a first signal source for generating an alternating current signal B, and a second signal source for generating an alternating current signal A, each of said signal sources being of high impedance relative to the impedances of said parallel circuits,

(f) means connecting said direct voltage source, said first signal source and said first parallel circuit in series,

(g) means connecting said direct voltage source, said second signal source and said second parallel circuit in series,

(h) means connecting the base of said first transistor to a reference voltage at direct current and signal frequencies,

(i) capacitance means connecting the bases of said second, third and fourth transistors to said reference voltage at signal frequencies,

(j) means connected to the bases of said second and third transistors for applying a first bias voltage to the bases of said second and third transistors,

(k) means independent of said means (h) connected to the base of said fourth transistor for applying a second bias voltage to the base of said fourth transistor, to permit the bias on the base of said fourth transistor to be varied independently of the voltage on the base of said first transistor,

(l) said first and third transistors defining a first transistor pair, and said second and fourth transistors defining a second transistor pair,

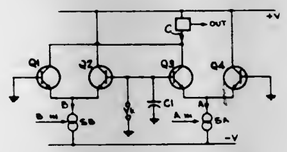
(m) and means coupled to the collectors of the transistors of one of said first and second transistor pairs for deriving an output signal C therefrom, said output signal being of the form $C=hA+kB$, where k is a factor variable between zero and unity by operation of said means (j) alone, and h is a factor variable between zero and unity by operation of both said means (j) and (k).

3,260,952

FADER AMPLIFIER COMPRISING VARIABLE GAIN TRANSISTOR CIRCUITS

Alan R. Kaye and Cecil L. Murray, Ottawa, Ontario, Canada, assignors to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Jan. 21, 1964, Ser. No. 339,216
1 Claim. (Cl. 330—29)



An amplifier comprising

(a) first input means for a first input signal A and second input means for a second input signal B,

(b) a first pair of parallel connected transistors of like polarity connected with their collector-emitter circuits in series with said first input means,

(c) a second pair of parallel connected transistors of like polarity connected with their collector-emitter circuits in series with said second input means,

(d) means connecting the bases of all said transistors to a reference voltage at least at signal frequencies,

(e) means biasing said transistors to conducting condition including control means for varying the bias on a selected transistor of each pair,

(f) and output means in series with said selected transistor of one pair and the other transistor of the other pair for generating an output signal

$$C=(1-k)A+kB$$

where k is a factor variable between zero and unity by said control means,

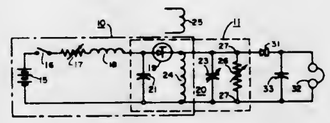
(g) wherein said control means include means for repetitively pulsing the bias on said selected transistors to render the factor k alternately substantially equal to zero and unity to repetitively switch said output C between signals A and B.

3,260,953

RESONATING AMPLIFIER

William M. Kaufman, Westfield, N.J., and Robert D. Haun, Jr., Pitcairn, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 23, 1962, Ser. No. 197,145
5 Claims. (Cl. 330—61)



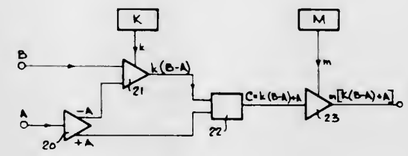
1. A signal translating circuit operative with a source of operating potential comprising, a relaxation oscillator operative to oscillate in a relaxation mode, said relaxation oscillator including a tunnel diode having negative and positive conductance regions and inductance means, said tunnel diode, said inductance means and said source being serially connected to sustain relaxation oscillations; and a resonant tuned circuit operatively connected to said tunnel diode to be responsive to changes in the conductance of said tunnel diode to be rendered oscillatory when said tunnel diode changes from operation in a negative conductance region to a positive conductance region and non-oscillatory when said tunnel diode changes from operation in a negative conductance region to a positive conductance region.

3,260,954

FADER AMPLIFIER INCLUDING A DIFFERENTIAL GAIN CONTROL MECHANISM

Gordon B. Thompson, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

Filed Jan. 21, 1964, Ser. No. 339,217
8 Claims. (Cl. 330—69)



1. A fader amplifier comprising

(a) input means for a first signal A and a second signal B,

(b) first amplifier means coupled to said input means for generating a third signal $C=k(B-A)+A$, where k is a gain factor, and including means for varying k between zero and unity,

(c) and second amplifier means coupled to said first amplifier means for multiplying said signal C by a factor m to produce a fourth signal

$$D=m[k(B-A)+A]$$

where m is a further gain factor.

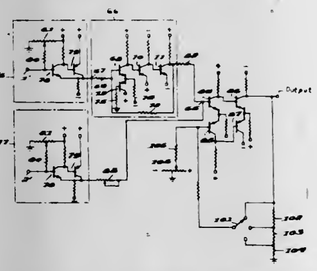
7. A fader amplifier comprising

(a) input means for a first signal A and a second signal B,

(b) means, including variable gain means, coupled to said input means for subtracting said first signal from said second signal to generate a third signal $k(B-A)$, where k is a gain factor,

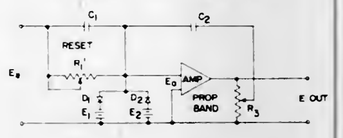
(c) and means, including further variable gain means, coupled to said input means and to said means (b) for adding said first and third signals to generate an output signal $m[k(B-A)+A]$, where m is a further gain factor,
(d) means for varying said gain factor k between zero and unity,
(e) means for varying said further gain factor m between zero and two,
(f) a pair of control members movable individually through coterminous paths of travel,
(g) means coupled to said control members and responsive to the mean position of said control members along said paths for controlling said varying means (d) to render said gain factor k equal to zero when said mean position is located at one extremity of said paths and to render said gain factor k equal to unity when said means position is located at the other extremity of said paths,
(h) and means coupled to said control members and responsive to the spread between said control members for controlling said varying means (e) to render said further gain factor m equal to unity when said spread is zero, to render said factor m equal to zero when said spread consists of the full extent of said paths in one sense, and to render said factor m equal to two when said spread consists of the full extent of said paths in the other sense,
(i) whereby movement of said control members in unison from one said extremity of said paths to the other said extremity effects a complementary mix of said first and second signals, and spreading of said control members apart effects a non-complementary superimposition of said first and second signals.

3,260,955
DIFFERENTIAL AMPLIFIER
Franklin F. Offner, 1890 Telegraph Road, Deerfield, Ill.
Original application Feb. 2, 1959, Ser. No. 790,498. Divided and this application May 28, 1964, Ser. No. 370,883
3 Claims. (Cl. 330—69)



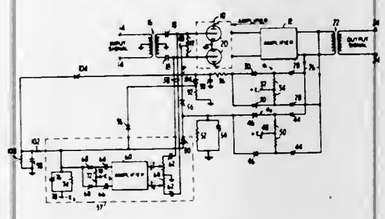
1. In an apparatus for providing amplification for the difference between first and second signal components of a common direct current input signal, the combination comprising means applying said signal components respectively between a first input terminal and a reference terminal and between a second input terminal and said reference terminal, a first signal amplifier transmitting means for transmitting said first signal component without changing the phase thereof, second signal amplifier transmitting means for transmitting said second signal component and which includes means reversing the phase thereof, said first and second signal amplifier transmitting means being characterized by having their respective signal transmissions dependent substantially only upon resistance values and independent of amplification element characteristics, resistance summing means connected to the outputs of said first and said second amplifier transmitting means and which includes a summing point, and further amplifying means connected to said summing point on said resistance summing means.

3,260,956
START-UP CIRCUIT FOR PROCESS CONTROL APPARATUS
Robert C. McNabb, Sunnyvale, Calif., assignor to General Electric Company, a corporation of New York
Filed Apr. 2, 1963, Ser. No. 269,992
9 Claims. (Cl. 330—75)



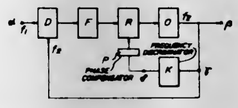
1. In a process controller, an amplifier having an input and an output, said amplifier being saturated at a first predetermined potential, means for capacitively feeding back to said input signals from said output, a source of error signals, phase lead network for coupling said source to said amplifier input, said network comprising first resistance means connected in series with said amplifier input and second resistance means connected in shunt with said amplifier input, said second resistance means assuming a first or second value of resistance at a second predetermined potential across the input, said first value of resistance being small with respect to the resistance of said first resistance means, and since second value of resistance being large with respct to the resistance of said first resistance means, said second resistance means assuming said first value only when the potential across said input exceeds said second predetermined potential, said second predetermined potential being in excess of said first predetermined potential of said amplifier.

3,260,957
COMPENSATED PLATFORM GAIN CONTROL APPARATUS
Arthur Kaiser, Trumbull, and Emil Torick, Norwalk, Conn., assignors to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Apr. 2, 1963, Ser. No. 269,927
9 Claims. (Cl. 330—134)



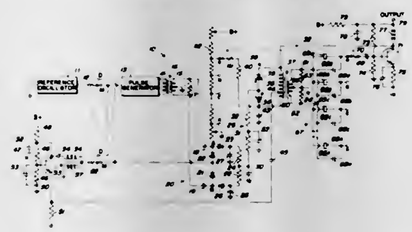
6. In an amplifier gain control arrangement including storage capacitor means for holding and applying a control voltage to said amplifier to control its gain as a function of the amplifier signal level and gate means coupled between said amplifier and said storage capacitor means and operative to prevent a change in the control voltage applied to said amplifier when the signal input thereto falls below a predetermined threshold level, circuit means coupled to said gate means and responsive to a predetermined period of operation thereof to develop a given voltage, and means coupling said circuit means to said storage capacitor means to increase the control voltage stored therein to the level of said given voltage.

3,260,958
FREQUENCY SWEEP CIRCUIT FOR PHASE CONTROLLED OSCILLATOR
Kunio Kawai, Tokyo, Japan, assignor to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan
Filed June 25, 1963, Ser. No. 290,547
Claims priority, application Japan, June 25, 1962, 37/25,713
5 Claims. (Cl. 331—4)



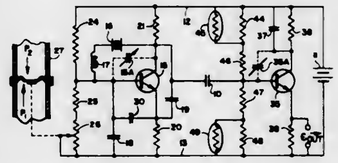
1. In an automatic phase control oscillator circuit including a phase comparator and an oscillator having a variable reactance circuit connected to the output of said phase comparator and arranged so that an external synchronizing signal and the output signal from said oscillator are applied to said phase comparator to obtain an output signal voltage corresponding to the phase difference between said signals, said output signal voltage being applied to said oscillator to synchronize the frequency of the oscillator output with that of said external input signal, the improvement essentially consisting of an automatic frequency oscillator control circuit, comprising feedback circuit means connected between the output of said oscillator and the input of said variable reactance circuit for providing an oscillator frequency control signal including frequency discriminator means having an output corresponding to the frequency difference between the signal output of said oscillator and the input signal for producing oscillatory control of said variable reactance circuit, said feedback circuit having a loop gain of not less than one.

3,260,959
TUNABLE PHASE SHIFT RESONANT CIRCUIT STABILIZED CRYSTAL OSCILLATOR
Samuel L. Broadhead, Jr., Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 30, 1963, Ser. No. 334,536
7 Claims. (Cl. 331—16)



1. In a multiple selective output frequency stabilized crystal oscillator circuit: a reference frequency oscillator; a bank of crystal filters each designed for a particular individual frequency bandpass; means for connecting output circuit means to the desired crystal filter; a tuneable phase shift resonant circuit; voltage bias means connected to said tuneable phase shift resonant circuit for biasing the tuneable phase shift resonant circuit to a resonant frequency range consistent with the frequency bandpass range of the selected crystal filter; means forming an oscillator including the selected crystal filter and the tuneable phase shift resonant circuit; signal feedback means from said tuneable phase shift resonant circuit to a buffer amplifier; a phase discriminator; signal path means connecting the output signal of said reference oscillator to said phase discriminator, and signal path means connecting the output signal of said buffer amplifier to said phase discriminator; pulse generating means included in one of said signal path means connecting signals to said phase discriminator; voltage variable capacitive means in said tuneable phase shift resonant circuit capable of varying the frequency of said tuneable phase shift resonant circuit by bias voltage variation applied to said voltage variable capacitive means; means coupling the output of said phase discriminator as a variable voltage bias frequency varying input to said tuneable phase shift resonant circuit; wherein said voltage variable capacitive means in the tunable phase shift resonant circuit includes two solid state voltage variable capacitors, each having an anode electrode and a cathode electrode, and with a common junction between like electrodes of the voltage variable capacitors being the input junction receiving a variable voltage bias frequency varying input developed as an output by said phase discriminator; and wherein said common junction between the voltage variable capacitors is between anodes of said voltage variable capacitors, and the cathodes of said voltage variable capacitors are connected through a primary coil of a signal coupling transformer having a secondary coil with end terminals connected to the bank of said crystal filters for providing input signals to the crystal filters.

3,260,960
OSCILLATOR WITH DUAL FUNCTION ISOLATION AMPLIFIER AND FREQUENCY DETERMINING TRANSISTOR
Richard H. Bangert, Davenport, Iowa, assignor to The Bendix Corporation, Davenport, Iowa, a corporation of Delaware
Filed Aug. 6, 1962, Ser. No. 215,109
1 Claim. (Cl. 331—65)



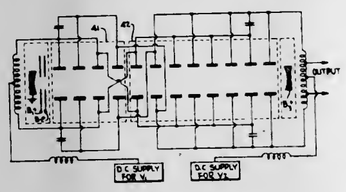
In an electronic oscillator and amplifier combination in which the amplifier comprises a transistor whose base to collector junction is coupled to the oscillator as an element in the frequency determining circuit of said oscillator and whose emitter is connected to an amplifier output circuit, the improvement for effecting frequency control of said oscillator which comprises, circuit means, including a source, for causing current having a unidirectional component to flow across said junction, and means for altering the magnitude of said unidirectional component in accordance with a condition, said transistor having its base connected to be energized by the output of the oscillator and having its collector connected to a ground point common to the oscillator such that alternating potential at said collector has the value of the alternating potential at said ground point whereby said amplifier is employed to isolate said oscillator from said output circuit as well as to control the frequency of said oscillator.

3,260,961
MICROWAVE OSCILLATOR
Burton J. Udelson, Bethesda, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 13, 1965, Ser. No. 425,366
6 Claims. (Cl. 331—81)

1. A voltage-tunable D.C. pumped electrostatically focused electron beam microwave oscillator comprising:
(a) an electron gun which develops a sheet electron beam,

(b) a collector longitudinally spaced from said electron gun and positioned to receive a sheet electron beam developed by said electron gun, and

(c) an electrostatically focused D.C. pump interaction structure positioned between said electron gun and said collector and having a plurality of electrostatic focusing lenses periodically spaced longitudinally along the path of a sheet electron beam developed between said electron gun and said collector, the lens strength of said plurality of electrostatic focusing lenses being above the critical value at which a sheet



electron beam developed between said electron gun and said collector becomes unstable causing the sheet electron beam to have a natural frequency of transverse oscillation that increases in amplitude exponentially about a central plane extending longitudinally between said electron gun and said collector, said interaction structure being electrically divided into two regions to cause the R.F. field in the interaction structure adjacent said electron gun to be 180° out of phase with the R.F. field in the interaction structure adjacent said collector.

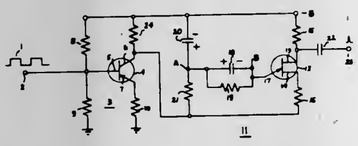
3,260,962

GATED PULSE GENERATOR WITH TIME DELAY

Cosby A. Draper, Jr., Lynchburg, Va., assignor to General Electric Company, a corporation of New York

Filed Jan. 2, 1964, Ser. No. 335,021

8 Claims. (Cl. 331—111)



1. A gated pulse generator with delayed operation after gating, comprising

(a) a relaxation oscillator including a voltage responsive semiconductor switch which is driven into the conductive state and produces an output pulse if the voltage applied to one of its terminals exceeds a predetermined level;

(b) a source of energizing voltage;

(c) a first R-C network coupled to said source and to said switch;

(d) gating means responsive to a gating pulse for completing a conductive path between said R-C network and said source, whereby the capacitor in said network charges toward the predetermined voltage and causes said switch to conduct and discharge said capacitor a fixed period of time after the appearance of a gating pulse;

(e) a second R-C network for limiting the discharge of the capacitor of said first network whenever said switch conducts so that the capacitor of said first network begins to charge again towards said predetermined voltage level, said first network establishing the time required to generate the first output pulse after gating and said first and second network forming a hybrid timing network for establishing the free-running output pulse repetition rate after the first output pulse; and

(f) means for producing an output pulse whenever said gating pulse terminates.

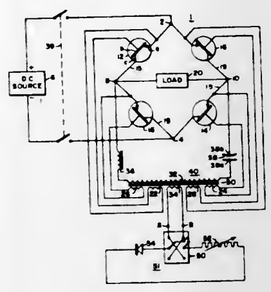
3,260,963

INVERTER HAVING CIRCUITRY FOR CONTROLLING THE RELATIVE DURATION OF THE OUTPUT ALTERNATIONS

Alfred E. Relation, Media, and Rudy P. Putkovich, Franklin Township, Export, Pa., and John F. Roesel, Jr., Sarasota, Fla., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 104,338, Apr. 20, 1961. This application Aug. 18, 1964, Ser. No. 391,830

15 Claims. (Cl. 331—113)



12. An oscillating control network comprising inductive reactive impedance (L) and capactive reactive impedance (C) connected in series circuit with each other to permit the flow of oscillating energy between said reactive impedances in first and second directions, means connected to said series circuit and controlled by the flow of said oscillating energy for supplying periodic pulses of electrical energy to said series circuit to maintain oscillation of electrical energy therein, and means spaced from said last-named means and introducing asymmetric resistance into said series circuit so that at least a portion of said oscillating energy flows through said resistance, the total value of resistance (R) in said oscillating network being such as to satisfy the relationship $R^2/4L^2<1/LC$ whereby the series circuit will oscillate, said asymmetric resistance introducing a greater value of resistance to current flow in a first direction than in a second direction whereby the time interval of the flow of energy in one of said directions is changed from that in the other of said directions.

3,260,964

SEPARATE AMPLITUDE AND FREQUENCY MODULATOR CHANNELS FOR HIGH AND LOW SIGNALS TO PREVENT DISTORTION DUE TO CARRIER SUPPRESSION

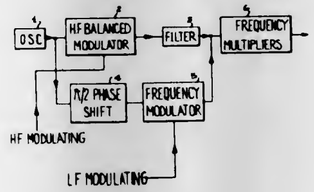
Cyril Cryer Whitehead, London, and Alan James Stanborough, Charlton, London, England, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed Dec. 9, 1963, Ser. No. 328,982

Claims priority, application Great Britain Dec. 14, 1962, 47,305/62

4 Claims. (Cl. 332—21)

1. A modulating circuit including means for feeding a carrier signal to parallel channels said channels including a first chanel comprising means for amplitude modulating the carrier with relatively high frequency modulating signals and a filter for removing the carrier but not the side bands, a second channel comprising a $\pi/2$ phase



shifting network and means for frequency modulating the carrier with relatively low frequency modulating signals and means for combining the outputs of the two channels.

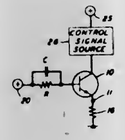
3,260,965

VARIABLE IMPEDANCE NETWORK EMPLOYING A JUNCTION TRANSISTOR

Richard L. Schmal, Edison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 7, 1962, Ser. No. 215,393

15 Claims. (Cl. 332—30)



1. In combination in a variable impedance circuit, a transistor including base, emitter and collector terminals, a common ground terminal, means connected to said transistor collector and emitter terminals and said ground terminal for biasing said transistor to its sustaining voltage and to a collector-emitter current which exceeds the avalanche current region, said biasing means including a relatively high and a relatively low impedance connection between said ground terminal and said transistor emitter and collector terminals, respectively, a control voltage source connected to said collector terminal, and means including a capacitor and a resistor in parallel therewith connecting said transistor base terminal and said ground terminal.

3,260,966

BIAS CONTROLLED AMPLITUDE MODULATOR

Michael James Murray III, Tulsa, Okla., assignor to Midwestern Instruments, Inc., Tulsa, Okla., a corporation of Delaware

Filed Sept. 16, 1963, Ser. No. 309,032

7 Claims. (Cl. 332—31)

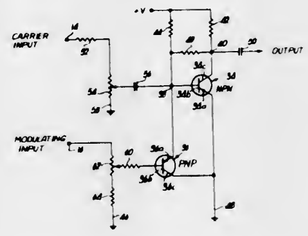
1. In combination with an active electrical element, circuitry coupled with said element for applying an operating voltage thereto, and means coupled with said element for applying an electrical carrier signal thereto, modulation apparatus including:

a variable impedance device whose impedance is responsive to an electrical modulating signal applied thereto;

means coupling said device with said circuitry to control said operating voltage, and thereby the output of said element; and

means coupled with said device for applying said modulating signal thereto to control the impedance of the device, whereby to provide an output signal from said element having an amplitude responsive to changes in the amplitude of said modulating signal,

said impedance having a value, when the amplitude of said modulating signal is zero, for rendering said element responsive to only a predetermined portion of



said carrier signal, whereby said output signal has a time-varying component having amplitude peaks defining a time-varying envelope corresponding to the wave form of said modulating signal.

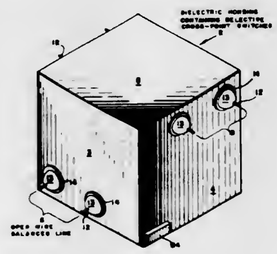
3,260,967

CROSS-POINT SWITCHING SYSTEM

Robert D. McClaflin and Ted N. Tilman, San Jose, Calif., assignors to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware

Filed Oct. 24, 1962, Ser. No. 232,833

11 Claims. (Cl. 333—7)



1. An open-wire balanced transmission line cross-point switching system, comprising:

(a) a base structure for supporting and enclosing the switching system,

(b) a plurality of multi-conductor transmission line portions supported on the base structure in spaced relation and arranged to cross one another,

(c) conductor switch means serially interposed in each conductor of each multi-conductor transmission line portion and operable to make or break a circuit through the associated conductor,

(d) cross-point conductor assemblies operatively interposed between corresponding conductors of adjacent transmission line portions, each cross-point conductor assembly including cross-point switch means operable to make or break a circuit between the associated corresponding conductors of adjacent transmission line portions,

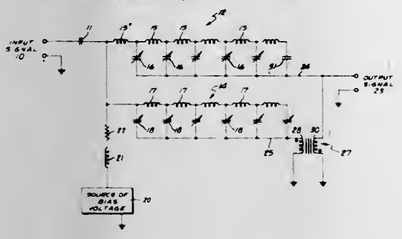
(e) transmission line inductance determining means interposed in each conductor of each transmission line portion to effect impedance matching between adjacent transmission line portions, and

(f) control means operable to substantially simultaneously actuate said conductor and cross-point switch means to selectively make or break a circuit through adjacent transmission line portions.

3,260,968
VARIABLE DELAY NETWORK UTILIZING VOLTAGE-VARIABLE CAPACITORS

Paul E. Drapkin, San Francisco, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed May 14, 1962, Ser. No. 194,325
5 Claims. (Cl. 333—29)

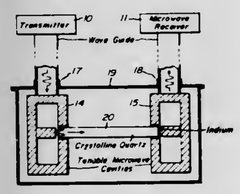


1. A variable delay network for variably delaying a signal having a wide frequency band comprising:
input terminals;
output terminals;
a first transmission line network section and a second transmission line network section connected in parallel between said input and output terminals, each of said network sections including a plurality of inductors and a plurality of voltage variable capacitors, and each of said network sections being arranged to provide a different phase shift to the different portions of the frequency band; and
means connected to both of said network sections for applying a variable bias voltage to said capacitors to vary simultaneously the capacitance thereof, whereby the delay presented to said signal by both said network sections is varied.

3,260,969
APPARATUS FOR PRODUCING SONIC VIBRATIONS AT X-BAND MICROWAVE FREQUENCIES AND HIGHER

Edward H. Jacobsen, Rochester, N.Y., assignor to General Electric Company, a corporation of New York

Filed June 28, 1963, Ser. No. 291,349
4 Claims. (Cl. 333—30)

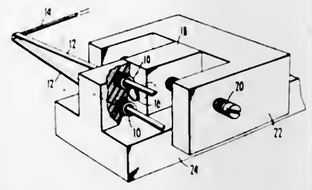


1. Apparatus for transmitting extremely high frequency microwave signals comprising a microwave signal source capable of producing signals of at least nine-kilomegacycles frequency, a transformer means including a tunable microwave cavity to receive microwave signals from said source and concentrate and direct those signals, and a quartz crystalline rod having one end portion disposed in the microwave cavity of the transformer and having its other end portion directed away from the transformer, a transducing cap consisting of a layer of indium at least 0.0001 inch thick covering the entire transverse surface of said other end portion of the rod and serving to scatter and dissipate phonons and thereby prevent phonon reflection back toward said microwave cavity, and means to maintain the said rod and indium cap at a temperature below 25° K. during operation of the apparatus.

3,260,970
DELAY LINE WHEREIN SENSITIVITY OF MAGNETOSTRICTIVE TRANSDUCER IS PROFILED BY PROFILING ITS BIAS FIELD

Barrie Luttge, Castro Valley, Calif., assignor to Friden, Inc., a corporation of Delaware

Filed Sept. 30, 1963, Ser. No. 312,675
13 Claims. (Cl. 333—30)

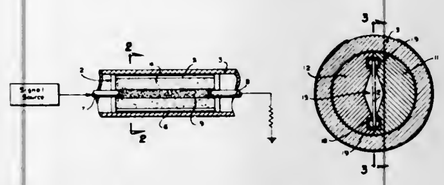


1. In an electromagnetic transducer for a traveling signal wave, an electric coil extending along the path of travel of said wave for coupling to said wave, the sensitivity of the coupling being a function of the intensity of a magnetic field at said path, means for producing a magnetic field that is nonuniform along the path of said wave across said coil, the component of said magnetic field in the direction of travel of said wave having a zero value at each of a plurality of positions along said path of travel across said coil, said plurality being at least three, each of said plurality of positions of zero value lying between positions of nonzero value of said component.

3,260,971
MULTI-LAYER CARD ATTENUATOR FOR MICROWAVE FREQUENCIES

Helmut Bacher, Arlington, Va., and Egon R. Seitter, Silver Spring, Md., assignors to Weinschel Engineering Co., Inc., Gaithersburg, Md., a corporation of Delaware

Filed Dec. 3, 1964, Ser. No. 415,742
13 Claims. (Cl. 333—81)



1. A microwave attenuator comprising
(a) a coaxial connector having an outer conductive member and an inner conductive member coaxially spaced and insulated therefrom,
(b) a thin layer of resistive material uniformly distributed over an area defining a surface,
(c) said surface area comprising two sub-areas of different unit resistivity, the sub-area of lower unit resistivity being in good conductive contact with said inner conductive member and the sub-area of higher resistivity being in good conductive contact with said outer conductive member.

12. A microwave attenuator comprising
(a) an insulating member having at least one plane surface,
(b) a thin layer of resistive material on said surface,
(c) a coaxial connector having an outer conductive grounded member and an inner conductive current member coaxially spaced and insulated from said outer member,
(d) an outer hollow tubular conductor electrically connected at one end to said outer conductive member, said insulating member lying within said hollow member with said resistive material in contact with the tubular conductor along a line of contact parallel to the central axis of the tubular member but spaced therefrom,
(e) said inner conductive member being in contact with said resistive material at a locus spaced from said line of contact whereby current can flow through said attenuator between the inner conductive member and the outer conductive member,
(f) the inner surface of the tubular member being so shaped in cross-section that the distance from the central axis to said line of contact is greater than the distance from the central axis to any other axial line on said inner surface, whereby the cut-off frequency is higher than for a cylindrical hollow member enclosing a resistive member of the same dimensions.

3,260,972
MICROSTRIP TRANSMISSION LINE WITH A HIGH PERMEABILITY DIELECTRIC

Günter Pusch, Hanover, Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed June 11, 1962, Ser. No. 201,597
Claims priority, application Germany, June 7, 1961, T 20,263
3 Claims. (Cl. 333—84)



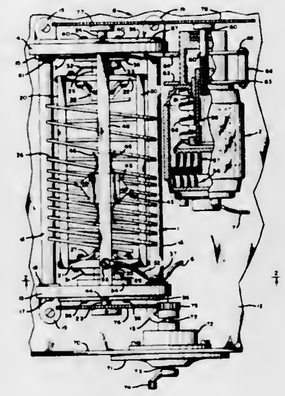
1. A circuit device, comprising, in combination:
(a) a layer of insulating material at least partially formed of a material having a high permeability;
(b) two conductors mounted on said layer on opposite sides thereof and opposite each other; and
(c) means for closing the magnetic circuits around the two conductors, said means including an additional layer of insulating material having a high permeability mounted on each of the conductors and engaging said first mentioned layer on both sides.

3,260,973
VARIABLE INDUCTOR AND CAPACITOR TUNING APPARATUS

Bernard J. Bisnett and Ralph M. Heintz, Los Gatos, Calif., assignors to Linear Systems, Inc., Los Gatos, Calif., a corporation of California

Filed Aug. 23, 1963, Ser. No. 304,126
2 Claims. (Cl. 334—69)

1. Resonant circuit apparatus comprising a base, a pair of dielectric end plates mounted on said base in spaced parallel arrangement, a pair of metal end blocks carrying axially aligned stub shafts journaled in said end plates, a pair of dielectric connecting bars attached to the sides of said end blocks in spaced parallel arrangement, a metal inductor coil wound around said dielectric connecting bars and connected at its opposite ends to said metal end blocks, resiliently biased contacts connected to said end block, metal contact washers on said dielectric end plates and engaged by said contacts, a metal guide bar connected to said dielectric end plates outside said coil and parallel to the axis of said shafts, a metal U-shaped shorting tap straddling said bar with the bight of the U-shaped tap between the bar and the coil, metal spring fingers attached to each leg and the bight of the shorting tap in sliding engagement with the shorting bar, a U-shaped follower attached to the bight of the shorting tap and straddling a turn of said coil, a bowed spring finger attached to the bight of the shorting tap, an electrical contact brush on each end of said bowed finger in sliding engagement with said coil, a vacuum condenser comprising a movable set of cylindrical plates telescopically receivable within a stationary set of cylindrical

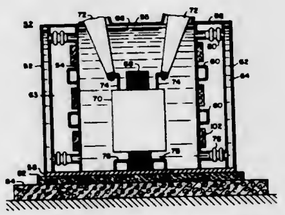


plates, means for turning one of said stub shafts, and means connecting the other of said stub shafts to said condenser, said coil having an inductance curve versus turns of said turning means which is substantially parallel to the capacitance curve of said capacitor plotted versus turns of said turning means.

3,260,974
NOISE REDUCING MEANS FOR ELECTRICAL APPARATUS

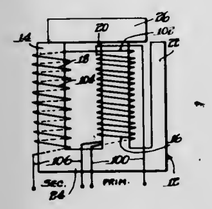
Theodore R. Specht, Sharon, Pa., and Gwyn N. Crump, Hartford Township, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 12, 1963, Ser. No. 308,409
5 Claims. (Cl. 336—90)



1. Electrical inductive apparatus comprising a sealed tank having sidewall, top and bottom portions, a magnetic core and electrical winding assembly disposed in said tank, a liquid coolant disposed in said tank, the top and bottom portions of said tank extending outwardly from the sidewall portions for a predetermined distance, barrier means having a plurality of spaced wall members disposed to surround the sidewall portions of said tank in predetermined spaced relation, the wall members of said barrier means being connected to the extended top and bottom portions of said tank, said barrier means forming a hollow air chamber between said barrier means and said tank for reducing the sound energy radiated by the electrical inductive apparatus.

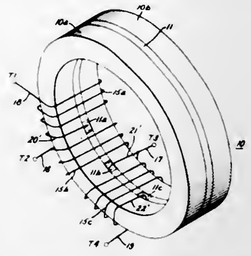
3,260,975
ADJUSTABLE VOLTAGE TRANSFORMER
Carl G. Howard, 261 Lakeside Place, Highland Park, Ill.
Filed Apr. 8, 1964, Ser. No. 358,350
2 Claims. (Cl. 336—133)



1. A voltage transformer comprising:
(a) a magnetic core having three substantially parallel legs, respectively, a first leg, a second middle leg and a third leg,
(b) means connecting each of said three legs together at a first end portion of said legs,
(c) the second end portion of said legs being separate from each other, there being a first dimension spanning said first and second legs and a second dimension spanning said first and third legs,
(d) a magnetic shunt movable across said second end portion,
(e) said shunt having a length greater than said first dimension and less than said second dimension, said shunt being adjustably movable from a first position spanning said second leg and substantially all of said first leg through a second position spanning all of said second leg and parts of both of said first and third legs to a third position spanning said second leg and substantially all of said third leg and back through said second position to said first position to vary the reluctance of the magnetic path between said first and second legs,
(f) a primary winding on said second middle leg,
(g) a secondary winding on said second middle leg,
(h) said secondary winding on the middle leg providing substantially the minimum rated voltage of said transformer,
(i) a secondary winding on the first leg in series addition with the secondary winding on said second leg, the secondary winding on said first leg providing substantially one-half the voltage of the secondary winding on the second leg,
(j) screw thread means for moving said magnetic shunt on the second end portion of said three legs, and
(k) lock means for locking said magnetic shunt in a predetermined position.

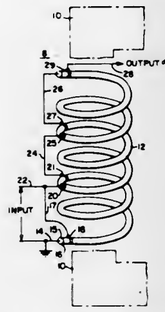
3,260,976
CURRENT TRANSFORMER
Kurt W. Eissmann, Dalton, Mass., assignor to General Electric Company, a corporation of New York
Filed June 30, 1964, Ser. No. 379,116
6 Claims. (Cl. 336—172)

1. In a current transformer, a magnetizable core having a plurality of flux paths disposed in parallel spatial relation to define a single closed magnetic circuit, said flux paths being discretely spaced apart at at least one fractional portion of said core, a tapped secondary winding comprising a plurality of full turn sections each having a plurality of turns surrounding and linking all said parallel flux paths, a plurality of fractional winding turns disposed on said core at fractional portions of said core and each surrounding and linking less than all said parallel flux paths, means connecting said full turn sections and said fractional winding turns in series circuit relation, terminal leads connected to intermediate and end



points of said winding and including between each predetermined selectable pair of leads at least one full turn section and at least one fractional winding turn.

3,260,977
ELECTRICAL APPARATUS
John W. Coltman, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 195,108, May 16, 1962. This application July 2, 1964, Ser. No. 380,990
7 Claims. (Cl. 336—181)

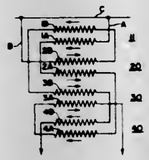


1. An electrical transformer comprising a primary winding, a secondary winding disposed in inductive relation with said primary winding, means for connecting said primary and secondary windings to input and output circuits, taps disposed on said primary and secondary windings at predetermined intervals, means connecting said taps to apply a voltage induced in one interval of said secondary winding to the succeeding interval of said primary winding.

3,260,978
INTERLEAVED WINDING ARRANGEMENT FOR ELECTRICAL APPARATUS
Walter Müller, Nurnberg, Germany, assignor to Siemens-Schuckwertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Aug. 30, 1963, Ser. No. 305,795
Claims priority, application Germany, Sept. 5, 1962, S 81,279
1 Claim. (Cl. 336—187)

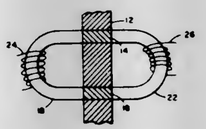
An electrical winding comprising
a plurality of pancake coils,
each of said pancake coils including two radially interleaved conductors,
means interconnecting certain ends of the interleaved conductors of said pancake coils to provide first and second electrical circuits through the winding,

said means connecting each group of four pancake coils to direct the first electrical circuit sequentially through the first, second, fourth and third pancake coils of the group via one of the conductors of each pancake coil,
said means connecting each group of four pancake coils to direct the second electrical circuits sequentially



through the second, first, third and fourth pancake coils of the group via the remaining conductor of each pancake coil,
the first and second electrical circuits traversing the first and fourth pancake coils of each group in a first direction, and the second and third pancake coils of each group in a direction opposite to the first direction.

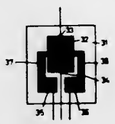
3,260,979
THROUGH-WALL ELECTROMAGNETIC COUPLING
Lionel E. Leavitt, Flushing, and Donald Gertz, Carle Place, N.Y., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 11, 1963, Ser. No. 329,933
5 Claims. (Cl. 336—212)



1. Apparatus for transferring electrical information through a sealed wall of non-magnetic material comprising means establishing a pair of spaced paths of magnetic material integral with and through said wall, a first core of magnetic material connecting said paths on one side of said wall and a second core of magnetic material connecting said paths on the other side of said wall, thereby forming a closed magnetic circuit, and means for coupling said magnetic circuit into sending and receiving circuits on opposite sides of said wall.

3,260,980
SEMICONDUCTOR DEVICE OF LOW THERMO-ELECTRIC ERROR VOLTAGE
Herbert Weiss, Nurnberg, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
Filed Mar. 13, 1963, Ser. No. 264,861
Claims priority, application Germany, Mar. 15, 1962, S 78,497
5 Claims. (Cl. 338—32)

1. An electronic semiconductor device comprising a crystalline semiconductor member having a plurality of mutually spaced electrode points of which two constitute a pair of signal output points, said member having a substantially flat and planar geometrical shape which comprises a main portion and two extremities integral with said main portion and consisting of the same material, said extremities extending away from said main portion in symmetrical relation thereto and having respective ends projecting toward the axis of symmetry into proximity of each other up to a distance smaller than the spacing



between the respective junctions of said extremities with said main portion, said two signal output points being at said respective ends so as to be substantially located at thermally the same spot of the member plane, whereby thermal disturbance of the device is minimized.

3,260,981
COMPONENT TERMINATIONS
George H. Elliott, Van Nuys, and Hammond E. T. Gowen, Escondido, Calif., assignors to Atohm Electronics, Sun Valley, Calif., a corporation of California
Filed Oct. 14, 1963, Ser. No. 316,086
9 Claims. (Cl. 338—313)

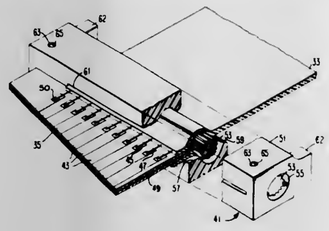


6. A component termination comprising:
a dielectric sheet having a hole passing therethrough adjacent one edge thereof;
a layer of gold deposited on the portion of said substrate surrounding said hole;
a film of conductive material applied to at least a portion of one surface of said sheet and over said gold layer;
a gold slug inserted into said hole and extending from the upper surface of said film to the other surface of said sheet; and contacting the portion of said gold layer surrounding said hole; and
a strip of gold, one end of which abuts said slug at said upper surface, and the other end of which abuts said slug at said other surface; all of the interfaces between said gold layer, said film, said slug, and said gold strip being thermally diffused.

3,260,982
FLAT CABLE STRAIN RELIEF
Kenneth V. Bostwick, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1963, Ser. No. 334,851
6 Claims. (Cl. 339—17)

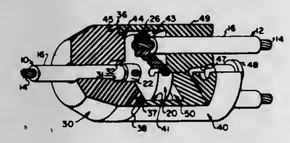
1. A strain relief device for multiconductor flat cable having at least two spaced rows of parallel conductors,
the end of said flat cable being split longitudinally between two of the rows of conductors into two separate layers,
bared conductor ends projecting therefrom being adapted to be electrically connected to adhered conductors on either side of a dielectric card inserted therebetween,
said strain relief comprising an elongated block and a serrated rod having peripherally spaced flutings,

means defining in said block a tube-like opening extending to at least one end of the block,
and means defining transverse card and cable throats in said block each intersecting said opening,
said card being adapted to extend into said card throat



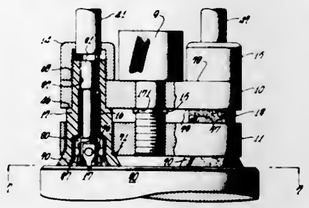
while the split end of said flat cable extends across the opening and through said cable throat,
said rod being inserted longitudinally into said opening between the split layers of said flat cable to clamp the flat cable between the rod and the block.

3,260,983
WATERPROOF ELECTRICAL JUNCTIONS
Leonard E. Daum, Morristown, and Rudolph P. Aldighieri, Long Valley, N.J., assignors to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
Filed Jan. 14, 1963, Ser. No. 251,426
7 Claims. (Cl. 339—60)



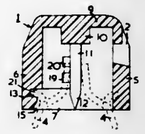
1. An electrical connector assembly for providing a detachable, waterproof, insulated electrical junction between a plurality of first cables and at least one second cable, each cable having an electrical conductor and a jacket of insulating material, said connector assembly comprising:
(A) a first member of resilient insulating material, said first member having a plurality of independent portions gripping the cable jackets of said plurality of first cables such that said first member is movable along said first cables relative to the cable jackets thereof and is in watertight relation therewith;
(B) a second member of resilient insulating material, said second member having at least one portion gripping the cable jacket of said second cable such that said second member is movable along said second cable relative to the cable jacket thereof and is in watertight relation therewith;
(C) means detachably securing and electrically connecting said conductors to one another independent of the position of said first and second members along the cables and mechanically securing the cables to one another against detachment during said relative movement of said first and second members; and
(D) said members each having further portions separably gripping one another in detachable watertight relation to form a waterproof chamber within which chamber said means are encased to protectively seal the electrical connections established among said conductors, said further portions being disengagable from one another by movement of said first and second members relative to one another and relative to said cables to thereby open said chamber and expose said connections without disconnecting said connections.

3,260,984
ELECTRICAL CONNECTOR
George C. Evans, Azusa, Calif., assignor to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed June 29, 1964, Ser. No. 378,686
10 Claims. (Cl. 339—75)



1. An electric circuit connector comprising means forming a pair of terminals having detenting means thereon,
a hollow receptacle having a radially outwardly flared section,
said receptacle being of flexible material,
said receptacle being adapted to be fitted over said terminals,
said receptacle being split along a portion of its length including said flared section,
a pair of flexible spaced terminal members in said receptacle and extending lengthwise thereof,
means in said receptacle supporting said terminal members adjacent one end of each thereof,
detent means on said terminal members adjacent the unsupported ends thereof, said receptacle being adapted to yieldably force said terminal member detent means into holding engagement with said terminal detenting means upon fitting said receptacle over said terminals,
and a locking member movable over said receptacle, said locking member being effective upon engagement with said flared section to contract said receptacle whereby to positively force said terminal member detent means into holding engagement with said terminal detenting means.

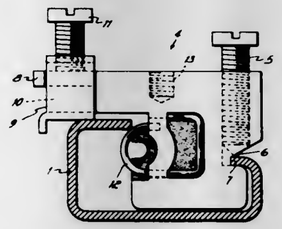
3,260,985
PIN-TYPE ELECTRICAL CONNECTOR
Charles Richard Dirom Kindersley, deceased, late of Georgetown, Ontario, Canada, by The Royal Trust Company, administrator, Toronto, Ontario, Canada, and Joseph Frederick Duffield, Georgetown, Ontario, Canada, assignors to Smith & Stone Limited, Toronto, Ontario, Canada, a company of Ontario
Filed Mar. 10, 1964, Ser. No. 350,914
Claims priority, application Canada, Dec. 23, 1963, 891,959
5 Claims. (Cl. 339—97)



1. A quick wiring electrical connector for application to a cable without the use of tools, comprising:
(i) a body member molded in a slightly resilient plastic; said body member including;

(a) a blade receiving opening at one end,
(b) walls defining a four-sided interior, at least one of said sides of said interior having blade pivot means, at least one adjacent side of said interior having lower and upper contact locating means, said interior having a top disposed opposite to said one end, and,
(c) a cable receiving aperture,
(ii) at least one contact member having depending therefrom;
(d) a blade, rotatably received in said body by said blade pivot means,
(e) a blade locating projection for alternate cooperation with said lower and upper contact locating means, and,
(f) an insulation piercing spike, said spike being adapted to penetrate said cable when said blade locating projection cooperates with said upper contact locating means said contact member being pivotal about said blade pivot means from a first position in which the blade locating projection cooperates with said lower contact locating means so that a cable is insertable in said cable receiving aperture to a second position in which the blade locating projection cooperates with said upper contact locating means so that said insulation piercing spike contacts said cable to make electrical contact therewith and said contact member is substantially restrained from random movement.

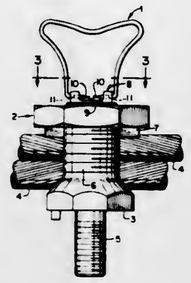
3,260,986
GROUND CONNECTOR FOR TERMINAL STRIP
Wilhelm Staffel, Konigswinter, Haus Margarethe, Germany
Filed July 15, 1963, Ser. No. 294,894
2 Claims. (Cl. 339—198)



1. A connector assembly comprising,
a channel-shaped metallic mounting bar having two opposed flanges,
an electrical connector having a recess on one side which receives one of said flanges, a spring wire on the opposite side which engages under the other flange of said mounting bar, and
a screw threaded in said connector and bearing against the flange received in said recess to clamp said flange between said screw and said connector.

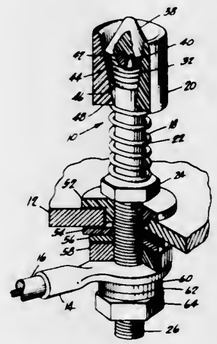
3,260,987
SPLIT BOLT CONNECTOR
Alfred B. Gunthel, Jr., Sea Cliff, N.Y., assignor to Dossert Manufacturing Corp., a corporation of New York
Filed Apr. 8, 1965, Ser. No. 446,499
2 Claims. (Cl. 339—244)

1. In a split bolt connector having two legs with threaded sections and a nut threadedly engaged on said legs, one of said legs having a bifurcated extension at one end thereof defining an open notch, at least one leg of said bifurcated extension having an aperture therethrough, a wire nut retainer having a terminal portion extending through said aperture into said open notch, the



terminal end of said portion being flattened to present an end of greater width than the width of said aperture, thereby preventing withdrawal of said retainer through said aperture.

3,260,988
BINDING POST
Robert R. Dean, Lakewood, and Michael L. Marcoux, Huntington Beach, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed June 9, 1964, Ser. No. 373,750
3 Claims. (Cl. 339—254)



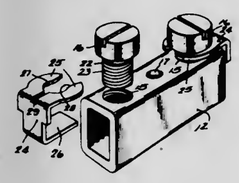
1. An improved binding post, comprising:
a stud made of conductive material and including
a normally lower end for attachment with mounting structure,
a shank having a lower securing portion, and
a head having an upwardly diverging conical surface which is circumferentially grooved to provide a serrated conical surface;
a collar positioned on said stud around said head thereof, and including
an upwardly diverging hole having a surface adapted to engage cooperatively with at least a portion of the serrated conical surface of said head when said collar is positioned on said stud in its uppermost position;
a conical tip formed of a non-conductive material having an upwardly converging conical surface and being located on top of said head, said conical tip provides a guiding surface to the space

between the serrated conical surface of said head and the cooperative surface of said hole in said collar;

spring means positioned on said stud for urging said collar to its uppermost position on said stud; and

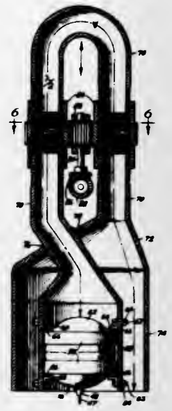
means engaging a lower portion of said stud for retaining said spring means in a partially compressed condition to spring load said collar normally to its uppermost position on said stud whereby said collar can be depressed against the spring force of said spring means to produce a space between the serrated conical surface of said head of said stud and the cooperative surface of said hole in said collar for insertion of a wire end therein, the wire end being firmly gripped between the serrated conical surface of said head and the cooperative surface of said hole when said collar is released.

3,260,989
CAPTIVATED SCREW
Herbert C. Curtis, Milwaukee, Wis., assignor to Curtis Development & Mfg. Co., Milwaukee, Wis.
Filed Aug. 27, 1964, Ser. No. 392,445
1 Claim. (Cl. 339—272)



In a device for clamping an electrical conductor, the combination with a tubular electrical terminal having top, bottom, and side walls and an open end provided with an exposed surface, said terminal being provided in one wall with a threaded opening, of a conductor-clamping screw in said opening having a head and a neck portion of reduced cross section and threads engaged with said one wall, said screw having a clamping end within the tube, and means for holding the screw in captive connection with the terminal and for transmitting pressure of said end to hold a conductor within the terminal and comprising a strap of U-shaped form having spaced relatively wide and narrow legs and a substantially flat shouldered intermediate portion to which said legs are normal, the legs being spaced by a distance equal to the spacing between said neck and said clamping end of the screw, said wide leg being bifurcated at its extremity and being generally equal in thickness to the length of the screw neck portion and provided with an opening and with a slot opening thereto with generally parallel edges spaced at a distance slightly less than the diameter of the neck portion of the screw and outwardly divergent at the end of the wide leg of said strap and defining laterally yieldable prongs engaged with the screw neck portion between said one wall and the screw head, and the narrow leg being slightly less wide than the interior of the tube and extending into the open end of the tube in a position in which it underlies and is engaged by the clamping end of the screw, the strap being applicable longitudinally of the tube by concurrently inserting the narrow end into the tube in contact with the clamping end of the screw and engaging the prongs of the wider end with the neck of the screw, the screw and strap thereafter moving axially as a unit to and from a position to transmit clamping pressure from the screw through said narrow leg to a conductor disposed within the tube in abutment with the tube wall opposite said opening, said strap intermediate portion being wider than said last mentioned leg and laterally spanning the terminal end and being in sufficient proximity to the said exposed surface at the sides of said terminal end to engage said surface in the event of substantial lateral displacement and thereby to be maintained substantially parallel to said exposed surface.

3,260,990
ELECTROACOUSTIC TRANSDUCER
Frank Massa, Cohasset, Mass., assignor, by mesne assignments, to Dynamics Corporation of America, New York, N.Y., a corporation of New York
Filed Jan. 3, 1962, Ser. No. 164,010
14 Claims. (Cl. 340—12)



4. The improvement of an electromagnetic transducer assembly for providing radiation of opposite phase from a pair of opposite end faces comprising a baffle structure defining a tubular member having two end openings, a sealed transducer structure positioned at one of said end openings and mounted for free vibration therewithin, a tapered region adjacent each end opening of said tubular member whereby the diameter of said baffle structure is reduced over a portion of its length intermediate said end openings, means folding over the reduced diameter portion of said baffle structure whereby the two end openings thereof are brought into approximate alignment, and selectively adjustable means for varying the spacing between the tapered regions adjacent each end opening of said tubular member to enable the selective tuning of the baffle structure to the operating frequency of the transducer structure.

3,260,991
APPARATUS FOR DETECTING MOTION AND OBJECTS
Peter Laakmann, Fort Lee, N.J., assignor to American District Telegraph Company, Jersey City, N.J., a corporation of New Jersey
Filed Mar. 20, 1963, Ser. No. 266,573
7 Claims. (Cl. 340—15)

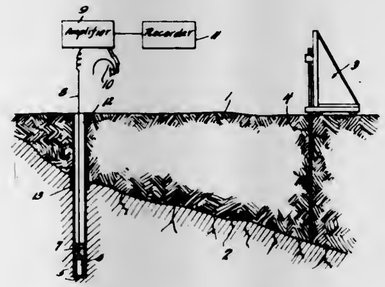
1. Apparatus for detecting objects in a selected zone for producing an audible tone distinctly representative of the range of said object, comprising a spectacle frame having a pair of lens spaces, a source of alternating current, means periodically to frequency modulate said alternating current to produce a first signal which periodically sweeps downwardly in frequency over a selected range at a relatively slow rate and then returns at a relatively rapid rate, a transmitting transducer and a receiving transducer each exposed to said zone and each having a like

resonant frequency corresponding to an intermediate frequency value in said selected range and each having an effective bandwidth substantially less than any frequency in said range and substantially less than the extent of said range, the frequency passband of said transmitting transducer being remote from the terminal frequencies of said range and the response time of said transmitting transducer being slow relative to said return time of said sweep, said transducers each being mounted in a respective one of said lens spaces, means to apply said first signal



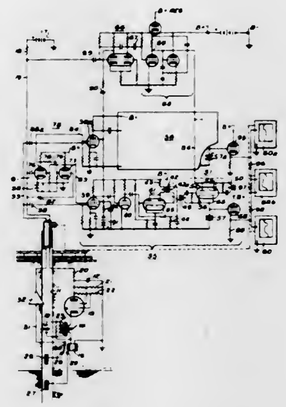
to said transmitting transducer to convert the same to acoustic energy, a portion of said acoustic energy transmitted into said zone and being reflected from an object in said zone being converted into a second signal by said receiving transducer, means to mix said first and second signals to produce a mixed signal having a difference frequency component in the audio range, a sound reproducing device, and amplifying means intercoupling said mixer and said sound reproducing means to apply the difference frequency components of said mixed signal to said sound reproducing means.

3,260,992
DETERMINING THE POSITION AND QUALITY OF BEDROCK
Erik Percy Ebbersten, Drevkarlsstigen 1, Sollentuna, Sweden
Filed Dec. 28, 1962, Ser. No. 247,985
Claims priority, application Sweden, Jan. 12, 1962, 337/62
6 Claims. (Cl. 340—18)



1. A method of determining the position of the surface of solid base bedrock underneath layers of earth and stones, comprising the steps of drilling a reference hole into solid base bedrock beneath said layers, placing a receiver for sound waves into sound-contact with the solid base bedrock in the bottom portion of said reference hole, drilling at least one test hole into a solid base bedrock surface beneath said earth and stone layers, thereby transmitting sound waves created by the drill working in the solid base bedrock inside said test hole from said test hole to said solid base bedrock in the bottom portion of said reference hole, and thence to said receiver and from said receiver to above-ground amplifier and reproduction means, indicating in said reproduction means said sound waves created by the drill working in the solid base bedrock, and measuring the depth to which said test hole has been drilled when said sound waves are indicated in said reproduction means.

3,260,993
ALTERNATE PULSE SWITCHING WELL LOGGING SYSTEM
Gerald C. Summers, Dallas, Tex., assignor, by mesne assignments, to Mobil Oil Corporation, a corporation of New York
Original application May 15, 1952, Ser. No. 287,853, now Patent No. 3,191,145, dated June 22, 1965. Divided and this application May 15, 1964, Ser. No. 367,661
3 Claims. (Cl. 340—18)



1. A velocity logging system comprising:

downhole means having a plurality of transducers including a transmitter for generating acoustic pulses and at least first and second receivers spaced from the transmitter and spaced one from the other for detecting said pulses after their travel through the formations along a borehole and for producing first and second receiver signals,

circuit means connecting said transducers to surface equipment, said surface equipment including function generating means coupled to said circuit means for producing time functions, a first of said time functions being representative of the travel time of a first acoustic pulse along said formations between said transmitter and said first receiver, a second of said time functions being representative of the travel time of a second acoustic pulse along said formations between said transmitter and said second receiver,

sync means for generating sync pulses representative of the time occurrence of the generation of acoustic pulses by said transmitter,

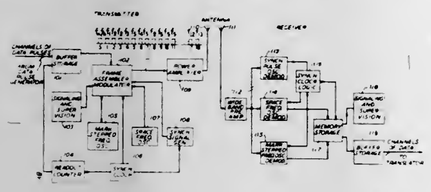
said function generating means including uphole gating means responsive to said sync pulses for enabling said function generating means to generate only said first of said time functions in response to a sync pulse representing the time occurrence of the generation of said first acoustic pulse and to generate only said second of said time functions in response to a sync pulse representing the time of the generation of said second acoustic pulse, and

difference means for producing the difference between said first and second time functions to produce a signal representative of the travel time of acoustic pulses along said formations between said first and second receivers.

3,260,994
MULTIFREQUENCY PULSE TRANSMISSION SYSTEM

William W. Sturdy, Florham Park, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 28, 1962, Ser. No. 248,149
10 Claims. (Cl. 340—146.1)

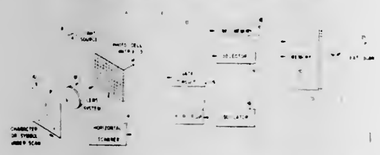


1. In a pulse communication system wherein the transmission of each character is represented by a pulse frame which includes a plurality of MARK pulses interleaved with a plurality of SPACE pulses, means for transmitting the MARK pulses of each of said frames in the form of a succession of oscillatory bursts each having a different frequency composition in accordance with a first preselected frequency sequence, means for transmitting the SPACE pulses of each of said frame in the form of a succession of oscillatory bursts each having a frequency composition in accordance with a second preselected frequency sequence, means for receiving said frames including means for storing all of said bursts in each successive one of said first frames upon receipt, means for testing the validity of each pulse in a stored one of said frames on the basis of said preselected frequency, and means responsive to said testing means for erasing a stored frame from said storing means operative upon the determination of the presence of a spurious pulse in said last named frame.

3,260,995
CHARACTER READING SYSTEM EMPLOYING SEQUENTIAL SENSING OF MATRIX INPUT

Roy A. Hempel, Phoenix, Ariz., assignor, by mesne assignments, to Textron Electronics, Inc., Providence, R.I., a corporation of Delaware

Filed Jan. 16, 1963, Ser. No. 251,966
14 Claims. (Cl. 340—146.3)

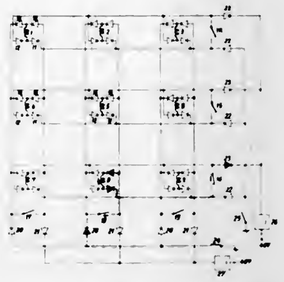


5. A system for deriving signals significant of a character projected as an image onto a plurality of photosensitive devices arranged in columns and rows to form a matrix of devices, said devices being in a first state when intercepting said image and in a second state when not intercepting said image, said system comprising a gate associated with each of said devices, means for conditioning said gate when its associated device is in said first state and for deconditioning said gate when its associated device is in said second state, means sequentially sampling the condition of each of said gates in a column-by-column fashion to thereby determine the state of said devices, means to store an indication of the first of said devices in each of said rows which exhibits said first state, means to compare the relative positions of said first devices in adjacent rows thereof and means to derive said significant signals as a result of said comparison.

3,260,996
MATRIX SELECTION CIRCUIT

Otto Müller, Sulzbach (Murr), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed Aug. 30, 1961, Ser. No. 134,899
Claims priority, application Germany, Sept. 3, 1960, T 18,955
11 Claims. (Cl. 340—166)



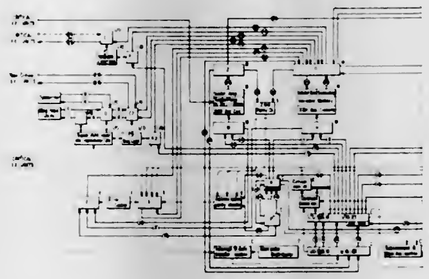
1. A selection circuit for selecting a load circuit from a large number of load circuits and especially selecting wires of a magnetic core storage device and for controlling the load circuit by means of current pulses of selective polarity using a matrix with each load circuit connected to a respective intersection thereof, said selection circuit comprising, in combination: a plurality of pairs of column wires, with each crossing of a respective one of said pairs of column wires by a respective one of said pairs of line wires defining one of the matrix intersections; a plurality of selector switches each of which is connected to the wires of a respective one of said pairs of wires; selector switches connected between the wires of each pair for short circuiting the wire pairs; current impressing means connected to all of the first wires of the line wire pairs and to all of the second wires of the column wire pairs; a first interrupter switch connected with the other wires of said line wire pairs and to fixed potential means; a second interrupter switch connected with the other wires of said column wire pairs and to fixed potential means; diode means connected in each of said wires between said selector switches and that one of said fixed potential means and current impressing means to which each said wire is connected, with those ones of said diodes which are connected to said current impressing means being conductive in a first direction and those ones of said diodes which are connected to said fixed potential means being conductive in the opposite direction for providing a polarity in that load circuit selected by closing one line selector switch and one column selector switch; and unidirectional conducting means connected at each of said intersections of a column wire pair and a line wire pair for connecting a respective one of such load circuits to said column wire pairs and to said line wire pairs, the connections being such that a current flows in one direction in the selected load circuit when the column interrupter switch is closed and current is impressed on the line wires and in the other direction in the load circuit when the line interrupter switch is closed and current is impressed on the column wires.

3,260,997
STORED PROGRAM SYSTEM

Rolland B. Arndt, Minneapolis, and William Weigler, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 13, 1961, Ser. No. 137,795
92 Claims. (Cl. 340—172.5)

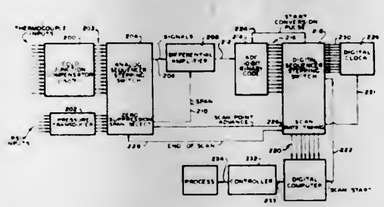
1. In a stored program data processing system operating in successive machine cycles and utilizing words of data and words of instruction, the latter having a format including a word memory address portion and an operation code portion which may require a memory reference during execution, the combination comprising: a plurality of independent memories each having access circuits individual thereto and each storing both intsruction and data words at address locations therein, first means for generating the memory address of an instruction word, second means for holding an instruction word for command translation, third means using said generated address from said first means during a machine cycle to normally reference one of said memories in order to acquire an instruction word therefrom and transfer it to said second means, fourth means responsive to a memory reference code of an instruction word held in said second means for using its associated word memory address portion during the machine cycle immediately following that in which said last named instruction was acquired to reference one of said memories, fifth means inhibiting said third means from referencing a memory during a machine cycle when said fourth means references the same memory during the same machine cycle, and sixth means responsive to the operation of said third means for causing said first means to generate the memory address of the next instruction word in the program.



3,260,998
DIGITAL COMPUTER MEASUREMENT AND CONTROL OF ANALOG PROCESSES

Dale A. Fluegel, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 25, 1961, Ser. No. 147,658
5 Claims. (Cl. 340—172.5)

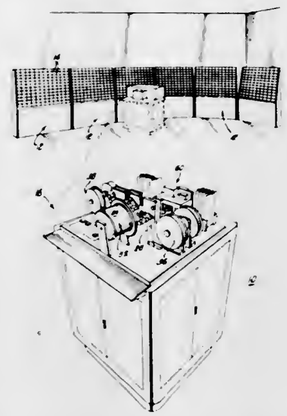


1. Apparatus comprising, in combination, means ot measuring a plurality of separately measurable quantities, means of zero suppressing in sequence signals representative of each of said measurable quantities, means for transmitting in sequence signals representative of each of said measurable quantities from said means of measuring to said means of zero suppressing, means of amplifying in sequence the resulting zero suppressed electrical signals, means of converting into digital form the resulting amplified electrical signals, means of transmitting in sequence to a digital computer the resulting converted electrical signals, and means of transmitting to said computer the time of day of measuring of each of said quantities.

3,260,999
ELECTRONIC SELECTOR SYSTEM

Allen L. Grammer, 62 Undercliff Road, Montclair, N.J.

Filed Nov. 1, 1961, Ser. No. 149,253
2 Claims. (Cl. 340—172.5)

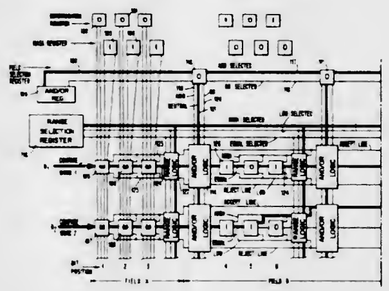


1. An information system of the character described comprising an erasable memory medium such as a magnetic tape, means to store on the medium in coded form items of information, means to compare a coded piece of information with each item in the memory, a plurality of indicating means located at a like plurality of physical locations corresponding respectively to each item in the memory, and control means actuated by the comparing means to actuate the indicating means at each location corresponding to an item in the memory whenever a match between the piece of information and said item occurs, whereby for each memory item there is a unique and easily recognized location at which physical documents and the like can be placed.

3,261,000
ASSOCIATIVE MEMORY LOGICAL CONNECTIVES

Floyd A. Behnke, Ruby, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

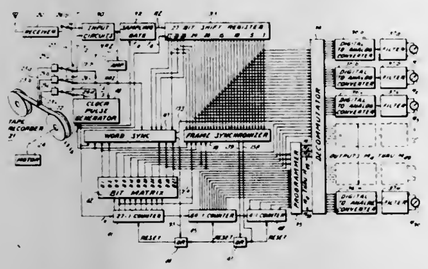
Filed Dec. 22, 1961, Ser. No. 161,491
7 Claims. (Cl. 340—172.5)



1. In an information retrieval system employing a plurality of word registers storing words in binary form, means for subdividing each word into a plurality of corresponding word sections of predetermined bit lengths, an interrogation register for storing a plurality of such word sections, means for performing a simultaneous multi-field comparison between all corresponding fields composed

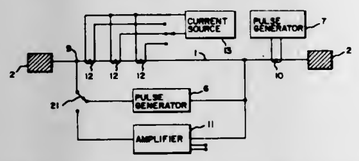
of a variable number of word sections in said word registers with corresponding fields in said interrogation register, and a logical connective between adjacent word sections in every word register, said logical connective being operative to carry out the AND or OR function between successive fields of interest during said simultaneous multi-field comparisons.

3,261,001
TELEMETERING DECODER SYSTEM
Jean Pierre Magnin, Sarasota, Fla., assignor to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut
Filed Jan. 9, 1962, Ser. No. 165,100
47 Claims. (Cl. 340—172.5)



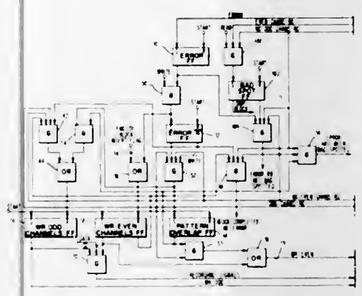
9. In a decoder system for decoding a train of pulses having a synchronizing pulse pattern which occurs at periodic intervals, the combination comprising: timing circuit means for controlling the operation of the decoding system; circuit means for supplying the incoming train of pulses to be decoded; circuit means for periodically sampling the incoming pulse train for detecting the presence of synchronizing pulse patterns and for synchronizing the timing circuit means therewith; and circuit means for shifting the time of occurrence of the sampling intervals when the synchronizing pulse errors during the sampling intervals exceed a predetermined value.

3,261,002
INFORMATION STORAGE SYSTEMS
Arthur Garnet Wolseley Edmunds, Middlesex, England, assignor to Elliot Brothers (London) Limited, London, England, a British company
Original application Mar. 18, 1957, Ser. No. 646,779, now Patent No. 3,016,524, dated Jan. 9, 1962. Divided and this application Jan. 8, 1962, Ser. No. 164,828
Claims priority, application Great Britain, Mar. 20, 1956, 8,754/56
6 Claims. (340—174)



1. Apparatus for recording, storing and reproducing information comprising an elongated member of magneto-strictive material supported at non-reflecting terminations, recording means including means for producing localised variations in the magnetic condition of said member at spatially arranged points thereon, reproducing means including means for passing a mechanical wave through said member, and an electric amplifier, and a single electrically conductive connection connected directly to said member at each of two points on said member with said localized variations between said points and with the other ends of said single connection coupled to said amplifier, said amplifier detecting and amplifying electric currents produced therein.

3,261,003
TAPE ERROR INDICATION APPARATUS
George Cogar, Norwalk, Conn., and F. R. Jones, Hatboro, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 20, 1962, Ser. No. 203,788
18 Claims. (Cl. 340—174.1)

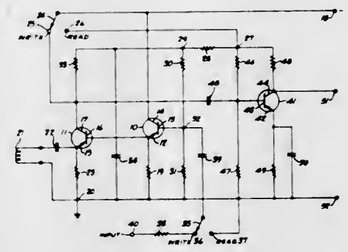


11. In combination,
- a first plurality of recording transducers and a second plurality of recording transducers;
- a first plurality of reading transducers and a second plurality of reading transducers;
- a first plurality of gating means and a second plurality of gating means, the outputs from said gating means being coupled, respectively, to said recording transducers, each of said gating means including a pair of "and" gates, one of said gates being associated with a logical "one," the other of said gates being associated with a logical "zero";
- a "write odd" lead and a "write even" lead coupled to said first plurality of gating means and said second plurality of gating means, respectively;
- a "recording signals" lead;
- means adapted to receive timing pulses;
- a storage register adapted to store a first plurality and a second plurality of signals, said register being coupled to said "recording signals" lead and said timing pulses receiving means and for supplying a first plurality and a second plurality of output signals therefrom;
- means coupling said register to said first plurality and said second plurality of gating means,
  - said first plurality of gating means adapted to transfer said first plurality of signals stored in said register to said first plurality of recording transducers upon the presence of an energizing level on said "write odd" lead and adapted to transfer no signals to said transducers when said "write odd" lead is absent an energizing level, and said second plurality of gating means adapted to transfer said second plurality of signals stored in said register to said second plurality of recording transducers upon the presence of an energizing level on said "write even" lead and adapted to transfer no signals to said transducers when said "write even" lead is absent an energizing level;
- means coupled to said first and said second plurality of reading transducers for providing output signals therefrom;

- means coupled to said first plurality and said second plurality of reading transducers for detecting errors in a recording medium previously recorded by said first and said second plurality of recording transducers;
- an "error" flip-flop coupled to said error detecting means and adapted to be set upon the detection of an error, when said error occurs during a write operation, said flip-flop being reset when new data signals are commenced;
- means responsive to said first plurality of reading transducers for providing an "odd channels read" signal when signals are read by said first plurality of reading transducers and for providing a "no odd channels read" signal when no signals are read by said first plurality of reading transducers;
- means responsive to said second plurality of reading transducers for providing an "even channels read" signal when signals are read by said second plurality of reading transducers and for providing a "no even channels read" signal when no signals are read by said second plurality of reading transducers;
- a "write even" flip-flop and a "write odd" flip-flop each adapted to be initially set by a start signal, said "write even" and "write odd" flip-flops, when set, providing energizing levels on said "write even" and "write odd" leads, respectively;
- means coupling said error detecting means to said "write even" flip-flop for resetting said "write even" flip-flop when said error detecting means detects an error, said "write even" flip-flop adapted to be reset at the termination of a block of data by an "end-of-block" signal applied thereto;
- a data gating circuit adapted to pass data signals (ones and zeros) therethrough to said "recording signals" lead, upon the coincidence of energizing signals from the set outputs of said "write odd" and "write even" flip-flops, and adapted to pass a non-data recording signal (zeros only) to said "recording signals" lead when either said "write even" or said "write odd" flip-flop is reset;
- a "pattern overlap" flip-flop;
- means responsive to the coincidence of energizing levels on the set output of said "error" flip-flop, said "odd channels read" signal, and said "no-even channels read" signal, for setting said "pattern overlap" flip-flop;
- means responsive to the coincidence of the set state of said "pattern overlap" flip-flop and said "odd channels read" signal for providing an energizing level on said "write even" lead;
- means responsive to the coincidence of the set state of said "pattern overlap" flip-flop, said "odd channels read" signal, and said "even channels read" signal for resetting said "write odd" flip-flop; and
- means responsive to the coincidence of said "no odd channels read" signal and said "no even channels read" signal for providing an indicating output therefrom.

3,261,004
READ-WRITE AMPLIFIER CIRCUIT
Donald J. Cochran, Pacifica, and Donald M. Patterson, Sunnyvale, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Sept. 4, 1962, Ser. No. 221,214
6 Claims. (Cl. 340—174.1)

1. A read-write amplifier circuit comprising first and second amplifying devices each having input, output, and common electrodes, a transducer coupled to said output electrode of said second amplifying device, means coupling said output electrode of said first amplifying device to said input electrode of said second amplifying device, a load impedance, a signal input circuit for feeding an input signal to said input electrode of said first amplifying device during recording, a power supply, means connecting said supply to said common electrode of said first amplifying device, and first and second switching means each having record and playback positions, said first switching means in said record position thereof defining circuit enabling means for connecting said power supply to said common electrode of said second amplifying device, said second switching means in said record position thereof defining circuit enabling means for coupling said signal input circuit to said input electrode of said first amplifying device, said first switching means in said playback position thereof defining circuit enabling means for coupling said power supply through said load impedance to said common electrode of said second am-



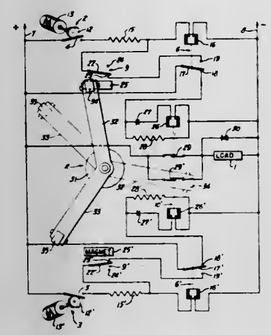
plifying device and for coupling a portion of the output potential of said power supply to said input electrode of said first amplifying device, said second switching means in said playback position thereof defining circuit disabling means for decoupling said input circuit from said input electrode of said first amplifying device, whereby in response to said first and second switching means being in said record positions thereof said input signal is amplified by said first and second amplifying devices and applied to said transducer and in response to said first and second switching means being in said playback positions thereof said second amplifying device is biased such that said input, output, and common electrodes thereof respectively function as common, input, and output electrodes to amplify a signal from said transducer and apply same to said load impedance.

3,261,005
MULTIPLE PULSE TRAIN TRANSMISSION
Keith N. Shade, Wesleyville, Pa., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Mar. 25, 1964, Ser. No. 354,731
13 Claims. (Cl. 340—179)

1. A signal transmitting circuit for transmitting a plurality of trains of pulse signals, each train having a selected maximum repetition rate and being generated at different ones of a plurality of sources, comprising
- intermittently operated circuit altering means, one for each source and having input means for coupling to the corresponding source,
- a conditioning relay means, one for each circuit altering means and having coil means connected in an energizing circuit with the corresponding switch means and contact means controlled by the coil means,
- separate scanner switch means, one for each source and interconnected in a circuit with the corresponding conditioning relay coil means and contact means to conjointly control the energization of the coil means, said switch means being biased to selected circuit positions,

scanning means sequentially and momentarily actuating said switch means from said selected circuit position to a second circuit position,

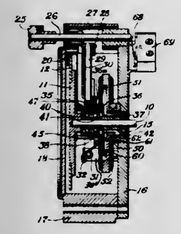
pulse forming circuits, one for each load switch means and each including contact means controlled by the



corresponding conditioning relay whereby cyclic energization and de-energization of the conditioning relay is required for cyclic operation of each pulse forming circuit, and

a load means connected in circuit with each pulse forming circuit for similar actuation by each thereof.

3,261,006
HEADING SELECTOR
James R. Younkin, Mineral Wells, Tex., assignor to Mitchell Industries, Inc., Mineral Wells, Tex., a corporation of Texas
Filed Oct. 21, 1963, Ser. No. 317,513
10 Claims. (Cl. 340—199)



1. In a heading selector for an autopilot having an output shaft which controls a heading indicator card, an adjustment means comprising:

(a) a clutch element mounted for free rotation on said shaft and spring-biased into frictional engagement with said card,

(b) a heading indicator supported by said clutch element and movable with reference to said card,

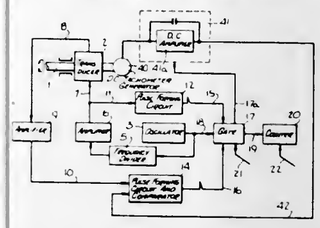
(c) a fixed primary transformer winding mounted symmetrically with respect to said shaft,

(d) a pair of fixed secondary windings mounted on opposite sides of said shaft with their axes perpendicular to said shaft,

(e) a magnetic armature mounted on said clutch element having a first portion coupled to said primary winding and a second portion coupled to said secondary windings, and

(f) rotatable means for engaging said clutch element to break said frictional engagement with said card while applying rotational force to said clutch element to vary the relative coupling between said armature and said secondary windings.

3,261,007
MEASURING DEVICE FOR DETERMINING ANGULAR POSITION
Eberhard Frisch, Berlin-Waidmannslust, Germany, assignor to Continental Elektroindustrie Aktiengesellschaft Askania-Werke, Berlin-Mariendorf, Germany
Filed Apr. 24, 1963, Ser. No. 275,384
11 Claims. (Cl. 340—206)



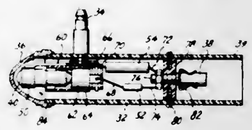
1. A shaft angle measuring device comprising:

electromechanical transducer means for converting the angular position of said shaft into a time interval which is limited by two electronic pulses, the duration of said time interval being a function of the angular position of said shaft, and

correction means coupled to said shaft to provide a correction signal which is a function of the angular speed of said shaft to change the temporal incidence of one of said two electronic pulses and thereby change the duration of said time interval,

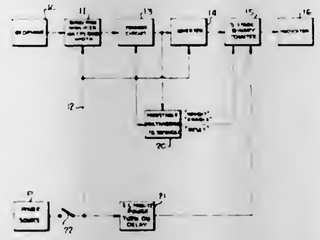
whereby the duration of said time interval may be modified as a function of the speed of said shaft.

3,261,008
SPARK MONITOR FOR FUEL BURNER
Robert E. Schreter, Malverne, Alexander J. Turpin, Stewart Manor, and Melvin J. Parker, Garden City, N.Y., assignors to Hauck Manufacturing Company, Brooklyn, N.Y., a corporation of New York
Filed Mar. 11, 1963, Ser. No. 264,115
11 Claims. (Cl. 340—248)



1. A spark monitor for a large fuel burner for use in industrial furnaces or the like, said burner being ignited by a spark gap igniter energized by a high voltage supply, said igniter having a high voltage terminal, said high voltage supply terminating in a spring terminal cap dimensioned to fit on the high voltage terminal of the igniter, said monitor comprising a neon glow lamp having an internal electrode with a lead connected thereto, a conductive shield adjacent the lamp and acting as an external electrode, a lamp resistor in series with said lead of said internal lamp electrode, a main resistor in shunt with a series circuit which series circuit comprises the shield, the lamp, and the lamp resistor, a housing for the aforesaid parts, said housing exposing the lamp at one end, the other end having a spring cap dimensioned to snap on the high voltage terminal of the igniter, the body of said housing having a high voltage terminal shaped like that of the igniter to receive the spring terminal cap of the high voltage supply line, a connection from said terminal to one end of the shunt circuit, and a connection from said spring cap to the other end of the shunt circuit, whereby high voltage supply to the igniter.

3,261,009
SEISMIC PERSONNEL SENSOR
Kenneth J. Stetten, McLean, and James Wallen, Jr., Falls Church, Va., assignors to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Mar. 10, 1964, Ser. No. 350,811
1 Claim. (Cl. 340—261)



Sensing apparatus for detecting disturbances occurring in a protected area at rates within a range of rates having fixed maximum and minimum limits, said apparatus comprising:

a geophone for generating voltages proportional to the magnitude of disturbances in the form of impulses of pressure exerted against a surface within said protected area;

a high gain bandpass amplifier responsive to voltages generated by said geophone for amplification of only those voltages deriving from pressure pulses detected by said geophone separated by time intervals defining a frequency within the pass band of said amplifier;

a trigger circuit responsive to only those amplified voltages from said amplifier having an amplitude greater than a preselected reference amplitude for generating an initial pulse in response to the first of the last-mentioned amplified voltages,

said trigger circuit having a time constant selected to permit the generation of subsequent pulses therefrom only in response to subsequent ones of said last-mentioned amplified voltages separated from the immediately preceding amplified voltage by at least a predetermined time interval;

a normally disabled electronic binary counter coupled to said trigger circuit;

a monostable multivibrator responsive to said initial pulse for enabling said counter to count each of said subsequent pulses only during a preset time interval greater than said predetermined time interval and for resetting said counter at the conclusion of said preset time interval; and

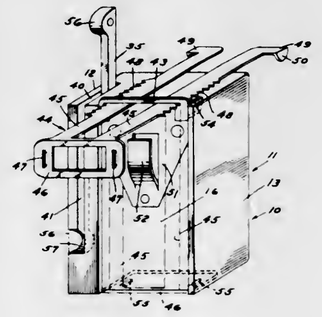
normally deactivated indicating means coupled to said counter for activation thereby only in response to said counter attaining a predetermined count wholly within a single said preset time interval,

whereby said maximum limit is fixed by said predetermined time interval and said minimum limit is fixed by said preset time interval.

3,261,010
PORTABLE DOOR ALARM
John V. Kardel, 906 St. Johns, Wyandotte, Mich.
Filed Nov. 26, 1963, Ser. No. 326,160
16 Claims. (Cl. 340—283)

1. A portable alarm for application to one of a pair of relatively movable members to signal such relative movement, comprising a casing having means to mount the same on one of said members, an electrically powered signal unit in said casing, means in said casing to provide an electrical circuit to control the energization of said signal unit, including a movable switch control element projecting externally of the casing for engagement with the other of said members in a manner to be moved upon said relative movement of the members, and a switch having contacts opened and closed respectively by said control element in first and second positions of the latter prior to and after said relative movement, said switch control element being movable to a further position in relatively retracted relation to said casing, and in a location in which the control element is not engageable by said other relatively movable member in which further position said element opens said contacts.

9. A portable alarm for application to one of a pair of relatively movable members to signal such relative movement, comprising a casing having means to removably mount the same on one of said members, an electri-



cal battery-powered signal unit in said casing, means in said casing to provide an electrical circuit to control the energization of said signal unit, including a movable switch control element projecting externally of the casing for engagement with the other of said members so as to be moved upon said relative movement of the members, and a switch respectively opened and closed by said control element in first and second positions of the latter prior to and after said relative movement, said switch control element being movable to a further position in relatively retracted relation to said casing and substantially within the external outline of the latter, said mounting means of said casing comprising a clamp adjustably mounted on the latter for movement to a position to engage and clamp to one of said relatively movable members and to a relatively retracted position in which said clamp is substantially within the external outline of the casing.

3,261,011
SIGNAL SYSTEM
Marion J. Crosthwait, 4325 SE. 12th St., Oklahoma City, Okla.
Filed Dec. 30, 1963, Ser. No. 334,519
6 Claims. (Cl. 340—311)

1. A signal system comprising:

a source of electrical potential;

a group of remotely located switch means operably connected with said electrical potential;

each switch means including a first and a second switch having two pair of contacts, each pair of contacts having a first and second contact;

a first light panel having a plurality of electric lights therein, providing a separate light for each switch means;

means connecting each light in said first light panel with the first contact of both pair of contacts of said first and second switches in the corresponding switch means, whereby a particular light in said

first light panel is energized by closing either switch of the corresponding switch means;

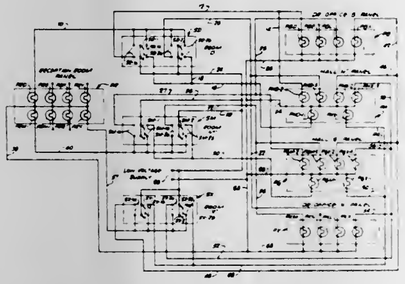
a second light panel having a plurality of lights therein, providing a separate light for each switch means;

means connecting each light in said second light panel with the second contact of the first pair of contacts of said first switch in the corresponding switch means, whereby a particular light in said second light panel is energized by closing said contact of the first switch of the corresponding switch means;

a third light panel having a plurality of electric lights therein, providing a separate light for each switch means;

means connecting each light in said third light panel with a second contact of said first pair of contacts of said second switch in the corresponding switch means, whereby a particular light in said third light panel is energized by closing said contact of the second switch of the corresponding switch means;

a fourth light panel having a plurality of sets of first, second and third electric lights therein, providing



first, second and third electric lights for each switch means;

means connecting each of said first electric lights with a second contact of said second pair of contacts of said first and second switches in the corresponding switch means, whereby one of said first electric lights in said fourth light panel is energized by closing said contact of either switch of the corresponding switch means;

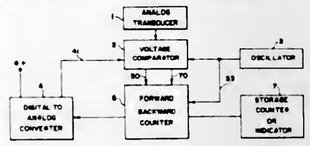
means connecting each of said second electric lights in parallel with a corresponding electric light in said second light panel, whereby one of said second electric lights is energized simultaneously with the corresponding electric light in said second light panel;

means connecting each of said third electric lights in parallel with a corresponding electric light in said third light panel, whereby one of said third electric lights is energized simultaneously with the corresponding electric light in said third light panel; and,

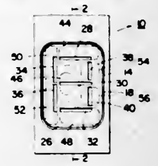
means connecting each of said electric lights with said electrical potential.

3,261,012
ANALOG TO DIGITAL CONVERSION SYSTEM
John M. Bentley, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 22, 1963, Ser. No. 267,165
6 Claims. (Cl. 340—347)

1. An analog-to-digtal converter comprising, a comparator circuit having a pair of output means; means for applying input analog signals to said comparator circuit; a multivibrator of the type in which the output alternates between zero and the 1 state in response to two separate inputs; a signal responsive counter having a plurality of bistable counting stages of the type in which the states are changed in response to all pulses of the same selected polarity, a digital-to-analog electrical summation network adapted to be energized in response to the output from one side of each of said stages of said counter to provide a binary digital analog representation of the digits stored in said counter; means for supplying the binary digital reference voltage output from said summation network to said comparator circuit; means for supplying the outputs from said comparator circuit to said multivibrator; means for supplying timing pulses to said comparator circuit and to the first of said plurality of counting stages; said comparator circuit being responsive to the instantaneous difference in amplitude and polarity between said input analog and the binary digital reference output voltages of said summation network for supplying control pulses alternately to opposite sides of said multivibrator.



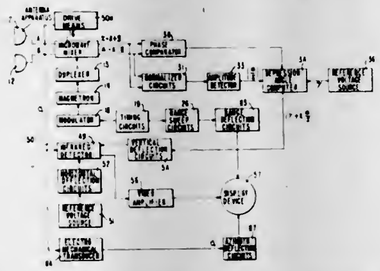
3,261,013
MINIATURE CHARACTER DISPLAY DEVICE
Arthur F. Naylor, Cleveland, Ohio, assignor to Bowmar Instrument Corporation, Fort Wayne, Ind., a corporation of Indiana
Filed Feb. 24, 1964, Ser. No. 346,885
1 Claim. (Cl. 340—378)



A miniature character display device comprising: a housing open at least at one end thereof; a relatively thin opaque plate in said housing extending transversely across said opening adjacent said one end, said plate having a plurality of elongated slots formed therein arranged in a figure "8" pattern; a relatively thin translucent plate closing said one end of said housing and spaced outwardly from said opaque plate; an intermediate member in said housing extending transversely thereacross and having one end abutting the side of said opaque plate inwardly from said translucent plate, said intermediate member being relatively thick relative to said plates, said intermediate member having a plurality of spaced-apart elongated inwardly extending cavities formed therethrough respectively communicating with said slots, each of said cavities having a cross-sectional area from one end of said intermediate member to the other which is greater than that of the respective slot and a lamp mounting member in said housing extending transversely thereacross and having one end abutting the other end of said intermediate member, said mounting member having a plurality of spaced-apart lamp openings extending outwardly therethrough; a plurality of miniature lamps respectively positioned in said lamp openings, each of said lamp openings having a portion extending outwardly from the respective lamp toward said one end of said mounting member, said lamp opening portions respectively communicating with said elongated cavities, each of said lamp opening portions having a cross-sectional area at said one end of said mounting member smaller than that of the

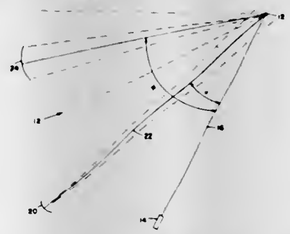
respective elongated cavities and flaring outwardly from the respective lamp to said one end, the interior walls of said elongated cavities and lamp openings having reflective properties for uniformly transmitting light from said lamps to the respective slots whereby predetermined ones of said slots are illuminated to form and display different characters in response to selective illumination of said lamps.

3,261,014
COMBINED RADAR AND INFRARED DISPLAY SYSTEM
Joe Diaz, Johnson City, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 27, 1961, Ser. No. 98,566
11 Claims. (Cl. 343—6)



8. An object detecting and locating system comprising an active radiation sensitive system and a passive radiation sensitive system, said active system having transmitting and receiving apparatus for sending out signals and receiving reflected return signals of radiation, computing means for processing the return signals and providing signals containing information concerning the positional relationship between said transmitting and receiving apparatus and the reflecting objects in an area being examined, said passive system having a radiation receiving means sensitive to radiations from the same area being examined, a display device, and means responsive to the radiation from said radiation receiving means and said computing means to display on said display device the radiations received by said radiation receiving means as a function of the positional relationship information from said computing means.

3,261,015
MINI-BALL RADAR TARGET SYSTEM
Dorwin L. Kilbourn, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 26, 1964, Ser. No. 347,630
5 Claims. (Cl. 343—17.7)



1. A radar test system for field testing a radar system including a radar transmitter and radar receiver, said test system comprising:

(a) a spherical missile provided with a predetermined radar cross-section;

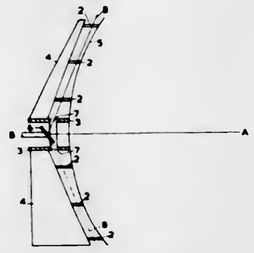
(b) a launcher disposed for launching said missile in a predetermined trajectory in free space at selected velocity; and

(c) stations disposed in predetermined angular relationship for respective support of said launcher, said transmitter and said receiver;

(d) said transmitter disposed for transmisison of a signal for impingement thereof on said missile and reflection therefrom;

(e) said receiver disposed to receive said signal from said missile for analysis thereof to determine the characteristics of said transmitted and received signals for comparison thereof with a reference signal.

3,261,016
NON-RIGID SERVO-CONTROLLED AERIAL STRUCTURES
Donald William Burr, Camargue, Welland, near Malvern, England, assignor to Minister of Aviation, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland, London, England
Filed Mar. 4, 1963, Ser. No. 263,093
Claims priority, application Great Britain, Mar. 8, 1962, 8,926/62
9 Claims. (Cl. 343—100)

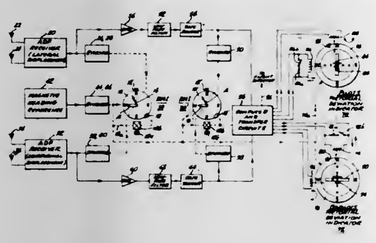


1. An aerial structure comprising a non-rigid aerial reflector having an adjustable profile, adjusting means for adjusting the reflector profile at a number of points of the profile, optical means for setting up optical paths which define a standard surface, measuring means including optical devices for measuring deviations between said standard surface and said number of points of the profile, and control means responsive to said optical devices for completing servo control loops between said measuring means and said adjusting means for adjusting said number of points of said profile into predetermined positional relationships to said standard surface.

3,261,017
RADIO INSTRUMENT APPROACH AND LANDING SYSTEM
Sanford B. Luftig, Wichita, Kans., assignor to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed Oct. 5, 1959, Ser. No. 844,378
13 Claims. (Cl. 343—112)

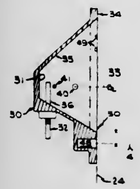
5. In an airplane radio instrument ground track guidance system for use with a pair of ground-based omnidirectional transmitters operating substantially continuously at distinguishably different radio frequencies, one such transmitter being located at the far end of the landing field runway, and substantially in alignment with the center line thereof, and the other such transmitter being located at the approach end of the runway and displaced laterally from said runway substantially on the line of the runway "fence," the combination comprising automatic direction-finding receiver means tunable to each of the two different ground-based transmitter frequencies, first and second pictorial deviation indicators having a magnetic

bearing indicator element, a bearing reference source operatively connected to said elements to indicate magnetic bearing, each of said indicators having a relative radio bearing indicator element connection to said automatic direction-finding receiver means to indicate relative bearing of the airplane to the first of said transmitters, said first indicator having a lateral displacement indicator element



and said second indicator having a longitudinal displacement indicator element, computer means connected to said receiver means and computing longitudinal and lateral displacement of the airplane from the landing field, and actuating means controlled by said computer means and connected respectively to said latter two indicator elements to indicate such lateral and longitudinal displacement.

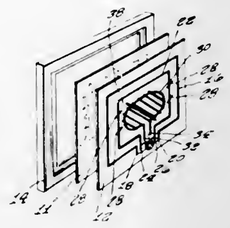
3,261,018
MINIATURE HORN ANTENNA
Paul L. Mast, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland.
Filed Aug. 30, 1963, Ser. No. 305,697
14 Claims. (Cl. 343—705)



1. A miniature extremely high frequency antenna comprising a truncated pyramidal horn having a closed end of relatively small cross section and an open end of relatively large cross section with a flared skirt therebetween, means for feeding energy into the side of said flared skirt near the closed end thereof, means in said horn for suppressing the generation of electromagnetic fields having unwanted higher order mode structure, and means near the open end for tapering the aperture illumination of said horn to reduce the side lobes of the antenna pattern to negligible values.

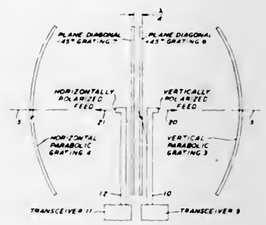
3,261,019
PICTURE ANTENNA FOR TELEVISION SETS
John E. Lundy, 2209 W. 171st St., Hazel Crest, Ill.
Filed Apr. 13, 1964, Ser. No. 359,003
1 Claim. (Cl. 343—720)

An antenna to be connected with two television receiver antenna input wires comprising a first oval-shaped loop of electrically conductive tubular material mounted on the surface of a non-conductive sheet and having two end terminals extending from one side of said first loop substantially perpendicular to the larger axis of said oval and coplanar with the loop, spaced-apart pieces of conductive tubing electrically secured to said first loop thereacross at a 45° angle to said longer axis of said loop, a second loop of rectangularly-shaped electrically conductive tubular material mounted on said surface of said sheet and having two end terminals extending perpendicularly to one side of said second loop in coplanar manner with said first loop and outwardly from said end terminals of said first loop, spaced-short pieces of conductive tubing secured to said second loop in conductive manner therewith across sides thereof and perpendicular to said spaced-apart pieces on said first loop, a third loop of rectangularly-shaped electrically conductive tubular material mounted on said surfaces of said sheet having two end terminals extending perpendicularly to one side of said



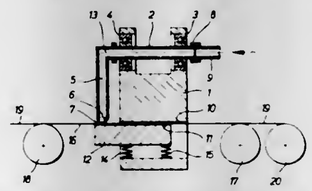
third loop in coplanar manner with all loops and outwardly from said end terminals of said second loop, a first pair of switch terminals respectively connected to said first loop terminals, a second pair of switch terminals respectively electrically connected to said second loop terminals, a third pair of switch terminals respectively electrically connected to said third loop terminals, and switching arms pivotally connected to said sheet and respectively electrically connected to said antenna input wires, said arms being adapted to pivot to selectively electrically interconnect said first, second and third switch terminals with said antenna input wires whereby any one of said loops may be connected to said antenna input wires.

3,261,020
DUAL POLARIZED BIDIRECTIONAL ANTENNA
Arthur M. Kay, Rutherford, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 9, 1962, Ser. No. 229,503
5 Claims. (Cl. 343—756)



1. An antenna system for radiating in opposite directions two beams of electromagnetic radiation polarized in quadrature comprising a first primary source adapted to emit vertically polarized radiation, a first reflector arranged to be illuminated by the first source and constructed as a collimator to reflect in one direction along a selected horizontal axis with a plane wave front the incident vertically polarized radiation but to permit the free passage of horizontally polarized radiation, a second primary source adapted to emit horizontally polarized radiation, a second reflector arranged to be illuminated by the second source and constructed as a collimator to reflect in the opposite direction along the selected axis with a plane wave front the incident horizontally polarized radiation but to permit free passage of vertically polarized radiation, and a pair of plane gratings cooperatively arranged to permit each grating to wholly reflect that portion of radiant energy passing through the other and positioned between the first and second reflectors and perpendicular to the selected axis, corresponding major faces of the gratings being spaced apart by approximately a quarter of a wavelength λ at an operating frequency, the spacing between the parallel elements forming each of the gratings being less than $\lambda/2$, each of the elements in one of the gratings making an angle of $+45°$ with the horizontal, and each of the elements in the other grating making an angle of $-45°$ with the horizontal.

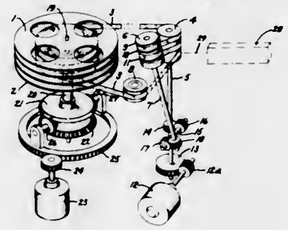
3,261,021
METHOD FOR RECORDING A CONTINUOUS TRACE OF A SUCCESSION OF MEASURED VALUES
Willi Kirchner, Schwebheim, Obere Helde, Germany, assignor to Kugelfischer Georg Schafer & Co., Schweinfurt, Germany
Filed Apr. 18, 1963, Ser. No. 273,921
Claims priority, application Germany, Apr. 19, 1962, K 46,534
2 Claims. (Cl. 346—1)



1. Method for recording a continuous trace of a succession of measured values on a recording medium comprising directing a flow of compressed air against a recording device in contact with said recording medium, moving said medium past said device and simultaneously displacing said device in a direction lateral to the direction of movement of said medium to form a continuous trace on said medium of said displacements.

3,261,022
TAPE TRANSPORT APPARATUS
William E. Glenn, Jr., Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 1, 1961, Ser. No. 149,467
10 Claims. (Cl. 346—74)

8. A tape recording apparatus, comprising a supply reel, a takeup reel, a flat thermoplastic tape between said reels having a conductive layer and an information receiving coating on the side outwards of said reels, driving means for driving said tape which driving means contacts only the noncoated side, said driving means comprising a pair of capstans at an angle to one another around which said tape passes a plurality of times in at least partial frictional relationship, the inclination of the capstans relative to one another producing a pitch in said tape as the tape passes around said capstans whereby the tape passes therearound in a spiral manner preventing overlap of the tape, said capstans being formed of non-magnetic material, and an electron gun maintained at a



high negative voltage relative to said capstans and said conductive layer for writing diffraction grating information upon said tape as said tape is in contact with one of said capstans.

3,261,023
THERMOGRAPHIC RECORDING PROCESS WHEREIN THE HEAT-SENSITIVE SHEET IS USED IN PLURAL PROCESSES
William A. Light, Michael J. Alsup, and William J. Dulmage, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Aug. 7, 1963, Ser. No. 300,641
5 Claims. (Cl. 117—37)

1. A method of producing a succession of transfer prints employing a single matrix which comprises a support and coated thereon a heat-sensitive layer of thermoplastic material in a normally non-tacky state of at least partial crystallization, said thermoplastic material having the property of undergoing transition to an amorphous state at an original tackifying temperature in the range from 50 to 200° C. and of remaining in a state having a tackifying temperature substantially below said original tackifying temperature for a period of time at least long enough to permit transfer of tackified material to a receiving surface at a selected transfer temperature substantially below said original tackifying temperature, and said material further having the property of recrystallizing at temperatures in the range from 15 to 35° C. from said amorphous state to a state having a tackifying temperature higher than said selected transfer temperature, said process comprising the steps of:

A. preferentially heating selected image areas on the matrix to a temperature above said original tackifying temperature to activate heat-sensitive material in those areas; and

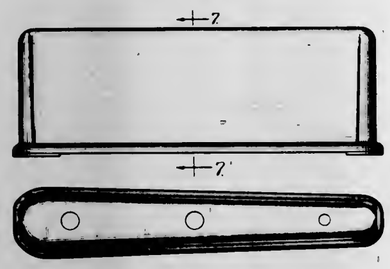
B. during the period after said preferential heating step while the tackifying temperature of the activated material is below said selected transfer temperature, pressing the heat-sensitive layer of the matrix in contact with a receiving surface at said selected transfer temperature with sufficient pressure to transfer tackified material from the matrix to the receiving surface; and

C. after activated material on the matrix has recrystallized at room temperature to a state having a tackifying temperature above said selected transfer temperature, repeating the steps A and B using the same matrix.

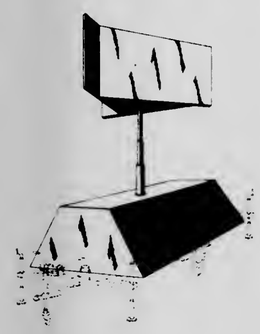
DESIGNS

JULY 12, 1966

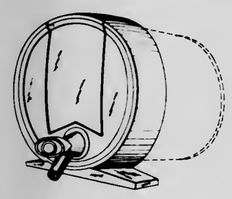
205,209
VEHICLE SIGN
James Arthur Priddis, 3706 75th St., Kenosha, Wis.
Filed July 29, 1965, Ser. No. 86,357
Term of patent 14 years
(Cl. D1—12)



205,210
MOBILE ADVERTISING SIGN
Roy J. Ford and Bobby R. Ford, both of P.O. Box 127, Fort Worth, Tex.
Filed Aug. 16, 1965, Ser. No. 86,582
Term of patent 14 years
(Cl. D1—12)



205,211
BEVERAGE DISPENSER
Albert H. de Boer, Creve Coeur, Mo., and Robert I. Franklin, Creve Coeur, Mo. (601 S. Taylor Ave., St. Louis 10, Mo.), and Malcolm B. Sturgis, Clayton, Mo. (601 S. Taylor Ave., St. Louis 10, Mo.); said de Boer assignor to said Franklin and said Sturgis
Filed June 15, 1965, Ser. No. 85,750
Term of patent 3½ years
(Cl. D2—3)



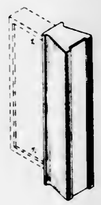
205,212
SOAP HOLDER
Milton S. Voorhees, 908 Richmond Ave., Point Pleasant Beach, N.J.
Filed Sept. 16, 1964, Ser. No. 81,755
Term of patent 3½ years
(Cl. D4—3)



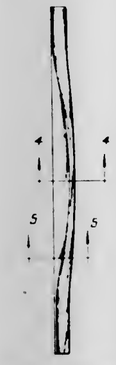
205,213
REMOVABLE BLADE SCRAPER
Wayne W. Perry, 2291 Kendall St., Edgewater, Colo.
Filed Oct. 18, 1965, Ser. No. 87,563
Term of patent 3½ years
(Cl. D9—6)



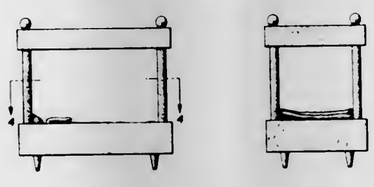
205,214
COMBINED WINDOW HANDLE AND LATCH THEREFOR
Thomas D. Terrian, 9871 Doris, Livonia, Mich.
Filed May 12, 1964, Ser. No. 79,945
Term of patent 3½ years
(Cl. D10—8)



205,215
DOOR HANDLE
Montgomery Ferar, Huntington Woods, and Charles R. Russell, Southfield, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Sept. 20, 1965, Ser. No. 87,072
Term of patent 3½ years
(Cl. D10—8)



205,216
PET ANIMAL BED
John Bell, 15 Juri St., San Francisco, Calif., and George C. Burkhardt, 1004 Grand Ave., South San Francisco, Calif.
Filed Aug. 4, 1964, Ser. No. 81,160
Term of patent 3½ years
(Cl. D12—2)



205,217
PEDESTRIAN BRIDGE
James H. Rock, 411 Orchard St., Sewickley, Pa.
Filed Apr. 16, 1965, Ser. No. 84,825
Term of patent 14 years
(Cl. D13—1)



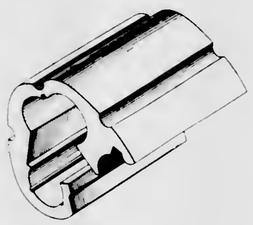
205,218
RESTAURANT
William B. Bekemeyer, Memphis, Tenn., assignor to Blaz'r Steaks International, Inc., Memphis, Tenn.
Filed June 18, 1965, Ser. No. 85,795
Term of patent 14 years
(Cl. D13—1)



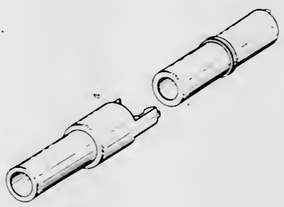
205,219
CAFE ROD DRAPERY HOOK
David Wolf, Newton, Mass., assignor to Empire Slip-On Hook Corp., Watertown, Mass., a corporation of Massachusetts
Filed Oct. 19, 1965, Ser. No. 87,594
Term of patent 14 years
(Cl. D21—1)



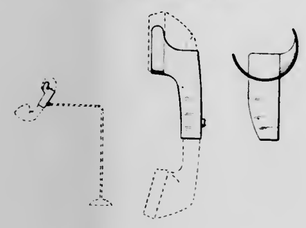
205,220
COMPRESSION TAP CONNECTOR
John J. Klosin, 32 Colburn Road, East Brunswick, N.J.
Filed Mar. 15, 1965, Ser. No. 84,277
Term of patent 3½ years
(Cl. D26—1)



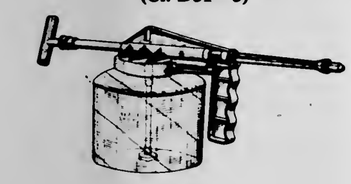
205,221
SINGLE CIRCUIT ELECTRICAL HOUSING
John Hammond Geis, Jr., and Robert La Rue Williamson, Harrisburg, Pa., assignors to Amp Incorporated, Harrisburg, Pa.
Filed June 10, 1965, Ser. No. 85,668
Term of patent 14 years
(Cl. D26—1)



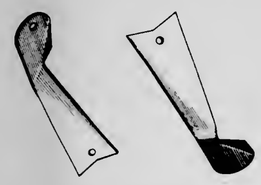
205,222
HOLDER FOR A TELEPHONE HANDSET
Karl L. Krattenstein, Hotel Somerset, 150 W. 47th St., New York, N.Y.
Filed June 9, 1965, Ser. No. 85,643
Term of patent 14 years
(Cl. D26—14)



205,223
SPRAY GUN
Rene Bouillard and Henri Bouillard, both of Saint Germain du Plain (Saone et Loire), France
Filed June 14, 1965, Ser. No. 85,720
Term of patent 7 years
(Cl. D31—3)



205,224
FISHING LURE
Jack Larsen, Jersey City, N.J. (R.R. 2, Box 395-A, Dover, N.J.)
Filed Mar. 16, 1965, Ser. No. 84,307
Term of patent 14 years
(Cl. D31—4)

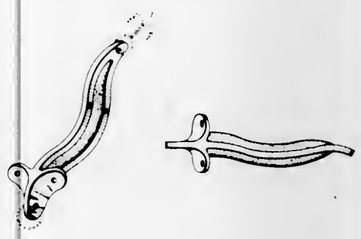


205,225
FISHING LURE
Ollie W. Jackson, 2508 Ave. L, Ensley, Birmingham, Ala.
Filed Sept. 27, 1965, Ser. No. 87,184
Term of patent 14 years
(Cl. D31—14)





205,226
FISH LURE
Ferdinando A. Guardia, 4746 Homer Ave. SE., Suitland, Md.
Filed Oct. 5, 1965, Ser. No. 87,320
Term of patent 14 years
(Cl. D31—4)



205,227
TOY BIRD
Walter Fah, Neue Jonastrasse 44, Rapperswil, Switzerland
Filed June 8, 1964, Ser. No. 80,311
Claims priority, application Austria May 11, 1964
Term of patent 14 years
(Cl. D34—2)



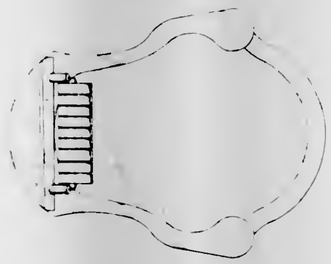
205,228
SPORTS GAME SCORE RECORDER OR SIMILAR ARTICLE
Robert Felt, 57—42 244th St., Douglaston, N.Y., and Louis Ratner, 87 Academy St., Liberty, N.Y.
Continuation of design applications Ser. Nos. 83,174 and 83,181, Dec. 28, 1964. This application Sept. 17, 1965, Ser. No. 87,245
Term of patent 3½ years
(Cl. D34—5)



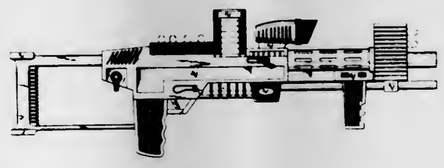
205,229
COMBINED GOLF BALL PUTTER AND RETRIEVER
Charles Reed, 820 Verde Vista, Visalia, Calif.
Filed Aug. 27, 1965, Ser. No. 86,737
Term of patent 3½ years
(Cl. D34—5)



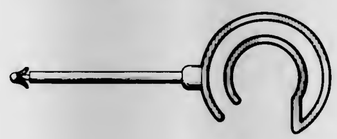
205,230
GAME BOARD
Leonard B. Neet, Rte. 4, Albany, Oreg.
Filed Sept. 3, 1965, Ser. No. 86,829
Term of patent 14 years
(Cl. D34—5)



205,231
TOY FIREARM
Martin L. Blumenthal, Summit, N.J., assignor to De Luxe Reading Corp., Elizabeth, N.J., a corporation of New Jersey
Filed Mar. 15, 1965, Ser. No. 84,271
Term of patent 3½ years
(Cl. D34—15)

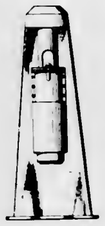


205,232
PINWHEEL SUPPORT
Sidney Golub, 439 Dogwood Ave., West Hempstead, N.Y.; Joseph H. Bologna, 15 Bay 23rd St., Brooklyn, N.Y.; Bernard Zeifman, 1630 Grand Ave., Bronx, N.Y.; and Max Roseman, 17 Walden Ave., Jericho, N.Y.
Filed Sept. 21, 1965, Ser. No. 87,094
Term of patent 14 years
(Cl. D34—15)

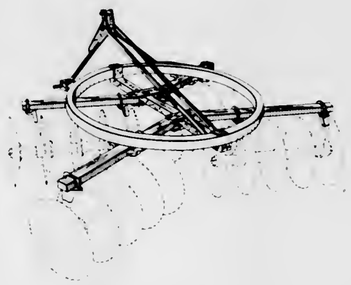


205,233
GRINDING MILL
Donald J. Brown, 3426 Fairesta, La Crescenta, Calif.
Filed Aug. 10, 1965, Ser. No. 86,520
Term of patent 14 years
(Cl. D37—1)





205,234
DISK HARROW
Henry Dreyfuss, South Pasadena, and Charles W. Pelly, Los Angeles, Calif., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Oct. 11, 1965, Ser. No. 87,401
Term of patent 14 years
(Cl. D39—1)



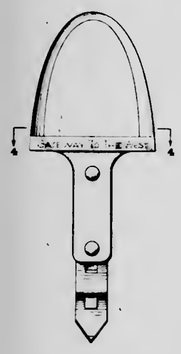
205,235
CUP
Jaap Penraat, 315 Central Park W., New York, N.Y.
Filed Apr. 16, 1965, Ser. No. 84,820
Term of patent 14 years
(Cl. D44—9)



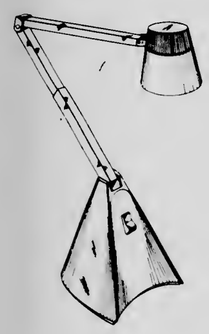
205,236
FUNNEL OR THE LIKE
John C. Ilg, Fitzwilliam, N.H., assignor to Elliot Laboratories, Inc., Fitzwilliam, N.H., a corporation of New Hampshire
Filed Feb. 17, 1965, Ser. No. 83,840
Term of patent 14 years
(Cl. D44—29)



205,237
COMBINED CAN PUNCH AND BOTTLE OPENER
Cecil L. Moore, 10312 Varnum Drive; and Sidney A. Wilner, 5033 Mindoch St., both of St. Louis, Mo.; and Raymond C. Kastrup, 4060 Highwillow, Florissant, Mo.
Filed Apr. 27, 1965, Ser. No. 84,987
Term of patent 3½ years
(Cl. D44—29)



205,238
DESK LAMP
Ben Zapolski, 18 Washington St., Rocky Hill, N.J.
Filed Aug. 14, 1964, Ser. No. 81,281
Term of patent 3½ years
(Cl. D48—20)



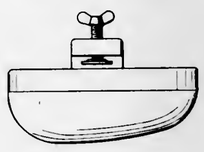
205,239
NIGHT LIGHT
Izhak Shimkin, 12 Ahad Haam St., Haifa, Israel
Filed Nov. 12, 1964, Ser. No. 82,567
Term of patent 7 years
(Cl. D48—20)



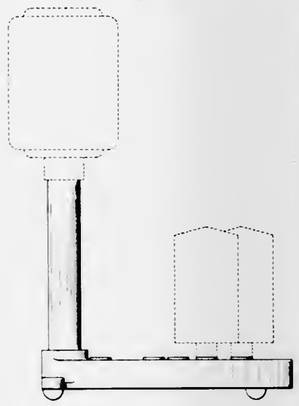
205,240
DOOR LIGHT
Ralph D. Needham, 2221 Otley Ave., Perry, Iowa
Filed Aug. 25, 1965, Ser. No. 86,712
Term of patent 3½ years
(Cl. D48—20)



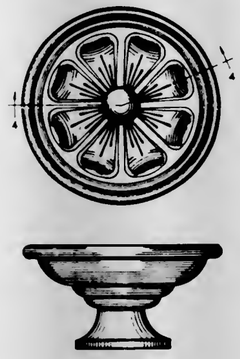
205,241
AUTO SAFETY LIGHT
Jack E. Hasselman, P.O. Box 102, Niles, Ill.
Filed Oct. 24, 1965, Ser. No. 87,928
Term of patent 14 years
(Cl. D48—32)



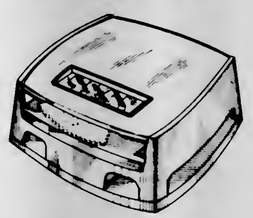
205,242
MUG WASHING MACHINE OR SIMILAR ARTICLE
Chris W. Yoder, 404 N. 23rd St., Goshen, Ind.
Filed Feb. 18, 1965, Ser. No. 83,859
Term of patent 3½ years
(Cl. D49—1)



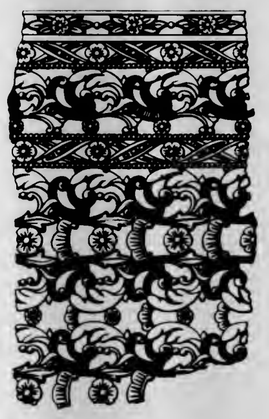
205,243
KNOB OR THE LIKE
Dagfinn O. Amdal, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Mar. 15, 1965, Ser. No. 84,252
Term of patent 14 years
(Cl. D50—3)



205,244
SPACE CONDITION RESPONSIVE INSTRUMENT
Grover M. Russell and Carlos B. Morgan, both of Goshen, Ind., assignors to Penn Controls, Inc., Goshen, Ind., a corporation of Indiana
Filed June 14, 1965, Ser. No. 85,700
Term of patent 14 years
(Cl. D52—7)



205,245
METAL GALLERY
Philip E. Kettell, North Kingstown, R.I., assignor to E. A. Adams & Sons Inc., Pawtucket, R.I., a corporation of Rhode Island
Filed June 25, 1965, Ser. No. 85,909
Term of patent 14 years
(Cl. D54—2)



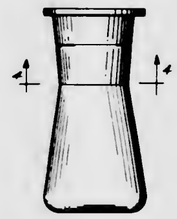
205,246
PAIR OF SUNGLASSES OR THE LIKE
Atherton R. Mitchell, Dillon Beach, Calif., assignor to Sea & Ski Corporation, Millbrae, Calif.
Filed Oct. 11, 1965, Ser. No. 87,413
Term of patent 14 years
(Cl. D57—1)



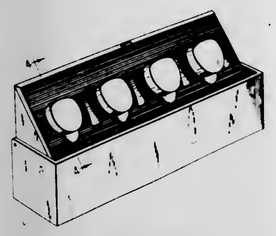
205,247
PAIR OF SUNGLASSES OR THE LIKE
Atherton R. Mitchell, Dillon Beach, Calif., assignor to Sea & Ski Corporation, Millbrae, Calif.
Filed Oct. 11, 1965, Ser. No. 87,426
Term of patent 14 years
(Cl. D57—1)



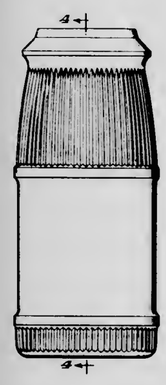
205,248
COMBINED BOTTLE AND CLOSURE
Naldo A. Zona, Huntington, N.Y., assignor to McCormick & Company, Incorporated, Baltimore, Md., a corporation of Maryland
Filed Feb. 10, 1965, Ser. No. 83,770
Term of patent 14 years
(Cl. D58—8)



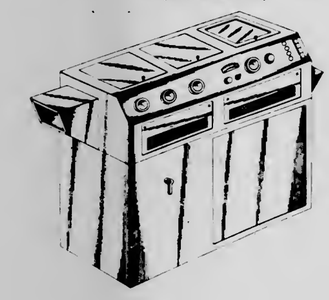
205,249
DISPLAY CONTAINER
Chester J. Abend, Camillus, and William A. Morrison, Solvay, N.Y., assignors to SCM Corporation, New York, N.Y., a corporation of New York
Filed May 10, 1965, Ser. No. 85,202
Term of patent 14 years
(Cl. D58—12.7)



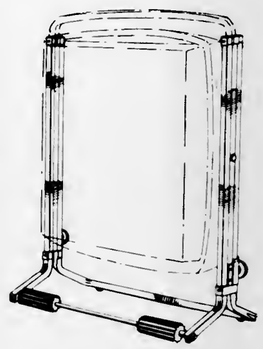
205,250
JAR
Walter M. Ballard, Whittier, and Gerald W. Neese, Compton, Calif., assignors to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California
Filed Mar. 23, 1965, Ser. No. 84,410
Term of patent 14 years
(Cl. D58—25)



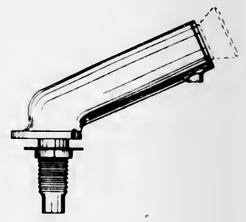
205,251
CONTINUOUS PHOTOGRAPHIC FILM PROCESSING APPARATUS
Philip E. Hixon, 156 Willowwood Drive, Wantagh, Long Island, N.Y., and Marvin B. Fleisher, 14 High Top Lane, Jericho, Long Island, N.Y.
Filed Mar. 25, 1965, Ser. No. 84,443
Term of patent 3½ years
(Cl. D61—1)



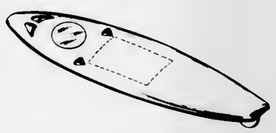
205,252
ADJUSTABLE APPLIANCE STAND
Viktor Schreckengost, Cleveland Heights, Ohio, assignor to The Murray Ohio Manufacturing Co., Nashville, Tenn., a corporation of Ohio
Filed July 1, 1965, Ser. No. 85,980
Term of patent 3½ years
(Cl. D62—4)



205,253
GALLEY PUMP
Linus E. Russell, Springfield, Ohio, assignor to Peters and Russell, Inc., Springfield, Ohio, a corporation of Ohio
Filed Dec. 2, 1964, Ser. No. 82,872
Term of patent 14 years
(Cl. D65—1)



205,254
MOTORIZED SURFBOARD OR THE LIKE
David J. Levinson, Tarzana, Calif., assignor to Alfred S. Bloomingdale
Filed June 24, 1965, Ser. No. 85,882
Term of patent 14 years
(Cl. D71—1)



205,255
SAILBOAT
John Henry Shelley, Chez Nous, Msida, Malta
Filed Aug. 20, 1965, Ser. No. 86,659
Term of patent 14 years
(Cl. D71—1)



205,256
HANGER
Iris F. Poland, 7121 Park Heights Ave., Baltimore 15, Md.
Filed July 8, 1965, Ser. No. 86,084
Term of patent 3½ years
(Cl. D80—8)



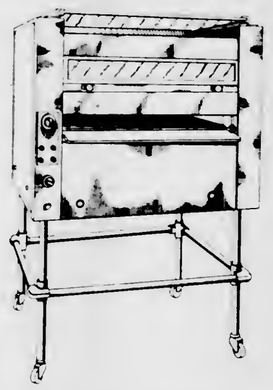
205,257
TIE HANGER
Gary Hellinger, Riverdale, and Issac Zelcer, Brooklyn, N.Y., assignors to Leeds Ltd., Hackensack, N.J.
Filed Oct. 24, 1965, Ser. No. 87,904
Term of patent 14 years
(Cl. D80—8)



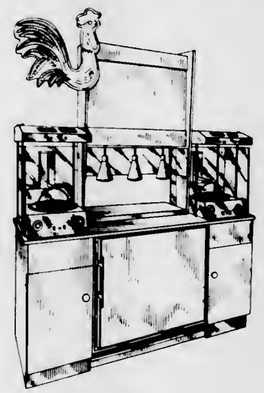
205,258
FOLDABLE DISPLAY STAND
George Patton, Jr., Barrington, R.I., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware
Filed Mar. 10, 1965, Ser. No. 84,190
Term of patent 14 years
(Cl. D80—9)



205,259
OVEN
Albert M. Weiner, 7 New Ardmore Ave., Broomall, Pa.
Filed Mar. 4, 1965, Ser. No. 84,082
Term of patent 3½ years
(Cl. D81—10)



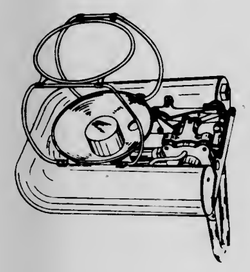
205,260
COMBINED STORAGE AND DISPLAY CABINET, REFRIGERATOR AND COOKING UNIT
Frank X. Blasco, Kansas City, Mo., assignor to Chic-N-Krisp, Inc., Kansas City, Mo., a corporation of Missouri
Filed Aug. 25, 1965, Ser. No. 86,717
Term of patent 14 years
(Cl. D81—10)



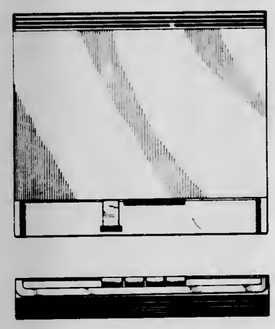
205,261
DISPLAY HOLDER FOR SPECTACLES OR THE LIKE
Steve Boxer, Sherman Oaks, Calif., assignor to Debs Sunglass Corporation, North Hollywood, Calif., a corporation of California
Filed Sept. 13, 1965, Ser. No. 86,951
Term of patent 3½ years
(Cl. D80—10)



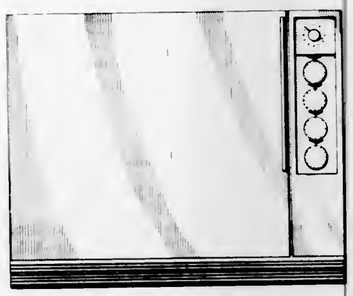
205,262
SURVIVAL HEATER
Ewald J. Kimm, Dayton, Ohio, assignor to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Oct. 19, 1965, Ser. No. 87,598
Term of patent 14 years
(Cl. D81—10)

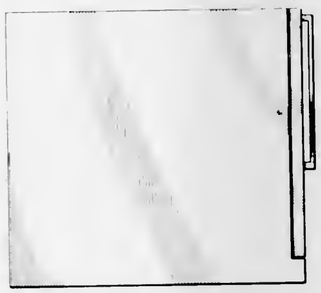


205,263
COOKING STOVE
Walter Dorwin Teague, Jr., Glen Goin Road, Alpine, N.J., and Anthony Montalbano, 24—09 87th St., Jackson Heights, N.Y.
Filed July 2, 1965, Ser. No. 86,001
Term of patent 14 years
(Cl. D81—25)

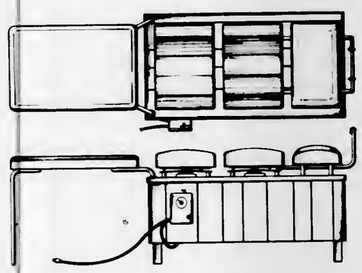


205,264
HOUSEHOLD COOKING OVEN
Walter Dorwin Teague, Jr., Glen Goin Road, Alpine, N.J.; Anthony Montalbano, 24—09 87th St., Jackson Heights, N.J.; and Charles W. Fromm, 726 Delavan St., Teaneck, N.J.
Filed July 2, 1965, Ser. No. 86,000
Term of patent 14 years
(Cl. D81—26)





205,265
COMBINED TABLE AND MASSAGING UNIT THEREFOR
Frank C. Catanzaro, 6212 McPherson Ave., University City, Mo.
Filed July 2, 1965, Ser. No. 86,020
Term of patent 14 years
(Cl. D83—1)



205,266
COMBINATION NURSING BOTTLE HOLDER AND TOY
Charles D. Misetich, 14220 Valerio St., Van Nuys, Calif.
Filed June 21, 1965, Ser. No. 85,820
Term of patent 14 years
(Cl. D83—8)



205,267
COMBINATION NURSING BOTTLE HOLDER AND TOY
Charles D. Misetich, 14220 Valerio St., Van Nuys, Calif.
Filed June 21, 1965, Ser. No. 85,827
Term of patent 14 years
(Cl. D83—8)



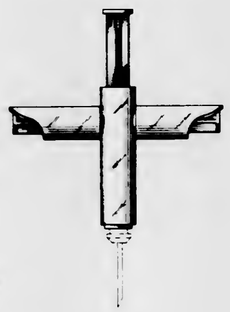
205,268
COMBINATION NURSING BOTTLE HOLDER AND TOY
Charles D. Misetich, 14220 Valerio St., Van Nuys, Calif.
Filed June 21, 1965, Ser. No. 85,828
Term of patent 14 years
(Cl. D83—8)



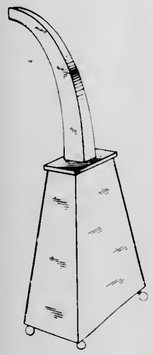
205,269
SYRINGE PISTON
Charles A. Gray, 2334 Scott St., Hollywood, Fla.
Filed Apr. 22, 1965, Ser. No. 84,919
Term of patent 3½ years
(Cl. D83—12)



205,270
SYRINGE
Charles A. Gray, 2334 Scott St., Hollywood, Fla.
Filed Apr. 22, 1965, Ser. No. 84,920
Term of patent 3½ years
(Cl. D83—12)



205,271
HAIR DRYER CASING
Leon F. Willat, Mill Valley, Calif.
(1077 Howard St., San Francisco 3, Calif.)
Filed May 17, 1965, Ser. No. 85,320
Term of patent 14 years
(Cl. D86—10)



205,272
HAND MIRROR
Joseph E. Joseph, Bennington, Vt.
Filed Sept. 23, 1965, Ser. No. 87,133
Term of patent 3½ years
(Cl. D86—10)

205,273
HAND MIRROR
Joseph E. Joseph, Bennington, Vt.
Filed Sept. 23, 1965, Ser. No. 87,141
Term of patent 3½ years
(Cl. D86—10)



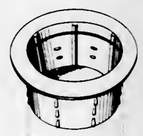
205,274
TIRE
Marco Maxemovich, Warren, and John W. Taylor, Grosse Pointe Farms, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 14, 1965, Ser. No. 87,472
Term of patent 14 years
(Cl. D90—20)



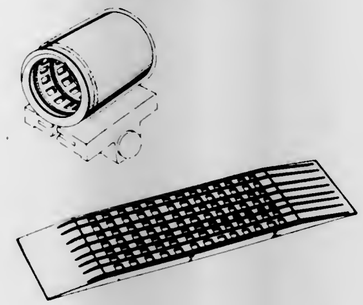
205,275
NOZZLE COVER
Charles D. Besore, 701 Heatherside Road, Pasadena, Calif.
Filed June 29, 1964, Ser. No. 80,638
Term of patent 14 years
(Cl. D91—1)



205,276
COMBINATION PLUG AND CAP
John W. Kort, Erie, Pa., assignor to Niagara Plastics Company, Erie, Pa., a corporation of Pennsylvania
Filed Mar. 26, 1965, Ser. No. 84,451
Term of patent 14 years
(Cl. D91—3)



205,277
PIPE GASKET
Robert Fowler Gilchrist, Wichita Falls, Tex., assignor to Vega Manufacturing Corporation, Wichita Falls, Tex., a corporation of Texas
Filed May 10, 1965, Ser. No. 85,205
Term of patent 14 years
(Cl. D91—3)



205,278
WATER BUBBLER
Roger F. Chapin, Jr., Columbus, Ohio, assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Aug. 27, 1965, Ser. No. 86,740
Term of patent 14 years
(Cl. D91—4)



LIST OF PLANT PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 12TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Lecoufle, Maurice, and M. Vacherot, to Vacherot & Lecoufle. Orchid plant. 2,658, 7–12–66, Cl. 68.

Lecoufle, Maurice, and M. Vacherot, to Vacherot & Lecoufle. Orchid plant. 2,659, 7–12–66, Cl. 68.

Lens, Louis, ½ to McHutchison & Co., Inc., and ½ to San Lorenzo Nursery Co. Rose plant. 2,657, 7–12–66, Cl. 20.

McHutchison & Co., Inc.: *See*—
Lens, Louis. 2,657.

San Lorenzo Nursery Co.: *See*—
Lens, Louis. 2,657.

Vacherot & Lecoufle: *See*—
Lecoufle, Maurice, and Vacherot. 2,658.
Lecoufle, Maurice, and Vacherot. 2,659.

Vacherot, Michel: *See*—
Lecoufle, Maurice, and Vacherot. 2,658.
Lecoufle, Maurice, and Vacherot. 2,659.

LIST OF DESIGN PATENTEES

AMP Inc.: *See*—
Geis, John H., Jr., and Williamson. 205,221.

Abend, Chester J., and W. A. Morrison, to SCM Corp. Display container. 205,249, 7–12–66, Cl. D58—12.7.

Adams, E. A., & Sons, Inc.: *See*—
Kettrell, Philip E. 205,245.

Amdal, Dagfinn O., to National Lock Co. Knob or the like. 205,243, 7–12–66, Cl. D50—3.

Ballard, Walter M., and G. W. Neese, to Purex Corp., Ltd. Jar. 205,250, 7–12–66, Cl. D58—25.

Bekemeyer, William B., to Blaz'r Steaks International, Inc. Restaurant. 205,218, 7–12–66, Cl. D13—1.

Bell, John, and G. C. Burkhardt. Pet animal bed. 205,216, 7–12–66, Cl. D12—2.

Besore, Charles D. Nozzle cover. 205,275, 7–12–66, Cl. D91—1.

Blasco, Frank X., to Chic-N-Krisp, Inc. Combined storage and display cabinet, refrigerator and cooking unit. 205,260, 7–12–66, Cl. D81—10.

Blaz'r Steaks International, Inc.: *See*—
Bekemeyer, William B. 205,218.

Bloomingdale, Alfred S.: *See*—
Levinson, David J. 205,254.

Blumenthal, Martin L., to De Luxe Reading Corp. Toy firearm. 205,231, 7–12–66, Cl. D34—15.

Bologna, Joseph H.: *See*—
Golub, Sidney, Bologna, Zeifman, and Roseman. 205,232.

Bouillard, Henri: *See*—
Bouillard, Rene and H. 205,223.

Bouillard, Rene and H. Spray gun. 205,223, 7–12–66, Cl. D31—3.

Boxer, Steve, and Debs Sunglass Corp. Display holder for spectacles or the like. 205,261, 7–12–66, Cl. D80—10.

Brown, Donald J. Grinding mill. 205,233, 7–12–66, Cl. D37—1.

Burkhardt, George C.: *See*—
Bell, John, and Burkhardt. 205,216.

Catanzaro, Frank C. Combined table and massaging unit therefor. 205,265, 7–12–66, Cl. D53—1.

Chapin, Roger F., Jr., to Westinghouse Electric Corp. Water bubbler. 205,278, 7–12–66, Cl. D91—4.

Chic-N-Krisp, Inc.: *See*—
Blasco, Frank X. 205,260.

De Boer, Albert H., R. I. Franklin, and M. B. Sturgis; said De Boer assor. to said Franklin and said Sturgis. Beverage dispenser. 205,211, 7–12–66, Cl. D2—3.

Debs Sunglass Corp.: *See*—
Boxer, Steve. 205,261.

Deere & Co.: *See*—
Dreyfuss, Henry, and Pelly. 205,234.

De Luxe Reading Corp.: *See*—
Blumenthal, Martin L. 205,231.

Dreyfuss, Henry, and C. W. Pelly, to Deere & Co. Disk harrow. 205,234, 7–12–66, Cl. D39—1.

Elliot Laboratories, Inc.: *See*—
Ilg, John C. 205,236.

Empire Slip-On Hook Corp.: *See*—
Wolf, David. 205,219.

Fah, Walter. Toy bird. 205,227, 7–12–66, Cl. D34—2.

Felt, Robert, and L. Ratner. Sports game score recorder or similar article. 205,228, 7–12–66, Cl. D34—5.

Ferar, Montgomery, and C. R. Russell, to Whirlpool Corp. Door handle. 205,215, 7–12–66, Cl. D10—8.

Fleisher, Marvin B.: *See*—
Hixon, Philip E., and Fleisher. 205,251.

Ford, Bobby R.: *See*—
Ford, Roy J. and B. R. 205,210.

Ford, Roy J. and B. R. Mobile advertising sign. 205,210, 7–12–66, Cl. D1—12.

Franklin, Robert I.: *See*—
De Boer, Albert H., Franklin, and Sturgis. 205,211.

Fromm, Charles W.: *See*—
Teague, Walter D., Jr., Montalbano, and Fromm. 205,264.

Geis, John H., Jr., and R. L. Williamson, to AMP Inc. Single circuit electrical housing. 205,221, 7–12–66, Cl. D26—1.

Gilchrist, Robert F., to Vega Mfg. Corp. Pipe gasket. 205,277, 7–12–66, Cl. D91—3.

Golub, Sidney, J. H. Bologna, B. Zeifman, and M. Roseman. Pinwheel support. 205,232, 7–12–66, Cl. D34—15.

Gray, Charles A. Syringe piston. 205,269, 7–12–66, Cl. D83—12.

Gray, Charles A. Syringe. 205,270, 7–12–66, Cl. D83—12.

Guardia, Ferdinando A. Fish lure. 205,226, 7–12–66, Cl. D31—4.

Hasselman, Jack E. Auto safety light. 205,241, 7–12–66, Cl. D48—32.

Hellinger, Gary, and I. Zeller, to Leeds Ltd. Tie hanger. 205,257, 7–12–66, Cl. D80—8.

Hixon, Philip E., and M. B. Fleisher. Continuous photographic film processing apparatus. 205,251, 7–12–66, Cl. D61—1.

Ilg, John C., to Elliot Laboratories, Inc. Funnel or the like. 205,236, 7–12–66, Cl. D44—29.

Jackson, Ollie W. Fishing lure. 205,225, 7–12–66, Cl. D31—4.

Joseph, Joseph E. Hand mirror. 205,272, 7–12–66, Cl. D86—10.

Joseph, Joseph E. Hand mirror. 205,273, 7–12–66, Cl. D86—10.

Kastrup, Raymond C.: *See*—
Moore, Cecil L., Wilner, and Kastrup. 205,237.

Kettrell, Philip E., to E. A. Adams & Sons, Inc. Metal gallery. 205,245, 7–12–66, Cl. D54—2.

Kimm, Ewald J., to United Aircraft Products, Inc. Survival heater. 205,262, 7–12–66, Cl. D81—10.

Klosin, John J. Compression tap connector. 205,220, 7–12–66, Cl. D26—1.

Kort, John W., to Niagara Plastics Co. Combination plug and cap. 205,276, 7–12–66, Cl. D91—3.

Krattenstein, Karl L. Holder for a telephone handset. 205,222, 7–12–66, Cl. D26—14.

Larsen, Jack. Fishing lure. 205,224, 7–12–66, Cl. D31—4.

Leeds Ltd.: *See*—
Hellinger, Gary, and Zeller. 205,257.

Levinson, David J., to A. S. Bloomingdale. Motorized surfboard or the like. 205,254, 7–12–66, Cl. D71—1.

Maxemovich, Marco, and J. W. Taylor, to United States Rubber Co. Tire. 205,274, 7–12–66, Cl. D90—20.

McCormick & Co., Inc.: *See*—
Zona, Naldo A. 205,248.

Misetich, Charles D. Combination nursing bottle holder and toy. 205,266, 7–12–66, Cl. D83—8.

Misetich, Charles D. Combination nursing bottle holder and toy. 205,267, 7–12–66, Cl. D83—8.

Misetich Charles D. Combination nursing bottle holder and toy. 205,268, 7–12–66, Cl. D83—8.

Mitchell, Atherton R., to Sea & Ski Corp. Pair of sunglasses or the like. 205,246, 7–12–66, Cl. D57—1.

Mitchell, Atherton R., to Sea & Ski Corp. Pair of sunglasses or the like. 205,247, 7–12–66, Cl. D57—1.

Montalbano, Anthony: *See*—
Teague, Walter D., Jr., and Montalbano. 205,263.
Teague, Walter D., Jr., Montalbano, and Fromm. 205,264.

Moore, Cecil L., S. A. Wilner, and R. C. Kastrup. Combined can punch and bottle opener. 205,237, 7–12–66, Cl. D44—29.

Morgan, Carlos B.: *See*—
Russell, Grover M., and Morgan. 205,244.

Morrison, William A.: *See*—
Abend, Chester J., and Morrison. 205,249.

Murray Ohio Mfg. Co., The: *See*—
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National Lock Co.: *See*—
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Needham, Ralph D. Door light. 205,240, 7–12–66, Cl. D48—20.

Neese, Gerald W.: *See*—
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Neet, Leonard B. Game board. 205,230, 7–12–66, Cl. D34—5.

Niagara Plastics Co.: *See*—
Kort, John W. 205,276.

Patton, George, Jr., to Rexall Drug and Chemical Co. Foldable display stand. 205,258, 7-12-66, Cl. D80—9.
Pelly, Charles W.: *See*—
Dreyfuss, Henry, and Pelly. 205,234.
Penn Controls, Inc.: *See*—
Russell, Grover M., and Morgan. 205,244.
Penraat, Jaap. Cup. 205,235, 7-12-66, Cl. D44—9.
Perry, Wayne W. Removable blade scraper. 205,213, 7-12-66, Cl. D9—6.
Peters and Russell, Inc.: *See*—
Russell, Linus E. 205,253.
Poland, Iris F. Hanger. 205,256, 7-12-66, Cl. D80—8.
Priddis, James A. Vehicle sign. 205,209, 7-12-66, Cl. D1—12.
Purex Corp., Ltd.: *See*—
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Ratner, Louis: *See*—
Felt, Robert, and Ratner. 205,228.
Reed, Charles. Combined golf ball putter and retriever. 205,229, 7-12-66, Cl. D34—5.
Rexall Drug and Chemical Co.: *See*—
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Rock, James H. Pedestrian bridge. 205,217, 7-12-66, Cl. D13—1.
Roseman, Max: *See*—
Golub, Sidney, Bologna, Ziefman, and Roseman. 205,232.
Russell, Charles R.: *See*—
Ferar, Montgomery, and Russell. 205,215.
Russell, Grover M., and C. B. Morgan, to Penn Controls, Inc. Space condition responsive instrument. 205,244, 7-12-66, Cl. D52—7.
Russell, Linus E., to Peters and Russell, Inc. Galley pump. 205,253, 7-12-66, Cl. D65—1.
SCM Corp.: *See*—
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Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Adjustable appliance stand. 205,252, 7-12-66, Cl. D62—4.
Sea & Ski Corp.: *See*—
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Mitchell, Atherton R. 205,247.
Shelley, John H. Sailboat. 205,255, 7-12-66, Cl. D71—1.
Shimkin, Izhak. Night light. 205,239, 7-12-66, Cl. D48—20.
Sturgis, Malcolm B.: *See*—
De Boer, Albert H., Franklin, and Sturgis. 205,211.
Taylor, John W.: *See*—
Maxemovich, Marco, and Taylor. 205,274.
Teague, Walter D., Jr., and A. Montalbano. Cooking stove. 205,263, 7-12-66, Cl. D81—25.
Teague, Walter D., Jr., A. Montalbano, and C. W. Fromm. Household cooking oven. 205,264, 7-12-66, Cl. D81—26.
Terrian, Thomas D. Combined window handle and latch therefor. 205,214, 7-12-66, Cl. D10—8.
United Aircraft Products, Inc.: *See*—
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United States Rubber Co.: *See*—
Maxemovich, Marco, and Taylor. 205,274.
Vega Mfg. Corp.: *See*—
Gilchrist, Robert F. 205,277.
Voorhees, Milton S. Soap holder. 205,212, 7-12-66, Cl. D4—3.
Weiner, Albert M. Oven. 205,259, 7-12-66, Cl. D81—10.
Westinghouse Electric Corp.: *See*—
Chapin, Roger F., Jr. 205,278.
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Williamson, Robert L. R.: *See*—
Geis, John H., Jr., and Williamson. 205,221.
Wilner, Sidney A.: *See*—
Moore, Cecil L., Wilner, and Kastrup. 205,237.
Wolf, David, to Empire Slip-On Hook Corp. Cafe rod drapery hook. 205,219, 7-12-66, Cl. D21—1.
Yoder, Chris W. Washing machine or similar article. 205,242, 7-12-66, Cl. D49—1.
Zapolski, Ben. Desk lamp. 205,238, 7-12-66, Cl. D48—20.
Zeigman, Bernard: *See*—
Golub, Sidney, Bologna, Zeifman, and Roseman. 205,232.
Zeller, Isaac: *See*—
Heilinger, Gary, and Zeller. 205,257.
Zona, Naldo A., to McCormick & Co., Inc. Combined bottle and closure. 205,248, 7-12-66, Cl. D58—8.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 12TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACF Industries, Inc.: *See*—
Pettit, Harry W., and Carney. 3,260,224.
ADK Corp.: *See*—
Alsobrook, James S., Jr. 3,259,921.
A. J. Industries, Inc.: *See*—
Vani, James. 3,260,219.
Abbott Laboratories: *See*—
Illich, George M., Jr. 3,259,991.
Abbott, Tirey C., Jr., C. O. Carlson, H. D. Ives, and I. V. Rondas, to The National Cash Register Co. Reducing camera. 3,260,153, 7-12-66, Cl. 88—24.
Abel, Edward P.: *See*—
Minsk, Louis M., and Abel. 3,260,706.
Abplanalp, Robert H., to Precision Valve Corp. Dispensing cap for an aerosol container. 3,260,416, 7-12-66, Cl. 222—182.
Acme Highway Products Corp.: *See*—
Crone, Alfred F. 3,260,175.
Adams Bros. Mfg. Co.: *See*—
Groves, John A. 3,260,286.
Adams, John: *See*—
Manley, Brian W., Adams, Washington, and Brannen. 3,260,876.
Aerojet-General Corp.: *See*—
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Dietrich, Forrest W. 3,260,205.
Witz, Samuel. 3,260,235.
Witz, Samuel, and Mishuck. 3,260,631.
Agfa Aktiengesellschaft: *See*—
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Winkler, Alfred, Engelsmann, Schroder, and Zobel. 3,260,183.
Air Products and Chemicals, Inc.: *See*—
Ray, Joseph, and Gaumer. 3,260,058.
Air Reduction Co., Inc.: *See*—
Normando, Neil J., and Belscher. 3,260,890.
Ajax Mfg. Co., The: *See*—
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Mersek, Leo D. 3,260,085.
Prutton, Howard D. 3,260,086.
Ajem Laboratories, Inc.: *See*—
Martin, Anthony J. 3,260,350.
Ajinomoto Co., Inc.: *See*—
Ito, Kenkichi, Akashi, and Tatsumi. 3,260,744.
Akai Electric Co., Ltd.: *See*—
Fujimoto, Eisuke. 3,260,470.
Akashi, Takekazu: *See*—
Ito, Kenkichi, Akashi, and Tatsumi. 3,260,744.
Albers, Archie L. Double acting buffer air cylinder. 3,260,515, 7-12-66, Cl. 267—1.
Albiswerk zurich A.G.: *See*—
Weitl, Arno. 3,260,478.
Albright, Edward E., to General Motors Corp. Glow ring indicator dial. 3,260,830, 7-12-66, Cl. 200—167.
Albright, Jay D., and L. Goldman, to American Cyanamid Co. Heterocyclic derivatives of Yohimbe alkaloids. 3,260,721, 7-12-66, Cl. 260—256.4.
Alcan Aluminum Corp.: *See*—
Bacon, James C. 3,260,026.
Alcorn Combustion Co.: *See*—
Von Wiesenthal, Peter, and Iacono. 3,260,243.
Aldighieri, Rudolph P.: *See*—
Daum, Leonard E., and Aldighieri. 3,260,983.
Alexander, Warren A., and R. W. Mitchell, Jr., to Esso Production Research Co. Seismic display system. 3,260,887, 7-12-66, Cl. 315—9.
Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Dual service brake system with failure indicator. 3,260,551, 7-12-66, Cl. 303—1.
Allais, Andre, to Roussel-UCLAF, S.A. Benzoate of 1-(6'-methoxy-3'-indolyl)-2-propylamine. 3,260,729, 7-12-66, Cl. 260—326.14.
Allied Thermal Corp.: *See*—
Person, Ernest H. 3,260,188.
Allis-Chalmers Mfg. Co.: *See*—
Evans, Earl S. 3,260,875.
Alsobrook, James S., Jr., to ADK Corp. Tilting accessory for standard bed. 3,259,921, 7-12-66, Cl. 5—62.
Alston, Liviu L., and P. J. Rogers, to United Kingdom Atomic Energy Authority. Electric switches with frangible and expendable electrodes. 3,260,810, 7-12-66, Cl. 200—61.08.
Alsup, Michael J.: *See*—
Light, William A., Alsup, and Dulmage. 3,261,023.
Alsup, W. Homer. Deformable non-metallic conduit coupling with grounding connections. 3,260,790, 7-12-66, Cl. 174—51.
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Bray, Frederick H., and Ambrosino. 3,260,800.
Amchem Products, Inc.: *See*—
Gardner, George S. 3,260,538.
Amerama, Inc.: *See*—
Komitor, Seymour. 3,260,156.
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Brandt, Roger, and Kaercher. 3,260,410.
Brandt, Roger. 3,260,777.
Dobson, Frank E. 3,260,411.
Kamm, Gilbert G., and Willey. 3,260,580.
Klein, Albert J. 3,260,623.
American Cyanamid Co.: *See*—
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Beachem, Michael T. 3,260,565.
Shaw, John T., Voorhies, and Davis. 3,260,621.
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American Saw & Mfg. Co.: *See*—
Davis, James E. 3,260,360.
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Dargene, Carl J. 3,260,813.
Ames, Robert G., to Ames Taping Tool Systems Mfg. Co. Embossing tool for increasing the edge thickness of wallboard. 3,259,983, 7-12-66, Cl. 30—365.
Ames Taping Tool Systems Mfg. Co.: *See*—
Ames, Robert G. 3,259,983.
Amiel, Saadia, and A. Nir, to Yeda Research and Development Co. Neutron source. 3,260,847, 7-12-66, Cl. 250—84.5.
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Drapkin, Paul E. 3,260,968.
England, Harold. 3,260,354.
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Rudy, Stephen J., and Amtsberg. 3,260,509.
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Anderson, Andrew W., to Scandia Packaging Machinery Co. Machine for removing cartons from packages. 3,260,388, 7-12-66, Cl. 214—310.
Anderson, James H. Rotary vapor generator. 3,260,050, 7-12-66, Cl. 60—39.18.
Anderson, Wilmer C., to General Time Corp. Deviation control system. 3,260,838, 7-12-66, Cl. 235—92.
Andreas Stihl Maschinenfabrik: *See*—
Heilig, Alfred, and Jackle. 3,260,547.
Andress, Harry J., Jr., and P. Y. C. Gee, to Socony Mobil Oil Co., Inc. N-t-alkyl-beta-amino propionic acids. 3,260,745, 7-12-66, Cl. 260—534.
Anger, Willibald: *See*—
Jelinek-Fink, Peter, Jordan, Anger, Beerwald, Fay, and Hintz. 3,260,865.
Anheuser-Busch, Inc.: *See*—
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Anselmetti, Giovanni C., to Nazionale Cogne Societa per Azioni. Thread twining machine. 3,260,043, 7-12-66, Cl. 57—84.
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Argoudelis, Alexander D., and B. Bannister, to The Upjohn Co. Process for preparing scylloinosamine. 3,260,747, 7-12-66, Cl. 260—563.
Argoudelis, Alexander D., and B. Bannister, to The Upjohn Co. Descarbamoylbluensidine and process for the preparation thereof. 3,260,749, 7-12-66, Cl. 260—564.
Armstrong, Donald L., and W. L. MacFadden, to Rockwell Mfg. Co. Regulator. 3,260 275, 7-12-66, Cl. 137—219.
Arndt, Rolland B., and W. Weigler, to Sperry Rand Corp. Stored program system. 3,260,997, 7-12-66, Cl. 340—172.5.
Arnoldy, Roman F., to R. I. Patents, Inc. Welding method and apparatus. 3,260,834, 7-12-66, Cl. 219—73.
Aronson, David, to Worthington Corp. Heat exchange means for an absorption refrigeration system. 3,260,066, 7-12-66, Cl. 62—489.
Arrow-Hart & Hegeman Electric Co., The: *See*—
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Asano, Tadashi, S. Masuda, and T. Ito, to Onoda Cement Co., Ltd. Vertical kiln and a method for the preparation of calcined products. 3,260,514, 7-12-66, Cl. 263—30.
Ash, Howard H., and A. L. Rosenblatt, to Fairchild Hiller Corp. Aerial balloon system. 3,260,480, 7-12-66, Cl. 244—31.
Asquith, William, Ltd.: *See*—
Atherton, John. 3,260,162.
Asselbergs, Edward A. M., H. A. Hamilton, and P. Saidak, to Canadian Patents and Development Ltd. Preparation of dehydrated cooked mashed potato. 3,260,607, 7-12-66, Cl. 99—207.
Asselin, George F., to Universal Oil Products Co. Treatment of alkyl-substituted aromatic compounds. 3,260,765, 7-12-66, Cl. 260—672.
Associated Electrical Industries Ltd.: *See*—
Whitehead, Cyril C., and Stanborough. 3,260,964.

Aston, Keith, to The Pavelle Corp. Color printing apparatus. 3,260,152, 7–12–66, Cl. 88—24.

Ateliers de la Motobecane: *See*—
Jaulmes, Eric. 3,260,535.

Atherton, John, to William Asquith Ltd. Slide bearings for machine tools. 3,260,162, 7–12–66, Cl. 90—16.

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Atlas Copco Aktiebolag: *See*—
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Atohm Electronics: *See*—
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Atterbury, Stanley T. Portable dog toilet. 3,260,237, 7–12–66, Cl. 119—1.

Auer, William F., to Comar Electric Co. Electromagnetic relay. 3,260,817, 7–12–66, Cl. 200—87.

Auer, William F., to Comar Electric Co. Electrical switch contacts with a follower contact surface. 3,260,829, 7–12–66, Cl. 200—166.

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Ayers, Walter R., to Huggins Laboratories, Inc. Thermonic diode detector. 3,260,944, 7–12–66, Cl. 329—162.

Ayotte, Robert A., to Wheaton Plastics Co. Container closure comprising a stationary apertured cap and a rotary apertured cap. 3,260,426, 7–12–66, Cl. 222—545.

Azuma, Shinzo, to Taizo Food Co., Ltd. Enzymatic treatment of egg. 3,260,606, 7–12–66, Cl. 99—113.

B.S.A. Tools Ltd.: *See*—
Graf, Ernest H. H., and Randall. 3,260,163.

Babbitt, John F., and O. A. Wurtenberg, to Continental Air Filters, Inc. Indefinite length filter means with programming means. 3,260,037, 7–12–66, Cl. 55—271.

Babler, Siegfried, to Societe de la Viscose Suisse. Polyamide compositions containing a phenol, a phosphate, a manganese salt, and an acid anhydride as stabilizers. 3,260,697, 7–12–66, Cl. 260—45.75.

Bacher, Helmut, and E. R. Seitter, to Weinschel Engineering Co., Inc. Multi-layer card attenuator for microwave frequencies. 3,260,971, 7–12–66, Cl. 333—81.

Bacon, James C., to Alcan Aluminum Corp. Solar screen. 3,260,026, 7–12–66, Cl. 52—473.

Badger, Alfred E., to Libby-Owens-Ford Glass Co. Method of controlling temperatures in sheet glass with heat absorptive material. 3,260,584, 7–12–66, Cl. 65—60.

Baer, Russel F., to Monsanto Co. Double crimping apparatus. 3,259,953, 7–12–66, Cl. 28—1.

Bailey, Joseph, to Eastman Kodak Co. Dyes for photographic filter and antihalation layers. 3,260,601, 7–12–66, Cl. 96—84.

Baird, William G., Jr.: *See*—
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Bajars, Laimonis, to Petro-Tex Chemical Corp. Hydrocarbon dehydrogenation. 3,260,767, 7–12–66, Cl. 260—680.

Bajulaz, Roger. Carrying element. 3,260,353, 7–12–66, Cl. 198—156.

Baker Co., Inc., The: *See*—
Potenzo, Frank A., and Shearer. 3,260,783.

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Ball, John: *See*—
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Argoudelis, Alexander D., and Bannister. 3,260,749.

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Banziger, Ralph, and H. L. Newmark, to Hoffmann- La Roche Inc. Rodenticide comprising 3-[1'-(p-chlorophenyl)-propyl]-4-hydroxycoumarin and β-diethylaminoethyl diphenylpropylacetate. 3,260,645, 7–12–66, Cl. 167—46.

Barker, John B., and G. R. Dence, to Richards Structural Steel Co. Ltd. Motor driven rotary dispensing valve. 3,260,420, 7–12–66, Cl. 222—333.

Barnes, Charles M.: *See*—
Larsen, Lester J., Barnes, and Wortz. 3,260,165.

Barnes, Robert H., to Pharmaseal Laboratories. Machine for orienting small parts. 3,260,347, 7–12–66, Cl. 198—33.

Barraclough, R. W., Ltd.: *See*—
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Barringer, Howard S.: *See*—
Jens, Wayne H., Edlund, Barringer, Davidson, Klotz, Nims, Miller, and Palmer. 3,260,649.

Barton, George C., to United Shoe Machinery Corp. Tension responsive feed means for die cutting presses. 3,260,144, 7–12–66, Cl. 83—203.

Bason, James M., to Bason and Sons Ltd. Mechanical handling apparatus. 3,260,379, 7–12–66, Cl. 214—6.

Bason and Sons Ltd.: *See*—
Bason, James M. 3,260,379.

Bata, George L., and D. C. Fraser, to Union Carbide Canada Ltd. Stress crack resistant polyethylene composition containing zinc-2-benzamidothiophenate. 3,260,695, 7–12–66, Cl. 260—41.

Batteram, Carl J. Bed attached shelf. 3,259,923, 7–12–66, Cl. 5—332.

Bauer, Klaus: *See*—
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Beach, Laurence R., Jr., and R. J. Black, to International Business Machines Corp. Magnetic detent mechanism. 3,260,870, 7–12–66, Cl. 310—14.

Beachem, Michael T., to American Cyanamid Co. Novel imidazolidinones and their use as textile finishing agents. 3,260,565, 7–12–66, Cl. 8—116.3.

Beacon Mfg. Co.: *See*—
Owen, Charles D. 3,260,640.

Beam, Chester R.: *See*—
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Beard, William E., to C. F. Butz Engineering. Grinding mill and blower combination. 3,260,468, 7–12–66, Cl. 241—43.

Becke, Margot, and A. Debo, to Olin Mathieson Chemical Corp. Catalytic process for polymerizing tetrahydrofuran. 3,260,684, 7–12–66, Cl. 260—2.

Becker, Rudolf, to Linde Aktiengesellschaft. Regenerative heat exchange in low temperature gas fractionation. 3,260,056, 7–12–66, Cl. 62—13.

Becker, Rudolf, to Linde Atkiengesellschaft. Two stage rectification process for separating a mixture of ethane, ethylene and acetylene. 3,260,057, 7–12–66, Cl. 62—17.

Beckham, George S. Concrete form. 3,260,493, 7–12–66, Cl. 249—48.

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Beermann, Paul, and W. Gross-Benne, to Richard Rinker, Firma. Detonator. 3,260,206, 7–12–66, Cl. 102—70.

Beerwald, Hans: *See*—
Jellinek-Fink, Peter, Jordan, Anger, Beerwald, Fay, and Hintz. 3,260,865.

Behnke, Floyd A., to International Business Machines Corp. Associative memory logical connectives. 3,261,000, 7–12–66, Cl. 340—172.5.

Belscher, Philip F.: *See*—
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Belak, Steven G., to Sun Oil Co. Method of reclaiming waste asphaltic material. 3,260,610, 7–12–66, Cl. 106—283.

Belko, William R., Jr., to Vitramon Inc. Method and apparatus for making electrical unit. 3,260,196, 7–12–66, Cl. 101—129.

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Kay, Arthur M. 3,261,020.
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Saari, Veikko R. 3,260,950.
Schmal, Richard L. 3,260,965.
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Belmore, Edward A.: *See*—
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Bencene, Robert C., and M. T. Phelps, to Weber-Knapp Co. Library index card file knob and rod retainer. 3,260,263, 7–12–66, Cl. 129—16.

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Polye, William R. 3,260,849.
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Wilson, Robert A. 3,259,989.

Benham, Oliver C., Jr., to Texas Industrial Mfg. Co. Apparatus for dispensing liquids. 3,260,409, 7–12–66, Cl. 222—20.

Benson, Carl F., and J. H. Cowles, to The Torrington Co. Cage for overrunning clutch rollers. 3,260,333, 7–12–66, Cl. 192—45.

Benson, James M., and C. E. Hawk, to Hastinga-Raydist, Inc. Heat transfer measuring apparatus. 3,260,113, 7–12–66, Cl. 73—359.

Bentley, John M., to Westinghouse Electric Corp. Analog-to-digital conversion system. 3,261,012, 7–12–66, Cl. 340—347.

Beres, John F., and H. L. Weil, to Philco Corp. Transistor amplifier with bias compensation. 3,260,946, 7–12–66, Cl. 330—17.

Bergantini, Attilio R., to Kaiser Steel Corp. Apparatus for the production of beams, girders, or the like. 3,260,438, 7–12–66, Cl. 228—6.

Berghaus, Bernhard, and H. Muster. Device for avoidance of irregular changes of the discharge condition for discharge vessels provided for high current glow discharges. 3,260,892, 7–12–66, Cl. 315—306.

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Bergstrom, Swan E., L. A. Dever, and D. I. McDonald, to The Cincinnati Milling Machine Co. Automatic tool change mechanism for machine tool. 3,259,976, 7–12–66, Cl. 29—568.

Bergunder, Roy, ½ to R. Jousma. Air pressure gauge for pneumatic tires. 3,260,233, 7–12–66, Cl. 116—34.

Berman, Robert A., to Medical Plastics Inc. Naso-pharyngeal-esophageal device. 3,260,258, 7–12–66, Cl. 128—29.

Bernard, John S. Multiple pump apparatus. 3,260,211, 7–12–66, Cl. 103—4.

Berndt, Edward W., to Salsbury Laboratories. Process of preparing 2-aminoquinoxaline. 3,260,720, 7–12–66, Cl. 260—250.

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Napp, Sidney M. 3,260,019.

Besse, Arthur L., Jr.: *See*—
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Bethea, Malcolm, Jr. Apparatus for suspending a conductor from an insulator. 3,260,795, 7–12–66, Cl. 174—144.

Biber, Albert, O. A. Davis, Sr., and B. R. Walsh, to Gulf Research & Development Co. Process of aspirating and spraying using a swirling fluid jet. 3,260,461, 7–12–66, Cl. 239—8.

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Newman, Charles J., and Biere. 3,260,559.

Birtcher Corp., The: *See*—
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Bisnett, Bernard J., and R. M. Heintz, to Linear Systems, Inc. Variable inductor and capacitor tuning apparatus. 3,260,973, 7–12–66, Cl. 30—69.

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Black and Decker Mfg. Co., The: *See*—
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Black, James J., J. E. Gutridge, R. B. Bergstrand, and W. Van Der Sluys, to Pullman Inc. Container car and container therefor. 3,260,223, 7–12–66, Cl. 105—366.

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Blair, Boyd C., to Brackett Stripping Machine Co., Inc. Feeding and taping machine. 3,260,516, 7–12–66, Cl. 270—57.

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Shaw, Harry, Pearce, and Blair. 3,260,033.

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Blaskowski, Henry J., to Combustion Engineering, Inc. Vapor generator steam temperature control. 3,260,244, 7–12–66, Cl. 122—33.

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Fillmore, William E., and Blaylock. 3,260,422.
Fillmore, William E., and Blaylock. 3,260,423.

Bloch, Herman S., and G. R. Donaldson, to Universal Oil Products Co. Recovery of hydrogen bromide from dilute fluids containing bromides. 3,260,568, 7–12–66, Cl. 23—154.

Blough, Glenn W., and J. H. Faunce, to United States Steel Corp. Ladle transport car. 3,260,221, 7–12–66, Cl. 105—148.

Blue, William C., to Westinghouse Air Brake Co. Automatic feeder system for mold shake-out. 3,259,946, 7–12–66, Cl. 22—95.5.

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Bodek, Ralph, and B. A. Di Flavis, to Bodek Enterprises, Inc. Pick-proof lock. 3,260,082, 7–12–66, Cl. 70—421.

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Bohnert, Arthur F., and W. A. Vanick, to Enterprise Paint Mfg. Co. Coated paper containers, method of coating and compositions therefor. 3,260,690, 7–12–66, Cl. 260—29.7.

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Booe, James M., to P. R. Mallory & Co., Inc. Electrical capacitor having an oxide dielectric and a cooperating dielectric material. 3,260,904, 7–12–66, Cl. 317—258.

Boothe, Willis A., to General Electric Co. Fluid-operated error sensing circuit. 3,260,456, 7–12–66, Cl. 235—200.

Borcherdt, Walter O., to B. H. Hadley Inc. Thermal responsive high pressure butterfly valve seal means. 3,260,496, 7–12–66, Cl. 251—171.

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Newton, Alwin B. 3,260,064.

Borman, August H., Jr., to General Motors Corp. Drive sustaining device. 3,260,331, 7–12–66, Cl. 188—72.

Bosch, Robert, G.m.b.H.: *See*—
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Bostwick, Kenneth V., to International Business Machines Corp. Flat cable strain relief. 3,260,982, 7–12–66, Cl. 339—17.

Bostwick, Robert A., to A. T. Ferrell & Co. Follow up motor control system including provision for braking. 3,260,908, 7–12–66, Cl. 318—28.

Boughton, Olin W., to American Optical Co. Microscope adjustment mechanism with coaxial coarse and fine adjustment shafts and differential screw means. 3,260,157, 7–12–66, Cl. 88—39.

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Thornton, Harry E. 3,260,773.

Bowen, G. L., & Co.: *See*—
Bowen, Glen L., and Lemon. 3,260,134.

Bowen, Glen L., and R. W. Lemon, to G. L. Bowen & Co. Controlled steering differential with external brakes. 3,260,134, 7–12–66, Cl. 74—710.5.

Bowers, Rolland L. Road repair apparatus. 3,260,176, 7–12–66, Cl. 94—39.

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Boyd, William C. Injector razor blade. 3,259,982, 7–12–66, Cl. 30—353.

Boyer, Charles J.: *See*—
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Parr, Edward A. 3,260,437.

Williams, Donald G.: *See*—
Parr, Edward A. 3,260,437.

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Brahm, Charles B., to United Aircraft Corp. Inverter clamping circuit. 3,260,921, 7–12–66, Cl. 321—45.

Brand, George W., P. Hartmann, and A. A. Schmitz, to Hartmann Mfg. Co. Fluid pump or motor with geared roller abutments. 3,260,166, 7–12–66, Cl. 91—82.

Brandt, Roger, and R. W. Kaercher, to American Can Co. Collapsible container structure. 3,260,410, 7–12–66, Cl. 222—107.

Brandt, Roger, to American Can Co. Method of making a collapsible container structure. 3,260,777, 7–12–66, Cl. 264—262.

Brannen, Cecil G., and J. A. Wuellner, to Standard Oil Co. Lubricant additives comprising copolymers of alkenex with acetals or ketals. 3,260,710, 7–12–66, Cl. 260—88.1.

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Braunig, Friedrich, and D. Folkens, to Olympia Werke Ag. Operation control circuit arrangement for typewriters or the like. 3,260,341, 7–12–66, Cl. 197—19.

Bray, Frederick H., and F. Ambrosino, to International Standard Electric Corp. Electrical pulse arrangements. 3,260 800, 7–12–66, Cl. 179—9.

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Lannert, James W., and Brehm. 3,260,300.

Brenner, William C., to Westinghouse Electric Corp. Magnetic flux producing arrangement. 3,260,868, 7–12–66, Cl. 310—11.

Bresch, Sterling P. Snow pusher having equalizer guide scraper tongue member. 3,260,002, 7–12–66, Cl. 37—53.

Brewer, George E. F. Method of improving the capability of a paint composition to produce a coating of uniform appearance. 3,260,616, 7–12–66, Cl. 117—93.4.

Bridgeman, Richard C., to Vapor Corp. Direct current voltage converter. 3,260,924, 7–12–66, Cl. 323—18.

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Young, Reginald S. 3,260,927.

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Yeo, Alan A., and Mowll. 3,260,667.

British Titan Products Co. Ltd.: *See*—
Kyle, Thom I. 3,260,608.
Twist, Walter, Haigh, and Ball. 3,260,467.

Broadbent, Wallace, F. L. Rose, and A. L. Walpole, to Imperial Chemical Industries Ltd. of London. Bis-(N-acetylhydrazino-N-carbonylmethyl) disulphide. 3,260,746, 7–12–66, Cl. 260—561.

Broadhead, Samuel L., Jr., to Collins Radio Co. Tunable phase shift resonant circuit stabilized crystal oscillator. 3,260,959, 7–12–66, Cl. 331—16.

Brockmuller, Friedrich F., to Windmöller & Hölocher. Bag making device. 3,260,171, 7–12–66, Cl. 93—19.

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Quaas, Joseph F., and Broderick. 3,259,973.

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Broken Hill Associated Smelters, Proprietary Ltd., The: *See*—
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Brooks, Warren B., to Mobil Oil Corp. Deep-sea mining method. 3,260,004, 7–12–66, Cl. 37—195.

Brooks, William G., to A. R. Winarick, Inc. Electrolytic stripping of platings from aluminum and zinc articles. 3,260,660, 7–12–66, Cl. 204—146.

Bross, Helmut, to Ritter, Jacob, K.G. Writing tool. 3,260,241, 7–12–66, Cl. 120—42.03.

Brown, Cicero C. Liner cementing apparatus. 3,260,309, 7–12–66, Cl. 166—124.

Brown, Cicero C. Screw-set high-pressure packer. 3,260,310, 7–12–66, Cl. 166—131.

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Brown Fintube Co.: *See*—
Brown, John W., Jr., Buesing, and Kaiser. 3,260,591.

Brown, James H. P. Rock and roll cylinder. 3,260,523, 7–12–66, Cl. 272—1.

Brown, John W., Jr., A. C. Buesing, and F. T. Kaiser, to Brown Fintube Co. Propelling of addition agents into melts. 3,260,591, 7–12–66, Cl. 75—53.

Brown, Mackenzie P., J. A. Junck, and J. E. Scheidt, to Caterpillar Tractor Co. Hydraulic steering system. 3,260,323, 7–12–66, Cl. 180—79.2.

Brown, Oliver L. I., M. P. Wilson, Jr., and R. L. Schonewald, to General Dynamics Corp. Centrifugal filter. 3,260,039, 7–12–66, Cl. 55—403.

Brown, Owen. Multi-functional phonograph. 3,260,529, 7–12–66, Cl. 274—10.

Brown, Richard F., to Southern Nitrogen Co., Inc. Combination cooler-dryer. 3,259,999, 7–12–66, Cl. 34—135.

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Bryla, Theodore N., to Aerojet-General Corp. Explosive connector assembly. 3,260,202, 7–12–66, Cl. 102—27.

Buch, Philip O., to Stapling Machines Co. Stackable knockdown wirebound container. 3,260,396, 7–12–66, Cl. 217—43.

Buchmayer, Manfred, and B. K. V. Lillsunde, to Telefonaktiebolaget LM Ericsson. Arrangement for code signalling in automatic telephone exchanges. 3,260,801, 7–12–66, Cl. 179—84.

Rosengarten, Walter E. Jr., and L. L. Copeland; said Copeland assor. to said Buczala and said Rosengarten. Expendable mold and method for sealing joints in gas mains. 3,260,280, 7–12–66, Cl. 138—97.

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Brown, John W., Jr., Buesing, and Kaiser. 3,260,591.

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Lowell, Frank. 3,260,186.

Bunge, Konrad, and O. Koch, to Farbenfabriken Bayer Aktiengesellschaft. Measuring the water content of photographic layers. 3,260,850, 7–12–66, Cl. 250—219.

Burden, Robert W., and O. G. Robbins, to United States of America, Army. Helicopter engine exhaust ejector. 3,260,483, 7–12–66, Cl. 244—53.

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Burge, William G. Vertical boring mills. 3,260,140, 7–12–66, Cl. 82—2.

Burns, Joseph R., and R. A. Powlus, to Radio Corp. of America. Threshold circuit utilizing field-effect transistors. 3,260,863, 7–12–66, Cl. 307—88.5.

Burr, Donald W., to Minister of Aviation in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Non-rigid servo-controlled aerial structures. 3,261,016, 7–12–66, Cl. 343—100.

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Burroughs Corp.: *See*—
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Kuchinsky, Saul. 3,260 881.
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Buyken, Frank E. Method of making a form tie. 3,259,930, 7–12–66, Cl. 10—155.

Buyken, Frank E. Form tie. 3,260,495, 7–12–66, Cl. 249—214.

Buzzi, Ugo, to Anstalt Europaische Handelsgesellschaft. Transit wheel for rotor with stationary and radial movable contacts. 3,260,804, 7–12–66, Cl. 200—8.

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Caldwell, John R., and G. P. Touey, to Eastman Kodak Co. Allyl and methallyl esters of sulfo-aliphatic acids, and interpolymers thereof with acrylonitrile. 3,260,707, 7–12–66, Cl. 260—79.3.

Callahan Industries, Inc.: *See*—
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Callahan, James L., B. Gertisser, and R. Grasselli, to The Standard Oil Co. Oxidative dehydrogenation of olefins using an antimony oxide-iron oxide catalyst. 3,260,768, 7–12–66, Cl. 260—680.

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Campbell, Von C., C. S. Herrick, and H. A. Hornbeck, to General Electric Co. Output window arrangement for a light valve projector. 3,260,798, 7–12–66, Cl. 178—7.87.

Camplon, Rosana. Convertible tire. 3,260,294, 7–12–66, Cl. 152—176.

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Cannon Mills Co.: *See*—
Farabee, George W. 3,260,147.

Canter, Morris. Seal press. 3,260,966, 7–12–66, Cl. 81—15.

Canter, Walter H., Jr., to Industrial Nucleonics Corp. Moisture computer and control system for processing materials having high, indeterminate moisture contents. 3,260,642, 7–12–66, Cl. 162—252.

Cantoni, John D., A. W. Gerrans, and R. W. Selleck, to Sunsweet Growers, Inc. Apparatus for pitting drupaceous fruit. 3,260,291, 7–12–66, Cl. 146—17.

Caparone, Michael J., and M. M. Graham, to Robertshaw Controls Co. Forced air heating control systems. 3,260,459, 7–12–66, Cl. 236—80.

Carlson, Carl O.: *See*—
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Carr, Gibson F., to Olin Mathieson Chemical Corp. Telescope sight for top-ejecting firearms. 3,259,986, 7–12–66, Cl. 33—50.

Cartier, Roger J., to Controls Co. of America. Switch and blade therefor having meandering sections for contact pressure. 3,260,828, 7–12–66, Cl. 200—166.

Casady, Claude E. Receptacle and interlocking resilient flange support means therefor. 3,260,038, 7–12–66, Cl. 55—373.

Case, J. I., Co.: *See*—
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Central Research Laboratories, Inc.: *See*—
Jelatis, Demetrius G., Olsen, and Haaker. 3,260,530.

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Houot, Georges H. 3,260,540.

Cepluch, Dale B. Portable bowling alley. 3,260,524, 7–12–66, Cl. 273—51.

Chall, Harold J., to Friden Inc. Calculating machine. 3,260,448, 7–12–66, Cl. 235—60.18.

Champion Laboratories, Inc.: *See*—
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Chanal Plastics Corp.: *See*—
Karp, Albert E. 3,260,394.

Chapman, Edward C., to Combustion Engineering, Inc. Tube manufacture. 3,259,975, 7–12–66, Cl. 29—528.

Check, Mathias M., to Eaton Yale & Towne Inc. Door hold-open device. 3,260,545, 7–12–66, Cl. 292—263.

Chemical Products Corp.: *See*—
Hogan, Edward F. 3,260,657.

Chicago Dryer Co.: *See*—
Kamberg, Eduard F., and Roberts. 3,260,518.

Chicago Pneumatic Tool Co.: *See*—
Rudy, Stephen J., and Amtsberg. 3,260,509.

Chiddister, Jerry L., and D. R. Snoevenbos, to General Motors Corp. Conveyor apparatus. 3,260,354, 7–12–66, Cl. 198—184.

Childsey, Francis A., Jr., and W. C. Hasselo, to Container Corp. of America. Multi-unit carrier package for cylindrical cans. 3,260,361, 7–12–66, Cl. 206—065.

Chiffolot, Pierre A., and J. G. L. Desnoyers, to Commissariat a l'Energie Atomique. Method of and machine for cutting rectilinear flanges. 3,260,158, 7–12–66, Cl. 90—11.

Child, Roland H., to The Steel Co. of Canada Ltd. Double head side trimmer. 3,260,146, 7–12–66, Cl. 83—479.

Christen, Gilbert P., and M. Ruaud, to Rhone-Poulenc S.A. Production of vinyl chloride polymers. 3,260,711, 7–12–66, Cl. 260—92.8.

Chudovan, John: *See*—
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Churchward, Philip E., to United States of America, Interior. Process for the recovery of rhenium. 3,260,658, 7–12–66, Cl. 204—109.

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Jones, Trevor W. 3,260,643.

Cincinnati Milling Machine Co., The: *See*—
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Groppe, Donald J., Dever, and Brasington. 3,260 127.

Cipriano Nicholas A. Toilet flush tanks. 3,259,919, 7–12–66, Cl. 4—68.

Circuit Controls Corp.: *See*—
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Citroen, Andre, Societe anonyme: *See*—
Henry-Biabaud, Edmond. 3,260,543.

Claessens, Werner, to Rekuperator KG., Dr.-Ing. Schack & Co. Metallurgical furnace. 3,260,512, 7–12–66, Cl. 263—15.

Clamp, David W. L., to Girling Ltd. Batch weighing of flowable material with supply cut-off timed to anticipate falling material in transit. 3,260,320, 7–12–66, Cl. 177—1.

Clark, Oscar M., to Motorola, Inc. Method of etching a semiconductor wafer to provide tapered dice. 3,260,634, 7–12–66, Cl. 156—17.

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Millar, John J., and Currier. 3,260,072.

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Fillmore, William E., and S. L. Blaylock, Jr., to Owens-Illinois, Inc. Shaker or sifter-type dispensers. 3,260,423, 7–12–66, Cl. 222—485.
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Becker, Rudolf. 3,260,057.

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Godbey, John K., to Mobil Oil Corp. Device for recording temperature. 3,260,111, 7–12–66, Cl. 73—356.
Godbey, John K., H. D. Hodges, and R. F. Burdyh, to Mobil Oil Corp. Temperature-recording device and method. 3,260,112, 7–12–66, Cl. 73—356.
Godfrey, John N., and M. G. De Fries, to Atlantic Research Corp. Cartridge cases from fibrous nitrocellulose and alkaline catalyzed phenolic resin. 3,260,203, 7–12–66, Cl. 102—43.
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Gregory, James F., to General Motors Corp. Power amplifier employing pulse duration modulation. 3,260,912, 7–12–66, Cl. 318—341.
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Griesser A.G.: *See*—
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Griesser, Friedrich, to Griesser A.G. Venetian blind and the like. 3,260,302, 7–12–66, Cl. 160—170.
Groff, Emory L., to E. L. Groff, Jr. Holder for automobile identification means. 3,260,486, 7–12–66, Cl. 248—41.
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Groff, Emory L. 3,260,486.
Groov-Pin Corp.: *See*—
Colman, George. 3,260,150.
Groppe, Donald J., L. A. Dever, and R. C. Brasington, to The Cincinnati Milling Machine Co. Machine tool transmission. 3,260,127, 7–12–66, Cl. 74—339.
Gross-Benne, Willi: *See*—
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Newman, Charles J., and Biere. 3,260,559.
Grove, Marvin H. Gate valve construction. 3,260,503, 7–12–66, Cl. 251—329.
Groves, John A., to Adams Brothers Mfg. Co. Pressure bottle filling apparatus. 3,260,286, 7–12–66, Cl. 141—21.
Gruber, Bernard A., to Monsanto Co. Boron phosphides. 3,260,571, 7–12–66, Cl. 23—204.
Gruber, Bernard A., to Monsanto Research Corp. Tape fed fuel cell. 3,260,620, 7–12–66, Cl. 136—86.
Gruene, Horst, E. Justi, and A. Winsel, to Siemens-Schuckertwerke A.G. and Varta Aktiengesellschaft. Porous sintered body and method of preparation. 3,260,576, 7–12–66, Cl. 29—182.5.
Gruenewaelder, Lou A. Means for centrifugally clarifying water containing sewage sludges and the like. 3,260,369, 17–12–66, Cl. 210—297.
Gruetter, Werner K., G. J. Gendron, H. M. McCall, and H. A. N. Holland, to Raymond International Inc. Apparatus for corrugating metal tubing. 3,260,088, 7–12–66, Cl. 72—103.
Grumbein, Raymond. Gas torch. 3,260,465, 7–12–66, Cl. 239—430.
Grunig, Hans, to Maschinenfabrick Winkler, Fallert & Co. A.G. Cylinder cover clamp. 3,260,200, 7–12–66, Cl. 101—415.1.
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Rice, Rip G., and Grushkin. 3,260,685.
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Guentner, Robert L., and E. P. Thomas, to Westinghouse Electric Corp. X-ray apparatus. 3,260,164, 7–12–66, Cl. 91—5.
Guey, Daniel A., and M. A. Briez, to La Brosse & J. Dupont Reunis. Machine for assembling brushes. 3,260,549, 7–12–66, Cl. 300—5.
Gulf Research & Development Co.: *See*—
Biber Albert, Davis, and Walsh. 3,260,461.
Flinn, Richard A., and Larson. 3,260,666.
Guntert, Ronald M., and W. F. Earley, to Guntert & Zimmerman Const. Div., Inc. Strip paving device. 3,260,178, 7–12–66, Cl. 94—46.
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Borcherdt, Walter O. 3,260,496.
Haganes, Martin. Crane boom constructions. 3,260,374, 7–12–66, Cl. 212—35.

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Lühmann, Reinhold, Hagemann, and Kath. 3,260,215.

Haigh, Harold E.: *See*—
Twist, Walter, Haigh, and Ball. 3,260,467.

Hall, Laurence S., to United States of America, Atomic Energy Commission. Method for reversibly extracting energy from a plasma by magnetic pumping. 3,260,869, 7-12-66, Cl. 310—11.

Hambling, James K., to The British Petroleum Co. Ltd. Process for the production of methylpentenes. 3,260,770, 7-12-66, Cl. 260—683.15.

Hamilton, Hugh A.: *See*—
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Handley, John. Mechanical aggregators. 3,260,450, 7-12-66, Cl. 235—61.

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Hanson, Rudolph A., E. J. Ziegler, and J. E. Fischer, to Yard-Man, Inc. Lawn mower roller adjustment. 3,260,042, 7-12-66, Cl. 56—249.

Happe, Reynold, and D. M. Burris, to The Singer Co. Attachment for sabre saw for flush cutting and side cutting. 3,260,290, 7-12-66, Cl. 143—68.

Harant, Edward W. Garden chemical solution metering device. 3,260,464, 7-12-66, Cl. 239—318.

Hardy, Maurice E., to Zenith Radio Corp. Portable phonographs. 3,260,528, 7-12-66, Cl. 274—1.

Harlow, Norman R., to Tensolite Wire Co., Inc. Method for the continuous extrusion of unsintered polytetrafluoroethylene powder. 3,260,774, 7-12-66, Cl. 264—28.

Harris, Donald A., to Hyster Co. Load engaging mechanism of industrial lift truck. 3,260,392, 7-12-66, Cl. 214—652.

Harris, Guy H., B. C. Fischback, and P. L. Traylor, to The Dow Chemical Co. Parasiticidal and anthelmintic compositions and methods. 3,260,647, 7-12-66, Cl. 167—53.

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Brand, George W., Hartmann, and Schmitz. 3,260,166.

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Harvey, Luke M., to General Electric Co. Cylindrical instrument shunt for large magnitude currents. 3,260,939, 7-12-66, Cl. 324—126.

Hasselblad, Ambrose A. and W. J. Cycle synchronizing apparatus. 3,260,124, 7-12-66, Cl. 74—63.

Hasselblad, Walter J.: *See*—
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Benson, James M., and Hawk. 3,260,113.

Hatch, Loranus P., J. J. Reilly, and E. Wirsing, Jr., to United States of America, Atomic Energy Commission. Pyrolytic carbon decladding. 3,260,574, 7-12-66, Cl. 23—324.

Hathaway, William H., Jr. Adapter adjustment attachment device for a shaft countersunk in a threaded sleeve. 3,260,544, 7-12-66, Cl. 287—104.

Hauck Mfg. Co.: *See*—
Schreter, Robert E., Turpin, and Parker. 3,261,008.

Haun, Robert D., Jr.: *See*—
Kaufman, William M., and Haun. 3,260,953.

Haveg Industries, Inc.: *See*—
Lux, John H., and Tiffin. 3,260,781.

Hawk, Charles E.: *See*—
Benson, James M., and Hawk. 3,260,113.

Hayden, Leland E., to Westinghouse Electric Corp. Tunnel diode majority logic serial binary adder/subtractor. 3,260,841, 7-12-66, Cl. 235—172.

Hayes, Norman J. Animal tags. 3,260,007, 7-12-66, Cl. 40—301.

Hayner, Paul F., to Sanders Associates, Inc. Motor valve having differential pressure feedback. 3,260,273, 7-12-66, Cl. 137—85.

Hazelton, Burton W., and F. R. Kauten, to Pet Milk Co. Method and apparatus for forming a peripheral groove in a tubular body. 3,260,089, 7-12-66, Cl. 72—117.

Hedgepeth, Edward B. Support frame structure for vehicles. 3,260,929, 7-12-66, Cl. 224—42.07.

Heestand, Richard L., and C. F. Leitten, Jr., to United States of America, Atomic Energy Commission. Single-step process for preparation of uranium dioxide from uranium hexafluoride. 3,260,575, 7-12-66, Cl. 23—355.

Helland, Robert J., to The Bendix Corp. Tractor-trailer brake. 3,260,554, 7-12-66, Cl. 303—18.

Heilig, Alfred, and O. Jackle, to Andreas Stihl Maschinenfabrik. Trailer having tilting body adapted for forest use. 3,260,547, 7-12-66, Cl. 298—5.

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Bisnett, Bernard J. and Heintz. 3,260,973.

Heiter, George L., to United States of America, Army. Ferrite frequency converter with dielectric low pass filter. 3,260,852, 7-12-66, Cl. 307—88.3.

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Inwood, Texas V., Helfrey, and Vaell. 3,260,663.

Hellmers, Henry D., J. V. Wiseman, and C. R. Beam, to Stauffer Chemical Co. Process for the recovery of soda ash from Wyoming trona. 3,260,567, 7-12-66, Cl. 23—63.

Hempel, Roy A., to Textron Electronics, Inc. Character reading system employing sequential sensing of matrix input. 3,260,995, 7-12-66, Cl. 340—146.3.

Henegar, Glen P., to Olin Mathieson Chemical Corp. Anode assembly for Mercury cathode cells. 3,260,662, 7-12-66, Cl. 204—279.

Hennig, Fridolin, and J. Von Albedyll, to Agfa Aktiengesellschaft. Cameras with built-in flash assemblies. 3,260,181, 7-12-66, Cl. 95—11.

Henry, John, to Westland Aircraft Ltd. Pleated jet skirting for ground effect machines. 3,260,323, 7-12-66, Cl. 180—7.

Henry-Biabaud, Edmond, to Societe Anonyme Andre Citroen. Ball-and-socket joint. 3,260,543, 7-12-66, Cl. 287—87.

Hentzi, Joffre E. R., to The Stanley Works. Detachable bracket. 3,260,489, 7-12-66, Cl. 248—215.

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Drain, Alfred H. 3,260,129.

Hergenrother, Paul M.: *See*—
Rudner, Bernard, Brumfield, and Hergenrother. 3,260,700.

Herrick, Carlyle S.: *See*—
Campbell, Von C., Herrick, and Hornbeck. 3,260,798.

Herron, Donald E. Coupling for fluid conduits. 3,260,539, 7-12-66, Cl. 285—24.

Heuvel, Johan G. F. Terrain-conforming and torsional-responsive skis. 3,260,531, 7-12-66, Cl. 280—11.13.

Heuvel, Johan G. F. Ski binding mounting and runner construction. 3,260,532, 7-12-66, Cl. 280—11.13.

Hewlett-Packard Co.: *See*—
Hewlett, William R., and Friis. 3,260,936.
Nourney, Carl-Ernst G. 3,260,864.

Hewlett, William R., and H. T. Friis, to Hewlett-Packard Co. High frequency impedance bridge utilizing an impedance standard that operates at a low frequency. 3,260,936, 7-12-66, Cl. 324—57.

Heying, Theodore L., to Olin Mathieson Chemical Corp. Organo-boron-containing quaternary ammonium compounds and a process for their production. 3,260,724, 7-12-66, Cl. 260—295.

Hickner, Richard A., and W. W. Bakke, to The Dow Chemical Co. Certain aryl-substituted-1,1-ethylene-bis-lactam compounds. 3,260,727, 7-12-66, Cl. 260—307.

Hiiro, Koshiro: *See*—
Murakami, Tomohisa, Morisaki, and Hiiro. 3,260,702.

Hill, Kenneth L.: *See*—
Fischer, Milton H., and Hill. 3,260,590.

Hill, Robert L., to The Black-Clawson Co. Paper machinery. 3,260,433, 7-12-66, Cl. 226—5.

Hill, William M., and P. D. J. Dicks. Apparatus for making packages. 3,260,032, 7-12-66, Cl. 53—112.

Hillberg, Robert L., to Olin Mathieson Chemical Corp. Multi-barrel firearm with rotatable and reciprocable hammer. 3,260,009, 7-12-66, Cl. 42—69.

Hilliard, Bryant A., to Esso Research and Engineering Co. Roll stabilization system for tankers. 3,260,231, 7-12-66, Cl. 114—125.

Hilton, Ralph W., to Harvey Aluminum (Inc.). Apparatus for expanding tubular members. 3,260,097, 7-12-66, Cl. 72—393.

Hintz, Eduard: *See*—
Jelinek-Fink, Peter, Jordan, Anger, Beerwald, Fay, and Hintz. 3,260,865.

Hirth, Friedrich: *See*—
Klinkmueller, Horst, and Hirth. 3,259,994.

Hirtzer, Henry J. Insulated connector and method. 3,260,796, 7-12-66, Cl. 174—178.

Hitachi, Ltd.: *See*—
Kawai, Kunio. 3,260,958.

Hodges, Hayden D.: *See*—
Godbey, John K., Hodges, and Burdyn. 3,260,112.

Hodogaya Chemical Co., Ltd.: *See*—
Murakami, Tomohisa, Morisaki, and Hiiro. 3,260,702.

Hoerner Boxes, Inc.: *See*—
Foley, Thomas L. 3,260,440.

Hoffman, Lena B.: *See*—
Rubenstein, Dina G., Hoffman, and Goodman. 3,260,267.

Hoffmann-La Roche Inc.: *See*—
Banziger, Ralph, and Newmark. 3,260,645.

Hofstetter, Orrie L. Lock for rotating shelf. 3,260,560, 7-12-66, Cl. 312—238.

Hogan, Edward F., to Chemical Products Corp. Method of making electrotype plate using removable polyvinyl alcohol film. 3,260,657, 7-12-66, Cl. 204—6.

Hogeman, Wylie B., to Monsanto Co. Process for recovery of adipic acid precursors. 3,260,743, 7-12-66, Cl. 260—533.

Hogeman, Wylie B., to Monsanto Co. Process for recovery of adipic acid precursors. 3,260,742, 7-12-66, Cl. 260—533.

Holden, Edward F. Automatic fish feeder. 3,260,238, 7-12-66, Cl. 119—5.

Holewinski, Francis J.: *See*—
Rapprich, David D., and Holewinski. 3,260,596.

Holfelder, August A., and F. E. List, to G & H Mechanical Laboratory, Inc. Copyholder and paper support. 3,260,240, 7-12-66, Cl. 120—32.

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Honeywell Inc.: *See*—
Gordon, Robert E. 3,260,848.

Honore, Etienne, and E. Torcheux, to Compagnie Generale de Telegraphie Sans Fil, and Societe Marocaine de Recherches, d'Etudes et de Developpements Somarede. Transformer devices for electrical computers and other applications. 3,260,925, 7-12-66, Cl. 323—76.

Hoogstoel, Leon E.: *See*—
Zimmer, William F., Jr., and Hoogstoel. 3,260,582.

Hooker Chemical Corp.: *See*—
Rosenberg, David S., and Belmore. 3,260,059.

Hoover, Wayne: *See*—
Metrailer, William J., and Hoover. 3,260,664.

Horie, Hidemaru, to Takara Co., New York, Inc. Chair raising and lowering mechanism. 3,260,051, 7-12-66, Cl. 60—52.

Hornbeck, Harold A.: *See*—
Campbell, Von C., Herrick, and Hornbeck. 3,260,798.

Horseling, Jan, to North American Philips Co., Inc. Glow discharge indicator tube. 3,260,882, 7-12-66, Cl. 313—109.5.

Horton, Earl A., to Yale & Towne, Inc. Truck with power means for moving vacuum gripping device. 3,260,391, 7-12-66, Cl. 214—650.

Hotel Security Systems Corp.: *See*—
Wellekens, John F. 3,260,080.

Houot, Georges H., to Centre de Recherches de Pont-a-Mousson. Plastic pipe and coupling including said pipe. 3,260,540, 7-12-66, Cl. 285—110.

Hoveland, Julian C., to M. D. Muttart. Taper and mastic applicator. 3,260,638, 7-12-66, Cl. 156—575.

Howard, Carl G. Adjustable voltage transformer. 3,260,975, 7-12-66, Cl. 336—133.

Howard, Thomas W., ½ to Metro-Goldwyn-Mayer British Studios Ltd. Production of composite cinematograph films. 3,260,563, 7-12-66, Cl. 352—45.

Howe Sound Co.: *See*—
Feagin, Roy C. 3,259,948.

Hubel, Karl W., and E. L. Weiss, to Union Carbide Corp. Reaction of metal carboxyls with 5 membered cyclic dienes and compounds produced thereby. 3,260,730, 7-12-66, Cl. 260—332.1.

Hudis, Michael I., to Rex Chainbelt Inc. Laying reinforced concrete pavement. 3,260,177, 7-12-66, Cl. 94—39.

Huelsman, Ken A., and J. E. Deavenport, to Hughes Aircraft Co. Converter. 3,260,943, 7-12-66, Cl. 328—69.

Huggins Laboratories, Inc.: *See*—
Ayers, Walter R. 3,260,944.

Hughes Aircraft Co.: *See*—
Huelsman, Ken A., and Deavenport. 3,260,943.

Hughes, Franklin. Come-along attachment for power line cables. 3,260,507, 7-12-66, Cl. 254—134.3.

Hughes Tool Co.: *See*—
Scales, Stanley R., and Wisler. 3,260,579.

Hull, Jerry R.: *See*—
Hull, R. Dell, R. E. and J. R. 3,259,996.

Hull, R. Dell, R. E. and J. R. Portable laundry dryer. 3,259,996, 7-12-66, Cl. 34—53.

Hull, Roy E.: *See*—
Hull, R. Dell, R. E. and J. R. 3,259,996.

Hull, Richard D., D. G. Hanefeld, and K. Bye, to Moore Business Forms, Inc. Web tension meter. 3,260,106, 7-12-66, Cl. 73—144.

Hultgren, William H., to Champion Laboratories, Inc. Oil filter with removable housing. 3,260,367, 7-12-66, Cl. 210—130.

Humber Ltd.: *See*—
West, Adrian W., and Lewis. 3,260,132.

Humberg, Willi. Deflagrating metallic cutting torch. 3,260,076, 7-12-66, Cl. 67—34.

Hunt, Arlon J., H. N. Oredson, E. J. Torok, and R. A. White, to Sperry Rand Corp. Method of measuring the easy-axis and Hk probability density functions for thin ferromagnetic films using the longitudinal permeability hysteresis loop. 3,260,928, 7-12-66, Cl. 324—34.

Hunter Manufacturing Co.: *See*—
Lister, George H. 3,260,299.

Huntley, Keith G., and S. R. Stagg, to Farrington Business Machines Corp. Platen mechanism for printing machines. 3,260,199, 7-12-66, Cl. 101—269.

Hupp Corp.: *See*—
Spooner, Richard C. 3,260,298.

Hurwitz, Henry, Jr., and G. W. Sutton, to General Electric Co. Method of electric power generation. 3,260,867, 7-12-66, 310—11.

Huson, Gale, to Signode Corp. Gripper mechanism for strapping tools. 3,260,506, 7-12-66, Cl. 254—151.

Hydraulic Unit Specialties Co.: *See*—
Vilter, Thomas R. 3,260,377.

Hypro Inc.: *See*—
Sadler, Harry J., and Cook. 3,260,541.

Hyster Co.: *See*—
Harris, Donald A. 3,260,392.

IIT Research Institute: *See*—
Reynolds, William E., Bella, and Diouhy. 3,260,268.

Iacono, Carmelo J.: *See*—
Von Wiesenthal, Peter and Iacono. 3,260,243.

Ichikawa, Hirohiko: *See*—
Minamiyama, Kozo, Ninomiya, Ichikawa and Matsumoto. 3,260,415.

Illich, George M., Jr., to Abbott Laboratories. Freeze drying method and apparatus. 3,259,991, 7-12-66 Cl. 34—5.

Illinois Tool Works Inc.: *See*—
Politis, Charles J. 3,259,942.
Wieber, George L. 3,260,100.

Ilnyckyj, Stephan, to Esso Research and Engineering Co. Process for polymerizing ethylene with lauryl methacrylate and N-vinyl-2-pyrrolidone. 3,260,728, 7-12-66, Cl. 260—326.3.

Imperial Chemical Industries Ltd.: *See*—
Crowther, Albert F., and Young. 3,260,740.
Floyd, Arthur J. 3,260,719.
Greer, Kent R. 3,260,511.
Marshall, Dennis. 3,260,769.
McGee, Leonard L., and Parker. 3,260,655.
Nield, Eric. 3,260,709.

Imperial Chemical Industries Ltd. of London: *See*—
Broadbent, Wallace, Rose, and Walpole. 3,260,746.

Industrial Nucleonics Corp.: *See*—
Canter, Walter H., Jr. 3,260,642.

Inman, Thomas R., to United Elastic Corp. Innerspring mattress or cushion. 3,259,924, 7-12-66, Cl. 5—354.

Institut de Recherches de la Siderurgie Francolae: *See*—
Leclere, Jean-Claude, and Rouanet. 3,259,998.

Interchemical Corp.: *See*—
Otto, Edward C. 3,260,613.

International Basic Economy Corp.: *See*—
Raymond, Robert E. 3,260,501.

International Business Machines Corp.: *See*—
Beach, Laurence R., Jr., and Black. 3,260,870.
Behnke, Floyd A. 3,261,000.
Bostwick, Kenneth V. 3,260,982.
Diaz, Joe. 3,261,014.
King, Lewis E. 3,260,840.
Locklar, Henry C., and Sims. 3,260,340.

International Harvester Co.: *See*—
Di Milla, Salvatore J. 3,260,542.

International Standard Electric Corp.: *See*—
Bray, Frederick H., and Ambrosino. 3,260,800.

International Telephone and Telegraph Corp.: *See*—
Mast, Paul L. 3,261,018.

Interstate Bakeries Corp.: *See*—
Enoch, Duard W., Kieffaber, Perkins, Schroeder, and Stickelber. 3,260,031.

Inwood, Texas V., P. F. Helfrey, and R. P. Vaell, to Union Oil Co. of California. Multi-stage hydrocracking process. 3,260,663, 7-12-66, Cl. 208—59.

Iowa State University Research Foundation, Inc.: *See*—
Wheelock, Thomas D., and Boylan. 3,260,035.

Ito, Kenkichi, T. Akashi, and S. Tatsumi, to Ajinomoto Co., Inc. Method of optically resolving racemic amino acids. 3,260,744, 7-12-66, Cl. 260—534.

Ito, Tsutomu: *See*—
Asano, Tadashi, Masuda and Ito. 3,260,514.

Ito, Teiji: *See*—
Moritz, Sadayoshi, Ito, Nishi, and Fujimori. 3,259,970.

Ives, Clifford E., and R. J. Straub, to United States Gypsum Co. Continuous folding of paper or the like. 3,260,639, 7-12-66, Cl. 156—594.

Ives, Henry D.: *See*—
Abbott, Tirey C., Jr., Carlson, Ives, and Rondas. 3,260,153.

Iwai, Rinzo, and S. Kawamura, to Fujitsu Ltd. High-speed tape perforator. 3,260,446, 7-12-66, Cl. 234—108.

Iwasaki, Koichiro: *See*—
Nakano, Sonji, Iwasaki, and Fukutani. 3,260,698.

Jackson, John A., to E. K. Cole, Ltd. Control apparatus. 3,260,378, 7-12-66, Cl. 214—1.6.

Jacobsen, Edward H., to General Electric Co. Apparatus for producing sonic vibrations at X-band microwave frequencies and higher. 3,260,969, 7-12-66, Cl. 333—30.

Jacobsen, Paul W., to H. G. Weber, and Co., Inc. Fluid pressure operated sensing system. 3,260,434, 7-12-66, Cl. 226—15.

Jacobsen, Paul W., to H. G. Weber, and Co., Inc. Fluid pressure operated sensing system. 3,260,435, 7-12-66, Cl. 226—15.

Jacobssen, Einar G. B., to North American Philips Co., Inc. Apparatus for visual investigation of objects by means of photocell. 3,260,851, 7-12-66, Cl. 250—223.

James, Harry A., to The Ryan Aeronautical Co. Propulsion unit with vectored thrust control. 3,260,476, 7-12-66, Cl. 244—7.

Jamieson, John W.: *See*—
Malavazos, Arthur J., and Jamieson. 3,260,451.

Jaulmes, Eric, to Ateliers de la Motobecane. Collapsible bicycle. 3,260,535, 7-12-66, Cl. 280—279.

Jausiin, Alfred. Reflector strip. 3,260,372, 7-12-66, Cl. 211—13.

Javaux, Gustave, to Glaverbel. Process and apparatus for manufacturing a fire-polished glass strip. 3,260,585, 7-12-66, Cl. 65—65.

Jeanneret, Jules L. Cutting tool apparatus. 3,259,960, 7-12-66, Cl. 29—96.

Jeanneret, Jules L. Tool-holder for lathes and the like machine-tool. 3,260,141, 7-12-66, Cl. 82—36.

Jeans, Richard T., to Cubic Corp. Direct drive push-button rotary switch. 3,260,806, 7-12-66, Cl. 200—11.

Jeffrey, William B., to Westinghouse Air Brake Co. Electropneumatic brake control apparatus. 3,260,553, 7-12-66, Cl. 303—16.

Jegge, Charles: *See*—
Domen, Charles, Ryckaert, and Jegge. 3,260,760.

Jelatis, Demetrius G., R. A. Olsen, and L. W. Haaker, to Central Research Laboratories, Inc. Rotary mechanical seal. 3,260,530, 7-12-66, Cl. 277—2.

Jelinek-Fink, Peter, H. Jordan, W. Anger, H. Beerwald, H. Fay, and E. Hintz, to Kernforschungsanlage Julich des Landes Nordrhein-Westphalia. Generator of high-energy electromagnetic surges. 3,260,865, 7-12-66, Cl. 307—109.

Jenkins, Fred W.: *See*—
Dickson, Woodrow J., and Jenkins. 3,260,365.

Jennings Radio Mfg. Corp.: *See*—
McClaffin, Robert D., and Tilman. 3,260,967.

Jennings, Thomas J., to Shell Oil Co. Process for preparing furonitrile. 3,260,731, 7-12-66, Cl. 260—346.1.

Jens, Wayne H., M. C. Edlund, H. S. Barringer, J. K. Davidson, C. E. Klotz, J. B. Nims, R. S. Miller, and R. G. Palmer, to United States of America, Atomic Energy Commission. Nuclear reactor. 3,260,649, 7-12-66, Cl. 176—18.

Jensen, Donald D. Ventilation system. 3,260,189, 7-12-66, Cl. 98—115.

John-Kleinewefers Söhne: *See*—
Schiffer, Günther. 3,260,000.

Johnson, Alvin L. Expansible plug leakproof valve. 3,260,498, 7-12-66, Cl. 251—189.

Johnson, Carl N. Self-powered variable fluid proportioner. 3,260,212, 7-12-66, Cl. 103—38.

Johnson, Carroll E., to The Boeing Co. Variable vectoring nozzle for jet propulsion engines. 3,260,049, 7-12-66, Cl. 60—35.55.

Johnson, Dee L., to Eastman Kodak Co. Mercaptoethylating agent; 2-mercaptoethyltrichloacetate. 3,260,718, 7-12-66, Cl. 260—247.1.

Johnson, Donald B. Heat-resistant air-cooled glove. 3,259,914, 7-12-66, Cl. 2—161.

Johnson Fair Box Co.: *See*—
Griesemer, Raymond H., and Golland. 3,260,454.

Johnson, Glenn D.: *See*—
Watkins, Bruce J., and Johnson. 3,260,270.

Johnson, Jerry E., to Ryan Recording Thermometer Co. Warning system for temperature controlled craft compartment. 3,260,063, 7-12-66, Cl. 62—126.

Johnson, Milton R., to General American Transportation Corp. Detonation shock tubes. 3,260,103, 7-12-66, Cl. 73—12.

Johnson, Richard M., to Ling-Temco-Vought, Inc. Overrideable ball clutch. 3,260,334, 7-12-66, Cl. 192—56.

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Johnson, Stewart C., to Westinghouse Electric Corp. Oven. 3,260,832, 7-12-66, Cl. 219—10.55.

Jones, Clarence O., Jr., to Niagara Machine & Tool Works. Two-hand electric control for machines. 3,260,898, 7-12-66, Cl. 317—135.

Jones, F. R.: *See*—
Cogar, George, and Jones. 3,261,003.

Jones, George S.: *See*—
Stoever, Hans O., and Jones. 3,260,811.

Jones, Gomer W., to E. Parsons. Diaper launderette. 3,260,077, 7-12-66, Cl. 68—12.

Jones, Grant C. Animal maze. 3,260,236, 7-12-66, Cl. 119—1.

Jones, Owen S.: *See*—
Hampton, Robert S., Jones, and Josephian. 3,260,061.

Jones, Robert E.: *See*—
Tchejeyan, Sarkis K., and Jones. 3,260,154.

Jones, Ronald B. Pressure gauge connector means. 3,260,119, 7-12-66, Cl. 73—420.

Jones, Sterling B., to Monogram Industries, Inc. Clamping device. 3,260,151, 7-12-66, Cl. 85—81.

Jones, Trevor W., to Ciba Ltd. Combating plant diseases with phenoxyethyl-dimethyl-dodecyl-ammonium halides. 3,260,643, 7-12-66, Cl. 167—30.

Jordan, Hermann: *See*—
Jelinek-Fink, Peter, Jordan, Anger, Beerwald, Fay, and Hintz. 3,260,865.

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Wood, George F. L., and Joseph. 3,260,602.

Josephian, William: *See*—
Hampton, Robert S., Jones, and Josephian. 3,260,061.

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Judson and Judson: *See*—
Judson, William H. 3,260,891.

Judson, William H., to Judson and Judson. Integrated transistorized ignition control system. 3,260,891, 7-12-66, Cl. 315—212.

Junck, John A.: *See*—
Brown, Mackenzie P., Junck, and Scheidt. 3,260,325.

Justi, Eduard: *See*—
Gruene, Horst, Justi, and Winsel. 3,260,576.

Kabushiki-Kaisha Tokyo Keiki Seizosko (Tokyo) Ltd.: *See*—
Kawada, Shin-ichi. 3,260,930.

Kaercher, Ralph W.: *See*—
Brandt, Roger, and Kaercher. 3,260,410.

Kafka, Wilhelm, to Siemens-Schuckertwerke Aktiengesellschaft. Superconductor circuit assembly. 3,260,856, 7-12-66, Cl. 307—88.5.

Kahle Engineering Co.: *See*—
Engel, William T. 3,259,964.

Kaiser, Arthur, and E. Torick, to Columbia Broadcasting System, Inc. Compensated platform gain control apparatus. 3,260,957, 7-12-66, Cl. 330—134.

Kaiser, Francis T.: *See*—
Brown, John W., Jr., Buesing, and Kaiser. 3,260,591.

Kaiser Steel Corp.: *See*—
Bergantini, Attilio R. 3,260,438.

Kalenda, Norman W., to Eastman Kodak Co. Photographic colloid transfer system. 3,260,604, 7-12-66, Cl. 96—101.

Kalk, Wilbert A., and J. F. Petersen, to United States of America, Atomic Energy Commission. Reflector and coolant sealing structure for gas cooled nuclear reactor. 3,260,650, 7-12-66, Cl. 176—58.

Kalmus, Henry P., and G. O. Striker. Device for the amplification of minute space currents. 3,260,945, 7-12-66, Cl. 330—10.

Kamberg, Eduard F., and H. G. Roberts, to Chicago Dryer Co. Small piece folder. 3,260,518, 7-12-66, Cl. 270—62.

Kaminskas, Rimvydas A., to Giannini Controls Corp. System for representing angle of attack and the like. 3,260,108, 7-12-66, Cl. 73—178.

Kamm, Gilbert G., and A. R. Willey, to American Can Co. Tin plate having a tin-nickel-iron alloy layer and method of making the same. 3,260,580, 7-12-66, Cl. 29—196.4.

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Kardel, John V. Portable door alarm. 3,261,010, 7-12-66, Cl. 340—283.

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Scuitto, Thomas J., Devine, and Karlson. 3,260,819.

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Kath, Heinz: *See*—
Luhmann, Reinhold, Hagemann, and Kath. 3,260,215.

Katz, Herbert M.: *See*—
Wagner, Jean I., Singer, Schweitzer, and Katz. 3,260,466.

Katz, Jacob M. Means for mounting fixtures and appliances onto plaster or tile walls. 3,260,021, 7-12-66, Cl. 52—27.

Katz, Silas, to United States of America, Army. Speed sensor and regulator for prime movers. 3,260,271, 7-12-66, Cl. 137—36.

Katzschner, Wolfgang, to Felten & Guilleaume Carlswerk Aktiengesellschaft. Housing arrangement for electrical apparatus in submarine cable installations. 3,260,786, 7-12-66, Cl. 174—11.

Kauert, Walter. Sail controlling means. 3,260,230, 7-12-66, Cl. 114—102.

Kaufman, William M., and R. D. Haun, Jr., to Westinghouse Electric Corp. Resonating amplifier. 3,260,953, 7-12-66, Cl. 330—61.

Kaufmann, Frank H., to Steel Heddle Mfg. Co. Loom harness. 3,260,281, 7-12-66, Cl. 139—88.

Kaufmann, Wilfried, and K. Bauer, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of 6-amino penicillanic acid. 3,260,653, 7-12-66, Cl. 195—36.

Kauten, Fred R.: *See*—
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Kawada, Shin-ichi, to Kabushiki-Kaisha Tokyo Keiki Seizosko (Tokyo) Ltd. Magnetic field detecting device. 3,260,930, 7-12-66, Cl. 324—43.

Kawai, Kunio, to Hitachi, Ltd. Frequency-sweep circuit for phase-controlled oscillator. 3,260,958, 7-12-66, Cl. 331—4.

Kawamura, Shoichi: *See*—
Iwai, Rinzo, and Kawamura. 3,260,446.

Kay, Arthur M., to Bell Telephone Laboratories, Inc. Dual polarized bidirectional antenna. 3,261,020, 7-12-66, Cl. 343—756.

Kaye, Alan R., to Northern Electric Co. Ltd. Fader amplifier utilizing mechanical gain control means. 3,260,951, 7-12-66, Cl. 330—29.

Kaye, Alan R., and C. L. Murray, to Northern Electric Co. Ltd. Fader amplifier comprising variable gain translator circuits. 3,260,952, 7-12-66, Cl. 330—29.

Kearney & Trecker Corp.: *See*—
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Serrano, Roger R., and Keller. 3,260,234.

Kellerman, David. Wound capacitor and method of making the same. 3,260,906, 7-12-66, Cl. 317—260.

Kelley, Vincent J. Protective cap for pins. 3,260,537, 7-12-66, Cl. 280—507.

Kelly, Stanley R., and J. M. Smith, to Ensign-Bickford Co. Fuse having cellular plastic sheath. 3,260,201, 7-12-66, Cl. 102—27.

Kemp, Woodrow E., and R. C. Kenan, to Koppers Co., Inc. Sacrificial metal pipe coverings. 3,260,661, 7-12-66, Cl. 204—148.

Kenan, Robert C.: *See*—
Kemp, Woodrow E., and Kenan. 3,260,661.

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Kesting, Lawrence W., to United States of America, Army. Fluid injector, self-compensating for lateral acceleration. 3,260,047, 7-12-66, Cl. 60—35.6.

Kernforschungsanlage Julich des Landes Nordrhein-Westphalia: *See*—
Jelinek-Fink, Peter, Jordan, Anger, Beerwald, Fay, and Hintz. 3,260,865.

Key, John E., to Schlumberger Well Surveying Corp. Control apparatus for borehole instruments. 3,259,990, 7-12-66, Cl. 33—178.

Kibler, Charles J., and A. Bell, to Eastman Kodak Co. Polyester and polyamide compositions having improved dyeing properties and processes for the production of such compositions. 3,260,689, 7-12-66, Cl. 260—22.

Kibler, Willis L., and R. H. Opdyke, to The Delman Co. Windshield washer. 3,260,284, 7-12-66, Cl. 141—3.

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Enoch, Duard W., Kieffaber, Perkins, Schroeder, and Stickelber. 3,260,031.

Kihara, Nobutoshi, to Sony Corp. Signal change-over device. 3,260,853, 7-12-66, Cl. 307—88.5.

Kilbourn, Dorwin L., to United States of America, Army. Mini-ball radar target system. 3,261,015, 7-12-66, Cl. 343—17.7.

Kimbell, R. W.: *See*—
Garnett, Edward V., and Bishard. 3,260,443.

Kindersley, Charles R. D., deceased (by The Royal Trust Co., administrator), and J. F. Duffield, to Smith & Stone Ltd. Pin-type electrical connector. 3,260,985, 7-12-66, Cl. 339—97.

King, Joseph J. Apparatus for loading and unloading railway cars. 3,260,385, 7-12-66, Cl. 214—38.

King, Lewis E., to International Business Machines Corp. Variable mode arithmetic circuits with carry select. 3,260,840, 7-12-66, Cl. 235—169.

King, William H., Jr., to Esso Research and Engineering Co. Apparatus for fluid analysis. 3,260,104, 7-12-66, Cl. 73—23.

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Kirchner, Willi, to Kugelfischer Georg Schager & Co. Method for recording a continuous trace of a succession of measured values. 3,261,021, 7-12-66, Cl. 346—1.

Kiss, Agoston Z., to Modern Telephones (Great Britain) Ltd. Switching click suppressor circuit. 3,260,855, 7-12-66, Cl. 307—88.5.

Klein, Albert J., to American Can Co. Method of tempering continuously annealed metal sheet. 3,260,623, 7-12-66, Cl. 148—12.

Klein, Keith W.: *See*—
Owen, Henry E. S., and Klein. 3,260,825.

Kleiner, Charles T., to North American Aviation, Inc. Regulated inverter circuit. 3,260,919, 7-12-66, Cl. 321—18.

Kliewer, Gerhard, and H. Wasylyk, to Union Carbide Canada Ltd. Garbage bag holder. 3,260,488, 7-12-66, Cl. 248—99.

Kliklok Corp. (Kliklok): *See*—
Pierce, Chester J., Jr. 3,260,174.

Klinder, Günter, ½ to H. Geng. Cutting-head on hair cutting machine. 3,259,979, 7-12-66, Cl. 30—201.

Klinefelter, Glenn B., to Gorton Heating Corp. Steam radiator valves. 3,260,458, 7-12-66, Cl. 236—66.

Klinkmueller, Horst, and F. Hirth, to Gann-Approate- und maschinenbau, G.m.b.H. Drying method and apparatus. 3,259,994, 7-12-66, Cl. 34—26.

Klockner-Humboldt-Deutz Aktiengesellschaft: *See*—
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Klotz, Charles E.: *See*—
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Klover, Wybrant J., to A. O. Smith Harvestore Products, Inc. Apparatus for removing material from a storage structure. 3,260,382, 7-12-66, Cl. 214—17.

Knight, Harry R. Induction heating method for making molds. 3,259,947, 7-12-66, Cl. 22—193.

Knights, Robert E., to Lansing Bagnall Ltd. Pallet trucks. 3,260,534, 7-12-66, Cl. 280—43.12.

Kobe Steel Works, Ltd.: *See*—
Yasunami, Kazuo. 3,259,941.

Koch, Otto: *See*—
Bunge, Konrad, and Koch. 3,260,850.

Kodana, Kutaka: *See*—
Takai, Akira, Saikawa, Maeda, Takamichi, Matsubara, and Kodana. 3,260,716.

Kohl, Karl. Warp knitting machine. 3,260,074, 7-12-66, Cl. 66—86.

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Kohler, Fred, to Kohler & Besser Electronics, Inc. Protective cover for cable splice. 3,260,794, 7-12-66, Cl. 174—138.

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Shoemaker, Robert H., and Geschwender. 3,260,619.

Koltz, Irving M., and J. B. Rozen, to Pop Design Consultants of Canada Ltd. Egg carton and blank therefor. 3,260,441, 7-12-66, Cl. 229—28.

Komitor, Seymour, to Amerama, Inc. Projector screens having light reflecting elements formed integrally therewith. 3,260,156, 7-12-66, Cl. 88—28.92.

Koppers Co.: *See*—
Nitchie, Charles D., and Paris. 3,260,142.

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Kemp, Woodrow E., and Kenan. 3,260,661.
Rudner, Bernard, Brumfield, and Hergenrother. 3,260,700.

Kotliv, Nocholas. Hydraulic door closer. 3,259,937, 7-12-66, Cl. 16—51.

Kovach, Leslie J., and B. V. Menegus, to Modern Plastic Machinery Corp. Adjustable drive in plastic extruder. 3,259,940, 7-12-66, Cl. 18—12.

Kovach, Leslie J., and B. V. Menegus, to Modern Plastic Machinery Corp. Plastic screw injector. 3,259,943, 7-12-66, Cl. 18—30.

Kovach, Stephen M., and G. O. Michaels, to Sinclair Research Inc. Aromatic alkylation process. 3,260,763, 7-12-66, Cl. 260—671.

Kovach, Stephen M., and G. O. Michaels, to Sinclair Research, Inc. Transmethylation and disproportionation of aromatics. 3,260,764, 7-12-66, Cl. 260—672.

Kovats, Andre, to Foster Wheeler Corp. Vane adjusting device for pump impellers and turbine wheels. 3,260,311, 7-12-66, Cl. 170—160.31.

Kozikowski, Joseph L., to Burroughs Corp. Pulse shaper. 3,260,860, 7-12-66, Cl. 307—88.5.

Kranert, Wolfgang: *See*—
Geist, Heinz, Kranert, and Kutschera. 3,260,474.

Kratsios, George, to Foster Wheeler Corp. Catalytic cracking and fluid coking flue gas ducts. 3,260,277, 7-12-66, Cl. 137—317.

Kreisel, Otto. Metal braided induction heating conductor coil. 3,260,792, 7-12-66, Cl. 174—130.

Kruezer, Walter, to Dynamit Nobel Aktiengesellschaft. Rifle shell. 3,260,207, 7-12-66, Cl. 102—92.5.

Krishnaswamy, Prathivadhi B., to Fischer & Porter Co. Circuitry for effecting variable range control. 3,260,854, 7-12-66, Cl. 307—88.5.

Krueger, Leonard D. Rope spinning swivel. 3,260,014, 7-12-66, Cl. 46—47.

Krug, William H. Vibrato circuit. 3,260,785, 7-12-66, Cl. 84—1.25.

Kubick, Harry A., to Eastman Kodak Co. Rotary folding arrangement. 3,260,029, 7-12-66, Cl. 53—3.

Kuchinsky, Saul, to Burroughs Corp. Compact cold cathode indicator tube with thin ribbon vertical cathodes. 3,260,881, 7-12-66, Cl. 313—109.5.

Kuchmy, John: *See*—
Vreeland, Robert W., Kuchmy, and Robinson. 3,260,197.

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Kugelfischer Georg Schager & Co.: *See*—
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Kuhle, Engelbert: *See*—
Sasse, Klaus, Kuble, and Eue. 3,260,726.

Kumano, Teruo, and T. Nozaki, to Nippon Denshi Sokki Kabushiki-Kaisha. Electrical liquid-level gauge. 3,260,903, 7-12-66, Cl. 317—246.

Kupsky, George A., to Burroughs Corp. Electro-optical indicator devices with multiple anodes for each cell. 3,260,880, 7-12-66, Cl. 313—109.5.

Kuribayashi, Sadatomo. Marine derrick with slack-free guy rigging. 3,260,373, 7-12-66, Cl. 212—3.

Kutschera, Horst: *See*—
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Kyle, Thom I., to British Titan Products Co. Ltd. Non-aqueous gel-resistant paints. 3,260,608, 7-12-66, Cl. 106—253.

Laakmann, Peter, to American District Telegraph Co. Apparatus for detecting motion and objects. 3,260,991, 7-12-66, Cl. 340—15.

La Barge, Louis P., to Teletek, Inc. Switch closing coin escrow vanes. 3,260,338, 7-12-66, Cl. 194—16.

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Laing, Nikolaus. Heat exchangers. 3,260,306, 7-12-66, Cl. 165—89.

Laing, Nikolaus, to Laing Vortex Inc. Blowers. 3,260,442, 7-12-66, Cl. 230—117.

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Laing, Nikolaus. 3,260,442.

Lang, Elliot R., to The Patent Button Co. Step motor for use with an indicator. 3,260,871, 7-12-66, Cl. 310—49.

Lange, Gerhard, to Robert Bosch G.m.b.H. Battery ignition system for internal combustion engines. 3,260,251, 7-12-66, Cl. 123—148.

Lannert, James W., and H. E. Brehm, Jr., to Whirlpool Corp. Fluid fuel burner assembly. 3,260,300, 7-12-66, Cl. 158—116.

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Knights, Robert E. 3,260,534.

Lareau, Norman N., and C. H. Zirngibl, to Eastman Kodak Co. Sheet dispensing device. 3,260,402, 7-12-66, Cl. 221—4.

Larkin, Mark E., to Phillips Petroleum Co. Dispensing container with collapse-securing means. 3,260,412, 7-12-66, Cl. 222—107.

Larsen, Lester J., C. M. Barnes, and H. E. Wortz, to Bendix Corp. Control system. 3,260,165, 7-12-66, Cl. 91—33.

Larson, Olaf A.: *See*—
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Lavin, Edward, A. H. Markhart, and J. O. Santer, to Monsanto Co. Coating compositions prepared from condensation products of aromatic primary diamines and aromatic tricarboxylic compounds. 3,260,691, 7-12-66, Cl. 260—30.2.

Lawther, William D., to Amsted Industries Inc. Method for preparing shell molding compositions. 3,260,617, 7-12-66, Cl. 117—100.

Leasko, Steven F. Moisture-shortable fuse for a motor circuit. 3,260,809, 7-12-66, Cl. 200—61.04.

Leavitt, Lionel E., and D. Gertz, to United States of America, Atomic Energy Commission. Through-wall electromagnetic coupling. 3,260,979, 7-12-66, Cl. 336—212.

Leclerc, Jean-Claude, and J. Rouanet, to Institut de Recherches de la Siderurgie Francoise. Device for the fluidization of powdered materials. 3,259,998, 7-12-66, Cl. 34—57.

Leeeds & Northrup Co.: *See*—
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Legoux, Rene, to North American Philips Co., Inc. Electron multiplier. 3,260,878, 7-12-66, Cl. 313—104.

Leinfelt, Karl E., to Electrolux Aktiebolaget. Combination suction-cleaning tool. 3,259,934, 7-12-66, Cl. 15—373.

Leitten, Carl F., Jr.: *See*—
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Lemelson, Jerome H. Automatic production machine. 3,259,958, 7-12-66, Cl. 29—26.

Lemelson, Jerome H. Adjustable manipulator. 3,260,375, 7-12-66, Cl. 214—1.

Lemesle, Georges, R. Martin, P. Rouge, and J. Vivien, to Commissariat A L'Energie Atomique. Nuclear reactor refuelling facility. 3,260,384, 7-12-66, Cl. 214—18.

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Leonard, Rex D., and K. G. Soder, to General Motors Corp. Folded radiator design. 3,260,305, 7-12-66, Cl. 165—67.

Lepelletier, Pierre A. G., to Societe Anonyme Francaise du Ferodo. Device for preventing locking of the rear brakes of an automotive vehicle. 3,260,557, 7-12-66, Cl. 303—49.

Lerman, Harold, N. A. Sanchirico, and J. P. Sputz, to General Precision Inc. Inertial navigation. 3,260,485, 7-12-66, Cl. 244—77.

Le Suer, William M., to The Lubrizol Corp. Organic phosphate complexes. 3,260,622, 7-12-66, Cl. 148—6.15.

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Levenetz, Boris, to Whittaker Corp. Woven reinforcement for composite structures. 3,260,398, 7-12-66, Cl. 220—3.

Levenson, Leonard A. Method of making hand-sewn shoes. 3,259,931, 7-12-66, Cl. 12—142.

Levinson, David J. Equipment adaptable to brewing coffee in the original sealed container. 3,260,190, 7-12-66, Cl. 99—295.

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Libby-Owens-Ford Glass Co.: *See*—
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Lich, Richard L., to General Steel Industries, Inc. Railway car truck spring bolster. 3,260,222, 7-12-66, Cl. 105—197.

Liebmann, Henry J., to Pittsburg Plate Glass Co. Fluid flow control valve. 3,260,279, 7-12-66, Cl. 137—533.15.

Light, William A.: *See*—
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Light, William A., M. J. Alsup, and W. J. Dulmage, to Eastman Kodak Co. Thermographic recording process wherein the heat-sensitive sheet is used in plural processes. 3,261,023, 7–12–66, Cl. 117—37.

Liguori, Alfred T. Multi-color retractable pen. 3,260,242, 7–12–66, Cl. 120—42.13.

Lillsunde, Bernhard K. V.: *See*—
Buchmayer, Manfred, and Lillsunde. 3,260,801.

Lima, Sal F., and M. Marigonda, ½ to said Lima and ½ to said Marigonda. Swimming, bathing cap. 3,259,912, 7–12–66, Cl. 2—68.

Limberger, Walter, to Lumoprint Zindler KG. Developing device for making copies. 3,260,185, 7–12–66, Cl. 95—89.

Lincoln Brass Works: *See*—
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Becker, Rudolf. 3,260,057.

Lindstrom, Carl A., Jr., W. G. Baird, Jr., A. L. Besse, Jr., and D. J. D'Entremont, to W. R. Grace & Co. Production of biaxially stretch oriented polypropylene film. 3,260,776, 7–12–66, Cl. 264—95.

Linear Systems, Inc.: *See*—
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Lingl, Hans. Ceiling constructions for furnaces. 3,260,228, 7–12–66, Cl. 110—99.

Ling-Temco-Vought, Inc.: *See*—
Councilman, Richard R., Freeman, and Stromberg. 3,260,155.
Johnson, Richard M. 3,260,334.
Johnson, Richard M. 3,260,826.
Winborn, Byron R., Jr. 3,260,481.

Lion, Kurt S. Multi-arm transducer bridge. 3,260,934, 7–12–66, Cl. 324—57.

Lion, Kurt S. Transducer bridge circuit utilizing stagger tuned resonant circuits to obtain a linear D.C. output with a changing input frequency. 3,260,935, 7–12–66, Cl. 324—57.

List, Frederick E.: *See*—
Holfelder, August A., and List. 3,260,240.

Lister, George H., to Hunter Mfg. Co. Transistor ignition system. 3,260,299, 7–12–66, Cl. 158—28.

L'Italien, Yvon J., and A. Campbell, to Parke, Davis & Co. 4-phenoxy piperidines; α-phenoxy piperidienes. 3,260,723, 7–12–66, Cl. 260—296.7.

Litton Precision Products, Inc.: *See*—
Crapuchettes, Paul W. 3,260,885.

Locklar, Henry C., and D. E. Sims, to International Business Machines Corp. Revision system for data recording and printing apparatus. 3,260,340, 7–12–66, Cl. 197—19.

Logan, James S., and A. Roaldi, to Olin Mathieson Chemical Corp. Stabilized liquid ozone composition containing a boron trifluoride complex. 3,260,627, 7–12–66, Cl. 149—1.

Logan, James S., and A. Roaldi, to Olin Mathieson Chemical Corp. Composition of stabilized liquid ozone with trifluoro acetyl fluoride. 3,260,628, 7–12–66, Cl. 149—1.

Logan, James S., and A. Roaldi, to Olin Mathieson Chemical Corp. Stabilized liquid ozone composition containing trichloroheptafluorobutane. 3,260,630, 7–12–66, Cl. 149—1.

Logan, Ralph A., to Bell Telephone Laboratories, Inc. Temperature sensitive element. 3,260,115, 7–12–66, Cl. 73—362.

Lokken, Robert J., to Minnesota Mining and Mfg. Co. Vesicular diazo copy-sheet containing photoreducible dye. 3,260,599, 7–12–66, Cl. 96—75.

Long, Roger A., to Whittaker Corp. Exoreactant material for bonding. 3,259,972, 7–12–66, Cl. 29—498.5.

Loomis, Nelson E., to Son-Chief Electrics, Inc. Method of assembling a steam iron base. 3,260,005, 7–12–66, Cl. 38—77.

Lord Baltimore Press, Inc., The: *See*—
Bonwit, Willard R., Segal, Hartlove, and Scherer. 3,259,992.

Lorenz, Hans, ⅓ each to Entreprises Leon Chagnaud & Fils and Entreprises Joya-Chabert. Process for producing excavations in water-bearing ground. 3,260,054, 7–12–66, Cl. 61—42.

Lowe, Jack W., Jr.: *See*—
Crowley, James D., and Lowe. 3,260,615.

Lowell, Frank, to Bulova Watch Co., Inc. Miniature film processor. 3,260,186, 7–12–66, Cl. 95—90.5.

Lox Equipment Co.: *See*—
Hampton, Robert S., Jones, and Josephian. 3,260,061.

Lubrizol Corp., The: *See*—
Le Suer, William M. 3,260,622.

Lucas, Carl M., to Machlett Laboratories Inc. Multiple-beam injector for magnetic induction accelerators. 3,260,877, 7–12–66, Cl. 313—70.

Lucka, Eugene R.: *See*—
Ongaro, Theodore, and Lucka. 3,260,101.

Ludwig, Carl, to McDowell-Wellman Engineering Co. Railroad car mover. 3,260,220, 7–12–66, Cl. 104—176.

Luescher, Jakob, and B. Zega, to Compagnie Generale d'Electricite. Semi-conductor device having self-protection against overvoltage. 3,260,901, 7–12–66, Cl. 317—235.

Luftig, Sanford B., to Boeing Airplane Co. Radio instrument approach and landing system. 3,261,017, 7–12–66, Cl. 343—112.

Lühmann, Reinhold, W. Hagemann, and H. Kath, to Siemen & Hinsch m.b.H. Pumps. 3,260,215, 7–12–66, Cl. 103—96.

Lummus Cotton Gin Co.: *See*—
Zoch, Raymond M. 3,259,945.

Lumoprint Zindler KG.: *See*—
Limberger, Walter. 3,260,185.

Lund, Jens, C. G. Nilsen, and R. Vetere, to Scope Industries, Inc. Regulating valve having removable valve unit. 3,260,278, 7–12–66, Cl. 137—343.

Lundy, John E. Picture antenna for television sets. 3,261,019, 7–12–66, Cl. 343—720.

Lunn, Charles T. Fish measuring device. 3,259,988, 7–12–66, Cl. 33—169.

Lusher, Kenneth G.: *See*—
Opdycke, George L., and Lusher. 3,260,195.

Luttge, Barrie, to Friden Inc. Delay line wherein sensitivity of magnetostrictive transducer is profiled by profiling its bias field. 3,260,970, 7–12–66, Cl. 333—30.

Lutz, Kurt, to Roto Apparate- und Maschinenbau Dr. Henning KG. Indicator for flow meters with floats. 3,260,110, 7–12–66, Cl. 73—209.

Lux, John H., and J. R. Tiffin, to Haveg Industries, Inc. Process for thermoforming a shrink-resistant foamed polystyrene cup. 3,260,781, 7–12–66, Cl. 264—321.

Lyle, Samuel P. Rotary engine and method of operating same. 3,260,248, 7–12–66, Cl. 123—13.

MPO Videotronics, Inc.: *See*—
Woelfel, Donald G. 3,260,564.

MacFadden, William L.: *See*—
Armstrong, Donald L., and MacFadden. 3,260,275.

Machlett Laboratories Inc.: *See*—
Lucas, Carl M. 3,260,877.

Mack, Richard G. Back supported carrier. 3,260,428, 7–12–66, Cl. 224—6.

Mackie, Harry A., to General Motors Corp. Multiple pad air cushion support. 3,260,322, 7–12–66, Cl. 180—7.

Mackinnon, John, and A. A. Austin, to Esso Research and Eng.neering Co. Sulfoxidation process. 3,260,741, 7–12–66, Cl. 260—513.

MacPhail, Alexander C. B., F. H. Waight, and D. Southern, to Shell Oil Co. Synthetic ester lubricating oil containing certain haloalkyl carboxylic acid esters. 3,260,672, 7–12–66, Cl. 252—54.6.

Madison, Theodore N., to Royal Typewriter Co., Inc. Carriage arresting device. 3,260,342, 7–12–66, Cl. 197—65.

Maeda, Toyoo: *See*—
Takai, Akira, Saikawa, Kodana, Takamichi, Matsubara, and Maeda. 3,260,716.

Magne, Frank C., E. L. Skau, and R. R. Mod, to United States of America, Agriculture. Vinyl chloride polymers plasticized with morpholides of fatty acids and dimerized fatty acids. 3,260,692, 7–12–66, Cl. 260—30.4.

Magnin, Jean P., to Electro-Mechanical Research, Inc. Telemetering decoder system. 3,261,001, 7–12–66, Cl. 340—172.5.

Mahady, Paul W.: *See*—
Martin, Dominick A. 3,260,581.

Maidenform, Inc.: *See*—
Bruno, Enrico. 3,260,262.

Maier, Richard, to Siemens-Schuckertwerke Aktiengesellschaft. Process for the manufacture of vanadium-gallium intermetallic compound. 3,260,595, 7–12–66, Cl. 75—200.

Major, Frederick A. Cow halter incorporating feed control means. 3,260,034, 7–12–66, Cl. 54—24.

Makino, Whigeo: *See*—
Watanabe, Takeshi, Namba, and Makino. 3,260,688.

Malavazos, Arthur J., and J. W. Jamieson, to Friden, Inc. Calculating machine. 3,260,451, 7–12–66, Cl. 235—63.

Malek, Jack H.: *See*—
Greenwald, Harry, Malek, Avlon, and Tupo. 3,260,337.
Greenwald, Harry, Malek, and Schieber. 3,260,339.

Mallory, P. R., & Co., Inc.: *See*—
Boge, James M. 3,260,904.

Malouf, Emil E.: *See*—
Zimmerley, Stuart R., Malouf, and Prater. 3,260,593.

Malsbary Mfg. Co.: *See*—
Telford, Carlyle O. 3,260,245.

Mankin, Paul A., and L. F. Nelson, to John Wood Co. Swivel joint connecting means for the flexible dispensing hose of liquid dispensing apparatus. 3,260,424, 7–12–66, Cl. 222—529.

Manley, Brian W., J. Adams, D. Washington, and M. Brannen, to North American Philips Co., Inc. Image intensifier secondary emissive matrix internally coated to form a converging lens. 3,260,876, 7–12–66, Cl. 313—68.

Mann, John, P. J. Olmstead, and V. D. Buffone, to Goulds Pumps, Inc. Venturi-centrifugal pump. 3,260,216, 7–12–66, Cl. 103—103.

Maun, Max. Marking device. 3,260,193, 7–12–66, Cl. 101—35.

Marceau, William E.: *See*—
Dolf, Hans R., and Marceau. 3,260,587.

Marcoux, Michael L.: *See*—
Dean, Robert R., and Marcoux. 3,260,988.

Marigonda, Mario: *See*—
Lima, Sal F., and Marigonda. 3,259,912.

Markhart, Albert H.: *See*—
Lavin, Edward, Markhart, and Santer. 3,260,691.

Marland Foundation: *See*—
Marland, Joseph A. 3,260,460.

Marland, Joseph A., to Marland Foundation. Radiant and hot air heating system. 3,260,460, 7–12–66, Cl. 237—50.

Marsicano, Joseph A. Method of installing a fuel pump over a crankcase opening. 3,259,967, 7–12–66, Cl. 29—401.

Martens, Hans: *See*—
Weiss, Herbert, and Martens. 3,260,932.

Martin, Anthony J., to Ajem Laboratories, Inc. Parts storage and handling device. 3,260,350, 7–12–66, Cl. 198—136.

Martin, Dominick A., 15% to P. W. Mahady. Kindling composition. 3,260,581, 7–12–66, Cl. 44—41.

Martin, Engle A., to Monsanto Chemical Co. Spinneret pack. 3,259,938, 7–12–66, Cl. 18—8.

Martin, James C., and R. Gilkey, to Eastman Kodak Co. Preparation of thiolesters. 3,260,736, 7–12–66, Cl. 260—455.

Martin, John C., to United Kingdom Atomic Energy Authority. Switch for fast electrical discharge having a plurality of electrodes with a non-porous dielectric material inserted between the electrodes. 3,260,883, 7–12–66, Cl. 313—268.

Martin-Marietta Corp.: *See*—
Gagola, Leonard J., and Wilks. 3,259,971.

Martin, Paul A., to The Maytag Co. Program control feature. 3,260,866, 7–12–66, Cl. 307—141.

Martin, Roger: *See*—
Lemesle, Georges, Martin, Rouge, and Vivien. 3,260,384.

Marshall, Dennis, to Imperial Chemical Industries Ltd. Production of olefines from alkyl borates. 3,260,769, 7–12–66, Cl. 260—682.

Maschinenfabrik Winkler, Fallert & Co. A.G.: *See*—
Grunig, Hans. 3,260,200.

Mason, Ronald F.: *See*—
Burrus, Harry O., and Mason. 3,260,761.

Mason, Stanley E., to Smoke Sentry, Ltd. Smoke sentry for fireplace. 3,260,257, 7–12–66, Cl. 126—138.

Massa, Frank, to Dynamics Corp. of America. Electroacoustic transducer. 3,260,990, 7–12–66, Cl. 340—12.

Mast, Paul L., to International Telephone and Telegraph Corp. Miniature horn antenna. 3,261,018, 7–12–66, Cl. 343—705.

Masuda, Senichi: *See*—
Asano, Tadashi, Masuda, and Ito. 3,260,514.

Matlow, George: *See*—
Pauliukonis, Richard S., and Matlow. 3,260,060.

Matsubara, Yasumasa: *See*—
Takai, Akira, Saikawa, Maeda, Kodana, Takamichi, and Matsubara. 3,260,716.

Matsumoto, Zenz: *See*—
Minamiyama, Kozo, Ninomiya, Ichikawa, and Matsumoto. 3,260,415.

Mattel, Inc.: *See*—
Ryan, John W. 3,260,013.
Ryan, John W. 3,260,015.

Mattson, Evert C. Controlled differential adjustable-speed-reversing drive system. 3,260,133, 7–12–66, Cl. 74—675.

Mayhew, John T., to National Steel Corp. Coated product and its manufacture. 3,260,577, 7–12–66, Cl. 29—183.5.

Mayrath Co.: *See*—
Mayrath, Martin, and Stauth. 3,260,355.

Mayarth, Martin, and S. K. Stauth, to Mayrath Co. Selective unloader for bale conveyor. 3,260,355, 7–12–66, Cl. 198—185.

Maytag Co., The: *See*—
Martin, Paul A. 3,260,866.

Mazzanti, Giorgio: *See*—
Matta, Giulio, Mazzanti, Valvassori, and Camell. 3,260,708.

McAllister, William A., to Westinghouse Electric Corp. Calcium and magnesium silicate phosphors with activator comprising terbium. 3,260,675, 7–12–66, Cl. 252—301.4.

McCall, Harold M.: *See*—
Gruetter, Werner K., Gendron, Holland, and McCall. 3,260,088.

McClaflin, Robert D., and T. N. Tilman, to Jennings Radio Mfg. Corp. Cross-point switching system. 3,260,967, 7–12–66, Cl. 333—7.

McClellan, Clarence S., to United Electronics Inc. Single impulse latching relay. 3,260,823, 7–12–66, Cl. 200—98.

McClure, Arthur W., G. W. Webster, C. D. Ware, and I. R. Friedman, to The Trane Co. Refrigeration machine. 3,260,067, 7–12–66, Cl. 62—505.

McClure James D., and R. F. Fischer, to Shell Oil Co. Hydracrylate ester production. 3,260,738, 7–12–66, Cl. 260—484.

McCollum, Burton, deceased (P. R. Rowe and Bank of the Southwest National Association, executors). Short wave seismic pulse radiator. 3,260,327, 7–12–66, Cl. 181—.5.

McCormick, Maurice D. Spacing mechanism for power operated typewriters. 3,260,343, 7–12–66, Cl. 197—82.

McDaniel, Edgar L., and H. S. Young, to Eastman Kodak Co. Catalytic process for preparing acrolein. 3,260,753, 7–12–66, Cl. 260—604.

McDonald, David I.: *See*—
Bergstrom, Swan E., Dever, and McDonald. 3,259,976.

McDonald's System, Inc.: *See*—
Weimer Ralph E., and Staider. 3,260,419.

McDougall, Nicholas E.: *See*—
Sonkey, Frank J., and McDougall. 3,260,835.

McDowell-Wellman Engineering Co.: *See*—
Ludwig, Carl. 3,260,220.

McGee, Leonard L., and R. K. Parker, to Imperial Chemical Industries Ltd. Film distillation with a helical spring. 3,260,655, 7–12–66, Cl. 203—89.

McGowan, Robert P., to United States of America Army. Line descent braking device. 3,260,328, 7–12–66, Cl. 182—5.

McGraw-Edison Co.: *See*—
Goettl, Adam D. and A. B. 3,260,214.

McIlhenny, William F., to The Dow Chemical Co. Alkaline scale control in saline water conversion equipment. 3,260,668, 7–12–66, Cl. 210—24.

McIlvin, Donald B., to United Shoe Machinery Corp. Mold charging means. 3,259,944, 7–12–66, Cl. 18—30.

McKowen, William, to Meredith Publishing Co. Binding for books. 3,260,264, 7–12–66, Cl. 129—23.

McNabb, Robert C. to General Electric Co. Start up circuit for process control apparatus. 3,260,956, 7–12–66, Cl. 330—75.

McNeil Corp.: *See*—
Soderquist, Leslie E. 3,260,782.

McNelis, Edward J., to Sun Oil Co. Preparation of aromatic polyethers with lead dioxide catalyst. 3,260,701, 7–12–66, Cl. 260—47.

McNelis, Edward J., to Sun Oil Co. Preparation of aromatic disulfides. 3,260,755, 7–12–66, Cl. 260—608.

McNulty, James F., to Automation Industries, Inc. Ultrasonic testing apparatus and method. 3,260,105, 7–12–66, Cl. 73—67.9.

McRoberts, Irven W., and A. D. Sherman, to Enterprise, Inc. Castor bean harvester. 3,260,041, 7–12–66, Cl. 56—119.

McRoy, Frank A., to The Seeburg Corp. Positive drive cam plate dispensing mechanism. 3,260,407, 7–12–66, Cl. 221—298.

Medical Plastics Inc.: *See*—
Berman, Robert A. 3,260,258.

Meehanite Metal Corp.: *See*—
Moore, William H. 3,259,949.

Melpar, Inc.: *See*—
Stetten, Kenneth J., and Wallen. 3,261,009.

Melville, John W., R. F. Osborne, and J. F. Wirley, to Xerox Corp. Stepped counting apparatus. 3,260,455, 7–12–66, Cl. 235—132.

Mendelsohn, Lewis J., to General Electric Co. Diamagnetic gaussmeter. 3,260,931, 7–12–66, Cl. 324—43.

Menegus, Bruno V.: *See*—
Kovach, Leslie J., and Menegus. 3,259,940.
Kovach, Leslie J., and Menegus. 3,259,943.

Merck & Co., Inc.: *See*—
Shombert, Donald J. 3,260,900.

Meredith Publishing Co.: *See*—
McKowen, William. 3,260,264.

Mersek, Leo D., to The Ajax Mfg. Co. Apparatus for drawing linear stock. 3,260,084, 7–12–66, Cl. 72—20.

Mersek, Leo D., to The Ajax Mfg. Co. Wire drawing apparatus. 3 260,085, 7–12–66, Cl. 72—20.

Metal Box Co. Ltd., The: *See*—
Mosse, Richard W. E. 3,260,173.

Metallschlauch-Fabrik Pforzheim vorm Hch. Witzenmann, G.m.b.H.: *See*—
Witzenmann, Herbert. 3,260,636.

Metal-Tech, Inc.: *See*—
Bryand, Edward T. 3,259,961.

Metrailer, William J., and W. Hoover, to Esso Research and Engineering Co. Fluid bed process for coking hydrocarbons. 3,260 664, 7–12–66, Cl. 208—127.

Metro-Goldwyn-Mayer British Studios Ltd.: *See*—
Howard, Thomas W. 3,260,563.

Meyer, Waldemar, C. O. L. Ottosson, and K.-E. Qvarnstrom, to Atlas Copco Aktiebolag. Ring drilling apparatus and method. 3,260,317, 7–12–66, Cl. 173—35.

Micallef, Arthur C. Piercing earring having rigid retaining means. 3,260,068, 7–12–66, Cl. 63—12.

Michaels, Glenn O.: *See*—
Kovach, Stephen M., and Michaels. 3,260,763.
Kovach, Stephen M., and Michaels. 3,260,764.

Micro-Line Inc.: *See*—
Tchejeyan, Sarkis K., and Jones. 3,260,154.

Midwestern Instruments, Inc.: *See*—
Murray, Michael J., III. 3,260,966.

Miles, Chester W., Housing for a control device. 3,260,131, 7–12–66, Cl. 74—608.

Miles, J. R. Electrical outlet box. 3,260,400, 7–12–66, Cl. 220—3.4.

Millar, John J., and J. A. Currier, to General Motors Corp. Knitting machine. 3,260,071, 7–12–66, Cl. 66—42.

Millar, John J., and J. A. Currier, to Scott & Williams, Inc. Knitting machine. 3,260,072, 7–12–66, Cl. 66—42.

Millar, Raymond B.: *See*—
Williams, Raymond F., Nelson, and Millard. 3,260,444.

Miller, Anthony P. Cigarette holder. 3,260,266, 7–12–66, Cl. 131—187.

Miller, Arthur F., M. Salehar, and J. Williams, to The Standard Oil Co. Process for the preparation of diamines from olefinically unsaturated nitriles. 3,260,752, 7–12–66, Cl. 260—583.

Miller Bros.: *See*—
Miller, Norman K. 3,260,812.

Miller, Daniel W., to Read Corp. Traveling tray conveyor stabilizing means. 3,260,351, 7–12–66, Cl. 198—138.

Miller, Ira H., to Owens-Illinois, Inc. Closure retainer. 3,259,935, 7–12–66, Cl. 15—571.

Miller, Laurence O., to Kinlau Sheet Metal Works, Inc. Horizontal end mounted carriage for gin suction pipe. 3,260,550, 7–12–66, Cl. 302—34.

Miller, Norman K., to Miller Bros. Pneumatic safety edge for power operated doors. 3,260,812, 7–12–66, Cl. 200—61.43.

Miller, Richard S.: *See*—
Jens, Wayne H., Edlund, Barringer, Davidson, Klotz, Nims, Miller, and Palmer. 3,260,649.

Miller, Roy G., ½ to Dayton F. Brown, Inc. Stabilizing mine roofs. 3,260,053, 7–12–66, Cl. 61—36.

Millet, Jacques F., to Societe le Carbone-Lorraine. Graphitized carbon articles containing rare earths. 3,260,614, 7–12–66, Cl. 117—46.

Minamiyama, Kozo, N. Ninomiya, H. Ichikawa, and Z. Matsumoto, to Takeda Chemical Industries, Ltd. Particulate solid material discharge apparatus. 3,260,415, 7–12–66, Cl. 222—162.

Minart, Paul: *See*—
Fangeras, Pierre, Minart, Pouchot, and Talmont. 3,260,572.

Minderhout, James R.: *See*—
Olstowski Franciszek, Osborn, Patrick, and Minderhout. 3,260,632.

Miner Machine Co.: *See*—
Pierson, Edward D., and Wright. 3,260,191.

Miniature Electronic Components Corp.: *See*—
Pihl, George E. 3,260,805.

Minister of Aviation In Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland: *See*—
Burr, Donald W. 3,261,016.
Simpson, Bernard L., and Gibson. 3,260,799.

Minnesota Mining and Mfg. Co.: *See*—
Lokken, Robert J. 3,260,599.
Moxness, James G. 3,260,521.
Reitter, John L. 3,260,603.

Minsk, Louis M., and E. P. Abel, to Eastman Kodak Co. Alkali-soluble polymeric carboxy ester lactones. 3,260,706, 7–12–66, Cl. 260—78.5.

Misnuck, Eli: *See*—
Witz, Samuel, and Misnuck. 3,260,631.

Mitchell Industries, Inc.: *See*—
Younkin, James R. 3,261,006.

Mitchell, James J., to Texas Eastern Transmission Corp. Storage systems. 3,260,062, 7–12–66, Cl. 62—54.

Mitchell, Roscoe W., Jr.: *See*—
Alexander, Warren A., and Mitchell. 3,260,887.

Mitsubishi Chemical Industries Ltd.: *See*—
Nakano, Senji, Iwasaki, and Fukutani. 3,260,698.

Mobay Chemical Co.: *See*—
Powers, Eugene L. 3,260,735.
Powers, Eugene L., and Van Horn. 3,260,751.

Mobil Oil Corp.: *See*—
Brooks, Warren B. 3,260,004.
Godbey, John K. 3,260,111.
Godbey, John K., Hodges, and Burdyh. 3,260,112.
Summers, Gerald C. 3,260,993.

Mod, Robert R.: *See*—
Magne, Frank C., Skau, and Mod. 3,260,692.

Modern Plastic Machinery Corp.: *See*—
Kovach, Leslie J., and Menegus. 3,259,940.
Kovach, Leslie J., and Menegus. 3,259,943.

Modern Telephones (Great Britain) Ltd.: *See*—
Kiss, Agoston Z. 3,260,855.

Moeller & Neumann Verwaltungsgellschaft Offens: *See*—
Neumann, Klaus. 3,260,094.

Mojonnier Bros. Co.: *See*—
Mojonnier, Harry G., Witt, and Skoll. 3,260,504.

Mojonnier, Harry G., C. J. Witt, and S. P. Skoll, to Mojonnier Bros. Co. Seat arrangement for control valves and the like. 3,260,504, 7–12–66, Cl. 251—357.

Monogram Industries, Inc.: *See*—
Jones, Sterling B. 3,260,151.

Monsanto Chemical Co.: *See*—
Martin, Eugie A. 3,259,938.

Monsanto Co.: *See*—
Baer, Russel F. 3,259,953.
Coggeshall, Alva C. 3,260,703.
Fisher, Arthur O. 3,260,673.
Gottily, Arthur L., and Thomas. 3,260,358.
Gruber, Bernard A. 3,260,571.
Hogeman, Wylie B. 3,260,742.
Hogeman, Wylie B. 3,260,743.
Lavin, Edward, Markhart, and Santer. 3,260,691.
Shelby, Richard K. 3,260,336.
Slocombe, Robert J. 3,260,704.
Slocombe, Robert J., and Greenley. 3,260,705.
Stevens, Harry M. 3,260,578.

Monsanto Research Corp.: *See*—
Gruber, Bernard A. 3,260,620.

Montecatini, Societa Generale per l'Industria Mineraria e Chimica: *See*—
Falcone, Luigi. 3,260,641.
Natta, Giulio, Mazzanti, Valvassori, and Cameli. 3,260,708.

Moore Business Forms, Inc.: *See*—
Hull, Richard D., Hanefeld, and Bye. 3,260,106.

Moore, William H., to Meehanite Metal Corp. Casting method. 3,259,949, 7–12–66, Cl. 22—196.

Mora, Raul L. Trailer for concrete ingredients and the like. 3,260,414, 7–12–66, Cl. 222—145.

Morain, Clifford F. Pipe conveyor for wrapping machines and the like. 3,260,390, 7–12–66, Cl. 214—339.

Moran, Kevin E., to Union Oil Co. of California. Container with closure plug and severable outlet element. 3,260,425, 7–12–66, Cl. 222—541.

Moreira, Renan. Scraper attachment. 3,260,179, 7–12–66, Cl. 94—50.

Morgan Adhesives Co.: *See*—
Questel, John M. 3,260,260.

Morgan, Jesse P., Jr., to Robertshaw Controls Co. Selector valve. 3,260,274, 7–12–66, Cl. 137—113.

Morisaki, Shinichi: *See*—
Murakami, Tomohisa, Morisaki, and Hiiro. 3,260,702.

Moritz, Sadayoshi, T. Ito, T. Nishi, and S. Fujimori, to Yawata Iron & Steel Co., Ltd. Method of submerged arc welding of iron and steel using nitride producing materials. 3,259,970, 7–12–66, Cl. 29—488.

Moroishi, Mitsuru. Segmental rotary gang switch with segmented splined cam shafts. 3,260,803, 7–12–66, Cl. 200—6.

Morreale, Anthony P., and K. Egawa. Servo motor. 3,260,914, 7–12–66, Cl. 318—443.

Morris, Karl V. Valve seats. 3,260,252, 7–12–66, Cl. 123—188.

Morrone, Rudolph D. Three dimensional duplicating machine. 3,260,160, 7–12–66, Cl. 90—13.1.

Mosse, Richard W. E., to The Metal Box Co. Ltd. Apparatus for setting-up cartons. 3,260,173, 7–12–66, Cl. 93—51.

Motorola, Inc.: *See*—
Clark, Oscar M. 3,260,634.

Mowll, Roger T. L.: *See*—
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Pyke, Albert E. Railway tie repositioning apparatus. 3,260,218, 7-12-66, Cl. 104—9.
Quaas, Joseph F., and J. P. Broderick, to Eutectic Welding Alloys Corp. Method, filler alloy and flux for brazing. 3,259,973, 7-12-66, Cl. 29—504.
Questel, John M., to Morgan Adhesives Co. Surgical drape or laminate. 3,260,260, 7-12-66, Cl. 128—132.
Qvarnstrom, Karl-Erik: *See*—
Meyer, Waldemer, Ottosson, and Qvarnstrom. 3,260,317.
R. I. Patents, Inc.: *See*—
Arnoldy, Roman F. 3,260,834.
Rabechault, Henri, to Etablissement Public; Office de la Recherche Scientifique et Technique Outre-Mer. Air-conditioned chamber and its applications. 3,260,304, 7-12-66, Cl. 165—12.
Rabussier, Bernard, to Precision Valve Corp. Dispensing device for aerosol pressure containers. 3,260,421, 7-12-66, Cl. 222—394.
Radio Corp. of America: *See*—
Burns Joseph R., and Powlus. 3,260,863.
Cooperman, Michael. 3,260,862.
Shelley, Steven M. 3,260,791.
Theriault, Gerald E. 3,260,948.
Radio Frequency Laboratories, Inc.: *See*—
Gilman, Robert J. 3,260,942.
Randall, Albert E. J.: *See*—
Graf, Ernest H. H., and Randall. 3,260 163.
Rankin, Bayard. Slide rule. 3,260,453, 7-12-66, Cl. 235—70.
Rankin, Joseph D., Jr.: *See*—
Roberts, Simon, and Rankin. 3,260,393.
Ransom, Charles W. Fruit and vegetable washing device with vertical circulative flow and base support for submerged faucet connection. 3,260,510, 7-12-66, Cl. 259—4.
Rapids-Standard Co. Inc., The: *See*—
Vander Meer, Clayton H. 3,260,349.
Rapprich, David D., and F. J. Holewinski, to The Brush Beryllium Co. Method for forming powdered metal into sintered hollow bodies. 3,260,596, 7-12-66, Cl. 75—226.
Rascov, Anthony. Self-purging and ventilating toilet. 3,259,917, 7-12-66, Cl. 4—10.
Rasmussen, Svein B., to Beckman Instruments, Inc. High-speed centrifuge and speed control circuit therefor. 3,260,911, 7-12-66, Cl. 318—338.
Ray, Joseph, and L. S. Gaumer, Jr., to Air Products and Chemicals, Inc. Method and apparatus for separating gaseous mixtures particularly helium-containing gases. 3,260,058, 7-12-66, Cl. 62—23.
Raymond, Eugene B., and L. L. Schiller, to Triple A Specialty Co. Method of joining together a terminal connector and an electric cable. 3,259,981, 7-12-66, Cl. 30—289.

Raymond International Inc.: *See*—
Gruetter, Werner K., Gendron, McCall, and Holland. 3,260,088.
Raymond, Robert E., to International Basic Economy Corp. Four quadrant balancing design for valves. 3,260,501, 7-12-66, Cl. 251—282.
Read Corp.: *See*—
Miller, Daniel W. 3,260,351.
Reamy, Donald K. Fish lure. 3,260,011, 7-12-66, Cl. 43—42.09.
Reed, Frank H., to Service Machine Co. Machine for applying suspension loops to the electrodes used in electrolytic operations. 3,259,956, 7-12-66, Cl. 29—21.1.
Reeser, George C., to Texaco Inc. Paint formulations. 3,260,609, 7-12-66, Cl. 106—263.
Reichl, Eric H., to Consolidation Coal Co. Method and apparatus for continuously mining and transporting coal. 3,260,548, 7-12-66, Cl. 299—18.
Reilly, James J.: *See*—
Hatch, Loranus P., Reilly, and Wirsing. 3,260,574.
Reitter, John L., to Minnesota Mining and Mfg. Co. Rough surfaced copy-sheet intermediate. 3,260,603, 7-12-66, Cl. 96—87.
Rekuperator K.G., Dr.-Ing. Schack & Co.: *See*—
Claessens, Werner. 3,260,512.
Relation, Alfred E., R. P. Putkovich, and J. F. Roesel, Jr., to Westinghouse Electric Corp. Inverter having circuitry for controlling the relative duration of the output alternations. 3,260,963, 7-12-66, Cl. 331—113.
Reliance Steel Products Co.: *See*—
Nagin, Harry S. 3,260,023.
Renner, Hermann, and K.-O. Weblow, to Rheinmetall G.m.b.H., Firma. Propelling charge for solid-fuel rockets. 3 260,045, 7-12-66, Cl. 60—35.6.
Republic Aviation Corp.: *See*—
Ash, Howard H., and Rosenblatt. 3,260,480.
Reuther, Harold H. Helicopter flight controls. 3,260,313, 7-12-66, Cl. 170—160.25.
Rex Chainbelt Inc.: *See*—
Hudis, Michael I. 3,260,177.
Rexall Drug and Chemical Co.: *See*—
Stilwell, Dan W. 3,260,120.
Reynolds, William E., J. Bella and J. A. Diouhy, to HT Research Institute. Hair cutting apparatus with rotary hair cutters having overlapping paths of movement. 3,260,268, 7-12-66, Cl. 132—45.
Rheinmetall G.m.b.H., Firma: *See*—
Renner, Hermann, and Weblow. 3,260,045.
Rhodes, Thomas J., to United States Rubber Co. Automobile wheel and inner tube. 3,260,295, 7-12-66, Cl. 152—330.
Rhone-Poulenc S.A.: *See*—
Christen, Gilbert P., and Ruaud. 3,260,711.
Clouzeau, Pierre, and Le Troadec. 3,260,418.
Rhudy, Ralph G., to General Electric Co. Electromagnetic pump. 3,260,209, 7-12-66, Cl. 103—1.
Rhyne, Earl C., Jr., to The Warren Mfg. Co., Inc. Regulated power supply. 3,260,918, 7-12-66, Cl. 321—18.
Riccius, Rolf, to Vereinigte Flugtechnische Werke Gesellschaft mitbeschraenkter Haftung fruehor "Weser" Flugzeugbau/Focke-Wulf/Heinkel-Flugzeubau. Cut-out devices for lifting power units of VTOL aircraft. 3,260,484, 7-12-66, Cl. 244—55.
Rice, Rip G., and B. Grushkin, to W. R. Grace & Co. Novel halo and amido substituted phenyltriphosphonitriles and preparation thereof. 3,260,685, 7-12-66, Cl. 260—2.
Richards Structural Steel Co. Ltd.: *See*—
Barker, John B., and Dence. 3,260,420.
Richardson, Eugene E., to Standard Oil Co. Alkaline metal sulfonates. 3,260,670, 7-12-66, Cl. 252—33.
Rieke, John W., to Bell Telephone Laboratories, Inc. Power supply. 3,260,922, 7-12-66, Cl. 321—47.
Rieker & Co.: *See*—
Teufel, Ewald E. 3,259,950.
Rigazio, Anthony W., to Electrical Utilities Co. Capacitor and terminal stud assembly therefor. 3,260,905, 7-12-66, Cl. 317—260.
Riley, Harry L., and R. N. Bannister, to United Coke and Chemical Co. Manufacture of catalysts. 3,260,677, 7-12-66, Cl. 252—410.
Rinker, Richard, Firma: *See*—
Beermann, Paul, and Gross-Benne. 3,260,206.
Ritter, Jacob, K.G.: *See*—
Bross, Helmut. 3,260,241.
Ritz, Heinrich H. L., and E. R. Elliott, to C. A. Parsons & Co. Ltd. Tubular heat exchange element. 3,260,652, 7-12-66, Cl. 176—81.
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Logan, James S., and Roaldi. 3,260,628.
Logan, James S., and Roaldi. 3,260,630.
Robbins, Owen G.: *See*—
Burden, Robert W., and Robbins. 3,260,483.
Roberts, Harold G.: *See*—
Kamberg, Eduard F., and Roberts. 3,260,518.
Roberts, Simon, and J. D. Rankin, Jr. Safety cap for containers. 3,260,393, 7-12-66, Cl. 215—9.
Robertshaw Controls Co.: *See*—
Caparone, Michael J., and Graham. 3,260,459.
Morgan, Jesse P., Jr. 3,260,274.
Schneider, Frank H. 3,260,500.
Robinson, Edward L.: *See*—
Shimwell, Rodney H., and Robinson. 3,260,917.
Robinson, Gerard: *See*—
Yuda, Hyman, and Robinson. 3,260,429.
Robinson, Robert C., to Westinghouse Electric Corp. Rotor for a dynamoelectric machine. 3,260,874, 7-12-66, Cl. 310—64.
Robinson, Wilbur D.: *See*—
Vreeland, Robert W., Kuchmy, and Robinson. 3,260,197.
Rocks, Eugene S. Gyroscopic apparatus. 3,260,121, 7-12-66, Cl. 74—5.4.
Rocks, Eugene S., to Sperry Rand Corp. Gyroscopic apparatus. 3,260,122, 7-12-66, Cl. 74—5.4.
Rockwell Mfg. Co.: *See*—
Armstrong, Donald L., and MacFadden. 3,260,275.
Sundby, Gustav B. 3,260,536.
Roemer, Ralph R. High pressure control valve. 3,260,499, 7-12-66, Cl. 251—214.
Roesel, John F., Jr.: *See*—
Relation, Alfred E., Putkovich, and Roesel. 3,260,963.
Rogers, Patrick J.: *See*—
Alston, Liviu L., and Rogers. 3,260,810.
Rolfe, Colin H. Bulldozer or like implement for attachment to a tractor. 3,260,003, 7-12-66, Cl. 37—144.
Rolfe, John B.: *See*—
Damon, Roger H., Jr., and Rolfe. 3,260,821.
Rondas, Ivan V.: *See*—
Abbott, Tirey C., Jr., Carlson, Ives, and Rondas. 3,260,153.
Root, Frank B.: *See*—
O'Shea, Francis X., and Root. 3,260,756.
O'Shea, Francis X., and Root. 3,260,758.
Rose, Francis L.: *See*—
Broadbent, Wallace, Rose, and Walpole. 3,260,746.
Rosemount Engineering Co.: *See*—
Werner, Frank D. 3,260,102.
Rosen, Philip J., to United States of America, Army. Gun pressure measuring device. 3,260,107, 7-12-66, Cl. 73—167.
Rosenberg, David S., and E. A. Belmore, to Hooker Chemical Corp. Purification of hydrogen chloride. 3,260,059, 7-12-66, Cl. 62—28.
Rosenblatt, Arnold L.: *See*—
Ash, Howard H., and Rosenblatt. 3,260,480.
Rosengarten, Walter E., Jr.: *See*—
Buczala, George S., Rosengarten, and Copeland. 3,260,280.
Rosler, Walter, to Drahtwerke Rosler K.G. Method of and apparatus for the production of welded joints in meshwork units. 3,260,833, 7-12-66, Cl. 219—56.
Ross, Edward J. Tableted composition for oxygen release. 3,260,674, 7-12-66, Cl. 252—186.
Ross, James W., Jr., to Corning Glass Works. Method and apparatus for electrolytically determining a species in a fluid. 3,260,656, 7-12-66, Cl. 204—1.
Roto Apparate-und Maschinenbau Dr. Henning KG.: *See*—
Lutz, Kurt. 3,260,110.
Rottler, Donald B. Boring machine. 3,260,136, 7-12-66, Cl. 77—4.
Rouanet, Jean: *See*—
Leclere, Jean-Claude, and Rouanet. 3,259,998.
Rouge, Pierre: *See*—
Lemesle, Georges, Martin, Rouge, and Vivien. 3,260,384.
Roussel-UCLAF, S.A.: *See*—
Allais, Andre. 3,260,729.
Velluz, Leon, and Muller. 3,260,722.
Rover Co. Ltd., The: *See*—
Swaine, John. 3,260,250.
Rowe, P. R.: *See*—
McCollum, Burton, and Rowe. 3,260,327.
Rowell, Harold A.: *See*—
White, Bobbie L., and Rowell. 3,260,522.
Royal Trust Co., The: *See*—
Kindersley, Charles R. D., and Duffield. 3,260,985.
Royal Typewriter Co., Inc.: *See*—
Madison, Theodore N. 3,260,342.
Rozen, Jack B.: *See*—
Koltz, Irving M., and Rozen. 3,260,441.
Ruaud, Michel: *See*—
Christen, Gilbert P., and Ruaud. 3,260,711.
Rubenstein, Dina G., L. B. Hoffman, and G. K. Goodman; said Goodman and Hoffman assors. to said Rubenstein. Pivotal stacking hair curler. 3,260,267, 7-12-66, Cl. 132—40.
Rudner, Bernard, P. E. Brumfield, and P. M. Hergenrother, to Koppers Co., Inc. Benzothiazole polyamides. 3,260,700, 7-12-66, Cl. 260—47.
Rudy, Stephen J., and L. A. Amtsberg, to Chicago Pneumatic Tool Co. Jet vibrator. 3,260,509, 7-12-66, Cl. 259—1.
Ruis, Jan W.: *See*—
De Gier, Johannes, Nienhaus, and Ruis. 3,260,397.
Rulseh, Roger D., and W. H. Pierson, to American Machine & Foundry Co. Automatic and manual time switch. 3,260,807, 7-12-66, Cl. 200—38.
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Clause, John W. 3,259,933.
Rush, Derek A., to S. Smith & Sons (England) Ltd. Electric position detection devices. 3,260,117, 7-12-66, Cl. 73—398.
Russell, Glen A. Process of oxidation of organic compounds with molecular oxygen. 3,260,570, 7-12-66, Cl. 23—184.
Ryan Aeronautical Co., The: *See*—
James, Harry A. 3,260,476.
Ryan, Francis B. Coulter spring trash holder. 3,260,316, 7-12-66, Cl. 172—516.
Ryan Industries, Inc.: *See*—
Paullukonis, Richard S., and Matlow. 3,260,060.
Ryan, John W., to Mattel, Inc. Toy dumping mechanism. 3,260,013, 7-12-66, Cl. 46—40.
Ryan, John W., to Mattel, Inc. Baby doll burp mechanism. 3,260,015, 7-12-66, Cl. 46—117.
Ryan Recording Thermometer Co.: *See*—
Johnson, Jerry E. 3,260,063.
Ryckaert, Andre: *See*—
Domen, Charles, Ryckaert, and Jegge. 3,260,760.
Ryder, Charles F. Retractable wheel assembly. 3,260,533, 7-12-66, Cl. 280—43.1.

Saari, Veikko R., to Bell Telephone Laboratories, Inc. Capacitor coupled feedback amplifier. 3,260,950, 7–12–66, Cl. 330—28.

Sadler, Harry J., and E. E. Cook, to Hypro Inc. Coupler for power take-off. 3,260,541, 7–12–66, Cl. 287—53.

Saffell, William F.: *See*—
Wilson, Alexander C. R., and Saffell. 3,260,873.

Saidak, Patricia: *See*—
Asselbergs, Edward A. M., Hamilton, and Saidak. 3,260,607.

Saikawa, Isamu: *See*—
Takai, Akira, Saikawa, Kodana, Takamichi, Matsubara, and Maeda. 3,260,716.

St. Alban, Jonas O., to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Water-soluble monoazodyestuffs. 3,260,713, 7–12–66, Cl. 260—163.

Sakagami, Shoichi: *See*—
Yamauchi, Yuichiro, and Sakagami. 3,260,802.

Sakamura, Yoshikazu. Double blow header. 3,260,096, 7–12–66, Cl. 72—391.

Salehar, Milena: *See*—
Miller, Arthur F., Salehar, and Williams. 3,260,752.

Salminen, Wilho M.: *See*—
Weyerts, Walter J., and Salminen. 3,260,597.

Salsbury Laboratories: *See*—
Berndt, Edward W. 3,260,720.

Salton, Robert B., to Westinghouse Air Brake Co. Conversion brake cylinder. 3,260,169, 7–12–66, Cl. 92—59.

Salvesen, Robert H., to Esso Research and Engineering Co. Method of weed control. 3,260,589, 7–12–66, Cl. 71—2.6.

Sanborn, Frank E. Self-clearing drill. 3,260,139, 7–12–66, Cl. 77—67.

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Lerman, Harold, Sanchirico, and Sputz. 3,260,485.

Sandenburgh, George R. Device for toting skis and ski poles. 3,260,430, 7–12–66, Cl. 224—45.

Sanders Associates, Inc.: *See*—
Hayner, Paul F. 3,260,273.

Sanders, Dickerson H. Apparatus for shipping live birds. 3,260,239, 7–12–66, Cl. 119—97.

Sanford, Robert A., and H. Erickson, to Sinclair Research, Inc. Synthetic alumina, silica-alumina hydrocarbon cracking catalyst and method for hydrocarbon cracking. 3,260,680, 7–12–66, Cl. 252—455.

Santer, James O.: *See*—
Lavin, Edward, Markhart, and Santer. 3,260,691.

Sasse, Klaus, E. Kuhle, and L. Eue, to Farbenfabriken Bayer Aktiengesellschaft. 2-(heterocyclic)-isothiolurea. 3,260,726, 7–12–66, Cl. 260—306.6.

Sather, Eugene, to Bell & Howell Co. Predetermined feed selection for multi-station inserters. 3,260,517, 7–12–66, Cl. 270—58.

Sayigh, Adnan A. R., and A. Odinak, to The Upjohn Co. Process for preparing hydrazobenzenes. 3,260,750, 7–12–66, Cl. 260—569.

Scales, Stanley R., and A. E. Wisler, to Hughes Tool Co. Hardfacing structure. 3,260,579, 7–12–66, Cl. 29—195.

Scandia Packaging Machinery Co.: *See*—
Anderson, Andrew W. 3,260,388.

Schad, Charles A., to Murdock Associates, Inc. Pressure switch. 3,260,816, 7–12–66, Cl. 200—83.

Schaeffer, William D., to Union Oil Co. of California. Production of vinyl acetate by oxidation of ethylene with a palladous salt-containing catalyst and catalyst regeneration with oxygen and a nitrite or nitrogen oxide. 3,260,739, 7–12–66, Cl. 260—497.

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Brown, Mackenzie P., Junck, and Scheidt. 3,260,325.

Schenck, Carl, Maschinenfabrik G.m.b.H.: *See*—
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Schereer, William E.: *See*—
Bonwit, Willard R., Segal, Hartlove, and Schereer. 3,259,992.

Schering A.G.: *See*—
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Schieber, Isadore: *See*—
Greenwald, Harry, Malek, and Schieber. 3,260,339.

Schiffer, Günther, to Joh-Kleinewefers Sohne. Pressure absorber arrangement for processing webs of textile goods. 3,260,000, 7–12–66, Cl. 34—242.

Schiller, Leslie L.: *See*—
Raymond, Eugene B., and Schiller. 3,259,981.

Schiller, Michael: *See*—
Yuda, Hyman, and Robinson. 3,260,429.

Schink, Norbert, to Siemens-Schuckertwerke Aktiengesellschaft. Method of producing an oxide coating on crystalline semiconductor bodies. 3,260,626, 7–12–66, Cl. 148—186.

Schleicher, Harold E., to The Arrow-Hart & Hegeman Electric Co. Low energy non-arcing electric relay construction. 3,260,824, 7–12–66, Cl. 200—104.

Schlein, Seymour N., to The Fanner Mfg. Co. Line suspension. 3,260,487, 7–12–66, Cl. 248—63.

Schlumberger Well Surveying Corp.: *See*—
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Schluter, Peter M., to Thiokol Chemical Corp. Solid propellant charge for rocket motors. 3,260,208, 7–12–66, Cl. 102—98.

Schmal, Richard L., to Bell Telephone Laboratories, Inc. Variable impedance network employing a junction transistor. 3,260,965, 7–12–66, Cl. 332—30.

Schmidt, Gustav A., to General Electric Co. Process for making organopoly siloxanes. 3,260,699, 7–12–66, Cl. 260—46.5.

Schmidt, William. Automatic machining apparatus. 3,260,161, 7–12–66, Cl. 90—13.5.

Schmitz, Albert A.: *See*—
Brand, George W., Hartmann, and Schmitz. 3,260,166.

Schmoock, Roy F., to Fischer & Porter Co. Electromagnetic flowmeter measuring apparatus. 3,260,109, 7–12–66, Cl. 73—194.

Schneider, Frank H., to Robertshaw-Controls Co. Thermally responsive fuel control valve. 3,260,500, 7–12–66, 251—232.

Schneider, Sol: *See*—
Buffa, Anthony J., Schneider, and Zinn. 3,260,895.

Schoen, William, to Texaco Inc. Corrosion inhibiting composition for use in oil well fluids. 3,260,669, 7–12–66, Cl. 252—8.55.

Scholler, Gerhart, to Orenstein-Koppel und Lubecker Maschinenbau AG. Bucket wheel boom with movable conveyor belt. 3,260,345, 7–12–66, Cl. 198—9.

Schonewald, Roger L.: *See*—
Brown, Oliver L. I., Wilson, and Schonewald. 3,260,039.

Schoppe, Edward, Jr.: *See*—
Gobhai, Cavas M., and Schoppe. 3,260,457.

Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Alkyl phosphonic and thiophosphonic aryl ester amides. 3,260,712, 7–12–66, Cl. 260—949.

Schreter, Robert E., A. J. Turpin, and M. J. Parker, to Hauck Mfg. Co. Spark monitor for fuel burner. 3,261,008, 7–12–66, Cl. 340—248.

Schroder, Rolf: *See*—
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Schroeder, Hansjuergen A., to Olin Mathieson Chemical Corp. Method for controlling pests. 3,260,588, 7–12–66, Cl. 71—2.5.

Schroeder, Hansjuergen A., to Olin Mathieson Chemical Corp. 3-trichloromethyl-5-substituted-1,2,4 - thiadiazole. 3,260,725, 7–12–66, Cl. 260—302.

Schroeder, Roger J.: *See*—
Enoch, Duard W., Kieffaber, Perkins, Schroeder, and Stickelber. 3,260,031.

Schroeder, William, to The Upjohn Co. Quaternary ammonium salts of lincomycin. 3,260,714, 7–12–66, Cl. 260—210.

Schuh, Wilmer R. Door closing mechanism. 3,260,018, 7–12–66, Cl. 49—7.

Schumag Schumacher Metallwerke G.m.b.H.: *See*—
Greven, Johann. 3,260,092.

Schumer, Louis. Key retainer. 3,260,083, 7–12–66, Cl. 70—456.

Schwartzwalder, Karl, to General Motors Corp. Drycleaning filter element. 3,260,370, 7–12–66, Cl. 210—489.

Schweitzer, Donald G.: *See*—
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Schwinne, Carl E., to E. I. du l'ont de Nemours and Co. Suspension piece. 3,260,362, 7–12–66, Cl. 206—59.

Scientific Industries, Inc.: *See*—
Natelson, Samuel. 3,260,413.

Socony-Vacuum Oil Co., Inc.: *See*—
Summers, Gerald C. 3,260,661.
Summers, Gerald C. 3,260,993.

Scope Industries, Inc.: *See*—
Lund, Jens, Nilsen, and Vetere. 3,260,278.

Scott & Williams, Inc.: *See*—
Millar, John J., and Currier. 3,260,072.

Scuitto, Thomas J., A. J. Devine, and H. E. Karlson, to Wyle Laboratories. Manually actuable switch assembly. 3,260,819, 7–12–66, Cl. 200—87.

Sealectro Corp.: *See*—
Stand, Mille. 3,260,693.

Sedgwick Machine Works, Inc.: *See*—
Stewart, Charles F. 3,260,330.

Seeburg Corp., The: *See*—
McRoy, Frank A. 3,260,407.

Segal, Moshe: *See*—
Bonwit, Willard R., Segal, Hartlove, and Scherer. 3,259,992.

Seidenberg, Murray. Dental apparatus and method. 3,260,984, 7–12–66, Cl. 32—32.

Seifert, Hans, H. Corte, and O. Netz, to Farbenfabriken Bayer Aktiengesellschaft. Ion exchange resins prepared from the saponification of copolymers of the N-vinylimides of dicarboxylic acids and a crosslinking agent containing at least two non-conjugated vinylidene groups. 3,260,686, 7–12–66, Cl. 260—2.1.

Seiler, Fritz, to Edouard Dubied et cie. (Societe Anonyme). Patterning mechanism for jacquard circular knitting machines. 3,260,073, 7–12–66, Cl. 66—50.

Seiter, Hartmut, to Siemens & Halske Aktiengesellschaft. Method of reducing semiconductor junction areas. 3,260,633, 7–12–66, Cl. 156—17.

Seitter, Egon R.: *See*—
Bacher, Helmut, and Seitter. 3,260,971.

Seitz, John R. Simulated golf game. 3,260,526, 7–12–66, Cl. 273—134.

Selas Corp. of America: *See*—
Dolf, Hans R., and Marceau. 3,260,587.

Selka, Friedrich: *See*—
Gress, Ludwig, and Selka. 3,260,651.

Selleck, Robert W.: *See*—
Cantoni, John D., Gerrans, and Selleck. 3,260,291.

Serrano, Roger R., and E. E. Keller, to General Dynamics Corp. Desiccant tape. 3,260,234, 7–12–66, Cl. 116—114.

Serriades, Constantine A. Jet engine. 3,260,046, 7–12–66, Cl. 60—35.6.

Service Machine Co.: *See*—
Reed, Frank H. 3,259,956.

Shade, Keith N., to A. O. Smith Corp. Multiple pulse train transmission. 3,261,005, 7–12–66, Cl. 340—179.

Shaw, Harry, A. J. Pearce, and G. S. Blair, to Toronto Star Ltd. Apparatus for applying a top wrapper to a pile of discrete articles. 3,260,033, 7–12–66, Cl. 53—196.

Shaw, John T., J. D. Voorhies, and S. M. Davis, to American Cyanamid Co. Dry cell batteries and polynuclear polybenzofurazan oxide depolarizing compounds therefor. 3,260,621, 7–12–66, Cl. 136—137.

Shaw, Ralph M., Jr., to Pedrick Tool and Machine Co., Inc. Bending machine. 3,260,091, 7–12–66, Cl. 72—152.

Shearer, Raymund L.: *See*—
Potenzo, Frank A., and Shearer. 3,260,783.

Sheffield Plastics, Inc.: *See*—
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Shelby, Richard K., to Monsanto Co. Cup-stacking apparatus. 3,260,336, 7–12–66, Cl. 193—43.

Shell Oil Co.: *See*—
Engel, Willem F., and Wattimena. 3,260,678.
Jennings, Thomas J. 3,260,731.
MacPhail, Alexander C. B., Waight, and Southern. 3,260,672.
McClure, James D., and Fischer. 3,260,738.
Skinner, John R. 3,260,759.
Watkins, Bruce J., and Johnson. 3,260,270.

Shelley, Steven M., to Radio Corp. of America. Coaxial cable terminal connection and method. 3,260,791, 7–12–66, Cl. 174—68.5.

Sheridan, Leslie M. Railway elevator for transporting material up an incline. 3,260,352, 7–12–66, Cl. 198—140.

Sheridan, Vincent E., to Eaton, Yale & Towne. Door holder and control. 3,259,936, 7–12–66, Cl. 16—49.

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Shimwell, Rodney H., and E. L. Robinson, to Simms Motor Units Ltd. Electrical supply systems with means responsive to the output of said system. 3,260,917, 7–12–66, Cl. 321—18.

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Shoemaker, Robert H., and H. Geschwender, to Kolene Corp. Methods and compositions for cleaning metal. 3,260,619, 7–12–66, Cl. 134—3.

Shoemaker, William E., to Beckman Instruments, Inc. Low dissipation power supply. 3,260,920, 7–12–66, Cl. 321—18.

Shombert, Donald J., to Merck & Co., Inc. Temperature compensating barrier layer semiconductor. 3,260,900, 7–12–66, Cl. 317—234.

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Siemens & Halske Aktiengesellschaft: *See*—
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Siemen & Hinsch m.b.H.: *See*—
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Siemens-Planiawerke Aktiengesellschaft fur Kohlefabrikate: *See*—
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Maier, Richard. 3,260,595.
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Simpson, Bernard L., and A. J. Gibson, to Minister of Aviation in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Telegraphic signal distortion monitor. 3,260,799, 7–12–66, Cl. 178—69.

Simpson, Jack N., and C. J. Boyer, to The Electric Storage Battery Co. Faceshield clip-on visor. 3,259,908, 7–12–66, Cl. 2—9.

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Slocombe, Robert J., to Monsanto Co. Hydroxylated interpolymers and preparation. 3,260,704, 7–12–66, Cl. 260—78.5.

Slocombe, Robert J., and R. Z. Greenley, to Monsanto Co. Process for polymerizing vinyl chloride and a fumarate ester. 3,260,705, 7–12–66, Cl. 260—78.5.

Smaczny, Leonhard. Drinking tube. 3,260,462, 7–12–66, Cl. 239—33.

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Smitzer, Louis A., and W. E. Bixby, to Bell & Howell Co. Method and means of dispersing particulate material in a stream of carrier fluid. 3,260,408, 7–12–66, Cl. 222—1.

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Snoeyenbos, David R.: *See*—
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Snyder, Harry R., Jr., to The Norwich Pharmacal Co. N-(methylcarbamyl)-5-nitro - 2 - furamidoxime. 3,260,732, 7–12–66, Cl. 260—347.3.

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Godbey, John K., Hodges, and Burdyn. 3,260,112.

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Sparks, George C. Display-dispenser for packets. 3,260,357, 7–12–66, Cl. 206—44.12.

Specht, Theodore R., and G. N. Crump, to Westinghouse Electric Corp. Noise reducing means for electrical apparatus. 3,260,974, 7–12–66, Cl. 336—90.

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Cogar, George, and Jones. 3,261,003.
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Skromme, Lawrence H., and Tarbox. 3,260,380.
Welsh, Herbert F., Deysher, and Crew. 3,260,913.
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Square D Co.: *See*—
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Squillac, Anthony S.: *See*—
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Stack, Emmet G. Choker hook. 3,260,546, 7–12–66, Cl. 294—75.
Staffel, Willhelm. Ground connector for terminal strip. 3,260,986, 7–12–66, Cl. 339—198.
Stagg, Sydney R.: *See*—
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Stalder, Edward G.: *See*—
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Stanborough, Alan J.: *See*—
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O'Grady, Thomas M., and Wennerberg. 3,260,679.
Richardson, Eugene E. 3,260,670.
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Hentzi, Joffre E. R. 3,260,489.
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Buch, Philip O. 3,260,396.
Stark, Norman H., to Walker Mfg. Co. Polyurethane foam product and method of making same. 3,260,618, 7–12–66, Cl. 117—102.
Stasiunas, Carl P., to National Distillers and Chemical Corp. Dunnage mattress valve. 3,260,276, 7–12–66, Cl. 137—234.5.
Stauffer Chemical Co.: *See*—
Hellmers, Henry D., Wiseman, and Beam. 3,260,567.
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Mayrath, Martin, and Stauth. 3,260,355.
Steel Co. of Canada Ltd., The: *See*—
Child, Roland H. 3,260,146.
Steel Heddle Mfg. Co.: *See*—
Kaufmann, Frank H. 3,260,281.
Steelcase Inc.: *See*—
Pipe, John. 3,260,303.
Stephenson, William I., Jr., and E. J. Walker, to Westinghouse Electric Corp. Circuit-breaker with improved armature adjustment means and armature pivot means. 3,260,822, 7–12–66, Cl. 200—88.
Stepniak, Walter J. Baby diaper fastener. 3,259,916, 7–12–66, Cl. 2—323.
Stetson, Russell, to Emerson & Cuming, Inc. Magnetic radio frequency seal for shielded enclosures. 3,260,788, 7–12–66, Cl. 174—35.
Stetten, Kenneth J., and J. Wallen, Jr., to Melpar, Inc. Seismic personnel sensor. 3,261,009, 7–12–66, Cl. 340—261.
Stevens, Harry M., to Monsanto Co. Coated induction heating coil for zone refining apparatus. 3,260,578, 7–12–66, Cl. 29—183.5.
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Stobbe, Richard E., to Kearney & Trecker Corp. Presettable control system. 3,259,957, 7–12–66, Cl. 29—26.
Stoever, Hans O., and G. S. Jones, to Eastman Kodak Co. Interlock switch mechanism for solution handling apparatus. 3,260,811, 7–12–66, Cl. 200—61.41.
Stoll, Kurt. Device for positioning and conveying work pieces. 3,260,376, 7–12–66, Cl. 214—1.
Stolzer, Milton M. Fish hooks and lures. 3,260,012, 7–12–66, Cl. 43—42.1.
Straley, James M., D. J. Wallace, and M. A. Weaver, to Eastman Kodak Co. N-beta-cyanoethyl-N-lower alkyl-alpha-cyano-cinnamonitrile, cinnamate and cinnamic acid amide compounds. 3,260,737, 7–12–66, Cl. 260—465.
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Ives, Clifford E., and Straub. 3,260,639.
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Kalmus, Henry P., and Striker. 3,260,945.
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Stroukoff, Oleg, to Piasecki Aircraft Corp. Directional control assembly. 3,260,482, 7–12–66, Cl. 244—51.
Sturdy, William W., to Bell Telephone Laboratories, Inc. Multifrequency pulse transmission system. 3,260,994, 7–12–66, Cl. 340—146.1.
Suarez, Caesar R. Motorized unicycle. 3,260,324, 7–12–66, Cl. 180—10.
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Belak, Steven G. 3,260,610.
McNelis, Edward J. 3,260,701.
McNelis, Edward J. 3,260,755.
Sundby, Gustav B., to Rockwell Mfg. Co. Pusher mechanism for vehicles. 3,260,536, 7–12–66, Cl. 280—481.
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Surrounding Sound, Inc.: *See*—
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Sutherns, Edward A., to Eastman Kodak Co. Method for preparing light-sensitive silver halide emulsions suitable for print-out recording materials. 3,260,605, 7–12–66, Cl. 96—108.
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Svaty, Vladimir, and M. Pavlu, to Elitex Sdruzen podniku tertilniho strojirenstvi. Weft thread control device. 3,260,283, 7–12–66, Cl. 139—370.
Swaine, John, to The Rover Co. Ltd. Internal combustion engines. 3,260,250, 7–12–66, Cl. 123—119.
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Takai, Akira, I. Saikawa, T. Maeda, Y. Kodana, I. Takamichi, and Y. Matsubara, to Toyama Kagaku Kogyo Kabushiki Kaisha. Process for the preparation of new 5-nitrofuryl compounds. 3,260,716, 7–12–66, Cl. 260—240.
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Takara Co., New York, Inc.: *See*—
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Takeda Chemical Industries, Ltd.: *See*—
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Talmont, Xavier: *See*—
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Tambasco, Charles F., to Belock Instrument Corp. Electric soldering iron tip. 3,260,439, 7–12–66, Cl. 228—55.
Tames, Daniel. Surgical gown. 3,259,913, 7–12–66, Cl. 2—114.
Tarbox, Albert E., to Union Carbide Corp. Process for the production of ink transfer media. 3,260,779, 7–12–66, Cl. 264—293.
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Taylor, Elvin A., to Plymouth Stamping Co. Method of assembling bearing elements. 3,259,962, 7–12–66, Cl. 29—148.4.
Taylor, Laurence W., to W. E. & F. Dobson Ltd. Extendible and contractable pit props. 3,260,492, 7–12–66, Cl. 248—354.
Tchejeyan, Sarkis K., and R. E. Jones, to Micro-Line Inc. Objective mounting means for projection printers. 3,260,154, 7–12–66, Cl. 88—24.
Teeple, Lawrence R., Jr., to Beckman & Whitley, Inc. Spectral dispersion attachment for cameras. 3,260,180, 7–12–66, Cl. 95—1.1.
Teixeira, Jose M. A., to Construcoes Continental Limitada. Cold storage for chilled products. 3,260,065, 7–12–66, Cl. 62—240.
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Muller, Otto. 3,260,996.
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Tessmann, Alfred H. Method of making butt welded joints. 3,259,969, 7–12–66, Cl. 29—487.
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Texaco Inc.: *See*—
Brown, William F. 3,260,839.
Reeser, George C. 3,260,609.
Schoen, William. 3,260,669.
Texas Eastern Transmission Corp.: *See*—
Mitchell, James J. 3,260,062.
Texas Industrial Mfg. Co.: *See*—
Benham, Oliver C., Jr. 3,260,409.
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Nudenberg, Walter, and Delaney. 3,260,766.
Textron Electronics, Inc.: *See*—
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Textron, Inc.: *See*—
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Theriault, Gerald E., to Radio Corp. of America. Field-effect transistor translating circuit. 3,260,948, 7–12–66, Cl. 330—18.
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Thomas, Eugene P.: *See*—
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Thomas, John L.: *See*—
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Thompson, Gordon B., to Northern Electric Co. Ltd. Fader amplifier including a differential gain control mechanism. 3,260,954, 7–12–66, Cl. 330—69.
Thornton, Harry E., to Bound Brook Bearing Corp. of America. Production of bronze powders. 3,260,773, 7–12–66, Cl. 264—12.
Thresher, Griffith N., to Frank Wheatley Pump & Valve Manufacturer. Pump having radial discharge valve. 3,260,217, 7–12–66, Cl. 103—153.
Tiffin, James R.: *See*—
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Tilles, Michael. Self-warming cushion. 3,259,925, 7–12–66, Cl. 5—355.
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Timken Roller Bearing Co., The: *See*—
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Toccacell, Nazzareno, to Ormonoterapia Richter S.p.A. Method for the preparation of a pancreas extract having a high proteolytic activity. 3,260,654, 7–12–66, Cl. 195—66.
Torcheux, Emile: *See*—
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Torick, Emil: *See*—
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Torok, Ernest J.: *See*—
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Toronto Star Ltd.: *See*—
Shaw, Harry, Pearce, and Blair. 3,260,033.
Torrington Co., The: *See*—
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Traktman, Isidore. Mobile display rack. 3,260,561, 7–12–66, Cl. 312—262.
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McClure, Arthur W., Webster, Ware, and Friedman. 3,260,067.
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Trimmer, Lea G. Float type flow responsive switch with flow resistance means in float chamber outlet. 3,260,815, 7–12–66, Cl. 200—81.9.
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Tru-Flex Rubber Products Co.: *See*—
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Turnbull, Merlin Y., to Square D Co. Single pole snap-switch with a guideplate detachably mounted between juxtaposed casing elements. 3,260,814, 7–12–66, Cl. 200—67.
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Twist, Walter, H. E. Haigh, and J. Ball, to British Titan Products Co., Ltd. Straight-through fluid energy pulverizers. 3,260,467, 7–12–66, Cl. 241—5.
Tyrrell Industries, Inc.: *See*—
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Tyrrell, Wallace B., Jr., to Tyrrell Industries, Inc. Dress shield and method of dress shield manufacture. 3,259,911, 7–12–66, Cl. 2—56.
Udelson, Burton J., to United States of America, Army. Microwave oscillator. 3,260,961, 7–12–66, Cl. 331—81.
Union Carbide Canada Ltd.: *See*—
Bata, George L., and Fraser. 3,260,695.
Kliewer, Gerhard, and Wasylyk. 3,260,488.
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Brannen, Cecil G., and Wuellner. 3,260,710.

Wurtenberg, Oscar A.: *See*—
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Wyle Laboratories: *See*—
Sculitto, Thomas J., Devine, and Karlson. 3,260,819.

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Yard-Man, Inc.: *See*—
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Yasunami, Kazuo, to Kobe Steel Works, Ltd. Very high pressure apparatus. 3,259,941, 7–12–66, Cl. 18—16.

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Moritz, Sadayoshi, Ito, Nishi, and Fujimori. 3,259,970.

Yeda Research and Development Co.: *See*—
Amiel, Saadia, and Nir. 3,260,847.

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Yokoo, Yusaku. Push switch. 3,260,821, 7–12–66, Cl. 200—87.

Yonts, Oliver C.: *See*—
Shipley, Elwood D., Yonts, and Veach. 3,260,844.

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Young, Donald C., to Union Oil Co. of California. Phosphoric acid compositions. 3,260,569, 7–12–66, Cl. 23—165.

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Young, Frank L. Method for making an expansible corrugated paperboard carton. 3,260,172, 7–12–66, Cl. 93—36.

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Zabriskie, William L., to General Electric Co. Apparatus and method for treating strip. 3,269,993, 7–12–66, Cl. 34—23.

Zega, Bogdan: *See*—
Luescher, Jakob, and Zega. 3,260,901.

Zeiss Ikon Aktiengesellschaft: *See*—
Taesler, Rudolf. 3,260,436.

Zeitman, Samuel A.: *See*—
Della Pergola, Gian C., and Zeitman. 3,260,625.

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Hardy, Maurice E. 3,260,528.

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Ziegler, Gunther, to Siemens-Schuckertwerke Aktiengesellschaft. Zone melting gallium in a recycling arsenic atmosphere. 3,260,573, 7–12–66, Cl. 23—301.

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Zimmerman, Charles E., Jr.: *See*—
Fasal, John H., and Zimmerman. 3,260,831.

Zimmerman, Merle A. Slide fastener. 3,259,951, 7–12–66, Cl. 24—201.

Zinn, Mortimer H.: *See*—
Buffa, Anthony J., Schneider, and Zinn. 3,260,895.

Zirngibl, Carl H.: *See*—
Lareau, Norman N., and Zirngibl. 3,260,402.

Zobel, Siegfried: *See*—
Winkler, Alfred, Engelsmann, Schroder, and Zobel. 3,260,183.

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Zwetz, Herbert, to Siemens Schuckertwerke Aktiengesellschaft. Regulating arrangement for forced flow-type boiler. 3,260,246, 7–12–66, Cl. 122—451.

CLASSIFICATION OF PATENTS

ISSUED JULY 12, 1966

NOTE.—First number, class; second number, subclass; third number, patent number

2– 9	3,259,908	30–289	3,259,981	64– 2	3,260,069	83–391	3,260,145	105–197	3,260,222	149–	3,260,627
14	3,259,909	353	3,259,982	21	3,260,070	479	3,260,146	366	3,260,223		3,260,628
24	3,259,910	365	3,259,983	32	3,260,071	542	3,260,147	377	3,260,224		3,260,629
56	3,259,911	32– 32	3,259,984	65– 34	3,260,583	84– 1.01	3,260,784	106–263	3,260,608		3,260,630
68	3,259,912	33– 46	3,259,985	60	3,260,584	1.25	3,260,785		3,260,609	7	3,260,631
114	3,259,913	50	3,259,986	65	3,260,585	267	3,260,148	283	3,260,610	43	3,260,632
161	3,259,914		3,260,001	86	3,260,586	85– 1	3,260,149	107– 8	3,260,225	150– 1.7	3,260,292
239	3,259,915	128	3,259,987	135	3,260,587	47	3,260,150	108– 51	3,260,226	151– 37	3,260,293
323	3,259,916	169	3,259,988	66– 42	3,260,072	81	3,260,151	110– 7	3,260,227	152–176	3,260,294
4– 10	3,259,917	174	3,259,989	50	3,260,073	88– 24	3,260,152	99	3,260,228	330	3,260,295
18	3,259,918	178	3,259,990	86	3,260,074		3,260,153	114– 66.5	3,260,229	367	3,260,296
68	3,259,919	34– 5	3,259,991	67– 21	3,260,075		3,260,154	102	3,260,230	156– 17	3,260,633
110	3,259,920	23	3,259,992	34	3,260,076	28	3,260,155	125	3,260,231		3,260,634
5– 62	3,259,921		3,259,993	68– 12	3,260,077	28.92	3,260,156	126	3,260,232	40	3,260,635
86	3,259,922	26	3,259,994	202	3,260,078	39	3,260,157	116– 34	3,260,233	203	3,260,636
332	3,259,923	31	3,259,995	70– 25	3,260,079	90– 11	3,260,158	114	3,260,234	314	3,260,637
354	3,259,924	53	3,259,996	364	3,260,080	13	3,260,159	117– 18	3,260,611	575	3,260,638
355	3,259,925	57	3,259,997	370	3,260,081	13.1	3,260,160	25	3,260,612	594	3,260,639
8–116.3	3,260,565		3,259,998	421	3,260,082	13.5	3,260,161	36.9	3,260,613	157– 13	3,260,297
9– 4	3,259,926	135	3,259,999	456	3,260,083	16	3,260,162	37	3,261,023	158– 28	3,260,298
8	3,259,927	242	3,260,000	71– 2.5	3,260,588	64	3,260,163	46	3,260,614		3,260,299
10– 2	3,259,928	37– 53	3,260,002	2.6	3,260,589	91– 5	3,260,164	73	3,260,615	115	3,260,301
76	3,259,929	144	3,260,003		3,260,590	33	3,260,165	93.4	3,260,616	116	3,260,300
155	3,259,930	195	3,260,004	72– 20	3,260,084	82	3,260,166	100	3,260,617	160–170	3,260,302
12–142	3,259,931	38– 77	3,260,005		3,260,085	395	3,260,167	102	3,260,618	197	3,260,303
13– 31	3,260,783	40–124	3,260,006		3,260,086	92– 24	3,260,168	118– 49.1	3,260,235	161– 50	3,260,640
14– 18	3,259,932	301	3,260,007	36	3,260,087	59	3,260,169	119– 1	3,260,236	242	3,260,641
15–244	3,259,933	42– 1	3,260,008	103	3,260,088	93– 8	3,260,170		3,260,237	162–252	3,260,642
373	3,259,934	69	3,260,009	117	3,260,089	19	3,260,171	5	3,260,238	165– 12	3,260,304
571	3,259,935	43– 18	3,260,010	126	3,260,090	36	3,260,172	97	3,260,239	67	3,260,305
16– 49	3,259,936	42.09	3,260,011	152	3,260,091	51	3,260,173	120– 32	3,260,240	89	3,260,306
51	3,259,937	42.1	3,260,012	161	3,260,092		3,260,174	42.03	3,260,241	158	3,260,307
18– 8	3,259,938	44– 41	3,260,581	163	3,260,093	94– 17	3,260,175	42.13	3,260,242	166– 8	3,260,308
	3,259,939	46– 40	3,260,013	237	3,260,094	39	3,260,176	122– 7	3,260,243	124	3,260,309
12	3,259,940	47	3,260,014	265	3,260,095		3,260,177	33	3,260,244	131	3,260,310
16	3,259,941	117	3,260,015	391	3,260,096	46	3,260,178	451	3,260,245	167– 30	3,260,643
19	3,259,942	119	3,260,016	393	3,260,097	50	3,260,179		3,260,246		3,260,644
30	3,259,943	226	3,260,017	416	3,260,098	95– 1.1	3,260,180	123– 8	3,260,247	46	3,260,645
	3,259,944	49– 7	3,260,018	422	3,260,099	11	3,260,181	13	3,260,248	52	3,260,646
19–106	3,259,945	51–281	3,260,019	469	3,260,100	31	3,260,182	46	3,260,249	53	3,260,647
22– 95.5	3,259,946	293	3,260,582	73– 1	3,260,101		3,260,183	119	3,260,250	84.5	3,260,648
193	3,259,947	52– 2	3,260,020		3,260,102	45	3,260,184	148	3,260,251	170–160.25	3,260,313
196	3,259,948	27	3,260,021	12	3,260,103	89	3,260,185	188	3,260,252	160.31	3,260,311
	3,259,949	86	3,260,022	23	3,260,104	90.5	3,260,186	198	3,260,253	160.5	3,260,312
23– 2	3,260,566	181	3,260,023	67.9	3,260,105	96– 3	3,260,597	125– 5	3,260,254	171–101	3,260,314
63	3,260,567	223	3,260,024	144	3,260,106	29	3,260,598	126– 92	3,260,255	172–413	3,260,315
154	3,260,568	228	3,260,025	167	3,260,107	75	3,260,599	120	3,260,256	516	3,260,316
165	3,260,569	473	3,260,026	178	3,260,108	76	3,260,600	138	3,260,257	173– 35	3,260,317
184	3,260,570	602	3,260,027	194	3,260,109	84	3,260,601	128– 29	3,260,258	174– 11	3,260,786
204	3,260,571	745	3,260,028	209	3,260,110	85	3,260,602	87	3,260,259	15	3,260,787
270.5	3,260,572	53– 3	3,260,029	356	3,260,111	87	3,260,603	132	3,260,260	35	3,260,788
301	3,260,573	34	3,260,030		3,260,112	101	3,260,604	149	3,260,261	42	3,260,789
324	3,260,574	76	3,260,031	359	3,260,113	108	3,260,605	494	3,260,262	51	3,260,790
355	3,260,575	112	3,260,032	362	3,260,114	98– 2	3,260,187	129– 16	3,260,263	68.5	3,260,791
24– 70	3,259,950	196	3,260,033		3,260,115	40	3,260,188	23	3,260,264	130	3,260,792
201	3,259,951	54– 24	3,260,034		3,260,116	115	3,260,189	131– 8	3,260,265	135	3,260,793
28– 1	3,259,952	55– 73	3,260,035	398	3,260,117	99–113	3,260,606	187	3,260,266	138	3,260,794
	3,259,953	223	3,260,036	419	3,260,118	207	3,260,607	132– 40	3,260,267	144	3,260,795
	3,259,954	271	3,260,037	420	3,260,119	295	3,260,190	45	3,260,268	178	3,260,796
29– 1.32	3,259,955	373	3,260,038	422	3,260,120	100– 4	3,260,191	123	3,260,269	175– 75	3,260,318
21.1	3,259,956	403	3,260,039	505	3,260,121	101– 3	3,260,192	134– 3	3,260,619	382	3,260,319
26	3,259,957	56– 41	3,260,040	74– 5.4	3,260,122	35	3,260,193	136– 86	3,260,620	176– 18	3,260,649
	3,259,958	119	3,260,041	5.5	3,260,123	38	3,260,194	137	3,260,621	58	3,260,650
79	3,259,959	249	3,260,042	63	3,260,124	39	3,260,195	137– 15	3,260,270	79	3,260,651
96	3,259,960	57– 84	3,260,043	229	3,260,125	129	3,260,196	36	3,260,271	81	3,260,652
121	3,259,961	60– 35.55	3,260,049	233	3,260,126	132	3,260,197	68	3,260,272	177– 1	3,260,320
148.4	3,259,962	35.6	3,260,044	339	3,260,127	149.2	3,260,198	85	3,260,273	176	3,260,321
149.5	3,259,963		3,260,045	435	3,260,128	269	3,260,199	113	3,260,274	178– 5.4	3,260,797
182.5	3,260,576		3,260,046	568	3,260,129	415.1	3,260,200	219	3,260,275	7.87	3,260,798
183.5	3,260,577		3,260,047	606	3,260,130	102– 27	3,260,201	234.5	3,260,276	69	3,260,799
	3,260,578		3,260,048	608	3,260,131		3,260,202	317	3,260,277	179– 9	3,260,800
195	3,260,579	39.18	3,260,050	609	3,260,132	43	3,260,203	343	3,260,278	84	3,260,801
196.4	3,260,580	52	3,260,051	675	3,260,133	49	3,260,204	533.15	3,260,279	180– 7	3,260,322
200	3,259,964	54	3,260,052	710.5	3,260,134	51	3,260,205	138– 97	3,260,280		3,260,323
227	3,259,965	61– 36	3,260,053	802	3,260,135	70	3,260,206	139– 88	3,260,281	10	3,260,324
282	3,259,966	42	3,260,054	75– 53	3,260,591	92.5	3,260,207	161	3,260,282	79.2	3,260,325
401	3,259,967	62– 6	3,260,055	78	3,260,592	98	3,260,208	370	3,260,283	181– .5	3,260,326
407	3,259,968	13	3,260,056	117	3,260,593	103– 1	3,260,209	141– 3	3,260,284		3,260,327
487	3,259,969	17	3,260,057	128	3,260,594	2	3,260,210	8	3,260,285	182– 5	3,260,328
488	3,259,970	23	3,260,058	200	3,260,595	4	3,260,211	21	3,260,286	202	3,260,329
498	3,259,971	28	3,260,059	226	3,260,596	38	3,260,212	143– 32	3,260,287	187– 3	3,260,330
498.5	3,259,972	45	3,260,060	77– 4	3,260,136	54	3,260,213		3,260,288	188– 72	3,260,331
504	3,259,973	52	3,260,061	5	3,260,137	87	3,260,214	68	3,260,289	73	3,260,332
527	3,259,974	54	3,260,062	33.5	3,260,138	96	3,260,215		3,260,290	192– 45	3,260,333
528	3,259,975	126	3,260,063	67	3,260,139	103	3,260,216	146– 17	3,260,291	56	3,260,334
568	3,259,976	209	3,260,064	82– 2	3,260,140	153	3,260,217	148– 6.15	3,260,622	193– 36	3,260,335
30– 16	3,259,977	240	3,260,065	36	3,260,141	104– 9	3,260,218	12	3,260,623	43	3,260,336
59	3,259,978	489	3,260,066	83– 72	3,260,142	172	3,260,219	175	3,260,624	194– 10	3,260,337
201	3,259,979	505	3,260,067	86	3,260,143	176	3,260,220	179	3,260,625	16	3,260,338
279	3,259,980	63– 12	3,260,068	203	3,260,144	105–148	3,260,221	186	3,260,626	92	3,260,339

195 – 36	3.260.653	214 – 339	3.260.390	244 – 1	3.260.475	260 – 249.9	3.260.719	287 – 87	3.260.543	324 – 43	3.260.930
66	3.260.654	650	3.260.391	7	3.260.476	250	3.260.720	104	3.260.544		3.260.931
197 – 19	3.260.340	652	3.260.392	12	3.260.477	256.4	3.260.721	292 – 263	3.260.545	46	3.260.932
	3.260.341	215 – 9	3.260.393	14	3.260.478	287	3.260.722	294 – 75	3.260.546	57	3.260.933
65	3.260.342	37	3.260.394	17.13	3.260.479	294.7	3.260.723	298 – 5	3.260.547		3.260.934
82	3.260.343	46	3.260.395	31	3.260.480	295	3.260.724	299 – 18	3.260.548		3.260.935
151	3.260.344	217 – 43	3.260.396	42	3.260.481	302	3.260.725	300 – 5	3.260.549		3.260.936
198 – 9	3.260.345	219 – 10.55	3.260.832	51	3.260.482	307	3.260.727	302 – 34	3.260.550	99	3.260.937
31	3.260.346	56	3.260.833	53	3.260.483	309.2	3.260.726	303 – 1	3.260.551		3.260.938
33	3.260.347	73	3.260.834	55	3.260.484	326.14	3.260.729	6	3.260.552	126	3.260.939
	3.260.348	213	3.260.835	77	3.260.485	326.3	3.260.728	16	3.260.553	325 – 113	3.260.940
38	3.260.349	365	3.260.836	246 – 4	3.260.842	332.1	3.260.730	18	3.260.554	310	3.260.941
136	3.260.350	220 – 2.1	3.260.397	182	3.260.843	346.1	3.260.731	21	3.260.555	349	3.260.942
138	3.260.351	3	3.260.398	248 – 41	3.260.486	347.3	3.260.732		3.260.556	328 – 69	3.260.943
140	3.260.352	3.4	3.260.400	63	3.260.487	397.3	3.260.733	49	3.260.557	329 – 162	3.260.944
156	3.260.353	18	3.260.399	99	3.260.488		3.260.734	305 – 36	3.260.558	330 – 10	3.260.945
184	3.260.354	90	3.260.401	215	3.260.489	453	3.260.735	307 – 88.3	3.260.852	17	3.260.946
185	3.260.355	221 – 4	3.260.402	226	3.260.490	455	3.260.736	88.5	3.260.853		3.260.947
200 – 5	3.260.802	10	3.260.403	345.1	3.260.491	465	3.260.737		3.260.854	18	3.260.948
6	3.260.803	13	3.260.404	354	3.260.492	484	3.260.738		3.260.855	19	3.260.949
8	3.260.804	32	3.260.405	249 – 48	3.260.493	497	3.260.739		3.260.856	28	3.260.950
11	3.260.805	122	3.260.406	143	3.260.494	501	3.260.740		3.260.857	29	3.260.951
	3.260.806	298	3.260.407	214	3.260.495	513	3.260.741		3.260.858		3.260.952
38	3.260.807	222 – 1	3.260.408	250 – 41.9	3.260.844	533	3.260.742		3.260.859	61	3.260.953
42	3.260.808	20	3.260.409	49.5	3.260.845		3.260.743		3.260.860	69	3.260.954
61.04	3.260.809	107	3.260.410	77	3.260.846	534	3.260.744		3.260.861		3.260.955
61.08	3.260.810		3.260.411	84.5	3.260.847		3.260.745		3.260.862	75	3.260.956
61.41	3.260.811		3.260.412	202	3.260.848	561	3.260.746		3.260.863	134	3.260.957
61.43	3.260.812	144	3.260.413	203	3.260.849	563	3.260.747		3.260.864	331 – 4	3.260.958
61.64	3.260.813	145	3.260.414	219	3.260.850	564	3.260.748	109	3.260.865	16	3.260.959
67	3.260.814	162	3.260.415	223	3.260.851		3.260.749	141	3.260.866	65	3.260.960
81.9	3.260.815	182	3.260.416	251 – 171	3.260.496	569	3.260.750	310 – 11	3.260.867	81	3.260.961
83	3.260.816	191	3.260.417	184	3.260.497	570	3.260.751		3.260.868	111	3.260.962
87	3.260.817	263	3.260.418	189	3.260.498	583	3.260.752		3.260.869	113	3.260.963
	3.260.818	309	3.260.419	214	3.260.499	604	3.260.753	14	3.260.870	332 – 21	3.260.964
	3.260.819	333	3.260.420	232	3.260.500	606.5	3.260.754	49	3.260.871	30	3.260.965
	3.260.820	394	3.260.421	282	3.260.501	608	3.260.755	54	3.260.872	31	3.260.966
	3.260.821	485	3.260.422	306	3.260.502	609	3.260.756	62	3.260.873	333 – 7	3.260.967
88	3.260.822		3.260.423	329	3.260.503		3.260.757	64	3.260.874	29	3.260.968
98	3.260.823	529	3.260.424	357	3.260.504		3.260.758	217	3.260.875	30	3.260.969
104	3.260.824	541	3.260.425	252 – 8.55	3.260.669	635	3.260.759	312 – 224	3.260.559		3.260.970
116	3.260.825	545	3.260.426	33	3.260.670	652.5	3.260.760	238	3.260.560	81	3.260.971
157	3.260.826	223 – 91	3.260.427	51.5	3.260.671	654	3.260.761	262	3.260.561	84	3.260.972
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	3.260.829	42.1	3.260.429	186	3.260.674	672	3.260.764	104	3.260.878	133	3.260.975
167	3.260.830	45	3.260.430	301.4	3.260.675		3.260.765	108	3.260.879	172	3.260.976
168	3.260.831	225 – 66	3.260.431	391	3.260.538	677	3.260.766	109.5	3.260.880	181	3.260.977
203 – 89	3.260.655	77	3.260.432	411	3.260.676	680	3.260.767		3.260.881	187	3.260.978
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65	3.260.361	108	3.260.446	260 – 2	3.260.684	95	3.260.776	16	3.260.895	18	3.260.992
208 – 59	3.260.663	235 – 60	3.260.447		3.260.685	262	3.260.777	35	3.260.896		3.260.993
127	3.260.664	60.18	3.260.448	2.1	3.260.686	282	3.260.778	46	3.260.897	146.1	3.260.994
206	3.260.665	60.25	3.260.449	2.5	3.260.687	293	3.260.779	135	3.260.898	146.3	3.260.995
254	3.260.666	61	3.260.450		3.260.688	313	3.260.780	137	3.260.899	166	3.260.996
310	3.260.667	63	3.260.451	22	3.260.689	321	3.260.781	234	3.260.900	172.5	3.260.997
209 – 90	3.260.363		3.260.452	29.7	3.260.690	334	3.260.782	235	3.260.901		3.260.998
107	3.260.364	70	3.260.453	30.2	3.260.691	267 – 1	3.260.515		3.260.902		3.260.999
166	3.260.365	92	3.260.837	30.4	3.260.692	270 – 57	3.260.516	246	3.260.903		3.261.000
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80	3.260.366		3.260.839	41	3.260.694	62	3.260.518	260	3.260.905	174	3.261.002
130	3.260.367	100	3.260.454		3.260.695	271 – 5	3.260.519		3.260.906	174.1	3.261.003
195	3.260.368	132	3.260.455	41.5	3.260.696	26	3.260.520	261	3.260.907		3.261.004
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489	3.260.370	172	3.260.841	45.95	3.260.698	272 – 1	3.260.523	41	3.260.909	199	3.261.006
533	3.260.371	200	3.260.456	46.5	3.260.699	85	3.260.522	225	3.260.910	206	3.261.007
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35	3.260.374	80	3.260.459	77.5	3.260.702	134	3.260.526	369	3.260.913	283	3.261.010
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	3.260.377	33	3.260.462		3.260.705	10	3.260.529	13	3.260.916	378	3.261.013
1.6	3.260.378	72	3.260.463		3.260.706	277 – 2	3.260.530	18	3.260.917	343 – 6	3.261.014
6	3.260.379	318	3.260.464	79.3	3.260.707	280 – 11.13	3.260.531		3.260.918	17.7	3.261.015
	3.260.380	430	3.260.465	79.5	3.260.708		3.260.532		3.260.919	100	3.261.016
17	3.260.381	241 – 1	3.260.466	85.5	3.260.709	43.1	3.260.533		3.260.920	112	3.261.017
	3.260.382	5	3.260.467	88.1	3.260.710	43.12	3.260.534	45	3.260.921	705	3.261.018
	3.260.383	43	3.260.468	92.8	3.260.711	279	3.260.535	47	3.260.922	720	3.261.019
18	3.260.384	257	3.260.469	163	3.260.713	481	3.260.536	70	3.260.923	756	3.261.020
38	3.260.385	242 – 55.12	3.260.470	210	3.260.714	507	3.260.537	323 – 18	3.260.924	346 – 1	3.261.021
140	3.260.386	79	3.260.471	240	3.260.715	285 – 24	3.260.539	76	3.260.925	74	3.261.022
147	3.260.387	107.12	3.260.472		3.260.716	110	3.260.540	324 – .5	3.260.926	351 – 92	3.260.562
310	3.260.388	153	3.260.473	243	3.260.717	287 – 53	3.260.541	34	3.260.927	352 – 45	3.260.563
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Design Patents

1	205,225	4	205,267	14	205,240	28	205,236	31	205,235	37	205,221
4	205,216		205,268	19	205,226	29	205,212		205,248		205,259
	205,229		205,271		205,256		205,220		205,249		205,276
	205,233		205,275	20	205,219		205,224		205,251	38	205,245
	205,234	5	205,213	21	205,214		205,231		205,257		205,258
	205,246	9	205,269		205,215		205,238	34	205,252	41	205,218
	205,247		205,270		205,274		205,263		205,253	42	205,210
	205,250	12	205,241	24	205,211		205,264		205,262		205,277
	205,254		205,243		205,237	31	205,222		205,278	44	205,272
	205,261	13	205,242		205,260		205,228	36	205,230		205,273
	205,266		205,244		205,265		205,232	37	205,217	48	205,209

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 12, 1966 Volume 828 Number 2

TRADEMARKS

NOTICES

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

National Sewing Machine Company, Belvidere, Ill., Reg. No. 515,398, Canc. No. 8628.

Clarence C. Klentz, d.b.a. Klentz Manufacturing Company, Chicago, Ill., Reg. No. 245,765, Canc. No. 8661.

Richard T. Schellinger, Flint, Mich., Reg. No. 438,947, Canc. No. 8669.

Bombi Perfumer, Inc., d.b.a. Bombi, New York, N.Y. and West Haven, Conn., Reg. No. 432,614, Canc. No. 8676.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

Deposit Accounts

The practice instituted on May 1, 1966, pursuant to the notice of February 23, 1966 (824 O.G. 1200), whereby statutory fees may be charged against deposit accounts, and such accounts are closed if overdrawn, has resulted in certain difficulties for the Patent Office and deposit account holders. It has been decided therefore to modify that practice as indicated below.

As was pointed out in that notice, the charging of a fee against an overdrawn account cannot be considered as payment of the fee until a proper balance is restored or payment is made in some other way. Accordingly, deposit account holders who charge such fees must assume the risk of losing vital dates if they do not maintain a proper balance in their accounts at all times.

Apart from this, however, the overdrawing of an account places a burden on the Patent Office, particularly where a number of items are charged after the overdraft occurs, and it is appropriate that those who are responsible for causing such a condition should bear the cost of correcting it. In view of this fact, and of the hardship frequently caused if an account is permanently closed, the practice of closing deposit accounts merely because they are overdrawn will be discontinued, effective August 1, 1966. In lieu thereof an overdrawn account will be immediately suspended and no charges will be accepted against it until a proper balance is restored, together with a payment of ten dollars to cover the work done by the Patent Office incident to suspending and

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,121
Date of oldest new application	June 1, 1965
Date of oldest amended application (filing date)	November 6, 1962

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6-1-65	8-9-63
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-15-65	11-6-62
Renewals (All Classes)	5-6-66	----------
Sec. 12(c) Publications (All Classes)	5-6-66	----------

Applications filed during the month of May—2,495

Registrations Issued 265—No. 810,896 to No. 811,160
Renewals Issued 80

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reinstating the account and dealing with charges which may have been made in the meantime. It is expected, however, that reasonable precautions will be taken in all cases to avoid overdrafts, and if an account is suspended repeatedly it will be necessary to close it.

Similarly, because of the burden placed on the Patent Office incident to the operation of deposit accounts, a charge of ten dollars will be made for opening each new account.

EDWARD J. BRENNER,
Commissioner.

June 23, 1966.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 16[1]

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,[2] notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acidum hydroxytoluinicum hydroxytoluinic acid	2-hydroxy-3-methylbenzoic acid $C_8H_8O_3$
acidum nafcaproicum nafcaproic acid	α,α-diethyl-1-naphthaleneacetic acid $C_{18}H_{22}O_2$
acidum sulfaloxicum sulfaloxic acid	4′-[[(hydroxymethyl)carbamoyl]sulfamoyl]phthalanilic acid $C_{16}H_{13}N_3O_7S$
acidum tranexamicum tranexamic acid	*trans*-4-(aminomethyl)cyclohexanecarboxylic acid $C_8H_{15}NO_2$
alloclamidum alloclamide	2-(allyloxy)-4-chloro-*N*-[2-(diethylamino)ethyl]benzamide $C_{16}H_{23}ClN_2O_2$
alverinum alverine	*N*-ethyl-3,3′-diphenyldipropylamine $C_{20}H_{27}N$
amfepentorexum amfepentorex	*N*,α-dimethyl-*p*-pentylphenethylamine $C_{15}H_{25}N$
amicarbalidum amicarbalide	3,3-diamidinocarbanilide $C_{15}H_{16}N_6O$
aminophenazoni cyclamas aminophenazone cyclamate	*N*-methyl-*N*-(2,3-dimethyl-5-oxo-1-phenylpyrazolin-4-yl)amine cyclohexylsulfamate $C_{13}H_{17}N_3O \cdot C_6H_{13}NO_3S$
amiodaronum amiodarone	2-butyl-3-benzofuranyl *p*-[2-(diethylamino)ethoxy]-*m*,*m*-diiodophenyl ketone $C_{25}H_{29}I_2NO_3$
amprolii chloridum amprolium chloride	1-[(4-amino-2-propyl-5-pyrimidinyl)methyl]-2-picolinium chloride $C_{14}H_{19}ClN_4$
anagestonum anagestone	17-hydroxy-6α-methylpregn-4-en-20-one $C_{22}H_{34}O_2$
azabonum azabon	3-sulfanilyl-3-azabicyclo[3.2.2]nonane $C_{14}H_{20}N_2O_2S$
azacosterolum azacosterol	17β-[[3-(dimethylamino)propyl]methylamino]androst-5-en-3β-ol $C_{26}H_{46}N_2O$
azintamidum azintamide	2-[(6-chloro-3-pyridazinyl)thio]-*N*,*N*-diethylacetamide $C_{10}H_{14}ClN_3OS$
barbexaclonum barbexaclone	(−)-*N*,α-dimethylcyclohexaneethylamine compound with 5-ethyl-5-phenylbarbituric acid $C_{12}H_{12}N_2O_3 \cdot C_{10}H_{23}N$
bencyclanum bencyclane	3-[(1-benzylcycloheptyl)oxy]-*N*,*N*-dimethylpropylamine $C_{19}H_{31}NO$
benfurodili hemisuccinas benfurodili hemisuccinate	2-(1-hydroxyethyl)-β-(hydroxymethyl)-3-methyl-5-benzofuranacrylic acid γ-lactone hydrogen succinate $C_{19}H_{18}O_7$
biciotymolum biciotymol	2,2′-methylenebis[6-chlorothymol] $C_{21}H_{26}Cl_2O_2$
bolandioli dipropionas bolandiol dipropionate	estr-4-ene-3β,17β-diol dipropionate $C_{24}H_{36}O_4$
bolmantalatum bolmantalate	17β-hydroxyestr-4-en-3-one 1-adamantanecarboxylate $C_{30}H_{40}O_3$
buclosamidum buclosamide	*N*-butyl-4-chlorosalicylamide $C_{11}H_{14}ClNO_2$
bunamidinum bunamidine	*N*,*N*-dibutyl-4-hexyloxy-1-naphthamidine $C_{25}H_{38}N_2O$
buquinolatum buquinolate	ethyl 4-hydroxy-6,7-diisobutoxy-3-quinolinecarboxylate $C_{20}H_{27}NO_5$
butanilicainum butanilicaine	2-(butylamino)-6′-chloro-*o*-acetotoluidide $C_{13}H_{19}ClN_2O$
butaxaminum butaxamine	α-[1-(*tert*-butylamino)ethyl]-2,5-dimethoxybenzyl alcohol $C_{15}H_{25}NO_3$
butidrinum butidrine	α-[(*sec*-butylamino)methyl]-5,6,7,8-tetrahydro-2-naphthalene-methanol $C_{15}H_{23}NO$
butriptylinum butriptyline	10,11-dihydro-*N*,*N*,β-trimethyl-5*H*-dibenzo[*a*,*d*]cycloheptene-5-propylamine $C_{21}H_{27}N$
candicidinum candicidin	an antibiotic substance obtained from cultures of *Streptomyces griseus*, or the same substance produced by any other means
carbazocinum carbazocine	14-(cyclopropylmethyl)-1,2,3,4,4a,5,6,11-octahydro-5,11b-iminoethano-11b*H*-benzo[*a*]carbazole $C_{26}H_{34}N_2$
carpipraminum carpipramine	1′-[3-(10,11-dihydro-5*H*-dibenz[*b*,*f*]azepin-5-yl)propyl]-[1,4′-bipiperidine]-4′-carboxamide $C_{26}H_{32}N_4O$
cefaloglycinum cefaloglycin	7-(2-amino-2-phenylacetamido)-3-(hydroxymethyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, acetate ester, inner salt $C_{18}H_{17}N_3O_6S$
clamoxyquinum clamoxyquine	5-chloro-7-[[[3-diethylamino)propyl]amino]methyl]-8-quinolinol $C_{17}H_{24}ClN_3O$

[1] Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, *7*, 299; 1954, *8*, 216, 313; 1956, *10*, 28; 1957, *11*, 231; 1958, *12*, 102; 1959, *13*, 105; *WHO Chronicle*, 1959, *13*, 152; 1960, *14*, 168, 244; 1961, *15*, 314; 1962, *16*, 385; 1963, *17*, 389; 1964, *18*, 433; 1965, *19*, 446.

Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, *9*, 185; 1959, *13*, 106; *WHO Chronicle*, 1959, *13*, 463; 1962, *16*, 101; 1965, *19*, 165, 206, 249.

[2] *Off Rec. Wld Hlth Org.*, *60*, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
clioquinolum clioquinol	5-chloro-7-iodo-8-quinolinol C_9H_5ClINO
clocortolonum clocortolone	9-chloro-6α-fluoro-11β,21-dihydroxy-16α-methylpregna-1,4-diene-3,20-dione $C_{22}H_{28}ClFO_3$
cloforexum cloforex	ethyl (*p*-chloro-α,α-dimethylphenethyl)carbamate $C_{13}H_{18}ClNO_2$
clomocyclinum clomocycline	7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-(hydroxymethyl)-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{23}H_{25}ClN_2O_9$
cloracetadolum cloracetadol	β,β,β-trichloro-α-hydroxy-*p*-acetophenetidide $C_{10}H_{10}Cl_3NO_3$
clorofenum clorofene	4-chloro-α-phenyl-*o*-cresol $C_{13}H_{11}ClO$
clotiapinum clotiapine	2-chloro-11-(4-methyl-1-piperazinyl)dibenzo[*b,f*][1,4]thiazepine $C_{18}H_{18}ClN_3S$
colestyraminum colestyramine	a styrenedivinyl-benzene copolymer (about 2 percent divinyl-benzene) containing quaternary ammonium groups
coumafosum coumafos	*O,O*-diethyl phosphorothioate *O*-3-chloro-7-hydroxy-4-methylcoumarin ester $C_{14}H_{16}ClO_6PS$
crufomatum crufomate	4-*tert*-butyl-2-chlorophenyl methyl *N*-methylphosphoramidate $C_{12}H_{19}ClNO_3P$
cyacetacidum cyacetacide	cyanoacetic acid hydrazide $C_3H_5N_3O$
cyprazepamum cyprazepam	7-chloro-2-[(cyclopropylmethyl)amino]-5-phenyl-3*H*-1,4-benzodiazepine, 4-oxide $C_{19}H_{18}ClN_3O$
cyprolidolum cyprolidol	diphenyl[2-(4-pyridyl)cyclopropyl]methanol $C_{21}H_{19}NO$
cyproteronum cyproterone	6-chloro-17-hydroxy-1α,2α-methylenepregna-4,6-diene-3,20-dione $C_{22}H_{27}ClO_3$
dextranum 40 dextran 40	a polyanhydroglucose of weight average molecular weight about 40,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 45 dextran 45	a polyanhydroglucose of weight average molecular weight about 45,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 75 dextran 75	a polyanhydroglucose of weight average molecular weight about 75,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 110 dextran 110	a polyanhydroglucose of weight average molecular weight about 110,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextranum 150 dextran 150	a polyanhydroglucose of weight average molecular weight about 150,000 produced by the action of *Leuconostoc mesenteroides* on sucrose
dextrofeminum dextrofemine	(+)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{18}H_{23}NO$
diaveradinum diaveradine	2,4-diamino-5(3',4'-dimethoxybenzyl)pyrimidine $C_{13}H_{16}N_4O_2$
dicloxacillinum dicloxacillin	6-[3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolecarboxamido]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{19}H_{17}Cl_2N_3O_5S$
difebarbamatum difebarbamate	1,3-bis(3-butoxy-2-hydroxypropyl)-5-ethyl-5-phenylbarbituric acid dicarbamate ester $C_{29}H_{42}N_4O_9$
difluanazinum difluanazine	1-(2-anilinoethyl)-4-[4,4-bis(*p*-fluorophenyl)butyl]piperazine $C_{28}H_{33}F_2N_3$
dihydroergotaminum dihydroergotamine	dihydroergotamine $C_{33}H_{37}N_5O_5$
dimethyli sulfoxidum dimethyl sulfoxide	dimethyl sulfoxide C_2H_6OS
diminazenum diminazene	3,3'-(diazoamino)benzamidine $C_{14}H_{15}N_7$
dimpylatum dimpylate	*O,O*-diethyl 2-isopropyl-6-methyl-4-pyrimidinylphosphonothioate $C_{12}H_{21}N_2O_3PS$
dioxationum dioxation	a mixture consisting essentially of *cis*- and *trans*-*p*-dioxane-2,3-diyl ethyl phosphorodithioate $C_{12}H_{26}O_6P_2S_4$
dioxybenzonum dioxybenzone	2,2'-dihydroxy-4-methoxybenzophenone $C_{14}H_{12}O_4$
distigmini bromidum distigmine bromide	3-hydroxy-1-methylpyridinium bromide hexamethylenebis(*N*-methylcarbamate) $C_{22}H_{32}Br_2N_4O_4$
dodeclonii bromidum dodeclonium bromide	[2-(*p*-chlorophenoxy)ethyl]dodecyldimethylammonium bromide $C_{22}H_{39}BrClNO$
doxycyclinum doxycycline	4-(dimethylamino)-1,4-4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-1,11-dioxo-2-naphthacenecarboxamide $C_{22}H_{24}N_2O_8$
embutramidum embutramide	*N*-(β,β-diethyl-*m*-methoxyphenethyl)-4-hydroxybutyramide $C_{17}H_{27}NO_3$
epinephrinum epinephrine	(−)-α-3,4-dihydroxyphenyl-β-methylaminoethanol (synonym: adrenaline; in certain countries the name Adrenalin is a trademark) $C_9H_{13}NO_3$
estradioli undecylas estradiol undecylate	estradiol 17-undecanoate $C_{29}H_{44}O_3$
estrazinolum estrazinol	3-methoxy-8-aza-19-nor-17α-pregna-1,3,5-trien-20-yn-17-ol $C_{20}H_{25}NO_2$
etymidum etymide	2-ethoxy-*N*-methyl-*N*-[2-(methylphenethylamino)ethyl]-2,2-diphenylacetamide $C_{30}H_{34}N_2O_2$
fenamifurilum fenamifuril	tetrahydrofurfuryl (2-carbamoylphenoxy)acetate $C_{14}H_{17}NO_4$
fenamolum fenamole	5-amino-1-phenyl-1*H*-tetrazole $C_7H_7N_5$
fenimidum fenimide	3-ethyl-2-methyl-2-phenylsuccinimide $C_{13}H_{15}NO_2$
fenpentadiolum fenpentadiol	2-(*p*-chlorophenyl)-4-methyl-2,4-pentanediol $C_{12}H_{17}ClO_2$
flopropionum flopropione	2',4',6'-trihydroxypropiophenone $C_9H_{10}O_4$
floxuridinum floxuridine	2'-deoxy-5-fluorouridine $C_9H_{11}FN_2O_5$
flubanilatum flubanilate	ethyl *N*-[2-(dimethylamino)ethyl]-*m*-(trifluoromethyl)carbanilate $C_{14}H_{19}F_3N_2O_2$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
flugestonum flugestone	9-fluoro-11β,17-dihydroxypregn-4-ene-3,20-dione, 17 acetate $C_{23}H_{31}FO_5$
fluindarolum fluindarol	2-(α,α,α-trifluoro-*p*-tolyl)indan-1,3-dione $C_{16}H_9F_3O_2$
flumedroxonum flumedroxone	17-hydroxy-6α-(trifluoromethyl)pregn-4-ene-3,20-dione $C_{23}H_{29}F_3O_3$
flusalanum flusalan	3,5-dibromo-α,α,α-trifluoro-*m*-salicylotoluidide $C_{14}H_8Br_2F_3NO_2$
folescutolum folescutol	6,7-dihydroxy-4-(morpholinomethyl)coumarin $C_{14}H_{15}NO_5$
furazabolum furazabol	17-methyl-5α-androstano[2,3-*c*]furazan-17β-ol $C_{20}H_{30}N_2O_2$
furfenorexum furfenorex	(+)-*N*-methyl-*N*-(α-methylphenethyl)furfurylamine $C_{18}H_{23}NO$
gestonoroni caproas gestonorone caproate	17-hydroxy-19-norpregn-4-ene-3,20-dione hexanoate $C_{28}H_{42}O_4$
guaiactaminum guaiactamine	2-(*o*-methoxyphenoxy)triethylamine $C_{14}H_{23}NO_3$
guaiapatum guaiapate	1-[2-[2-[2-(*o*-methoxyphenoxy)ethoxy]ethoxy]ethyl]piperidine $C_{18}H_{29}NO_4$
guaifyllinum guaifylline	3-(*o*-methoxyphenoxy)-1,2-propanediol compound with theophylline $C_7H_8N_4O_2 \cdot C_{10}H_{14}O_4$
guanaclinum guanacline	[2-(3,6-dihydro-4-methyl-1(2*H*)-pyridyl]guanidine $C_8H_{14}N_4$
guanoctinum guanoctine	(1,1,3,3-tetramethylbutyl)guanidine
guanoxyfenum guanoxyfen	(3-phenoxypropyl)guanidine $C_{10}H_{15}N_3O$
halocarbanum halocarban	4,4'-dichloro-3-(trifluoromethyl)carbanilide $C_{14}H_8Cl_2F_3N_2O$
haloxonum haloxon	3-chloro-7-hydroxy-4-methylcoumarin bis(2-chloroethyl)phosphate $C_{14}H_{16}Cl_3O_6P$
hamycinum hamycin	an antibiotic substance obtained from cultures of *Streptomyces pimprina*, or the same substance produced by any other means
heptaverinum heptaverine	*N,N*-dimethyl-γ-phenyl-Δ^2,γ-norbornanepropylamine $C_{18}H_{25}N$
hydroxycarbamidum hydroxycarbamide	hydroxyurea $CH_4N_2O_2$
ibuprofenum ibuprofen	α-*p*-isobutylphenylpropionic acid $C_{13}H_{18}O_2$
imidolinum imidoline	1-(*m*-chlorophenyl)3-[2-(dimethylamino)ethyl]-2-imidazolidinone $C_{13}H_{18}ClN_3O$
imolaminum imolamine	4-[2-(diethylamino)ethyl]-5-imino-3-phenyl-Δ^2-1,2,4-oxadiazoline $C_{14}H_{20}N_4O$
insulini injectio biphasica biphasic insulin injection	a sterile suspension of beef insulin crystals in a neutral solution of pork insulin
ketaminum ketamine	2-(*o*-chlorophenyl)-2-(methylamino)cyclohexanone $C_{13}H_{16}ClNO$
lactulosum lactulose	4-*O*-β-D-galactopyranosyl-*D*-fructose $C_{12}H_{22}O_{11}$
mebezonii iodidum mebezonium iodide	(methylenedi-1,4-cyclohexylene)bis[trimethylammonium iodide] $C_{19}H_{40}I_2N_2$
medibazinum medibazine	1-(diphenylmethyl)-4-piperonylpiperazine $C_{25}H_{26}N_2O_2$
medrysonum medrysone	11β-hydroxy-6α-methylpregn-4-ene-3,20-dione $C_{22}H_{32}O_3$
mefrusidum mefruside	4-chloro-N^1-methyl-N^1-(2-methyltetrahydrofurfuryl)-*m*-benzenedisulfonamide $C_{12}H_{18}ClN_3O_5S_2$
mesoridazinum mesoridazine	10-[2-1-methyl-2-piperidyl)ethyl]-2-(methylsulfinyl)phenothiazine $C_{21}H_{26}N_2OS_2$
metabromsalanum metabromsalan	3,5-dibromosalicyl anilide $C_{13}H_9Br_2NO_2$
metalliburum metallibure	1-methyl-6-(1-methylallyl)-2,5-dithiobiurea $C_7H_{14}N_4S_2$
metazamidum metazamide	1-(*p*-methoxyphenyl)-5-methyl-4-imidazolin-2-one $C_{11}H_{12}N_2O_2$
meticranum meticrane	6-methylthiochroman-7-sulfonamide 1,1-dioxide $C_{10}H_{13}NO_4S_2$
metindizatum metindizate	2-(hexahydro-1-methyl-3-indolinyl)ethyl benzilate $C_{25}H_{31}NO_3$
metofenazatum metofenazate	2-[4-[3-(2-chlorophenothiazin-lo-yl)propyl]-1-piperazinyl]ethyl 3,4,5-trimethoxybenzoate ester $C_{31}H_{36}ClN_3O_5S$
metrifonatum metrifonate	dimethyl (2,2,2-trichloro-1-hydroxyethyl)phosphonate $C_4H_8O_4PCl_3$
metylperonum metylperone	4'-fluoro-4-(4-methylpiperidino)butyrophenone $C_{16}H_{22}FNO$
metyridinum metyridine	2-(2-methoxyethyl)pyridine $C_8H_{11}NO$
mithramycinum mithramycin	an antibiotic substance obtained from cultures of *Streptomyces tanashiensis*, or the same substance produced by any other means
nafiverinum nafiverine	1,4-piperazinediethanol α-methyl-1-naphthaleneacetate ester $C_{34}H_{38}N_2O_4$
nafoxidinum nafoxidine	1-[2-[*p*-(3,4-dihydro-6-methoxy-2-phenyl-1-naphthyl)phenoxy]ethyl]pyrrolidine $C_{29}H_{31}NO_2$
naftalofosum naftalofos	*N*-hydroxynaphthylimide diethyl phosphate $C_{16}H_{18}NO_6P$
naftazonum naftazone	1,2-naphthaquinone 2-semicarbazone $C_{11}H_9N_3O_2$
naftypramidum naftypramide	α-isopropyl-α-[2-(dimethylamino)ethyl]-1-naphthaleneacetamide $C_{19}H_{28}N_2O$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
nifuradenum nifuradene	1[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_8H_8N_4O_4$
nifurdazilum nifurdazil	1-(2-hydroxyethyl)-3-[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_{10}H_{12}N_4O_5$
nifurmeronum nifurmerone	chloromethyl 5-nitro-2-furyl ketone $C_6H_4ClNO_4$
nifurprazinum nifurprazine	3-amino-6-[2-(5-nitro-2-furyl)vinyl]pyridazine $C_{10}H_8N_4O_3$
nifursemizonum nifursemizone	5-nitro-2-furaldehyde 2-ethylsemicarbazone $C_8H_{10}N_4O_4$
nitrazepamum nitrazepam	1,3-dihydro-7-nitro-5-phenyl-2*H*-1,4-benzodiazepin-2-one $C_{15}H_{11}N_3O_3$
nogalamycinum nogalamycin	an antibiotic substance obtained from cultures of *Streptomyces nogalater*, or the same substance produced by any other means
norfenefrinum norfenefrine	β-aminomethyl-α-3-hydroxyphenylethanol $C_8H_{11}NO_2$
obidoximi chloridum obidoxime chloride	1,1′-(oxydimethylene)bis[4-formylpyridinium chloride]dioxime $C_{14}H_{16}Cl_2N_4O_3$
octafonii chloridum octafonium chloride	benzyldiethyl[2-[4-(2,2,4-trimethylpentyl)phenoxy]ethyl]ammonium chloride $C_{27}H_{42}ClNO$
oleum radio-ethiodatum (^{131}I) radio-ethiodized oil (^{131}I)	an iodine addition product of the ethyl ester of the fatty acid of poppyseed oil, containing 475 mg./ml. (37 percent by weight) of iodine. A portion of this iodine is the radioactive isotope ^{131}I.
oxybenzonum oxybenzone	2-hydroxy-4-methoxybenzophenone $C_{14}H_{12}O_3$
oxyclozanidum oxyclozanide	3,5,6,3′,5′-pentachloro-2,2′-dihydroxybenzanilide $C_{13}H_4Cl_5NO_3$
oxyfedrinum oxyfedrine	L-3[(β-hydroxy-α-methylphenethyl)amino]-3′-methoxypropiophenone $C_{19}H_{23}NO_3$
pancreozyminum pancreozymin	a hormone obtained from duodenal mucosa
parafiutizidum parafiutizide	6-chloro-3,4-dihydro-3-(*p*-fluorobenzyl)-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide $C_{14}H_{13}ClFN_3O_4S_2$
pecilocinum pecilocin	an antibiotic substance obtained from cultures of *Paecilomyces varioti bainer*, or the same substance produced by any other means
penamecillinum penamecillin	acetate ester of the hydroxymethyl ester of Penicillin G $C_{18}H_{22}N_2O_6S$
penimepicyclinum penimepicycline	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-*N*-[[4-(2-hydroxyethyl)-1-piperazinyl]methyl]-6-methyl-1,11-dioxo-2-naphthacenecarboxamide salt with Penicillin V $C_{48}H_{56}N_6O_{14}S$
pentorexum pentorex	α,α,β-trimethylphenethylamine $C_{11}H_{17}N$
pifenatum pifenate	ethyl α,α-diphenyl-2-piperidinepropionate $C_{22}H_{27}NO_2$
piperonyli butoxidum piperonyl butoxide	α-[2-(2-butoxyethoxy)ethoxy]-4,5-(methylenedioxy)-2-propyltoluene $C_{19}H_{30}O_5$
pipobromanum pipobroman	1,4-bis(3-bromopropionyl)piperazine $C_{10}H_{14}Br_2N_2O_2$
prednazatum prednazate	11β,17,21-trihydroxypregna-1,4-diene-3,20-dione, 21-(hydrogen succinate), compound with 4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazineethanol $C_{25}H_{32}O_8 \cdot C_{31}H_{36}ClN_3OS$
prednisoloni steaglas prednisolone steaglate	the stearate ester of 11β,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-glycolate $C_{41}H_{64}O_8$
procarbazinum procarbazine	*N*-isopropyl-α-(2-methylhydrazino)-*p*-toluamide $C_{12}H_{19}N_3O$
proglumidum proglumide	D,L-4-benzamido-*N*,*N*-dipropylglutaramic acid $C_{18}H_{26}N_2O_4$
prolintanum prolintane	1-phenyl-2-*N*-pyrrolidinopentane $C_{15}H_{23}N$
propipocainum propipocaine	3-piperidino-4′-propoxypropiophenone $C_{17}H_{25}NO_2$
propiramum propiram	*N*-(1-methyl-2-piperidinoethyl)-*N*-2-pyridylpropionamide $C_{16}H_{25}N_3O$
propyperonum propyperone	4′-fluoro-4-(4-piperidino-4-propionylpiperidino)butyrophenone $C_{28}H_{35}FN_2O_3$
protionamidum protionamide	2-propylthioisonicotinamide $C_9H_{12}N_2S$
pyridaronum pyridarone	2-(4-pyridyl)-benzofuran $C_{13}H_9NO$
pyrimitatum pyrimitate	*O*,*O*-diethyl *O*-[2-dimethylamino-6-methyl-4-pyrimidinyl]phosphorothioate $C_{11}H_{20}N_3O_3PS$
pyritidii bromidum pyritidium bromide	3-amino-8-[(2-amino-6-methyl-4-pyrimidinyl)amino]-6-(*p*-aminophenyl)-5-methylphenanthridinium bromide methobromide $C_{28}H_{27}Br_2N_7$
pyrrolifenum pyrrolifene	α-benzyl-β-methyl-α-phenyl-1-pyrrolidinepropanol acetate $C_{32}H_{39}NO_2$
quinetalatum quinetalate	6-(diethylcarbamoyl)-3-cyclohexene-1-carboxylic acid compound with 4-[[2-(dimethylamino)ethyl]amino]-6-methoxyquinoline (2:1) $C_{14}H_{19}N_3O \cdot 2C_{13}H_{18}NO_3$
racefeminum racefemine	(±)-α-methyl-*N*-(1-methyl-2-phenoxyethyl)phenethylamine $C_{19}H_{25}NO$
racemelfalanum racemelfalan	(±)-3-[*p*-[bis(2-chloroethyl)amino]phenyl]alanine $C_{13}H_{18}Cl_2N_2O_2$
radiomerisoprolum (^{197}Hg) radiomerisoprol (^{197}Hg)	1-(hydroxymercuri-^{197}Hg)-2-propanol $C_3H_8HgO_2$
sulfacetenum sulfacetene	N^1-acetyl-N^1-(3-methoxypyrazinyl)sulfanilamide $C_{13}H_{14}O_4N_4S$
sulformetoxinum sulformetoxine	N^1-(5,6-dimethoxy-4-pyrimidinyl)sulfanilamide $C_{12}H_{14}N_4O_4S$
sulisobenzonum sulisobenzone	5-benzoyl-4-hydroxy-2-methoxybenzenesulfonic acid $C_{14}H_{12}O_6S$
terodilinum terodiline	*N*-*tert*-butyl-1-methyl-3,3-diphenylpropylamine $C_{20}H_{27}N$

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (*Latin, English*)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
testosteroni ketolauras testosterone ketolaurate	testosterone 3-oxododecanoate $C_{31}H_{48}O_4$
tetramisolum tetramisole	(±)-2,3,5,6-tetrahydro-6-phenylimidazo[2,1-*b*]thiazole $C_{11}H_{12}N_2S$
tiamizidum tiamizide	4-chloro-*N*-methyl-3-(methylsulfamoyl)benzamide $C_9H_{11}ClN_3O_4S$
tioguaninum tioguanine	2-aminopurine-6-thiol $C_5H_5N_5S$
tiotixenum tiotixene	*N*,*N*-dimethyl-9-[3-(4-methyl-1-piperazinyl)propylidene]thioxanthene-2-sulfonamide $C_{23}H_{30}N_4O_2S_2$
tioxolonum tioxolone	4-hydroxy-1,3-benzoxathiol-2-one $C_7H_4O_3S$
tolycainum tolycaine	methyl 2-[2-(diethylamino)acetamido]-*m*-toluate $C_{15}H_{24}N_2O_3$
triclacetamolum triclacetamol	2,2,2-trichloro-4′-hydroxyacetanilide $C_8H_6Cl_3NO_2$
triclocarbanum triclocarban	3,4,4′-trichlorocarbanilide $C_{13}H_9Cl_3N_2O$
triclodazolum triclodazol	3-(2,2,2-trichloro-1-hydroxyethyl)-5,5-diphenyl-4-imidazolidinone $C_{17}H_{13}Cl_3N_2O_2$
trifluperidolum trifluperidol	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{23}F_4NO_2$
trioxysalenum trioxysalen	6-hydroxy-β,2,7-trimethyl-5-benzofuranacrylic acid, α-lactone $C_{14}H_{12}O_5$
tylosinum tylosin	an antibiotic substance obtained from cultures of *Streptomyces fradiae*, or the same substance produced by any other means.
urokinasum urokinase	a plasminogen activator isolated from human urine
vasopressini injectio vasopressin injection	a sterile aqueous solution containing the pressor principle of the posterior lobe of the pituitary body
verapamilum verapamil	5-[(3,4-dimethoxyphenethyl)methylamino]-2-(3,4-dimethoxyphenyl)-2-isopropylvaleronitrile $C_{27}H_{38}N_2O_4$
vinglycinatum vinglycinate	deacetylvincaleukoblastine 4-ester with *N*,*N*-dimethylglycine $C_{48}H_{66}N_6O_9$
vintiamolum vintiamol	*N*[(4-amino-2-methyl-5-pyrimidinyl)methyl]-*N*-[2-[(2-benzoylvinyl)thio]-4-hydroxy-1-methyl-1-butenyl]formamide $C_{21}H_{24}N_4O_3S$
viridofulvinum viridofulvin	an antibiotic substance obtained from cultures of *Streptomyces viridogriseus*, or the same substance produced by any other means
xantinoli nicotinas xantinol nicotinate	7-[2-hydroxy-3-[(2-hydroxyethyl)methylamino]propyl]theophylline nicotinate $C_{14}H_{21}N_5O_4 \cdot C_6H_5NO_2$

NOTE.—Proposed International Non-Proprietary Names List 15, WHO/Pharm/Nom/41.65, delete

flumoperonum flumoperone	4′-fluoro-4-[4-hydroxy-4-(α,α,α-trifluoro-*m*-tolyl)piperidino]butyrophenone $C_{23}H_{25}F_4NO_2$

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 162,146. The Singer Company, New York, N.Y., by merger and assignment of Commercial Controls Corporation, Rochester, N.Y. Filed Feb. 6, 1963.



Owner of Reg. Nos. 289,978, 573,398, and 732,416.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Furnaces, Electric Space Heaters—Namely, Room Heaters Both Fixed and Portable, Baseboard Heaters, Pump House Heaters, Milk House Heaters, Bathroom Heaters, Industrial Heaters; Electric Heating Elements—Namely, Heating Cable for Indoor and Outdoor Radiant Heating, Heating Cable and Tape for Pipes and the Like; Electric Heating Mats, Quarts Tube Heaters; Electric Heat Panels, Radiant Heaters, Radiant Circulating and Radiant Convection Heaters; Electric Duct Heaters, Explosion-Proof Electric Heaters, In-Car Electric Heaters for Drive-In Theaters, Electric Space Heating Systems, Input Controllers and Relays; and Parts for the Above.

First use on or before Jan. 11, 1960.

Class 26—Measuring and Scientific Appliances

For Thermostats.

First use December 1960.

SN 174,491. Bourns, Inc., Riverside, Calif. Filed Aug. 6, 1963.

DON'T MIL-SPECULATE
SPECIFY BOURNS

The drawing is lined for the color blue. Owner of Reg. Nos. 603,393, 725,310, and others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Potentiometers.

Class 26—Measuring and Scientific Appliances

For Potentiometric Pressure Transducers, Potentiometric Accelerometers, and Potentiometric Linear Motion Transducers.

First use July 5, 1963.

SN 182,982. Transistor Automation Corporation, Cambridge, Mass. Filed Dec. 13, 1963.

TAC

Class 26—Measuring and Scientific Appliances

For Automated Components or Machines for Fabricating Electronic Components of Data Processing Machines, Data Processing Equipment and Electronic and Electromechanical Instrumentation—Namely, Diode Handlers and Classifiers, Transistor Feeders, Testers and Classifiers, Seal Machines for Glass Diodes, Micropositioning Mechanisms and Equipment, and Data Card Readers.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Automatic Welding Machines.

First use Apr. 13, 1961.

SN 194,601. General Signal Corporation, Rochester, N.Y. Filed June 1, 1964.



Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Relays, Relay Housing, and Power Equipment.

Class 26—Measuring and Scientific Appliances

For Electric Meters, Electrical Control and Telemetering Apparatus for Remotely Controlling and Monitoring the Flow of Fluids in Pipe Lines.

First use May 8, 1964.

SN 202,066. Compagnie Francaise Thomson-Houston, Paris, France. Filed Sept. 17, 1964.

SERVO-FUITE

Priority claimed under Sec. 44(d) on French Reg. No. 520,893, dated Apr. 2, 1964 (Paris); Natl. Inst. No. 223,022.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrically Controlled Apparatus and Instruments—Namely, Radio, Signalling, Telegraphic, Telephonic, and Television Instruments and Apparatus and Electrical Wires and Cables.

Class 26—Measuring and Scientific Appliances

For Nuclear Reactors, Apparatus and Instruments for Detecting or Controlling Nuclear Missiles, Electronic Computers, Chemical Apparatus and Instruments for Laboratory Use, Apparatus for Analysing Gases, Calculating Machinery, Instruments for Detecting Electrical or Gaseous Currents, Mass Spectrometers, and Electronic Instruments for Measuring Leaks of Gas or Liquid.

SN 209,599. Fleet Wholesale Supply Co., Inc., Appleton, Wis. Filed Jan. 8, 1965.

MILKHOUSE

Class 31—Filters and Refrigerators

For Milk Filter Disks.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Milking Machine Parts and Attachments Such as Inflations, Stanchion Air Hoses and Gaskets.

First use Oct. 31, 1964.

SN 211,857. Artic Import Co., Chicago, Ill. Filed Feb. 12, 1965.

Mayfair

Owner of Reg. Nos. 427,834 and 775,815.

Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Receiving Sets and Transceivers "Citizen Band."

Class 36—Musical Instruments and Supplies

For Battery and Electrically Operated Tape Recording Sets.

First use Aug. 20, 1961.

SN 213,101. Easterday Supply Company of California, d.b.a. Easterday Supply Co., Los Angeles, Calif. Filed Mar. 2, 1965.



The drawing is lined for the colors red and yellow.

Class 4—Abrasives and Polishing Materials

For Furniture Polish; Emulsions Responsive to Polishing; Sealers for Acrylic, Terrazzo, Coated Wood, Cork, Linoleum, Asphalt, Vinyl, and Rubber Tile, and Other Resilient Floors; and Shine-Imparting Coating Finishes.

Class 6—Chemicals and Chemical Compositions

For Dust Layers, Concrete Surface Etchers and Cleaners, Scale and Stain Solvents, and Deodorants.

Class 52—Detergents and Soaps

For Cleaners for Painted Surfaces, Bowl Cleaners, Wax Removers and Cleaners, Floor Soaps and Cleaners, Fabric Cleaner, Glass Cleaners, Rug Shampoos, Liquid Hand Soap, Concentrated Auto Scrubbing Cleaners, Liquid Detergents, Controlled Sudsing and Free Rinsing Cleaners, Solvents for Removing Greases, Oils, Tars, and Lubricating Compounds, and Paint and Varnish Removers.

First use on or about Feb. 13, 1923.

SN 215,051. Champ-Items, Inc., d.b.a. Prime Auto Parts, St. Louis, Mo. Filed Mar. 26, 1965.

PRIME

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Drain Cocks and Drain Plugs.

Class 19—Vehicles

For Brake Adjuster Hole Covers, Brake Cable Kits, Brake Cable Take-Up, Coil Spring Boosters, Door Lock Buttons, Shock Absorber Springs, Window Channel Shims, Window Crank Handle Knobs, and Carburetor Kits.

Class 21—Electrical Apparatus, Machines, and Supplies

For Battery Hold Down Brackets, Distributor Nipples, and Spark Plug Protectors.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Freeze Plugs, Hand Choke Conversion Kits, and Rocker Arm Oil Line Kits.

First use Feb. 17, 1965.

SN 217,513. Vertecs Corporation, Kirkland, Wash. Filed Apr. 28, 1965.

VERCON

Class 1—Raw or Partly Prepared Materials

For Casing Material in Vinyl Plastic Sheet and Roll Form.

Class 12—Construction Materials

For Construction Materials—Namely, Sheathing, Aggregates, Premixed Aggregates, Membranes, Pipes Made of Synthetic Materials, and Insulating Material.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Heating, Lighting, and Ventilating Apparatus—Namely, Underground Heat Distribution Systems, and Parts Thereof.

First use Apr. 6, 1965.

SN 219,456. Pyronics, Inc., Cleveland, Ohio. Filed May 21, 1965.



Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Gas Pressure Regulators and Gas Valves.
First use in or before August 1949.

Class 31—Filters and Refrigerators

For Air Filters
First use in or before July 1963.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Fuel Burners, Fuel Burning Nozzles, Gas-Fired Radiant Heaters, Gas-Air Mixers, Fuel-Fired Air Heaters; Air Blowers, Air Ductors, Gas Pilots, Fuel Burner and Ignition Equipment for Above.
First use in or before July 1946.

SN 221,967. United States Rubber Company, New York, N.Y. Filed June 24, 1965.

FISK

Owner of Reg. Nos. 128,063, 266,188, and 780,997.

Class 21—Electrical Apparatus, Machines, and Supplies

For Light Bulbs and Light Flashers for Vehicles.
First use May 17, 1965.

Class 31—Filters and Refrigerators

For Gasoline Filters for Vehicles.
First use Apr. 9, 1965.

SN 225,024. Hampton Sales Co. Inc., Garden City, N.Y. Filed Aug. 5, 1965.

ARDMORE

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Appliances—Namely, Stoves, Ovens, Ranges, Range Hoods, Dishwashers, Broilers, Irons, Toasters, Can-Opens, Percolators, Sharpeners, Frying Pans, Hot Plates, Blenders, Mixers, Hot Trays, Disposal Units, Radios, Hi-Fi and Stereo Combinations, Television Sets, and Fans.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Knives.

Class 36—Musical Instruments and Supplies

For Tape Recorders.

First use Apr. 1, 1965.

SN 226,020. Nadella S.A., Rueil-Malamison, Seine-et-Oise, France. Filed Aug. 19, 1965.

NADELLA

Owner of French Reg. No. 7,907, dated July 24, 1963 (Versailles); Natl. Inst. No. 210,615; and U.S. Reg. No. 793,592.

Class 19—Vehicles

For Carrying Bearing, Rollers and Bearing Springs, All for Vehicles, and Axle Bearings for Vehicle Wheels.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Rollers and Bearings, and Parts, Fittings, and Mountings Therefor, Motor Vehicle Drive Trains Comprising Drums, Clutch Thrust Bearings, Drive Shafts, Universals and Related Couplings, Articulating, Transmission and Coupling Devices (Not Being for Vehicles); and Machines and Machine Tools for Use in the Manufacture of Such Goods.

First use Feb. 2, 1930; in commerce Feb. 2, 1930.

SN 227,673. Gates Radio Company, Quincy, Ill. Filed Sept. 13, 1965.

GATES

Class 21—Electrical Apparatus, Machines, and Supplies

For Electronic Equipment—Namely, Broadcast Transmitters, Namely, Medium and Short Wave AM and FM Transmitters, and TV and VHF Transmitters; Audio Products, Namely, Audio Amplifiers, Audio Consoles, and Audio Processing Devices; Communication Transmitters, Namely, Short Wave AM, Continuous Wave, Single Side Band Transmitters and Parts Thereof and Accessory Equipment, Namely, Remote Pick-Up Transmitters, Receivers and Base Stations, Voltage Regulators, Emergency Generators, RF Exciters and Transmitting Tubes.

Class 36—Musical Instruments and Supplies

For Reproducing and Recording Equipment—Namely, Transcription Turntables, Tape Reproducing and Playback Mechanisms, and Parts Thereof.

First use at least as early as 1925.

SN 228,432. Doughboy Industries, Inc., New Richmond, Wis. Filed Sept. 23, 1965.

Royal Crest

Owner of Reg. No. 791,652.

Class 12—Construction Materials

For Above Ground, Portable Swimming Pools Sold in Kit Form and Containing a Plastic Liner or Pool Proper, With Metal Reinforcing Structures.

Class 22—Games, Toys, and Sporting Goods

For Rather Shallow Wading Pools Primarily for Children's Use.

First use December 1963.

SN 230,993. Standard Packaging Corporation, New York, N.Y. Filed Oct. 22, 1965.

FONDA

Owner of Reg. Nos. 606,861, 648,731, and others.

Class 2—Receptacles

For Paper Cups, Paper Plates, and Paper Baking Cups.
First use Feb. 19, 1964.

Class 37—Paper and Stationery

For Lining Paper, Paper Place Mats, Shelf Paper, and Paper Doilies.
First use Jan. 26, 1965.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1 — Raw or Partly Prepared Materials

SN 201,555.. Tri-Point Industries, Inc., Albertson, N.Y. Filed Sept. 9, 1964.

Triclad

For Laminate Comprising a Metal Substrate Clad With Polytetrafluoroethylene Plastic Film.
First use Feb. 21, 1962.

Class 2 — Receptades

SN 217,829. W. O. Anderson and J. I. Anderson, Los Angeles, Calif. Filed May 3, 1965.

PET-O-MATIC

For Dog and Cat Feeding Boxes.
First use Mar. 30, 1965.

SN 218,537. Covey Corporation, Houston, Tex., by change of name from Covey Products, Inc., d.b.a. Alpine Company, Houston, Tex. Filed May 11, 1965.

ALPINE

For Insulated Containers With Dispensing Spouts for Cooling and Dispensing Portable Liquids.
First use at least as early as May 1, 1964.

Class 4 — Abrasives and Polishing Materials

SN 215,852. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

Fuller

Owner of Reg. Nos. 143,340, 759,993, and others.
For Toilet Bowl Cleaners of the Abrasive Type, Combined Cleaners and Polishing Waxes, Shoe Polishes, Synthetic Floor Finishes, Metallic Sponges, Cleaning and Scouring Pads, and Shoe Polishing Kits.
First use April 1948.

SN 218,442. Knomark, Inc., Jamaica, N.Y. Filed May 10, 1965.

ESQUIRE
Brush-on
Ultra White

The terms "Brush-On" and "Ultra White" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 644,579, 652,234, and others.
For White Cleaning and Dressing Preparation for Shoes.
First use Apr. 30, 1965.

SN 219,328. The Dorm Corporation, Amarillo, Tex. Filed May 20, 1965.

STAR KLEEN

Without waiving any common law rights, the exclusive right to use the word "Kleen" apart from the entire mark is disclaimed.
For Cleaning and Polishing Powder for Removing Water Spots.
First use Feb. 15, 1965.

SN 226,015. Zook Space Age Products, Inc., Pensacola, Fla. Filed Aug. 18, 1965.

ZOOK

For Combined Waxing and Cleaning Preparations for Household and Automobile Uses.
First use on or about June 1, 1963.

Class 5 — Adhesives

SN 215,110. National Starch and Chemical Corporation, New York, N.Y. Filed Mar. 26, 1965.

LAY-FLAT

For Liquid Adhesive for Envelopes.
First use Dec. 18, 1959.

SN 217,174. Coin Sales Corporation, New York, N.Y. Filed Apr. 23, 1965.

MICRO-MELD

For Adhesive Used in the Bonding of Fabrics.
First use Feb. 10, 1965.

Class 6 — Chemicals and Chemical Compositions

SN 201,819. Conchemco, Incorporated, Kansas City, Mo. Filed Sept. 14, 1964.

SEIDLITZ

Owner of Reg. Nos. 515,595 and 643,821.
For Chemical Formulations Used as Primers, Finishes, and Sealants for Surfaces of Metal, Wood, Paper, Plastic, and Other Materials, and the Ingredients for Such Formulations.
First use May 1, 1931.

SN 215,853. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

Fuller

Owner of Reg. Nos. 143,340, 759,993, and others.
For Aerosol, Liquid and Solid Air Deodorisers, Animal Deodorizers, Disinfectants, Liquid, Block, Nugget and Crystalline Moth Repellants, Insecticides, Mildew Preventatives, Starches, and Non-Starch Fabric Conditioners.
First use May 1943.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 199,397. Ronson Corporation, Woodbridge, N.J. Filed Aug. 6, 1964.

CROWN

For Cigarette Lighters.
First use 1946.

SN 202,060. Camelback Ski Corporation, Pocono, Pa. Filed Sept. 17, 1964.

CAMELBACK IN THE POCONOS

Applicant disclaims "In the Poconos" apart from the mark as shown.
For Cigar and Cigarette Lighters.
First use Feb. 28, 1964.

SN 202,572. S. M. Frank & Co., Inc., New York, N.Y. Filed Sept. 24, 1964.

SEAFOAM

For Smokers' Pipes.
First use 1920.

SN 203,154. Camelback Ski Corporation, Pocono, Pa. Filed Oct. 2, 1964.



For Cigar and Cigarette Lighters.
First use Feb. 28, 1964.

SN 228,695. Kanamaru Shoten, Ltd., Daito-ku, Tokyo, Japan. Filed Sept. 27, 1965.

COLONEL

For Gas Lighters for Smokers' Use.
First use Sept. 22, 1965; in commerce Sept. 22, 1965.

Class 11 — Inks and Inking Materials

SN 214,881. Lawter Chemicals, Inc., Chicago, Ill. Filed Mar. 24, 1965.

HALEX

For Vehicle for Printing Inks.
First use Dec. 9, 1964.

SN 222,722. Lawter Chemicals, Inc., Chicago, Ill. Filed July 6, 1965.

100-S

For Ink Vehicle.
First use June 14, 1965.

Class 12 — Construction Materials

SN 202,946. Nippon Tile Industrial Co., Ltd., Tajimi, Gifu, Japan. Filed Sept. 29, 1964.



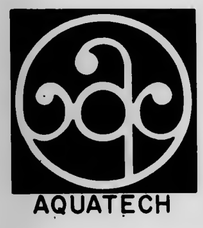
For Tile Squares.
First use September 1952; in commerce September 1952.

SN 205,030. Aquatech Corporation, Wilmington Del. Filed Oct. 29, 1964.



The mark consists of the small letter "a" and design.
For Swimming Pools, and Accessories Such as Diving Boards, Ladders, Deck Boxes, Fittings, and the Like, Which Accessories Are Sold Together With the Pool.
First use June 3, 1964, on deck boxes.

SN 205,031. Aquatech Corporation, Wilmington, Del. Filed Oct. 29, 1964.



The mark consists of the word "Aquatech" and a fanciful design of the small letter "a."

For Swimming Pools, and Accessories Such as Diving Boards, Ladders, Deck Boxes, Fittings, and the Like, Which Accessories Are Sold Together With the Pool.

First use June 3, 1964, on deck boxes.

SN 205,032. Aquatech Corporation, Wilmington, Del. Filed Oct. 29, 1964.

AQUATECH

For Swimming Pools, and Accessories Such as Diving Boards, Ladders, Deck Boxes, Fittings, and the Like, Which Accessories Are Sold Together With the Pool.

First use June 3, 1964, on deck boxes.

SN 215,017. Shower Door Company of America, d.b.a. Architectural Manufacturing Company of America, Atlanta, Ga. Filed Mar. 25, 1965.

ARDEC

For Architectural Aluminum Systems—Namely, Solar Screens, Grilles, and Facades.

First use on or about Jan. 2, 1963.

SN 215,018. Shower Door Company of America, d.b.a. Architectural Manufacturing Company of America, Atlanta, Ga. Filed Mar. 25, 1965.

ARTLINE

For Architectural Aluminum Systems—Namely, Solar Screens, Grilles, and Facades.

First use on or about Jan. 2, 1963.

SN 218,431. J. W. Henley, d.b.a. J. W. Henley Manufacturing Company, Memphis, Tenn. Filed May 10, 1965.

PORTA-BILT

For Floored Utility Buildings Having Metal Exteriors.

First use January 1958.

SN 220,340. Evomastics Limited, Stafford, England. Filed June 3, 1965.

EVOMASTIC

For Mastics Sealant and Jointing Compounds.

First use Apr. 6, 1955; in commerce June 29, 1960.

SN 224,884. Reichhold Chemicals, Inc., White Plains, N.Y. Filed Aug. 3, 1965.

PLYOCITE

Owner of Reg. Nos. 408,699, 629,331, and others.

For Resin Impregnated Paper Product for Use With Building and Furniture Industries.

First use Apr. 7, 1960.

SN 225,652. Johns-Manville Corporation, New York, N.Y. Filed Aug. 13, 1965.

CPO

For Plastic Surface Coating Material for Acoustical Tile and Panels, Sold Only as an Integral Component Thereof.

First use May 5, 1965.

SN 229,006. Homasote Company, Trenton, N.J. Filed Sept. 30, 1965.

HOMASOTE POLYPANEL

Without prejudice to its rights now existing or hereafter arising and for the purpose of this registration only, applicant makes no claim to the term "Polypanel" apart from the mark as shown. Owner of Reg. No. 143,272.

For Fiber Board With Polyethylene Facing.

First use Apr. 21, 1965.

SN 229,785. Fritz Chemical Company, Dallas, Tex. Filed Oct. 11, 1965.

Fritztile

For Terrazzo Tiles.

First use on or about June 1, 1962.

SN 231,709. Western Boat Building Corporation, Tacoma, Wash. Filed Oct. 27, 1965.

Fairliner

Owner of Reg. No. 417,718.

For Prefabricated Wooden Buildings and Wooden Building Components—Namely, Houses, Garages, and Commercial Buildings.

First use July 11, 1958.

SN 231,823. The Gordon Corporation, Farmington, Conn. Filed Oct. 29, 1965.



For Metal Cellar Doors.

First use on or about Sept. 14, 1965.

SN 233,435. Andersen Corporation, Chicago, Ill. Filed Nov. 29, 1965.

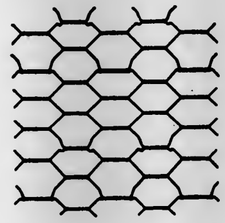
TUFFALT

Owner of Reg. No. 342,323.

For Bituminous Composition for Building and Repairing Pavements.

First use August 1934.

SN 233,913. Keystone Steel and Wire Company, Peoria, Ill. Filed Dec. 3, 1965.

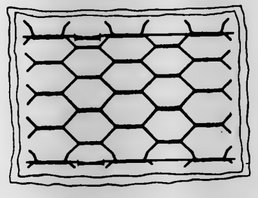


The trademark consists of red colored offset twist points in a metallic colored hexagonal mesh wire fabric.

For Self-Furring Plastic Mesh.

First use Apr. 16, 1965.

SN 233,914. Keystone Steel and Wire Company, Peoria, Ill. Filed Dec. 3, 1965.



The trademark consists of red colored line wires and offset twist points in a metallic colored hexagonal mesh wire fabric. The representation of the goods is disclaimed apart from the mark as shown.

For Paperbacked, Self-Furring Plastic Mesh.

First use June 16, 1965.

SN 233,965. United States Ceramic Tile Company, Canton, Ohio. Filed Dec. 3, 1965.

ROMATEX

Owner of Reg. Nos. 599,856 and 688,549.

For Ceramic Floor and Wall Tiles.

First use Aug. 14, 1957.

SN 234,003. Crown Aluminum Industries Corporation, Pittsburgh, Pa. Filed Dec. 6, 1965.

Safari

For Aluminum Siding.

First use Nov. 12, 1965.

SN 234,317. Virginia Iron & Metal Co., Incorporated, Richmond, Va. Filed Dec. 9, 1965.

VIMCO

For Frame Screen and Storm Sash.

First use Apr. 1, 1965.

SN 234,361. Post-Crete, Inc., Glendale, Calif. Filed Dec. 10, 1965.

POST-CRETE

For Packaged Dry Mix Aggregate.

First use June 17, 1965.

SN 234,493. Allied Building Components, Inc., Tacoma, Wash. Filed Dec. 13, 1965.

ADJUST-A-PANEL

For Expandable Closure Members, Specifically Expandable Bifold Doors.

First use Aug. 10, 1965.

SN 234,726. H. A. Callahan, Inc., Mamaroneck, N.Y. Filed Dec. 16, 1965.

WOOD-UP

For Wood Veneer.

First use Oct. 25, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 215,851. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

Fuller

Owner of Reg. Nos. 143,340, 759,993, and others.

For Personal Brush Holders, Toothbrush Holders, Toilet Deodorant Holders, Moth Repellant Holders, and Dust Pans.

First use March 1946.

SN 222,474. Richard M. Gooderham, Toronto, Ontario, Canada. Filed June 7, 1965.

Snaptrax

Priority claimed under Sec. 44(d) on Canadian application filed Dec. 9, 1964; Reg. No. 143,075, dated Dec. 10, 1965.
For Devices Attached to Vehicle Wheels to Facilitate Traction.

SN 224,525. S. W. Farber, Inc., New York, N.Y. Filed July 29, 1965.

Gracious Lady

For Cookware—Namely, Fry Pans, Sauce Pans, Casseroles, Food Strainers, Dutch Ovens, Covers Therefor, Utility Cups of Metal, and Food Mashers.
First use 1964.

SN 224,908. "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. Filed Aug. 4, 1965.

"AUTOMATIC" SPRINKLER CORPORATION OF AMERICA
RATE OF RISE

Owner of Reg. No. 551,164.
For Automatic Releasing Devices Incorporating a Fusible Metal Pin or Plug, Valves, Connecting Tubing, and Compensating Vents for Fire Extinguishing Systems for Permanent Installation for Fire Protection Purposes.
First use Mar. 14, 1928.

SN 225,152. Grinnell Corporation, Providence, R.I. Filed Aug. 6, 1965.

PONY

For Welding Steel Pipe Fittings.
First use Apr. 30, 1965.

SN 225,784. Market Forge Company, Everett, Mass. Filed Aug. 16, 1965.

LAV-STATION

For Lavatory Units.
First use May 24, 1965.

SN 226,942. The Plastex Company, Columbus, Ohio. Filed Sept. 1, 1965.

SUPREX

For Extruded Plastic Pipe.
First use prior to May 1, 1964.

SN 228,602. Anson Incorporated, Providence, R.I. Filed Sept. 27, 1965.

KEY-PROTECTOR

For Men's Jewelry—Namely, a Key Holder.
First use Mar. 21, 1960.

SN 230,727. White Consolidated Industries, Inc., d.b.a. Apex Fibre-Glass Products, Cleveland, Ohio. Filed Oct. 20, 1965.

CENTRI-CAST

For Pipe and Tubing of Fibre-Glass Reinforced Plastic.
First use at least as early as July 1964.

SN 232,501. Aldo-Matics, Inc., Crystal Lake, Ill. Filed Nov. 12, 1965.

CUSH'N CHEK

For Valves.
First use July 30, 1965.

SN 232,637. Palleon Electronics, Ltd., Cornwall, Ontario, Canada. Filed Oct. 15, 1965.

ELECTROFLUSH

Owner of Canadian Reg. No. 126,195, dated Apr. 19, 1962.
For Automatic Toilets and Urinals.

SN 232,759. A/S Elektrofabrikken, Arne Brinchmann, Skoyen, Oslo, Norway. Filed Nov. 16, 1965.



For Clips of Common Metal for Tubes and for Use in Fitting of Electric Wiring Installation.
First use September 1965; in commerce September 1965.

SN 232,797. Standard Oil Company of California, San Francisco, Calif. Filed Nov. 16, 1965.

CHEVRON

For Tire Chains.
First use Oct. 27, 1965.

SN 232,799. Terraspan Limited, Saltley, Birmingham, England. Filed Nov. 16, 1965.

Mantonflange

Owner of British Reg. No. B824,255, dated Aug. 16, 1961.
For Pipe Flanges of Common Metal.

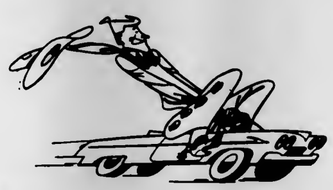
SN 232,887. Standard Oil Company of California, San Francisco, Calif. Filed Nov. 16, 1965.



For Tire Chains.
First use Oct. 27, 1965.

Class 15 — Oils and Greases

SN 220,184. Murphy Oil Corporation, El Dorado, Ark. Filed June 1, 1965.



For Gasoline.
First use Mar. 27, 1965.

SN 221,986. Bel-Ray Company, Inc., Farmingdale, N.J. Filed June 25, 1965.

6 IN 1

For Special Lubricants for Various Purposes—Namely, Dry Film Lubricant, Penetrating Oil, Corrosion Preventive, Rust Remover, and the Like.
First use Apr. 1, 1965.

SN 229,458. Sinclair Refining Company, New York, N.Y. Filed Oct. 6, 1965.

CRYSTOIL

Owner of Reg. No. 225,461.
For Lubricating Oils.
First use 1950.

Class 16 — Protective and Decorative Coatings

SN 220,544. Lloyd E. Parks, d.b.a. Lloyd E. Parks Company, Charlotte, N.C. Filed June 7, 1965.

BANCOR

For Modified Acrylic Coating Containing Aluminum.
First use Mar. 26, 1965.

SN 223,576. Pittsburgh Plate Glass Company, Pittsburgh, Pa. Filed July 16, 1965.

TALLY

For Undercoatings.
First use at least as early as May 27, 1965.

SN 224,494. Alside, Inc., Akron, Ohio. Filed July 12, 1965.
Owner of Reg. No. 507,692.

Alside
ELECTROLON

For Baked Enamel Coating for Aluminum Products.
First use June 15, 1965; Dec. 17, 1964, as to the word "Electrolon."

SN 225,341. Norton Company, Watervliet, N.Y. Filed Aug. 9, 1965.

BEAR

For Rubber Base and Asphalt Base Coatings Having Moisture Resistant and Sound Deadening Properties for Automotive and Building Maintenance Use, and the Like.
First use before Apr. 1, 1959.

SN 225,342. Norton Company, Watervliet, N.Y. Filed Aug. 9, 1965.



For Rubber Base and Asphalt Base Coatings Having Moisture Resistant and Sound Deadening Properties for Automotive and Building Maintenance Use, and the Like.
First use before Apr. 1, 1959.

SN 227,384. John L. Armitage & Co., Newark, N.J. Filed Sept. 8, 1965.

ARMORCLAD

Owner of Reg. Nos. 642,227, and 645,641.
For Film-Forming Compositions in the Nature of Paints for Use Over Metal, Wood, Glass or Plastic Substrates To Simulate Product Finishes on Appliances, Cabinets, Furniture, Autos, Wall Partitions, and Hard Surface Floor Coverings, and Resulting Coatings Formed by Baking or Air Drying.
First use July 7, 1965.

Class 17—Tobacco Products

SN 229,416. DWG Cigar Corporation, Detroit, Mich. Filed Oct. 6, 1965.

KLOMPEN KLOGGEN

The English translation of the mark "Klompen Kloggen" is "wooden shoes."
For Pipe Tobacco.
First use Jan. 22, 1965.

Class 18—Medicines and Pharmaceutical Preparations

SN 230,831. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Oct. 21, 1965.

IGA

For Aspirin, General Antiseptic, Hydrogen Peroxide, Petroleum Jelly, Rubbing Alcohol, and Vitamins.
First use Oct. 26, 1964.

Class 19—Vehicles

SN 216,850. George F. Miller, Torrance, Calif. Filed Apr. 19, 1965.



The drawing is lined for black.
For Slide-In Truck Campers.
First use Jan. 15, 1964.

SN 216,856. Molded Fiber Glass Body Company, Union City, Pa. Filed Apr. 19, 1965.



Applicant disclaims "20" apart from the mark as shown.
For Small Boats for Cruising and Sailing.
First use in or about September 1962.

SN 218,543. Gerry Designs, Inc., Boulder, Colo. Filed May 11, 1965.



No claim is made to the exclusive right to use the word "Featherlight," but applicant waives none of its common law rights therein.
For Child Carriers for Attachment to a Person, Car Seats for Holding Children in Vehicles, and Safety Straps for Securing Children in Vehicles.
First use Aug. 8, 1962.

SN 220,633. Cam-Pact Co. Inc., Nokomis, Fla. Filed June 8, 1965.

Cam-pact

For Removable Coach and Camper Bodies for Pick-Up or Other Open Body Trucks.
First use Feb. 12, 1964.

SN 223,129. Jeffrey Galion Manufacturing Company, Columbus, Ohio. Filed July 12, 1965.

AUTO TORQ

For Shuttle Cars for Material Haulage.
First use on or about Nov. 27, 1963.

SN 224,040. The Voyager Corporation, St. Clair Shores, Mich. Filed July 22, 1965.

INDIAN VOYAGER

For Canoes.
First use on or about Jan. 30, 1965.

SN 224,072. Chickasha Mobile Homes of Missouri, Inc., North Kansas City, Mo. Filed July 23, 1965.

Flair

For Mobile Homes.
First use May 7, 1965.

SN 224,240. Redman Industries, Inc., Dallas, Tex. Filed July 26, 1965.

METRO

For Mobile Homes.
First use Jan. 11, 1962.

Class 20—Linoleum and Oiled Cloth

SN 222,668. Congoleum-Nairn Inc., Kearny, N.J. Filed July 6, 1965.

WONDERFOAM

For Plastic Floor Coverings of the Smooth Surface, Resilient Type in the Form of Rolls, Rugs, and Tiles.
First use June 22, 1965.

SN 233,776. The Borden Company, New York, N.Y. Filed Dec. 2, 1965.

WALL-TEX

Owner of Reg. No. 194,212.
For Wall Coverings With Fabric Backing to Which a Protective and Decorative Vinyl, Acrylic, Oil, or Other Polymeric Coating Has Been Applied.
First use July 1, 1924.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 114,967. The Telesco International Corporation, New York, N.Y., assignee of Gerald Lainer and Arthur Etro (joint owners), New York, N.Y. Filed Mar. 6, 1961.

NODAC

For Radio and Television Broadcast Transmitters With Metering and Fault Protection Features.
First use Oct. 2, 1960.

SN 194,900. Mettler Electronics Corp., Pasadena, Calif. Filed June 4, 1964.

METTLER ELECTRONICS

For Ultrasonic Cleaning Apparatus for Cleaning Objects (General Industrial Use), and Ultrasonic Diathermy Apparatus for Generating Vibratory Energy, Both of Which Have Electronic Ultrasonic Vibratory Energy Generating Systems.
First use Apr. 27, 1964; July 28, 1957, in a different form.

SN 206,910. American Chain & Cable Company, Inc., Bridgeport, Conn. Filed Nov. 25, 1964.

ELECTRO-MECH

For Custom Control Systems for the Process Industries, Combining Electronic, Hydraulic, and/or Pneumatic Control and Monitoring Devices, and Components Therefor.
First use June 7, 1954.

SN 209,639. Ward Leonard Electric Co., Mount Vernon, N.Y. Filed Jan. 8, 1965.



The representation of the contact, wire connection and resistor, as individually shown, are disclaimed apart from the mark as shown. Owner of Reg. Nos. 433,014 and 778,450.
For Electric Resistors; Electric Rheostats and Potentiometers; Electric Contactors Including Switches; Electric Relays; Lighting Control Systems and Components Including Switchboards and Dimmers—Namely, Electric Cycle Dimmers for Lights, Autotransformers, Motorized Autotransformers, Individually and in Banks, and Solid State Controlled Devices; Motor Generator Controllers; Motor and Generator Regulators Using Magnetic Amplifiers; Electric Motor Starters and Control Devices Associated Therewith; and Voltage and Speed Regulators for Motor Generator Sets and Generators.
First use Nov. 29, 1963.

SN 211,424. Eaton Manufacturing Company, Cleveland, Ohio. Filed Feb. 5, 1965.

Dyna-TORQ

Owner of Reg. No. 687,143.
For Electrical Controls Comprising Rectifiers, Resistors, and Capacitors, for Electric-Magnetic Transmission Equipment.
First use Aug. 27, 1957.

SN 214,829. Arthur Bockmann, Chicago, Ill. Filed Mar. 24, 1965.

BOCKLITE

For Illuminated Advertising Sign.
First use July 1, 1963.

SN 215,218. Howard Precision Inc., Fanwood, N.J. Filed Mar. 29, 1965.

HOPCO

For Ignition Systems for Attachment to the Ignition Systems of Automobiles.
First use Nov. 15, 1964.

SN 215,472. Yardney Electric Corporation, New York, N.Y. Filed Mar. 31, 1965.

AYROXEL

For Electrochemical Cells and Batteries, and Parts Thereof.
First use Feb. 5, 1965.

SN 215,500. Graham Electronics Supply, Inc., Indianapolis, Ind. Filed Apr. 1, 1965.

GRAHAM Electronics

Applicant disclaims the word "Electronics" apart from its use in the mark as shown with the exception that the particular script or style of lettering of the word "Electronics" is not disclaimed.
For Oscilloscopes, Color Generators, Tube Testers, Television Analysts (or Set Testers), Volt-Ohm Milliammeters, Signal Generators, Marker Odders, Volt-Ammeters, Oscillators, Sweep and Mark Generators, and Decade Condenser Boxes.
First use June 6, 1950.

SN 215,912. Wheelock Signals, Inc., Long Branch, N.J. Filed Apr. 6, 1965.

VALUHORN

For Electrical Sound Signals for Indoor and Outdoor Applications—Namely, Horn, Single Stroke and Vibrating Bell, and Chimes.
First use Feb. 12, 1965.

SN 217,911. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka, Japan. Filed May 3, 1965.

RADAR MATIC

For AM and FM Radio Receivers With Automatic Tuning.
First use on or about Dec. 10, 1964; in commerce on or about Dec. 10, 1964.

SN 219,449. Yagishita Electric Co., Ltd., Odawara-shi, Kanagawa-ken, Japan. Filed Apr. 15, 1965.

Yagista

Priority claimed under Sec. 44(d) on Japanese application filed Oct. 19, 1964; Reg. No. 702,111, dated Mar. 24, 1966.
For Lead Storage Batteries of Completely Sealed Types, and of Other Types.

SN 220,846. General Electric Company, Erie, Pa. Filed June 10, 1965.

gp-100

For Adjustable Dynamoelectric Machine Drives, Including a Power Unit, an Operator's Control Station, and a D.C. Motor.
First use in or about February 1965.

SN 222,047. Micro Electric Motors, Incorporated, Utuado, Puerto Rico. Filed June 25, 1965.

MEM

For Electric Motors and Parts for Various Tools.
First use on or about Feb. 1, 1963.

SN 224,526. S. W. Farber, Inc., New York, N.Y. Filed July 29, 1965.

Gracious Lady

For Electrically Heated Cooking Utensils—Namely, Chafing Dishes, and Thermostatic Controls Therefor.
First use at least as early as 1961.

SN 225,430. Rogerio Azcarraga Madero, d.b.a. Orfeon-Videovox, S.A., Mexico City, Mexico. Filed Aug. 10, 1965.

VIDEOVOX

Owner of Mexican Reg. No. 114,733, dated July 11, 1963.
For Radio and Television Sets, and Parts Thereof.

SN 227,071. Rodale Manufacturing Company, Inc., Emmaus, Pa. Filed Sept. 2, 1965.

RODACOM

For Wall Mounted Radio-Receptacle-Switch Units.
First use Aug. 19, 1965.

SN 229,379. Swing-O-Lite, Inc., Hackensack, N.J. Filed Oct. 5, 1965.

Swing-O-Lite

For Electric Lamps.
First use May 1953.

SN 229,684. Sealectro Corporation, Mamaroneck, N.Y. Filed Oct. 8, 1965.

MICRO HEX

For Submiature Coaxial Cable Connectors.
First use Mar. 15, 1965.

SN 229,890. Thomas Manufacturing Corporation, Parkton, Md. Filed Oct. 11, 1965.

TUFF-SKIN

For Light Bulbs.
First use on or about May 12, 1965.

SN 230,186. Panduit Corp., Tinley Park, Ill. Filed Oct. 14, 1965.

PAN-POLE

For Mounting Supports for Wire Harnesses.
First use Aug. 31, 1965.

SN 230,187. Panduit Corp., Tinley Park, Ill. Filed Oct. 14, 1965.

PAN-RING

For Combination Cable Tie Guides and Cable Retainers, for Use in the Assembly of Wire Harnesses.
First use Aug. 31, 1965.

SN 230,720. Trump-Ross Industrial Controls, Inc., Billerica, Mass. Filed Oct. 20, 1965.

TRU-ROTA

For Rotary Pulse Generators.
First use Sept. 29, 1965.

SN 231,101. Ishak Fried, d.b.a. Fried Trading Company, Brooklyn, N.Y. Filed Oct. 22, 1965.

SEAVOX

For Radio Receivers and Combined Radio Receiving and Transmitting Units.
First use on or about Feb. 1, 1965.

SN 231,362. Allcar Motor Parts Corp., New York, N.Y. Filed Oct. 23, 1965.

ALLCAR

For Electrical Systems Including Ignition Parts, Spark Plugs, Switches, Terminals, Voltage Regulators, Rectifiers, Generators, Starters, Miniature Bulbs, Lamps, Flashers, and Batteries.
First use Feb. 15, 1965.

SN 231,770. Magnecraft Electric Co., Chicago, Ill. Filed Oct. 23, 1965.

MAGNECRAFT

For Electric Relays.
First use 1951.

SN 231,948. Servo Corporation of America, Hicksville, N.Y. Filed Nov. 1, 1965.

SERVOPOLE

For Electromagnetic Transducers, for Producing an Electric Signal in Response to the Presence of a Railroad Wheel or the Like.
First use Sept. 30, 1965.

SN 231,995. The Richard Grinnell Corporation, Larchmont, N.Y. Filed Nov. 2, 1965.

TEDDIE BEDDIE LITE

Applicant disclaims the word "Lite" apart from the mark as shown.
For Electric Table Lamp.
First use Jan. 22, 1965.

SN 232,197. Dow Corning Corporation, Midland, Mich. Filed Nov. 5, 1965.

DOW CORNING

Owner of Reg. Nos. 570,268, 667,003, and others.
For Dielectric Sealing Compositions, Potting and Embedding Compounds, Silicone Electrical Insulation Materials, Resins for Coating Metal Conductors, Transformer Fluids, Electricians' Rubber Tape, Compositions for Treating Line Insulators for Improvement of Surface Characteristics, Molding Compounds for Making Electrical Insulators.
First use Jan. 5, 1965.

SN 232,413. Modern Devices, Inc., Glenbrook, Conn. Filed Nov. 9, 1965.

mdi

For Electronic Voice Scrambler.
First use prior to Oct. 25, 1965.

SN 237,812. Cambridge Thermionic Corporation, Cambridge, Mass. Filed Feb. 2, 1966.

CAMBI-CARD

For Panels for Mounting Electric Components and for Electrically Connecting Them.
First use June 25, 1965.

SN 243,515. Signa-Com Corporation, Beverly, Mass. Filed Apr. 15, 1966.

SEA VOICE

For Public Address and Intercommunication Systems.
First use Apr. 29, 1964.

Class 22 — Games, Toys, and Sporting Goods

SN 215,759. Mattel, Inc., Hawthorne, Calif. Filed Apr. 5, 1965.

BRONCO

For Toy Vehicles—Namely, Children's Tricycles and Bicycles.
First use Apr. 26, 1956.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 205,771. Columware, Inc., Lynwood, Calif. Filed Nov. 9, 1964.

Columware

Owner of Reg. Nos. 606,598 and 774,035.
For Electrically Operated Food or Beverage Dispensing Equipment, Predominantly for Commercial Use.
First use Sept. 15, 1960.

SN 212,860. Clipper Diamond Tool Co., Inc., New York, N.Y. Filed Feb. 26, 1965.

ROTODRESS

For Diamond Impregnated Forming Tools and/or Surface Set Forming Tools.
First use Nov. 12, 1964.

SN 214,429. The Cleveland Crane & Engineering Company, Wickliffe, Ohio. Filed Mar. 18, 1965.

TELESTACK

For Overhead Cranes, Overhead Conveyor-Type Material Handling Systems, and Parts Thereof.
First use Feb. 19, 1965.

SN 215,327. Chemcut Corporation, State College, Pa., by change of name from Centre Circuits, Inc., State College, Pa. Filed Mar. 30, 1965.

ACCUCYL

For Control Cylinder, for Measurements and the Control of Positioning Tables in Automatic Manufacturing.
First use Mar. 9, 1965.

SN 215,328. Channellock, Inc., Meadville, Pa. Filed Mar. 30, 1965.

GRIPLOCK

For Locking Pliers.
First use Jan. 6, 1965.

SN 216,708. Walter Kidde & Company, Inc., Belleville, N.J. Filed Apr. 16, 1965.

HI-EX

Owner of Reg. No. 726,123.
For Apparatus for Generating High Expansion Foam Plugs for Extinguishing Fires.
First use on or about Aug. 4, 1960.

SN 218,175. Berkeley Machine Works, Incorporated, Roxbury, Mass. Filed May 6, 1965.

POWER EEZ

For Conversion Kits, Including Combinations of Cylinders and Valves, for Converting Shoe Manufacturing Machinery and Clothes Pressing Machinery From Manual to Air Pressure Operation.
First use Jan. 2, 1961.

SN 219,142. Royal Master Grinders, Inc., Riverdale, N.J. Filed May 18, 1965.

PRECIS-O-MATIC

For Grinding Machines.
First use on or about Mar. 15, 1965.

SN 219,685. The Cleveland Twist Drill Company, Cleveland, Ohio. Filed May 25, 1965.

CLEVELAND

Owner of Reg. Nos. 137,973, 629,469, and others.
For Metalworking Small Tools—Namely, Twist Drills and Drill Bits of All Kinds, Reamers, Sockets, Drill Holders, Drill Chucks, Arbors, Mandrels, End Mills, Milling Cutters, Counterbores, Countersinks, Screw Extractors, Ground Turning Tools, Tool Bits, Cut-Off Blades, Hardened Drill Blanks, Taps, Dies, and Gages.
First use Dec. 2, 1964.

SN 219,990. Henco Enterprises, Inc., Niles, Mich. Filed May 28, 1965.

viBURRator

For Orbital Vibratory Metal Finishing Machine.
First use May 12, 1965.

SN 220,472. Dampp-Chaser Electronics, Inc., Hendersonville, N.C. Filed June 7, 1965.

Scrollmaster

For Non-Projection Type Apparatus for Displaying Printed Material in Roll or Sheet Form to Viewers for Educational and Other Purposes.
First use Mar. 5, 1965.

SN 224,422. Illinois Tool Works, Inc., Chicago, Ill. Filed July 28, 1965.

PAK-LOK

Owner of Reg. No. 652,952.
For Manual and Automatic Sealing Machines for Commercial Packaging.
First use on or about July 13, 1965.

SN 224,769. Machinery Development, Inc., Denver, Colo. Filed Aug. 2, 1965.

E-Z LIFT

Owner of Reg. No. 682,825.
For Industrial and Farm Elevators.
First use May 15, 1958.

SN 228,472. Machinery Incorporated, Maine, Falmouth, Maine. Filed Sept. 23, 1965.

SANDPIPER

For Devices for Sreening and Separating Dry Materials—Namely, Portable Gravel Screening Plant.
First use Apr. 19, 1965.

SN 228,473. Machinery Incorporated, Maine, Falmouth, Maine. Filed Sept. 23, 1965.

SANDMASTER

For Devices for Screening and Separating Dry Materials—Namely, Portable Gravel Screening Plant.
First use Feb. 19, 1965.

SN 228,478. Moody Machine Products Co., Inc., Providence, R.I. Filed Sept. 23, 1965.

MOODY

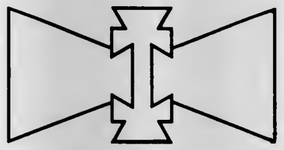
Owner of Reg. No. 588,894.
For Hand Tools—Namely, Screwdrivers, Wrenches, Tap Drills, Dies, Scribes, Sewing Needles, Pocket Magnets, Pin Vises, and the Like.
First use 1951.

SN 228,979. Astra Trading Corporation, New York, N.Y. Filed Sept. 30, 1965.

STELLAR

Owner of Reg. No. 617,426.
For Kitchen Utensils—Namely, Spoons, Forks, Presses, Spades, Scoops, Squeezers, Spatulas, Can and Bottle Openers, Cutters, and Kitchen Cutlery.
First use Jan. 1, 1945.

SN 229,120. The Originators Engineering and Development Company, Fort Worth, Tex. Filed Oct. 1, 1965.



For Woodworking Machinery.
First use July 9, 1964.

SN 229,700. Viking Drill and Tool Co., Inc., d.b.a. North American-Viking Drill Corporation, St. Paul, Minn. Filed Oct. 8, 1965.

ECP

For Twist Drills, Masonry Drills, Boring Bits, and Other Machine Tool Drills.
First use June 23, 1965.

SN 230,175. Edmund J. Lynch, d.b.a. Center-Line Machinery, Orange, Calif. Filed Oct. 14, 1965.



For Saw for Extruded Plastics.
First use July 21, 1961.

SN 230,208. Sunbeam Corporation, Chicago, Ill. Filed Oct. 14, 1965.

SUNBEAM

For Lawn Edgers and Trimmers, and Parts Therefor.
First use Dec. 19, 1962.

SN 230,279. Pacific Car and Foundry Company, Renton, Wash. Filed Oct. 15, 1965.

KW

Owner of Reg. Nos. 606,954, 607,849, and 717,453.
For Fork-Lift Type Material Handling Apparatus.
First use Dec. 27, 1963.

SN 230,280. Pacific Car and Foundry Company, Renton, Wash. Filed Oct. 15, 1965.

KENWORTH

Owner of Reg. Nos. 529,806 and 717,452.
For Fork-Lift Type Material Handling Apparatus.
First use Dec. 27, 1963.

SN 230,283. H. K. Porter Company, Inc., Pittsburgh, Pa. Filed Oct. 15, 1965.

MOULDMASTER

For Paper Knives.
First us Aug. 8, 1965.

SN 230,442. Smith Industries International, Inc., Gardena Heights, Calif. Filed Oct. 18, 1965.

CALWELD

For Earth Excavating Equipment.
First use May 1961.

SN 230,456. Tel-E-Lect, Inc., Minneapolis, Minn. Filed Oct. 18, 1965.

BULLDOG

For Earth-Boring Augers.
First use Sept. 13, 1965.

SN 230,522. Dyna-Quip Corporation, Columbus, Ohio. Filed Oct. 19, 1965.

DYNA-RAM

For Impacting Machine.
First use May 1964.

SN 230,646. John D. Hollingsworth On Wheels, Inc., Greenville, S.C. Filed Oct. 20, 1965.

DOF-MASTER

For Apparatus for Removing Card Web From Doffer of Textile Carding Machines.
First use Sept. 22, 1965.

SN 230,679. Nelco Corp., New York, N.Y. Filed Oct. 20, 1965.

AMICA

For Sewing Machines.
First use Sept. 9, 1964.

SN 230,680. Nelco Corp., New York, N.Y. Filed Oct. 20, 1965.

SIMPATICA

For Sewing Machines.
First use Sept. 9, 1964.

SN 232,899. Bynal Products, Inc., Franklin Park, Ill. Filed Nov. 18, 1965.

BYNAL

For Accessories and Attachments, Specifically Overhead Hoists, Tail Gates, and Guide Plates, for Refuse Disposal Vehicles and for Truck Bodies, and Refuse Containers.
First use February 1963 on refuse containers.

SN 232,922. Liquid Package Equipment Co., Woodstock, Ill. Filed Nov. 18, 1965.

PLAST-A-MATIC

For Bottle Filling Machines, and Bottle Filling and Capping Machines.
First use June 25, 1965.

SN 232,957. Robert Aguinick and Leonard B. Secklin, Milwaukee, Wis. Filed Nov. 19, 1965.

Chore Mate

For Electric Knives.
First use Oct. 21, 1965.

Class 24 — Laundry Appliances and Machines

SN 215,857. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

Fuller

Owner of Reg. Nos. 143,340, 759,993, and others.
For Ironing Board Covers, Ironing Board Pads, Wash Bags for Washing Mop Heads, and the Like.
First use October 1958.

SN 225,023. Hampton Sales Co. Inc., Garden City, N.Y. Filed Aug. 5, 1965.

ARDMORE

For Clothes Washing Machines, Dryers, and Ironers.
First use Apr. 1, 1965.

SN 225,431. Rogerio Azcarraga Madero, d.b.a. Corporacion Nacional Distribuidora, S.A., Mexico City, Mexico. Filed Aug. 10, 1965.

VIDEOVOX

Owner of Mexican Reg. No. 120,068, dated July 15, 1964.
For Washing Machines.

SN 231,348. Samuel Yuter, d.b.a. Jayson's, Philadelphia, Pa. Filed Oct. 22, 1965.

NYLOFELT

For Pressing Machine Pads.
First use Aug. 16, 1964.

Class 26 — Measuring and Scientific Appliances

SN 181,453. Benjamin F. Breslauer, d.b.a. Scientific Products of America, New York, N.Y. Filed Nov. 19, 1963.

CALTROL

For Indicating Instrument for Calorie Counting.
First use on or about Oct. 1, 1962.

SN 181,546. HH Spezial Optik GmbH., Wetzlar, Germany. Filed Nov. 20, 1963.

SUPER Sport

The word "Sport" is disclaimed apart from the mark as shown. Priority claimed under Sec. 44(d) on German application filed July 16, 1963; Reg. No. 799,198.
For Optical Instruments—Namely, Binoculars.

SN 203,631. Viewlex, Inc., Holbrook, N.Y. Filed Oct. 8, 1964.

VIEWFAX

Owner of Reg. No. 684,417.
For Copying Machines and Projection Transparency Sets.
First use Sept. 8, 1964.

SN 221,097. Ramapo Instrument Company, Inc., Bloomingdale, N.J. Filed June 14, 1965.

RAMAPO MARK V

For Flowmeters and Pressure and Temperature Indicating Flow Transducers.
First use August 1954.

SN 221,098. Ramapo Instrument Company, Inc., Bloomingdale, N.J. Filed June 14, 1965.

RAMAPO MARK VI

For Flow Meters and Pressure and Temperature Indicating Flow Transducers.
First use August 1954.

SN 221099. Ramapo Instrument Company, Inc., Bloomingdale, N.J. Filed June 14, 1965.

RAMAPO MARK X

For Flow Meters and Pressure and Temperature Indicating Flow Transducers.
First use August 1954.

SN 224,222. Loral Corporation, Scarsdale, N.Y. Filed July 26, 1965.

For Electronic Measuring and/or Computing Apparatus or Controls—Namely, Electrical Measuring Instruments of the Galvanometer Type; Electronic Systems for Counter Measures Systems; Carded Acquisitions Systems; Electronic Intelligence System for Capture of Electro-Magnetic Energy and Determination of Its Characteristics; Penetration Aid Systems; Early Warning Systems; Reconnaissance and Surveillance Systems; Fire Control Systems; Target Identification and Localizations Systems; Navigation Computers; Tactical Computers; Systems for Presenting Data by Cathode Ray Tubes, Direct View Storage Tubes, and Electro-Luminescent Devices or Screens.
First use Dec. 1, 1964.

SN 224,245. Robert G. Rowe, d.b.a. Saturn Electronics Company, Grand Island, N.Y. Filed July 26, 1965.

SONIC COMPARATOR

For Apparatus To Test Articles According to Characteristics of Their Vibrations.
First use May 29, 1953.

SN 224,470. Sequential Electronic Systems, Inc., Elmsford, N.Y. Filed July 28, 1965.

BAND-SCAN

For Electrical Measuring Equipment, Comprising a Sequential Encoded Torque Motor and Sequential Frequency/Phase Lock Control System.
First use Nov. 20, 1964.

SN 224,471. Sequential Electronic Systems, Inc., Elmsford, N.Y. Filed July 28, 1965.

FPL

For Electrical Measuring Equipment, Comprising a Sequential Encoded Torque Motor and Sequential Frequency/Phase Lock Control System.
First use Aug. 29, 1962.

SN 224,907. "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. Filed Aug. 4, 1965.

HIGH SPEED

Owner of Reg. No. 547,025.
For Heat Actuated Thermostats and Sprinkler System Control Thermostats Which Are Pneumatic and/or Electric.
First use Jan. 15, 1948.

SN 224,909. "Automatic" Sprinkler Corporation of America, Youngstown, Ohio. Filed Aug. 4, 1965.

"AUTOMATIC" SPRINKLER CORPORATION OF AMERICA RATE OF RISE

Owner of Reg. No. 573,318.
For Pneumatic Thermostats and Thermostatic Operated Releases Used in Automatic Fire Extinguishing Systems for Permanent Installation for Fire Protection Purposes.
First use Mar. 14, 1928.

SN 225,562. Howe Richardson Scale Company, Clifton, N.J. Filed Aug. 12, 1965.

MAGNA-WEIGH

For Weighing Apparatus—Namely, Bench and Portable Scales, Floor Scales and High Capacity Scales Such as Truck Scales, Characterized by Relatively Large Scale Dials and Graduations.
First use July 20, 1964.

SN 225,564. Howe Richardson Scale Company, Clifton, N.J. Filed Aug. 12, 1965.

MAGNA-VIEW

For Weighing Apparatus—Namely, Bench, Platform, Floor, and Like Scales Having Relatively Large Weight Indicator Numerals.
First use July 20, 1964.

SN 225,566. Howe Richardson Scale Company, Clifton, N.J. Filed Aug. 12, 1965.

MAGNA-TRONIC

For Weighing Apparatus—Namely, Relatively Heavy Duty Scales Such as Truck Scales, Having Remote Indicators Responsive to Load Cells or the Like at the Scale Weighbridge or Like Platform.
First use Jan. 2, 1964.

SN 226,489. Xerox Corporation, Rochester, N.Y. Filed Aug. 25, 1965.

LDX

For Facsimile Scanner Machines; Facsimile Printer Machines Including Electrophotographic Copy Machines and Components Thereof—Namely, Plates.
First use May 15, 1964.

SN 227,668. Fuji Photo Film Co., Ltd., Ashigara-Kamigun, Kanagawa, Japan. Filed Sept. 13, 1965.

FUJICA *Mini*

Owner of Reg. Nos. 598,938, 689,864, and others.
For Cameras.
First use October 1964; in commerce Apr. 30, 1965.

SN 227,765. Lugene, Inc., New York, N.Y. Filed Sept. 14, 1965.

PENCIL

For Spectacles and Spectacle Frames.
First use Apr. 1, 1936.

SN 229,096. International Register Company, Chicago, Ill. Filed Oct. 1, 1965.

SKIPPER

Owner of Reg. No. 603,935.
For Time Switches.
First use Oct. 10, 1952.

SN 229,173. Airguide Instrument Company, Chicago, Ill. Filed Oct. 4, 1965.

SEA SPEED

Owner of Reg. No. 704,407.
For Marine Speedometers.
First use Dec. 18, 1958.

SN 229,472. Voigtlander, A.G., Braunschweig, Germany. Filed Oct. 6, 1965.

BESSY

Owner of German Reg. No. 681,277, dated Dec. 11, 1954; and U.S. Reg. No. 684,031.
For Cameras.
First use Apr. 2, 1965; in commerce Apr. 2, 1965.

Class 27 — Horological Instruments

SN 221,300. Rodi & Wienenberger Aktiengesellschaft, Pforzheim, Germany. Filed June 16, 1965.



Priority claimed under Sec. 44(d) on German application filed Dec. 17, 1964; Reg. No. 802,562, dated Apr. 2, 1965.
For Watches and Clocks and Parts Therefor.

SN 225,748. Fabrique de Montres Wyler Societe Anonyme (Wyler Uhrenfabrik Aktiengesellschaft) (Wyler Watch Factory Limited), Biel, Bienne, Switzerland. Filed Aug. 16, 1965.

WYLER

For Watches, Cased and Uncased.
First use 1924; in commerce 1930.

Class 28 — Jewelry and Precious-Metal Ware

SN 197,197. D. Swarovski & Co., Glasschleiferei, Wattens, Tyrol, Austria. Filed July 6, 1964.

MARGARITA

Priority claimed under Sec. 44(d) on Austrian application filed Jan. 16, 1964; Reg. No. 52,304, dated Apr. 29, 1964.
For Genuine and Imitation Gems.

SN 214,391. Waltham Watch Company, Chicago, Ill. Filed Mar. 17, 1965.

BLAZE OF GLORY

For Diamonds.
First use Mar. 3, 1965.

SN 219,835. Tropical Jewelers, Inc., Miami, Fla. Filed May 26, 1965.

TJI

For Gold Rings, Charms, Earrings and Jewelry of Precious-Metal Ware.
First use June 2, 1962.

SN 225,139. Kermit R. Goldbergh, d.b.a. Kavanaugh's, Baltimore, Md. Filed Aug. 6, 1965.



For Men's Jewelry Consisting of Tie Slides, Tie Tacks, Collar Pins, Cuff Buttons, Cuff Links, Key Chains, Watch Chains, and Other Jewelry for Men's Personal Wear or Adornment.
First use 1957.

SN 231,451. Merchandiser's Association, Incorporated, Chicago, Ill. Filed Oct. 23, 1965.

CORONATION

Owner of Reg. No. 681,832.
For Bracelets, Earrings, Scatter Pins, Medallions, Pendants, Necklaces, Tie Clasps, Cuff Links, Clasps, Charms, Shriner and Masonic Pins, and Money Clips.
First use Feb. 24, 1965.

SN 231,452. Merchandiser's Association, Incorporated, Chicago, Ill. Filed Oct. 23, 1965.

MAJESTIC

For Diamond Finger Rings.
First use September 1959.

SN 231,508. Textron Inc., Providence, R.I. Filed Oct. 23, 1965.

LEATHA-FLEX

Owner of Reg. No. 612,512.
For Expansion Bracelets Including Watch Bracelets.
First use Aug. 2, 1965.

Class 29 — Brooms, Brushes, and Dusters

SN 190,889. Colgate-Palmolive Company, New York, N.Y. Filed Apr. 13, 1964.

HANDI WIPES

For Nonwoven Rayon Cut Cloths for Dusting, Drying, and Household Cleaning.
First use Mar. 2, 1964.

SN 215,850. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

Fuller

Owner of Reg. Nos. 143,340, 759,993, and others.
For Sponge Cloths, Sponge Mops.
First use June 1949.

SN 215,858. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

Fuller

Owner of Reg. Nos. 143,340, 759,993, and others.
For Manually Manipulated Hair, Synthetic, and Wire Brushes for Industrial and Institutional Use, Surgical and General Purpose Scrub Brushes, Vat and Tank Brushes, Can Brushes, Toilet Brushes, Bench and Counter Brushes, Special Purpose Brushes for Bakeries and Flour Mills, Plater's and Moulder's Brushes Including Steel Wire Brushes, Floor Squeegees, Wax Applicators, and Fountain Type Automobile Brushes.
First use June 1913.

SN 230,809. Fairway Foods, Inc., St. Paul, Minn. Filed Oct. 21, 1965.

SERV-WELL

Owner of Reg. Nos. 439,812, 649,424, and others.
For Brooms.
First use Oct. 23, 1953.

SN 230,810. Fairway Foods, Inc., St. Paul, Minn. Filed Oct. 21, 1965.

FAIRWAY

Owner of Reg. Nos. 197,673, 513,494, and others.
For Brooms.
First use Mar. 3, 1948.

SN 230,830. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Oct. 21, 1965.

IGA

For Toothbrushes.
First use Oct. 26, 1964.

SN 231,496. Selfix, Inc., Chicago, Ill. Filed Oct. 23, 1965. Owner of Reg. No. 548,448.

SELFIX

For Brushes—Namely, Bath Brushes, Clothes Brushes, Dish Brushes, Hair Brushes, Hand Brushes, Nail Brushes, and Utensil Brushes, Paint Rollers, Paint Roller Covers, Paint Roller Trays, and Paint Roller Extension Handles.
First use on or about July 31, 1964.

SN 231,750. Geigy Chemical Corporation, Ardsley, N.Y. Filed Oct. 28, 1965.

plaf

For Sponges.
First use Oct. 11, 1965.

Class 31—Filters and Refrigerators

SN 158,617. Granger Sofwater Supply & Mfg. Corp., d.b.a. International Watercare Corporation, Manitowoc, Wis. Filed Dec. 6, 1962.

WATER CARE

For Water Conditioning Minerals, Specifically Consisting of Sodium Zeolite, Resins, Acid Neutralizers (Calcite, Quartz, Activated Carbon, Manganese Treated Greensand, Greensand), Sodium Hydrosulfide, and Sodium Polysulphate.
First use Sept. 11, 1961, on sodium zeolite.

SN 225,021. Hampton Sales Co. Inc., Garden City, N.Y. Filed Aug. 5, 1965.

ARDMORE

For Refrigerators and Freezers.
First use Apr. 1, 1965.

SN 226,972. American Filtrona Corporation, Richmond, Va. Filed Sept. 2, 1965.

TRANSCARB

For Bonded Carbon Filter Elements for General Uses.
First use Aug. 3, 1965.

SN 232,327. Marvel Engineering Company, Chicago, Ill. Filed Nov. 8, 1965.

MARVAIR-DIFFUSER

For Filters for Use on Hydraulic Power, Low Pressure Circulating, and Water Systems.
First use Oct. 7, 1965.

SN 232,328. Marvel Engineering Company, Chicago, Ill. Filed Nov. 8, 1965.

MARVELINE-C

For Filters for Use on Hydraulic Power, Low Pressure Circulating, and Water Systems.
First use Aug. 12, 1965.

SN 232,329. Marvel Engineering Company, Chicago, Ill. Filed Nov. 8, 1965.

MARVELMAG

For Filters for Use on Hydraulic Power, Low Pressure Circulating, and Water Systems.
First use Aug. 25, 1965.

SN 232,330. Marvel Engineering Company, Chicago, Ill. Filed Nov. 8, 1965.

MARVINDICATOR

For Filters for Use on Hydraulic Power, Low Pressure Circulating, and Water Systems.
First use Aug. 13, 1965.

SN 232,471. Millipore Filter Corporation, Bedford, Mass. Filed Nov. 10, 1965.

MITEF

For Plastic Filters.
First use Sept. 20, 1965.

Class 32—Furniture and Upholstery

SN 171,205. Waldron Furniture Manufacturing Corporation, Waldron, Ark. Filed June 17, 1963.

WALDRON

For Upholstered Furniture Classified as Sofas, Chairs, Rockers, Sectionals, Dual Purpose Sleeper-Sofas, and Dual Purpose Studio Couches.
First use Oct. 4, 1962.

SN 180,451. Royal Crest Venetian Blinds, Inc., Rossford, Ohio. Filed Nov. 4, 1963.

ROYAL CREST VENETIAN BLINDS INC.

The words "Royal Crest Venetian Blinds, Inc." are disclaimed apart from the mark as shown.
For Slat-Type Window Blinds.
First use Apr. 7, 1961.

SN 189,650. Edwin Busch, d.b.a. Busch Film and Equipment Company, Saginaw, Mich. Filed Mar. 26, 1964.

COMMUNICATIONS

For Hollow Partition Walls Having Built-In Picture Projection Screens and Storage Cabinets.
First use Feb. 13, 1964.

SN 204,461. Edson, Incorporated, Chicago, Ill. Filed Oct. 21, 1964.

Taboret

For Pillows.
First use April 1963.

SN 214,756. Drexel Enterprises, Inc., Drexel, N.C. Filed Mar. 23, 1965.

FRENCH IN THE COUNTRY MANNER

Applicant disclaims the term "French" apart from the mark as shown, reserving all common law rights, which it may have therein. Owner of Reg. No. 736,802.
For Bedroom, Dining Room, and Living Room Furniture.
First use Sept. 29, 1964.

SN 219,087. Mellink Steel Safe Company, Toledo, Ohio. Filed May 17, 1965.

TENSION-LOK TABLE

No claim is made to the word "Table" apart from the mark as shown.
For Collapsible Typewriter and General Utility Tables.
First use Apr. 26, 1965.

SN 220,411. Sprague & Carleton, Incorporated, Keene, N.H. Filed June 4, 1965.

KA

For Household Furniture.
First use Mar. 15, 1965.

SN 222,627. Slumber Shop, Inc., New Orleans, La. Filed July 2, 1965.

Posture Rest

For Mattress.
First use June 1, 1965.

SN 223,432. Multiproducts, Inc., Tarrytown, N.Y. Filed July 15, 1965.

K9-KOT

For Dog Mattress.
First use Mar. 3, 1965.

SN 225,049. McDonald Products Corporation, Buffalo, N.Y. Filed Aug. 5, 1965.

CLOS-POLE

For Costumers.
First use Feb. 2, 1965.

SN 225,937. The Dow Chemical Company, Midland, Mich. Filed Aug. 18, 1965.

For Outdoor Lawn Furniture.
First use July 9, 1965.

SN 229,703. Thonet Industries, Inc., New York, N.Y. Filed Oct. 6, 1965.

DormMaster

For Furniture Ensembles and Units—Namely, Beds, Chairs, Chests, Desks, Tables, and Wardrobes Arranged in Ensembles and Connected Units.
First use Sept. 3, 1965.

SN 229,930. The Aeroshade Company, Inc., Waukesha, Wis. Filed Oct. 12, 1965.

AEROCRYLIC

Owner of Reg. No. 366,258.
For Finishes Comprising Oil Stains With Acrylic Plastic Dissolved Therein and Sold as a Component of Porch and Window Shades for Exterior or Interior Use, Draperies, Room Dividers, and Doors, All of Woven Slat Material.
First use Aug. 30, 1965.

Class 33—Glassware

SN 215,976. Leavlite Limited, Bromley Hayes, near Lichfield, England. Filed Apr. 7, 1965.

LEAVLITE

Owner of British Reg. No. 851,971, dated July 24, 1963.
For Flat or Curved Shatter Proof Glass for Use in Making Windows, Store Fronts, Display Cases, Transparent and Opaque Steel Mesh Reinforced Glass for Use in Non-Display Areas of Shops, Stores, and Buildings, and Thermal Insulation Glass for Use in Making Windows for Buildings and Vehicles.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 220,872. National Tank Company, Tulsa, Okla. Filed June 10, 1965.

THERMA DRIVE

For Units for Heating Subterranean Earth Formations.
First use on or about June 4, 1965.

SN 225,022. Hampton Sales Co. Inc., Garden City, N.Y. Filed Aug. 5, 1965.

ARDMORE

For Air Conditioners and Exhaust Fans.
First use Apr. 1, 1965.

SN 228,463. Samuel Jackson Manufacturing Corporation, Lubbock, Tex. Filed Sept. 23, 1965.

SAMUEL JACKSON

"Samuel Jackson" is president of applicant corporation who signed application. Owner of Reg. No. 756,841.
For Humidifiers and Driers for Processing Fibers.
First use Apr. 9, 1960.

SN 228,464. Samuel Jackson Manufacturing Corporation, Lubbock, Tex. Filed Sept. 23, 1965.

SAMUEL JACKSON

"Samuel Jackson" is president of applicant corporation who signed application. Owner of Reg. No. 756,841.
For Humidifiers and Driers for Processing Fibers.
First use Apr. 9, 1960.

SN 229,132. Roberts-Gordon Appliance Corp., Buffalo, N.Y. Filed Oct. 1, 1965.

CO-RAY-VAC

For Gas Fired Infra-Red Heating Apparatus.
First use Dec. 1, 1961.

SN 232,334. Midland-Ross Corporation, Toledo, Ohio. Filed Nov. 8, 1965.

HX

Owner of Reg. Nos. 386,596, 769,542, and others.
For Gas Generators and Components Thereof—Namely, Endothermic Catalytic Units Which Reform the Gases; Shift Converters for the Gases; Coolers for the Gases; Dryers for the Gases; Purifying Units for the Gases and Refrigerating Units for the Gases.
First use Apr. 16, 1960.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 216,719. Minnesota Rubber Company, Minneapolis, Minn. Filed Apr. 16, 1965.

MR Xsel

Owner of Reg. Nos. 682,887, 698,606, and others.
For Sealing Rings.
First use Mar. 19, 1965.

SN 219,495. A & A Manufacturing Company, Inc., Milwaukee, Wis. Filed May 24, 1965.
Owner of Reg. No. 582,258.

GORTIFLEX

For Bellows Type Devices in the Form of a Telescopic Sleeve Made From Elastomer or Elastomer Coated Fabric and Used as a Protective Cover Over Machine Members or as a Duct or a Flexible Connector.
First use Jan. 15, 1962.

SN 221,900. Dayco Corporation, Dayton, Ohio. Filed June 24, 1965.

Cog-Belt

Owner of Reg. No. 657,136.
For Power Transmission Belts.
First use May 28, 1965.

Class 36 — Musical Instruments and Supplies

SN 199,810. Educational Activities Inc., Baldwin, N.Y. Filed Aug. 13, 1964.

HONOR YOUR PARTNER

Owner of Reg. No. 527,968.
For Phonograph Records and Phonograph Record Albums.
First use Feb. 9, 1948.

SN 224,436. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed July 28, 1965.

DYNARANGE

For Magnetic Recording Tape.
First use July 9, 1965.

SN 226,703. Aeolian Corporation, New York, N.Y. Filed Aug. 30, 1965.

MUSETTE

Owner of Reg. Nos. 332,518 and 516,536.
For Player Pianos and Parts Thereof.
First use Apr. 1, 1962.

SN 239,921. Melodigrand Corp., Bronx, N.Y. Filed Mar. 1, 1966.

CAMBRIDGE

For Pianos.
First use on or about Jan. 19, 1966.

Class 37 — Paper and Stationery

SN 202,034. The Mead Corporation, Dayton, Ohio. Filed Sept. 16, 1964.

WRENN'S

Owner of Reg. Nos. 236,127 and 237,556.
For Absorbent Papers—Namely, Saturating Papers, Impregnating Papers, and Absorbent Specialties.
First use since as early as May 21, 1956.

SN 202,035. The Mead Corporation, Dayton, Ohio. Filed Sept. 16, 1964.

WRENN'S



Owner of Reg. Nos. 236,127 and 237,556.
For Absorbent Papers—Namely, Saturating Papers, Impregnating Papers, and Absorbent Specialties.
First use as early as May 21, 1956.

SN 212,870. Enterprise Tape Co., Inc., d.b.a. Enterprise Tape Co., Dolton, Ill. Filed Feb. 26, 1965.

SUPER-TAC

For Plastic Film Coated on One Side With a Pressure Sensitive Adhesive for Cold Laminating Identification Cards, Documents, Photos, and Similar Items.
First use Feb. 24, 1965.

SN 212,990. Enterprise Tape Co., Inc., d.b.a. Enterprise Tape Co., Dolton, Ill. Filed Mar. 1, 1965.

LITE-TAC

For Plastic Film Coated on One Side With a Pressure Sensitive Adhesive for Cold Laminating Identification Cards, Documents, Photos, and Similar Items.
First use Feb. 24, 1965.

SN 217,938. Scott Paper Company, Philadelphia, Pa. Filed May 3, 1965.

Viva!

The drawing is lined for the colors orange and purple, but no claim is made to color.
For Paper Napkins.
First use Mar. 30, 1965.

SN 219,730. Lois Rudy Rife, d.b.a. House of Maji, Pasadena, Calif. Filed May 25, 1965.

house of Maji

For Party Favor Kits, Including Paper Cups, Paper Plates, Napkins, Paper Tablecloths, Place Cards, Party Hats, and Favors.
First use Dec. 1, 1964.

SN 227,711. Scripto, Inc., Atlanta, Ga. Filed Sept. 13, 1965.

SCRIPTO

Owner of Reg. Nos. 192,632, 563,090, and others.
For Writing Instruments, Their Parts and Accessories—Namely, Mechanical Pencils, Pencil Leads, Pencil Erasers; Ball Point Pens, Ball Point Refills; Fountain Pens, Fountain Pen Refills, Fountain Pen Nibs; Pen and Pencil Sets, Pen and Pencil Desk Sets; Pen and Pencil Erasers and Refills Therefor; Fiber Tip Pens, and Marking Pens.
First use May 26, 1924, on pencils.

SN 229,341. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed Oct. 5, 1965.

HEVI-WRITE

For Black and Colored Lead Pencils, Ball Point Pens, and Markers.
First use Mar. 21, 1950.

SN 229,673. The Northwest Paper Company, Cloquet, Mich. Filed Oct. 8, 1965.

DENSETONE

For Papers.
First use April 1964.

SN 230,483. Ames Company, Inc., Elkhart, Ind. Filed Oct. 19, 1965.

CLINILOG

For Daily Record Books for Use by Diabetics.
First use June 14, 1963.

SN 231,322. Waldorf Paper Products Company, St. Paul, Minn. Filed Oct. 22, 1965.

COTEWALD

For Paperboard for Folding Boxboard Cartons.
First use Sept. 7, 1965.

SN 231,598. Harry D. Riley, d.b.a. Riley Advertising Company, Omaha, Nebr. Filed Oct. 24, 1965.



"Riley the Dog"

For Advertising Bands Used for Wrapping Cancelled Checks.
First use July 26, 1965.

SN 231,812. Joseph A. de Varennes Church Collection Records, Dundee, Ill. Filed Oct. 29, 1965.

JADSET

For Church Collection Records.
First use May 1964.

SN 231,861. Albert W. Trtanj, D.D.S., Granite City, Ill. Filed Oct. 29, 1965.

DENT-O-MATIC

For Business Forms.
First use Oct. 4, 1965.

SN 231,895. The Dow Chemical Company, Midland, Mich. Filed Nov. 1, 1965.

METALMIST

For Wrapping and Packaging Films.
First use at least as early as December 1962.

SN 232,292. Crown Zellerbach Corporation, San Francisco, Calif. Filed Nov. 8, 1965.

CROWN D. S. F.

Owner of Reg. Nos. 250,760, 742,005, and others.
For Plastic Packaging Films.
First use July 30, 1965.

SN 232,320. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed Nov. 8, 1965.

UNISTENCIL

For Paper or Paperboard Stencils.
First use Oct. 14, 1965.

SN 239,252. Fort Howard Paper Company, Green Bay, Wis. Filed Feb. 21, 1966.

PALMER

For Paper Towels.
First use June 5, 1953.

SN 240,841. Avery Products Corporation, San Marino, Calif. Filed Mar. 14, 1966.

CRACK 'N PEEL

For Flexible Web Stock for Making Labels and Signs.
First use on or about Feb. 22, 1966.

Class 39 — Clothing

SN 201,921. Beeline Fashions, Inc., Bensenville, Ill., assignee of Beeline Fashions, Inc., Bensenville, Ill. Filed Sept. 15, 1964.



Applicant disclaims the representation of the blouse and the skirt.
For Ladies' Clothing—Namely, Skirts, Blouses, Suits, Sweaters, Coats, Lingerie, Foundation Garments, Panties, Sleepwear, Lounge Slacks, Robes, Lounge Skirts, Pajamas, Caps, Gloves, Petticoats, and Hosiery.
First use Aug. 26, 1964.

SN 201,967. Paul Rubiani, Fontenay-sous-Bois (Seine), France. Filed Sept. 15, 1964.

Jean Biani

Priority claimed under Sec. 44(d) on French Reg. No. 520,484, dated Mar. 16, 1964 (Seine); Natl. Inst. No. 222,124.
The name "Jean Biani" is fanciful.
For Knitted Jackets, Sweaters, and Shirts.

SN 204,976. Gordon & Ferguson Co., St. Paul, Minn. Filed Oct. 28, 1964.

TOWN & COUNTRY

Owner of Reg. Nos. 177,556 and 410,033.
For Outdoor Clothing and Sportswear for Men, Women, and Children, e.g., Coats, Jackets, and Sweaters.
First use at least as early as September 1911.

SN 205,197. Penron Associated Hosiery Mills, Inc., High Point, N.C. Filed Oct. 30, 1964.

WATCH DOG
Support-O-Matic

For Hosiery.
First use July 15, 1964.

SN 213,613. E. J. Smith & Sons Company, Charlotte, N.C. Filed Mar. 8, 1965.

MR. LINKS

For Men's and Women's Sportswear—Namely, Shirts, Jackets, Sweaters, Slacks, Walking Shorts, Hats, and Caps.
First use July 9, 1963, on shirts.

SN 214,712. Stockton Manufacturing Co., Inc., Dallas, Tex. Filed Mar. 22, 1965.

DANDI PETITES

Applicant disclaims the word "Petites" apart from the mark as shown.
For Children's, Misses' and Women's Dresses, Blouses, Pants, Shorts, and Play-Suits.
First use Mar. 10, 1965.

SN 214,854. Eleja Cap Manufacturing Co., New York, N.Y. Filed Mar. 24, 1965.



Applicant disclaims the words "Roll-Up Hat" apart from the mark as shown.
For Hats and Caps.
First use Jan. 20, 1965.

SN 215,859. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.



Owner of Reg. Nos. 143,340, 759,993, and others.
For Rubber Gloves.
First use November 1962.

SN 218,452. Marie Inc., Coconut Grove, Fla. Filed May 10, 1965.

NODIS-CLOSURE

For Garments, Such as Dresses, Robes, and Gowns.
First use Dec. 5, 1964.

SN 218,770. Hughes & Hatcher, Inc., Detroit, Mich. Filed May 13, 1965.

CUSTOM NATURAL

For Clothing—Namely, Men's Suits, Coats, Sports Coats, and Outer Coats.
First use Apr. 10, 1965.

SN 218,954. Bell-Toptex, Incorporated, Long Beach, Calif. Filed May 17, 1965.

BELL TOPTEX

For Protective Helmets Used by Motorcyclists, Auto-Racing Drivers, Policemen, Firemen, Sky Divers, Skiers, Surfers, Baseball Players, and Others Engaged in Sports Where Protection of the Head Is Reasonably Necessary.
First use Apr. 5, 1962.

SN 218,955. Bell-Toptex, Incorporated, Long Beach, Calif. Filed May 17, 1965.

BELL

For Protective Helmets Used by Motorcyclists, Auto-Racing Drivers, Policemen, Firemen, Sky Divers, Skiers, Surfers, Baseball Players, and Others Engaged in Sports Where Protection of the Head Is Reasonably Necessary.
First use Feb. 1, 1956.

SN 220,438. Allied Chemical Coatings, Inc., Saco, Maine. Filed June 7, 1965.

pitter pats

For Children's Shoes.
First use May 10, 1965.

SN 222,864. Puritan Fashions Corporation, New York, N.Y. Filed July 7, 1965.

Q GROUP

For Women's Dresses, Slacks, Pants, Tops, Jackets, Skirts, Pant Suits, and Raincoats.
First use June 3, 1965.

SN 222,865. Puritan Fashions Corporation, New York, N.Y. Filed July 7, 1965.

DAPHNE

For Women's Dresses, Slacks, Pants, Tops, Jackets, Skirts, Pant Suits, and Raincoats.
First use June 3, 1965.

SN 222,867. Puritan Fashions Corporation, New York, N.Y. Filed July 7, 1965.

YOUNG ARROGANTS

For Women's Dresses, Slacks, Pants, Tops, Jackets, Skirts, Pant Suits, and Raincoats.
First use June 3, 1965.

SN 222,868. Puritan Fashions Corporation, New York, N.Y. Filed July 7, 1965.

SYNOPSIS

For Women's Dresses, Slacks, Pants, Tops, Jackets, Skirts, Pant Suits, and Raincoats.
First use June 3, 1965.

SN 223,346. Puritan Fashions Corporation, New York, N.Y. Filed July 14, 1965.

SKIP-ITS

For Women's Dresses, Slacks, Pants, Tops, Jackets, Skirts, Pant Suits, and Raincoats.
First use June 24, 1965.

SN 224,299. Craddock-Terry Shoe Corporation, Lynchburg, Va. Filed July 27, 1965.

GAY HEARTS

For Ladies' Shoes.
First use July 2, 1965.

SN 224,644. Puritan Fashions Corporation, New York, N.Y. Filed July 30, 1965.

DANDY LION

For Women's Dresses, Slacks, Pants, Tops, Jackets, Skirts, Pant Suits, and Raincoats.
First use July 12, 1965.

SN 224,696. Alma Foundations, Inc., New York, N.Y. Filed Aug. 2, 1965.

SONARI

For Women's Undergarments—Namely, Foundation Garments and Brassieres.
First use on or about July 27, 1965.

SN 224,877. Pandora Knitwear, Inc., New York, N.Y. Filed Aug. 3, 1965.

PASH

For Misses' and Ladies' Sweaters.
First use Mar. 26, 1965.

SN 225,138. Kermit R. Goldbergh, d.b.a. Kavanaugh's, Baltimore, Md. Filed Aug. 6, 1965.



For Men's Suits, Coats, Trousers, Hats, Caps, Gloves, Shirts, Ties, Scarves, Pajamas, Undergarments, Hosiery, Belts, Handkerchiefs, Robes, Sweaters, Topcoats, Raincoats, Swimwear, and Footwear.
First use 1957.

SN 226,594. Vanity Fair Mills, Inc., Reading, Pa. Filed Aug. 26, 1965.

SMIDGEN

For Foundation Garments—Namely, Brassieres.
First use Aug. 11, 1965.

SN 226,718. Boss Manufacturing Company, Kewanee, Ill. Filed Aug. 30, 1965.

Engineers Special



Owner of Reg. No. 199,907.
For Fabric Work Gloves.
First use Aug. 21, 1965; Jan. 1, 1921, as to the words "Engineers Special."

SN 227,952. Magna Sales Co., Chicago, Ill. Filed Sept. 16, 1965.

RAIN-TOTE

For Plastic Raincoats.
First use Sept. 7, 1965.

SN 228,129. Caldwell Dress Co., Philadelphia, Pa. Filed Sept. 20, 1965.

RESPONSE

For Fabrics of Cotton, Rayon, Synthetic Fibres, Wool, Worsted, and Mixtures Thereof, Made Up Into Finished Outer Garments—Namely, Ladies' and Misses' Dresses.
First use Jan. 4, 1965.

SN 228,250. Flexnit Company, Inc., New York, N.Y. Filed Sept. 21, 1965.

YOUTHBACK

For Brassieres and Girdles.
First use Sept. 1, 1965.

SN 228,251. Flexnit Company, Inc., New York, N.Y. Filed Sept. 21, 1965.

BACK TONER

For Brassieres and Girdles.
First use Sept. 1, 1965.

SN 228,836. The Puritan Sportswear Corp., Altoona, Pa. Filed Sept. 28, 1965.

TRIMGARD

For Sweaters, Sweater Shirts, Knit Shirts, Sport Shirts, Swim Trunks, Walk Shorts, and Jackets.
First use Sept. 1, 1965.

SN 229,146. Strathmore Shoe Co., Inc., Brockton, Mass. Filed Oct. 1, 1965.

ToLoS

For Footwear.
First use about February 1965.

SN 229,385. The Warner Brothers Company, Bridgeport, Conn. Filed Oct. 5, 1965.

GIRL WATCHERS

For Foundation Garments.
First use Sept. 24, 1965.

SN 229,406. Caldwell Dress Co., Philadelphia, Pa. Filed Oct. 6, 1965.

DreamWhips

For Ladies' and Misses' Dresses, Jackets, and Skirts.
First use Jan. 15, 1962.

SN 229,876. Roosevelt Mills, Incorporated, Rockville, Conn. Filed Oct. 11, 1965.

STURBRIDGE VILLAGE

For Ladies' Clothing—Namely, Sweaters, Skirts, Blouses, and Slacks.
First use May 26, 1965, on sweaters.

SN 230,190. Piedmont Shirt Company, Greenville, S.C. Filed Oct. 14, 1965.

WINGS

Owner of Reg. Nos. 429,691, 777,087, and others.
For Women's, Girls', and Misses' Shirts, Blouses, Nightgowns, Pajamas, and Jackets.
First use Dec. 17, 1943.

SN 230,358. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Oct. 18, 1965.

SHALEEN

For Ladies' Hosiery.
First use Feb. 17, 1939.

SN 230,491. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

SILVER MEDAL

For Ski Boots.
First use July 10, 1963.

SN 230,497. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

GRENOBLE

For Ski Boots.
First use July 22, 1965.

SN 230,588. The United States Shoe Corporation, Cincinnati, Ohio. Filed Oct. 19, 1965.

Viva Americana

Owner of Reg. No. 402,157.
For Women's Shoes.
First use Oct. 8, 1965.

SN 230,620. The Electric Storage Battery Company, Philadelphia, Pa. Filed Oct. 20, 1965.

GEOTEC

For Suspensions for Safety Headgear.
First use Sept. 24, 1965.

SN 230,884. Perfection Frocks, Inc., New York, N.Y. Filed Oct. 21, 1965.

Snap 'n Go

For Dresses and Duster Dresses.
First use Sept. 23, 1965.

SN 230,989. Exquisite Form Industries, Inc., New York, N.Y. Filed Oct. 21, 1965.

THE AUTOMATIC WASHERS

For Brassieres and Girdles.
First use Sept. 30, 1965.

SN 231,143. Koratron Company, Inc., San Francisco, Calif. Filed Oct. 22, 1965.

NOXATOX

For Women's, Misses', and Children's Dresses, Halters, Outer Shorts, Outer Shirts, Blouses, Slacks, Pedal Pushers and Jackets, as Well as Men's, Students', and Boys' Pants, Outer Shorts, Outer Shirts, Blouses, Slacks and Jackets, as Well as Slacks and Jacket Combinations.
First use Sept. 14, 1965.

SN 231,161. Mattel, Inc., Hawthorne, Calif. Filed Oct. 22, 1965.

FLIPPER

For Slippers.
First use Sept. 28, 1965.

SN 234,674. Simplex Shoe Manufacturing Company, Inc., Milwaukee, Wis. Filed Dec. 15, 1965.

SIMPLEX

Owner of Reg. Nos. 731,203, 751,473, and others.
For Shoes for Children, Women, and Men.
First use April 1924.

SN 238,343. Chips 'N Twigs, Inc., Philadelphia, Pa. Filed Feb. 8, 1966.

ACADEMY

Owner of Reg. No. 411,049.
For Coats, Vests, and Trousers.
First use Jan. 7, 1946.

SN 238,469. The Valor Manufacturing Co., Inc., New Bedford, Mass. Filed Feb. 9, 1966.

PRIDE-PREST

For Slacks, Pedal-Pushers, Shorts, Skirts, Shirts, Blouses, Sweaters, Jackets, Coats, and Raincoats.
First use Dec. 9, 1965.

Class 40—Fancy Goods, Furnishings, and Notions

SN 215,860. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

Fuller

Owner of Reg. Nos. 143,340, 759,993, and others.
For Shoe Horns, Combs for Personal Use, Combs for Cleaning Brushes, and Comb and Brush Sets.
First use September 1931.

SN 230,832. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Oct. 21, 1965.

IGA

For Combs.
First use Oct. 26, 1964.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 199,334. Weyerhaeuser Company, Tacoma, Wash. Filed Aug. 5, 1964.

DENDRON

For Fabrics for Making Into All Types of Clothing, Into Decorator and Household Furnishings, Into Cotton Bales, and for Other Utility Uses.
First use July 3, 1964.

SN 207,245. Stacy Fabrics Corp., New York, N.Y. Filed Dec. 1, 1964.

underCurrent

For Woven Synthetic Fabric Used in Lining and Underlining in Men's, Women's, and Children's Garments.
First use Oct. 22, 1964.

SN 215,174. Califoam Corporation of America, Compton, Calif. Filed Mar. 29, 1965.

CALIFOAM

Owner of Reg. Nos. 716,850 and 723,222.
For Cushioning—Namely, Carpet Underlay.
First use Jan. 29, 1964.

SN 218,482. Rockingham Mills, Inc., Rockingham, N.C. Filed May 10, 1965.

ROCKINGHAM FABRICS

Exclusive use of the word "Fabrics" is disclaimed apart from the mark as shown.
For Fabrics in the Piece, Made From Either Natural or Synthetic Fibers, for Use in the Making of Slip Covers, Draperies, Bed Linen, Towels, Table Cloths, Furniture Covering, and the Like.
First use 1961.

SN 223,985. Frank A. Fedele, Sr., Rochester, N.Y. Filed July 22, 1965.

TAC-GRIP

For Treated Hand Towels Especially for Use by Bowlers, Golfers, Tennis Players, and Other Sportsmen.
First use July 2, 1965.

SN 224,689. ACSA—Applicazioni Chimiche S.p.A., Milan, Italy. Filed Aug. 2, 1965.

LEAFLAM

Priority claimed under Sec. 44(d) on Italian application filed Apr. 22, 1965; Reg. No. 170,506, dated June 30, 1965.
For Knitted, Netted and Textile Fabrics Composed of Synthetic and Natural Fibers.

SN 233,833. Scapa Dryers, Inc., Waycross, Ga. Filed Dec. 2, 1965.

SCAFLO

For Papermakers' Dryer-Felts—Namely, Bands of Woven Fabric Material Used in the Paper-Making Art.
First use Oct. 4, 1965.

Class 43—Thread and Yarn

SN 221,358. Deering Milliken, Inc., New York, N.Y. Filed June 17, 1965.

SPECTRELL

For Textile Yarns Made of Wool and Synthetic Fibers and Combinations Thereof.
First use on or about Mar. 18, 1963.

Class 44—Dental, Medical, and Surgical Appliances

SN 194,899. Mettler Electronics Corp., Pasadena, Calif. Filed June 4, 1964.

METTLER ELECTRONICS

For Ultrasonic Diathermy Equipment and Ultrasonic Cleaning Equipment Used for Cleansing Medical and Dental Tools.
First use Apr. 27, 1964; July 28, 1957, in a different Form.

SN 198,900. S–B Power Surgical Tools, Inc., Fort Worth, Tex. Filed July 30, 1964.

TURBOBIT

For Rotary Surgical Bone Cutting Instruments.
First use Nov. 19, 1962.

SN 208,169. Sea & Ski Corporation, Reno, Nev., assignee of Botany Industries, Inc., d.b.a. Sea & Ski Company, Reno, Nev. Filed Dec. 15, 1964.

GOLDEN SUN

Applicant disclaims exclusive right in the word "Sun" apart from the mark as shown.
For Lamps for Cosmetic and Health Applications.
First use Nov. 23, 1964.

SN 221,985. Baxter Laboratories, Inc., Morton Grove, Ill. Filed June 25, 1965.

PLEXITRAY

Owner of Reg. No. 786,092.
For Packaged Disposable Treatment Units for Use in Performing Common Medical Treatments, Each Unit of Which Contains Certain of the Following Pharmaceutical Preparations, Apparatus and Appliances: Tubing, Clamps, Forceps, Pads, Water-Proof Pads, Drapes, Gloves, Swabs, Cotton Balls, Sponges, Towels, Needles, Syringes, Syringe Protectors, Stopcocks, Manometers, Specimen Tubes, Bandages, Bacteriostatic Agents, Lubricating Jelly, Catheters, Waste Receptacles, Irrigation Containers, Graduated Drainage Trays, Graduated Receptacles, Antiseptic Towelettes, Anesthesia, Ampoules Containing Injections, and Trays.
First use Nov. 25, 1963.

SN 230,833. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Oct. 21, 1965.

IGA

For Cotton Tip Applicators.
First use Oct. 26, 1964.

SN 231,972. Air Reduction Company, Incorporated, New York, N.Y. Filed Nov. 2, 1965.

HOPE

For Hand-Operated Portable Emergency Resuscitator.
First use Aug. 30, 1965.

SN 232,174. S. S. White Company, Philadelphia, Pa. Filed Nov. 4, 1965.

MQ

For Dental Filling Material.
First use September 1965.

SN 233,174. Ethicon, Inc., Somerville, N.J. Filed Nov. 23, 1965.

PERMA-HAND

For Sutures.
First use Nov. 11, 1965.

SN 234,736. Dillon Manufacturing Company, Atlanta, Ga. Filed Dec. 16, 1965.



For Orthopedic Aids—Namely, Rib Splints, Arm Slings, Pelvic Belts, Hand Halters, and Clavicle Splints.
First use Sept. 1, 1964.

SN 238,905. Vernitron Corporation, d.b.a. Medical Products Division, Torrance, Calif. Filed Feb. 15, 1966.

STERI-SONIC 400

For Laboratory Equipment and Surgical Instrument Cleaner and Sterilizer.
First use Nov. 18, 1965.

Class 46—Foods and Ingredients of Foods

SN 230,834. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Oct. 21, 1965.

IGA

For Saccharin.
First use Oct. 26, 1964.

Class 50—Merchandise Not Otherwise Classified

SN 215,861. The Fuller Brush Company, East Hartford, Conn. Filed Apr. 6, 1965.

FULLER

Owner of Reg. Nos. 143,340, 759,993, and others.
For Bottle Caps.
First use December 1955.

SN 240,963. Shel-Lynn Art Creations, Los Angeles, Calif. Filed Mar. 14, 1966.

CHEERY CHUMS

For Decorative Wall Plaques.
First use Feb. 14, 1966.

SERVICE MARKS

Class 102 — Insurance and Financial

SN 204,163. Hearthstone Insurance Company of Massachusetts, Boston, Mass. Filed Oct. 16, 1964.

Hearthstone
Insurance Company
of Massachusetts

For Insurance Underwriting Services.
First use Dec. 22, 1949.

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Class 104 — Communication

SN 213,051. Rohn Systems, Inc., Peoria, Ill. Filed Mar. 1, 1965.

ROHN

For Construction, Installation, and Maintenance of Community Television Antennas and Related Equipment.
First use May 15, 1960.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

810,896. RALLY FARMS. Rally Farms. SN 208,061. Pub. 4–26–66. Filed 12–14–64.

810,897. WELLON. Nichols & Company, Inc. SN 214,688. Pub. 4–26–66. Filed 3–22–65.

810,898. FORTOPULP. The Chesapeake Corporation of Virginia. SN 233,850. Pub. 4–26–66. Filed 11–12–65.

Class 2 — Receptades

810,899. KIT KUP. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 202,628. Pub. 4–26–66. Filed 9–24–64.

810,900. JUNE PARANT AND DESIGN. Aktiebolaget Jönköpings Vacuumindustri. SN 204,219. Pub. 4–26–66. Filed 10–19–64.

810,901. COINETTES. Ticker and Treasure, Inc. SN 212,263. Pub. 4–26–66. Filed 2–17–65.

810,902. VEN-KUP. National Cup Company. SN 212,562. Pub. 4–26–66. Filed 2–23–65.

810,903. BROOK. Brunswick Corporation. MULTIPLE CLASS (Classes 2, 6, and 52). SN 213,286. Pub. 4–26–66. Filed 3–4–65.

810,904. PORTA-CHEST. Chris Edmisson, d.b.a. National Marketing Assn. SN 213,542. Pub. 4–26–66. Filed 3–8–65.

Class 4 — Abrasives and Polishing Materials

810,905. S-O-B SPRAY ON & BUFF. Churchill Chemical Company. SN 222,003. Pub. 4–26–66. Filed 6–25–65.

Class 5 — Adhesives

810,906. TITEBOND ETC. AND DESIGN. The Franklin Glue Company. SN 190,363. Pub. 11–30–65. Filed 4–6–64.

810,907. HIGGINS. Higgins Ink Co., Inc. SN 220,853. Pub. 4–26–66. Filed 6–10–65.

Class 6 — Chemicals and Chemical Compositions

810,903. (See Class 2 for this trademark.)

810,908. SAN-O-VAN. Monarch Chemicals Limited. SN 213,152. Pub. 4–26–66. Filed 3–2–65.

810,909. ARMOGARD. Armour and Company. SN 213,932. Pub. 4–26–66. Filed 3–12–65.

810,910. ELECTRO-BRITE. Electrochemicals, Inc. SN 215,057. Pub. 4–26–66. Filed 3–26–65.

810,911. SQUIRE APPLEGATE. Comark Corporation. SN 216,929. Pub. 4–26–66. Filed 4–20–65.

810,912. CALAVO (INSIDE C). Calavo Growers of California. SN 232,285. Pub. 4–26–66. Filed 11–8–65.

Class 7 — Cordage

810,913. VELSTRAP. American Velcro, Inc. MULTIPLE CLASS (Classes 7, 39, and 44). SN 209,978. Pub. 8–24–65. Filed 1–15–65.

Class 8 — Smokers' Articles, Not Including Tobacco Products

810,914. EBONY. S. M. Frank & Co., Inc. SN 202,453. Pub. 4–26–66. Filed 9–23–64.

810,915. CUSTOM GRAIN. S. M. Frank & Co., Inc. SN 202,454. Pub. 4–26–66. Filed 9–23–64.

810,916. MEDICO MEDALIST. S. M. Frank & Co., Inc. SN 202,577. Pub. 10–26–65. Filed 9–24–64.

Class 10 — Fertilizers

810,917. SHUR-GAIN. Canada Packers Limited. MULTIPLE CLASS (Classes 10 and 46). SN 232,641. Pub. 4–26–66. Filed 11–15–65.

Class 11 — Inks and Inking Materials

810,918. STIKFAST. Diagraph-Bradley Industries, Inc. SN 224,594. Pub. 4–26–66. Filed 7–30–65.

Class 12 — Construction Materials

810,919. AGRA. Plastic-Concrete Products, Inc. MULTIPLE CLASS (Classes 12 and 16). SN 156,434. Pub. 4–26–66. Filed 11–1–62.

810,920. WEYCOMB. Weyerhaeuser Company. SN 195,185. Pub. 4–26–66. Filed 6–8–64.

810,921. FLAKELINE. The Ceilcote Company, Inc. SN 202,062. Pub. 4–26–66. Filed 9–17–64.

810,922. CHECK IN CIRCLE (DESIGN). Ferro Corporation. MULTIPLE CLASS (Classes 12 and 23). SN 204,152. Pub. 4–26–66. Filed 10–16–64.

810,923. INDOMIA. Sviluppo Silicalcite S.p.A. SN 211,847. Pub. 4–26–66. Filed 2–11–65.

810,924. R.A.P. Mercury Millwork Corp. SN 213,032. Pub. 4–26–66. Filed 3–1–65.

810,925. ACE. Johns-Manville Corporation. SN 216,702. Pub. 4–26–66. Filed 4–16–65.

810,926. ROCKITE AND DESIGN. Hartline Products Co., Inc. SN 218,428. Pub. 1–25–66. Filed 5–10–65.

810,927. THERMIX. W. R. Bonsal Company. SN 219,316. Pub. 4–26–66. Filed 5–20–65.

810,928. FLAME CURB. Fibreboard Paper Products Corporation. SN 223,394. Pub. 4–26–66. Filed 7–15–65.

810,929. HILTONIA. Baldwin-Ehret-Hill, Inc. SN 225,713. Pub. 4–26–66. Filed 8–16–65.

810,930. CLARITONE. Baldwin-Ehret-Hill, Inc. SN 225,715. Pub. 4–26–66. Filed 8–16–65.

810,931. SAC AND DESIGN. American Metallurgical Products Co., Inc. SN 225,854. Pub. 4–26–66. Filed 8–17–65.

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810,932. NYTRALITE. New York Trap Rock Corporation. SN 227,321. Pub. 4-26-66. Filed 9-7-65.

810,933. SELBALITH. Selby, Battersby & Co. SN 227,340. Pub. 4-26-66. Filed 9-7-65.

810,934. BUTTON. Bustin Aluminum Products Corp. SN 231,383. Pub. 4-26-66. Filed 10-23-65.

810,935. SPACE TRUSS. Butler Manufacturing Company. SN 231,384. Pub. 4-26-66. Filed 10-23-65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

810,936. RIC AND DESIGN. Republic Industrial Corporation. SN 206,646. Pub. 4-26-66. Filed 11-20-64.

810,937. EVERLOCK AND DESIGN. Republic Industrial Corporation. SN 206,650. Pub. 4-26-66. Filed 11-20-64.

810,938. GIGI. Clinton Manufacturing Inc., assignee of Mel Appel and Martin Schnur. SN 211,335. Pub. 3-1-66. Filed 2-4-65.

810,939. DOCK KING. Lyn C. Hargraves. SN 222,371. Pub. 4-26-66. Filed 6-30-65.

810,940. WAFFLE DOG. H & K Industries, Inc. SN 225,761. Pub. 4-26-66. Filed 8-16-65.

810,941. B & W IRON. The Babcock & Wilcox Company. SN 227,993. Pub. 4-26-66. Filed 9-17-65.

Class 14—Metals and Metal Castings and Forgings

810,942. GRIES. Coats & Clark Inc. SN 222,343. Pub. 4-26-66. Filed 6-30-65.

Class 15—Oils and Greases

810,943. ATLAS. Atlas Supply Company. SN 226,400. Pub. 4-26-66. Filed 8-25-65.

810,944. AQUAMATIC UNIVERSAL. Molecular Products Inc. SN 227,378. Pub. 4-26-66. Filed 8-26-65.

Class 16—Protective and Decorative Coatings

810,919. (See Class 12 for this trademark.)

810,945. ALUMIDISE. Alumidise Pty. Limited. SN 204,341. Pub. 4-26-66. Filed 10-20-64.

810,946. COLORIN. Colorima Paint Company. SN 212,863. Pub. 4-26-66. Filed 2-26-65.

810,947. COLOR-TEX. Color-Tex Corporation. SN 214,329. Pub. 4-26-66. Filed 3-17-65.

Class 17—Tobacco Products

810,948. SENIOR SERVICE AND DESIGN. J. A. Patrelouex (Overseas) Limited. SN 212,445. Pub. 4-26-66. Filed 2-19-65.

810,949. PUNCHEON SELECTION. "21" Club Selected Items, Ltd. SN 212,922. Pub. 4-26-66. Filed 2-26-65.

810,950. WINESAP. R. J. Reynolds Tobacco Company. SN 215,895. Pub. 4-26-66. Filed 4-6-65.

810,951. PENN'S. Taylor Brothers, Inc. SN 224,661. Pub. 4-26-66. Filed 7-30-65.

810,952. PENN'S AND DESIGN. Taylor Brothers, Inc. SN 224,899. Pub. 4-26-66. Filed 8-3-65.

Class 18—Medicines and Pharmaceutical Preparations

810,953. BIOJAD. Dr. Schieffer Arzneimittel Ges.m.b.H. & Co., OHG. SN 201,016. Pub. 5-18-65. Filed 9-1-64.

810,954. KASAR AND DESIGN. Kasar Company. SN 205,591. Pub. 4-26-66. Filed 11-5-64.

810,955. ESIMIL. Ciba Corporation. SN 214,246. Pub. 9-28-65. Filed 3-16-65.

810,956. SULFOXYL. Stiefel Laboratories, Inc. SN 221,651. Pub. 4-26-66. Filed 6-21-65.

810,957. KEFLODIN. Eli Lilly and Company. SN 230,402. Pub. 4-26-66. Filed 10-18-65.

810,958. FUNGADERM. Merck & Co., Inc. SN 232,223. Pub. 4-26-66. Filed 11-5-65.

810,959. NOCEPT. American Home Products Corporation. SN 232,962. Pub. 4-26-66. Filed 11-19-65.

810,960. CONASCE. American Home Products Corporation. SN 232,963. Pub. 4-26-66. Filed 11-19-65.

810,961. THERABAL. Elmer E. Hall, d.b.a. Hall Drug Company. SN 233,100. Pub. 4-26-66. Filed 11-22-65.

Class 19—Vehicles

810,962. MORAK. Morak Brakes, Inc. MULTIPLE CLASS (Classes 19 and 35). SN 213,691. Pub. 4-26-66. Filed 3-9-65.

810,963. CAT-A-GATOR. Cat-A-Gator Corporation. SN 217,085. Pub. 4-26-66. Filed 4-22-65.

Class 20—Linoleum and Oiled Cloth

810,964. TEXWOOD. The Flintkote Company. SN 231,089. Pub. 4-26-66. Filed 10-22-65.

Class 21—Electrical Apparatus, Machines, and Supplies

810,965. MARK 75. Westinghouse Electric Corporation. SN 109,928. Pub. 12-12-61. Filed 12-8-60.

810,966. VIBROFLUX. Aktiebolaget Vibro-Verken. MULTIPLE CLASS (Classes 21 and 23). SN 133,856. Pub. 9-10-63. Filed 12-12-61.

810,967. DOULTON MULTICONE. Doulton & Co. Limited. SN 193,642. Pub. 4-26-66. Filed 5-18-64.

810,968. WELTRON. Womack Electronics, Inc. SN 196,324. Pub. 10-6-64. Filed 6-23-64.

810,969. CALIFCO AND DESIGN. California Trading Co., Ltd. SN 199,025. Pub. 4-26-66. Filed 8-3-64.

810,970. UNIVERSAL CHEF AND DESIGN. Waste King Corporation. SN 210,178. Pub. 4-26-66. Filed 1-18-65.

810,971. SUPER VAC. Super Vacuum Manufacturing Co., Inc. SN 215,288. Pub. 4-26-66. Filed 3-29-65.

810,972. JUNGLEBUOY. Litton Systems, Inc. SN 218,446. Pub. 4-26-66. Filed 5-10-65.

810,973. COLOR BRIGHT 85. Sylvania Electric Products Inc. SN 220,702. Pub. 4-26-66. Filed 6-8-65.

810,974. TUK-A-TENNA. JFD Electronics Corporation. SN 220,768. Pub. 4-26-66. Filed 6-9-65.

Class 22—Games, Toys, and Sporting Goods

810,975. ELITE. A. G. Spalding & Bros. Inc. SN 208,972. Pub. 7-6-65. Filed 12-28-64.

810,976. SQUIRE APPLEGATE. Comark Corporation. SN 218,965. Pub. 4-26-66. Filed 5-17-65.

810,977. D-R-R-RESS RIGHT! M. & S. Shillman. SN 223,037. Pub. 4-26-66. Filed 7-9-65.

810,978. KIDDOODLES. Mattel, Inc. SN 225,586. Pub. 4-26-66. Filed 8-12-65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

810,922. (See Class 12 for this trademark.)

810,966. (See Class 21 for this trademark.)

810,979. WJ WITHIN A CIRCLE. Wildman Jacquard Co. SN 135,075. Pub. 9-4-62. Filed 1-2-62.

810,980. TWIN-RAM. Le Maire Machine Tool Company. SN 190,939. Pub. 4-26-66. Filed 4-13-64.

810,981. GOULD ENGINE PARTS AND DESIGN. Gould-National Batteries, Inc. MULTIPLE CLASS (Classes 23 and 35). SN 193,546. Pub. 4-26-66. Filed 5-15-64.

810,982. TITAN. Guenther & Co. SN 195,662. Pub. 8-24-65. Filed 6-15-64.

810,983. DIDACTON. Emile Deletaille. SN 199,799. Pub. 4-26-66. Filed 8-13-64.

810,984. CHEMI-JECTOR. Scale Control, Inc. SN 203,690. Pub. 4-26-66. Filed 10-9-64.

810,985. PIERCE-ALL. Pierce-All Manufacturing Limited. SN 209,973. Pub. 4-26-66. Filed 11-27-64.

810,986. STOCKMAN-450. Iowa America Corporation. SN 212,778. Pub. 4-26-66. Filed 2-25-65.

810,987. OVERDRAIN. Koppers Company, Inc. SN 212,784. Pub. 4-26-66. Filed 2-25-65.

810,988. GOLD BOSS. Dirk Liepelt, d.b.a. Liepelt & Son. SN 217,357. Pub. 4-26-66. Filed 4-26-65.

810,989. PAPIVORE. Societe Civile de Recherches et d'Etudes Industrielles. SN 220,325. Pub. 4-26-66. Filed 6-3-65.

810,990. VERCIPOWER. The Cincinnati Milling Machine Co. SN 220,744. Pub. 4-26-66. Filed 6-9-65.

810,991. SULFACID. Lurgi Apparatebau G.m.b.H. SN 222,391. Pub. 4-26-66. Filed 6-30-65.

810,992. MEIER-LINE AND DESIGN. Sudmeier Engineering Corporation. SN 224,038. Pub. 4-26-66. Filed 7-22-65.

810,993. MARSTRESSED. General Motors Corporation. SN 224,306. Pub. 4-26-66. Filed 7-27-65.

810,994. SLYTEX. The W. W. Sly Manufacturing Co. SN 224,474. Pub. 4-26-66. Filed 7-28-65.

810,995. TECO. Townsend Engineering Company. SN 224,810. Pub. 4-26-66. Filed 8-2-65.

810,996. MINI-GRAPH. Weber Marking Systems, Inc. SN 225,087. Pub. 4-26-66. Filed 8-5-65.

810,997. GENTLE ROSE. Oneida Ltd. SN 225,196. Pub 4-26-66. Filed 8-6-65.

810,998. FIT. Fit Container AG. SN 225,303. Pub. 4-26-66. Filed 8-9-65.

810,999. B.R.I. Basic Incorporated. SN 225,919. Pub. 4-26-66. Filed 8-18-65.

811,000. FC AND DESIGN. The New York Air Brake Company. SN 225,991. Pub. 4-26-66. Filed 8-18-65.

811,001. EQUICURV. The Gleason Works. SN 226,050. Pub. 4-26-66. Filed 8-19-65.

811,002. LOCKWELL. Alexon-Pac Aktiebolag. SN 226,817. Pub. 4-26-66. Filed 8-31-65.

811,003. REBEL. Whipstock, Inc. SN 226,961. Pub. 4-26-66. Filed 9-1-65.

Class 24—Laundry Appliances and Machines

811,004. GEMLINE. Gem Products, Inc. SN 223,228. Pub. 4-26-66. Filed 7-13-65.

Class 26—Measuring and Scientific Appliances

811,005. U.S. SAFETY AND DESIGN. United States Safety Service Co. SN 110,497. Pub. 4-26-66. Filed 12-19-60.

811,006. FUJICA 35 AUTOMAGIC. Fuji Photo Film Co., Ltd. SN 151,309. Pub. 4-26-66. Filed 8-16-62.

811,007. SAPHIRA AND DESIGN. Saphira Creations, Inc. SN 204,511. Pub. 4-26-66. Filed 10-21-64.

811,008. FIBRE-METAL. The Fibre-Metal Products Company. MULTIPLE CLASS (Classes 26, 39, and 50). SN 222,266. Pub. 4-26-66. Filed 6-29-65.

Class 27—Horological Instruments

811,009. ASTROSHOC. Benrus Watch Company, Inc. SN 227,747. Pub. 4-26-66. Filed 9-14-65.

Class 28—Jewelry and Precious-Metal Ware

811,010. GARDEN OF EDEN. C. F. Mueller Co. SN 227,432. Pub. 4-26-66. Filed 9-8-65.

Class 29—Brooms, Brushes, and Dusters

811,011. L.A. TUMBLER AND DESIGN. Los Angeles Brush Mfg. Corp. SN 219,590. Pub. 4-26-66. Filed 5-24-65.

811,012. PUPPET PUFFS. Acme Cotton Products Co., Inc. SN 227,737. Pub. 4-26-66. Filed 9-14-65.

Class 30—Crockery, Earthenware, and Porcelain

811,013. NOVUM 65. Paul A. Straub & Company, Inc. SN 229,691. Pub. 4-26-66. Filed 10-8-65.

Class 31—Filters and Refrigerators

811,014. ELBAIR. Edward L. Bateman Limited. SN 211,618. Pub. 4-26-66. Filed 2-9-65.

811,015. MISCELLANEOUS DESIGN. L. F. Grammes & Sons, Incorporated. SN 215,071. Pub. 4-26-66. Filed 3-26-65.

811,016. D AND DESIGN. Walker Manufacturing Company. SN 216,640. Pub. 4-26-66. Filed 4-15-65.

811,017. SWIRL-CLEAN. Sylvan Pools, Inc. SN 218,149. Pub. 4-26-66. Filed 5-5-65.

811,018. MONO-FERM. Union Tank Car Company. SN 221,864. Pub. 4-26-66. Filed 6-23-65.

811,019. VIDEOVOX. Rogerio Azcarraga Madero. SN 225,432. Pub. 4-26-66. Filed 8-10-65.

811,020. FISH (DESIGN). Eureka Products Company, Inc. SN 226,135. Pub. 4-26-66. Filed 8-20-65.

811,021. McCRAY MEATWALL AND DESIGN. McCray Refrigerator Company, Inc. SN 227,307. Pub. 4–26–66. Filed 9–7–65.

811,022. McCRAY PRODUCEWALL AND DESIGN. McCray Refrigerator Company, Inc. SN 227,310. Pub. 4–26–66. Filed 9–7–65.

Class 32 — Furniture and Upholstery

811,023. GRENADIER. Brunswick Corporation. MULTIPLE CLASS (Classes 32 and 44). SN 213,282. Pub. 4–26–66. Filed 3–4–65.

811,024. CARACEL. Rexall Drug and Chemical Company, d.b.a. Marblecraft Co. SN 218,694. Pub. 4–26–66. Filed 5–12–65.

Class 34 — Heating, Lighting, and Ventilating Apparatus

811,025. AEROJET-GENERAL G. Aerojet-General Corporation. SN 189,844. Pub. 9–22–64. Filed 3–30–64.

811,026. STORED ARC. Gregory Industries, Inc. SN 198,350. Pub. 4–26–66. Filed 7–22–64.

811,027. HUMIDIVECTOR. Portage Engineering Co. SN 202,303. Pub. 4–26–66. Filed 9–21–64.

811,028. REGAL AND DESIGN. Midland-Ross Corporation. SN 206,737. Pub. 4–26–66. Filed 11–23–64.

811,029. ATOM-JET LIMITED THE BEST JET-ATOM-JET ETC. AND DESIGN. Atom-Jet Humidifiers Limited. SN 218,526. Pub. 4–26–66. Filed 5–11–65.

811,030. N-S. Suntemp Industries, Inc. SN 218,706. Pub. 4–26–66. Filed 5–12–65.

811,031. MOD-U-TEMP. Continental Manufacturing Company. SN 220,358. Pub. 4–26–66. Filed 6–4–65.

811,032. MIRACLE. Embassay Industries, Inc. SN 220,647. Pub. 4–26–66. Filed 6–8–65.

811,033. SPENCER AVCO AND DESIGN. Avco Corporation. SN 222,542. Pub. 4–26–66. Filed 7–2–65.

811,034. SEALCOR. All-State Welding Alloys Co., Inc. SN 223,060. Pub. 4–26–66. Filed 7–12–65.

811,035. TRI-WELDER. Ladish Co. SN 227,041. Pub. 4–26–66. Filed 9–2–65.

811,036. AIR-A-PLANE. Air-A-Plane Corporation. SN 227,214. Pub. 4–26–66. Filed 9–7–65.

811,037. NICUAR. Arcos Corporation. SN 227,641. Pub. 4–26–66. Filed 9–13–65.

811,038. MONAR. Arcos Corporation. SN 227,642. Pub. 4–26–66. Filed 9–13–65.

811,039. LAU AND DESIGN. The Lau Blower Company. SN 227,846. Pub. 4–26–66. Filed 9–15–65.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

810,962. (See Class 19 for this trademark.)

810,981. (See Class 23 for this trademark.)

Class 36 — Musical Instruments and Supplies

811,040. VOX BOX. Vox Productions, Inc. SN 209,970. Pub. 4–26–66. Filed 1–14–65.

811,041. EKO AND DESIGN. Lo Duca Bros. Musical Instruments, Inc. SN 215,099. Pub. 4–26–66. Filed 3–26–65.

Class 37 — Paper and Stationery

811,042. TUF-TAB. Index Sales Corporation. SN 185,893. Pub. 3–23–65. Filed 2–3–64.

811,043. WEYCOMB. Weyerhaeuser Company. SN 195,182. Pub. 4–26–66. Filed 6–8–64.

811,044. GLOSSETTE. Hammermill Paper Company. SN 203,706. Pub. 4–26–66. Filed 10–9–64.

811,045. K MART AND DESIGN. S. S. Kresge Company. SN 215,087. Pub. 4–26–66. Filed 3–26–65.

811,046. HIGGINS. Higgins Ink Co., Inc. SN 218,553. Pub. 4–26–66. Filed 5–11–65.

811,047. SOFT GENTLE AND DESIGN OF BOY. Fort Howard Paper Company. SN 222,267. Pub. 4–26–66. Filed 6–29–65.

811,048. OLINKOTE. Olin Mathieson Chemical Corporation. SN 222,289. Pub. 4–26–66. Filed 6–29–65.

811,049. EMBASSY. Ritepoint Corporation. SN 222,417. Pub. 4–26–66. Filed 6–30–65.

811,050. WALCOTE. Waldorf Paper Products Company. SN 222,438. Pub. 4–26–66. Filed 6–30–65.

811,051. SKETCHWORTHY. Lakeside Central Company. SN 222,717. Pub. 4–26–66. Filed 7–6–65.

811,052. SKETCHRITE. Lakeside Central Company. SN 222,719. Pub. 4–26–66. Filed 7–6–65.

811,053. POLLY STAR AND DESIGN. St. Regis Paper Company. SN 222,987. Pub. 4–26–66. Filed 7–8–65.

811,054. MINI-GRAPH. Weber Marking Systems, Inc. SN 225,088. Pub. 4–26–66. Filed 8–5–65.

811,055. FINCH SEQUIN OPAQUE. Finch, Pruyn and Company, Incorporated. SN 227,137. Pub. 4–26–66. Filed 9–3–65.

Class 39 — Clothing

810,913. (See Class 7 for this trademark.)

811,008. (See Class 26 for this trademark.)

811,056. FOR CHUBBIES BY ARLENE AIRESS AND DESIGN. Jack L. Honig, Inc. SN 194,303. Pub. 4–26–66. Filed 5–26–64.

811,057. TEX STYLES. Tex-Son, Inc. SN 199,326. Pub. 4–26–66. Filed 8–5–64.

811,058. FIRST TEAM. Bristol Manufacturing Corporation. SN 200,545. Pub. 4–26–66. Filed 8–25–64.

811,059. THE RAND SHOE. International Shoe Company. SN 201,945. Pub. 4–26–66. Filed 9–15–64.

811,060. CHILPRUFE. Chilprufe Limited. SN 214,078. Pub. 4–26–66. Filed 3–15–65.

811,061. HURRICANE. United States Rubber Company. SN 216,369. Pub. 4–26–66. Filed 4–12–65.

811,062. BEEFSTEAK. Melville Shoe Corporation. SN 221,510. Pub. 4–26–66. Filed 6–18–65.

811,063. KNITIQUE. Flair Originals, Inc. SN 221,814. Pub. 4–26–66. Filed 6–23–65.

811,064. FERANTINO. Seymour Shoes, Inc. SN 223,167. Pub. 4–26–66. Filed 7–12–65.

811,065. SADDLE BUSTER. Globe Superior, Inc. SN 223,403. Pub. 4–26–66. Filed 7–15–65.

811,066. DARNETTE. Buster Brown Textiles, Inc. SN 223,635. Pub. 4–26–66. Filed 7–19–65.

811,067. HECOSPAN. Heberlein & Co. AG. SN 223,669. Pub. 4–26–66. Filed 7–19–65.

811,068. LADDYROGUE. Genesco, Inc. SN 225,954. Pub. 4–26–66. Filed 8–18–65.

811,069. GREENE HORNET AND DESIGN. Elliott Glove Co., Inc. SN 227,403. Pub. 4–26–66. Filed 9–8–65.

811,070. LADYROGUE. Genesco, Inc. SN 231,757. Pub. 4–26–66. Filed 10–28–65.

Class 40 — Fancy Goods, Furnishings, and Notions

811,071. KANEKALON. Kanegafuchi Chemical Industry Company, Limited. SN 217,742. Pub. 4–26–66. Filed 4–30–65.

811,072. BOUTIQUE WIGS AND DESIGN. Import-Export Corporation. SN 225,567. Pub. 4–26–66. Filed 8–12–65.

811,073. FASHION MODE. Pentapco, Inc. SN 229,281. Pub. 4–26–66. Filed 10–4–65.

811,074. MILADY. Henry Pollak, Inc. SN 230,692. Pub. 4–26–66. Filed 10–20–65.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

811,075. AVANTI. Sweetwater Rug Corporation. SN 158,485. Pub. 3–10–64. Filed 12–4–62.

811,076. FABRIMETRICS. Fabrimetrics, Inc. SN 215,062. Pub. 4–26–66. Filed 3–26–65.

811,077. MR. POCKET. Deering Milliken, Inc. SN 215,952. Pub. 4–26–66. Filed 4–7–65.

811,078. CRISS CROSS. Deering Milliken, Inc. SN 216,147. Pub. 4–26–66. Filed 4–9–65.

811,079. STEREO-PLUSH. B & S Plastic Art, Inc. SN 223,625. Pub. 4–26–66. Filed 7–19–65.

811,080. HORCOTHANE. Hodgman Rubber Company. SN 224,744. Pub. 4–26–66. Filed 8–2–65.

Class 43 — Thread and Yarn

811,081. THULE GARN. Brunswick Worsted Mills, Inc. SN 201,569. Pub. 4–26–66. Filed 9–10–64.

Class 44 — Dental, Medical, and Surgical Appliances

810,913. (See Class 7 for this trademark.)

811,023. (See Class 32 for this trademark.)

811,082. COMPACT II. Globe Safety Products, Inc. SN 133,871. Pub. 4–26–66. Filed 12–12–61.

811,083. FINPAK. Ciba Corporation. SN 214,245. Pub. 4–26–66. Filed 3–16–65.

811,084. MARK 4. Bird Corporation. SN 220,902. Pub. 4–26–66. Filed 6–11–65.

811,085. MARK 7. Bird Corporation. SN 220,903. Pub. 4–26–66. Filed 6–11–65.

811,086. MARK 8. Bird Corporation. SN 220,904. Pub. 4–26–66. Filed 6–11–65.

811,087. PRESUR-PAK. Scott Aviation Corporation. SN 222,623. Pub. 4–26–66. Filed 7–2–65.

811,088. WIDEX CONSORT AND DESIGN. Widex Hearing Aid Co. Inc. SN 223,192. Pub. 4–26–66. Filed 7–12–65.

811,089. VISIDONT. J. F. Jelenko & Co., Inc. SN 227,674. Pub. 4–26–66. Filed 9–13–65.

811,090. TRANS-AUDIO. Trans-Audio Company, Inc. SN 230,307. Pub. 4–26–66. Filed 10–15–65.

811,091. MICROMETIC. Burron Medical Products, Inc. SN 230,770. Pub. 4–26–66. Filed 10–21–65.

Class 46 — Foods and Ingredients of Foods

811,092. MA MA MIA! Albert A. Boos, d.b.a. Fruit Basket Packing Co. SN 198,530. Pub. 4–19–66. Filed 7–27–64.

811,093. KING GOLD. Osceola Fruit Distributors. SN 209,030. Pub. 4–26–66. Filed 12–29–64.

811,094. MICROSEAL. Dragoco, Inc. SN 210,282. Pub. 4–26–66. Filed 1–21–65.

811,095. CLIP. Pez-Haas, Inc. SN 212,808. Pub. 4–26–66. Filed 2–25–65.

811,096. SQUIRE APPLEGATE. Comark Corporation. SN 216,932. Pub. 4–26–66. Filed 4–20–65.

811,097. DIAMOND COAST AND DESIGN. Inter-Coastal Products, Inc. SN 218,297. Pub. 4–26–66. Filed 5–7–65.

811,098. BERTOLLI AND DESIGN. Francesco Bertolli, S.p.A. SN 224,735. Pub. 4–26–66. Filed 8–2–65.

811,099. BACO'S. General Mills, Inc. SN 227,275. Pub. 4–12–66. Filed 9–7–65.

Class 48 — Malt Beverages and Liquors

811,100. GOLD LABEL. The Walter Brewing Company. SN 178,384. CONCURRENT USE. Pub. 8–3–65. Filed 10–4–63.

Class 49 — Distilled Alcoholic Liquors

811,101. TAMARA. Flagstaff Liquor Co. SN 211,721. Pub. 4–26–66. Filed 2–10–65.

Class 50 — Merchandise Not Otherwise Classified

811,008. (See Class 26 for this trademark.)

811,102. ALVA-CLASSROOM-KIT. Alva Museum Replicas, Inc. SN 230,022. Pub. 4–26–66. Filed 10–13–65.

Class 51 — Cosmetics and Toilet Preparations

811,103. LIFE-LINE. Samuel Bonat & Bro., Inc. SN 165,023. Pub. 12–22–64. Filed 3–20–63.

Class 52 — Detergents and Soaps

810,903. (See Class 2 for this trademark.)

811,104. MAGIC WATER. Ralph Norman Elsmo, d.b.a. Ralph Elsmo Promotions. SN 225,122. Pub. 4–26–66. Filed 8–6–65.

Service Marks

Class 100 — Miscellaneous

811,105. FLYING CARPET. Flying Carpet Motor Inn, Inc. SN 145,069. Pub. 3–23–65. Filed 5–21–62.

811,106. OLD ANGUS AND DESIGN. Raymond F. Schweitzer, d.b.a. Old Angus Beef House Restaurant. SN 202,386. Pub. 4–26–66. Filed 9–22–64.

811,107. SHAKEY'S PIZZA PARLOR AND YE PUBLIC HOUSE. Shakey's, Inc. SN 219,620. Pub. 4–26–66. Filed 5–24–65.

Class 101 — Advertising and Business

811,108. ACTION. Reactions, Inc. SN 218,320. Pub. 4–26–66. Filed 5–7–65.

811,109. ADD-A-CLUB. Add-A-Club, Inc. SN 224,055. Pub. 4–26–66. Filed 7–23–65.

811,110. A & H AND DESIGN. Howard C. Mundt, d.b.a. A & H Personnel Services. SN 224,439. Pub. 4–26–66. Filed 7–28–65.

Class 103 — Construction and Repair

811,111. TORCH AND OVAL LINED FOR RED AND BLUE (DESIGN). The American Oil Company. SN 190,479. Pub. 4–19–66. Filed 4–7–64.

811,112. TORCH AND OVAL (DESIGN). The American Oil Company. SN 190,480. Pub. 4–19–66. Filed 4–7–64.

811,113. ODORCON. Handi-Clean Products, Inc. SN 214,113. Pub. 4–26–66. Filed 3–15–65.

811,114. PREHOP. Mid-Continent Equipment Distributors, Inc. SN 220,953. Pub. 4–26–66. Filed 6–11–65.

811,115. WHISTLE SERVICE. Ketrick & Son, Inc. SN 222,713. Pub. 4–26–66. Filed 7–6–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

811,160. Brondes Motor Sales, Inc., Toledo, Ohio. SN 193,324. Filed P.R. 5–13–64; Am. S.R. 5–13–66.

TRY US—YOU'LL LIKE US

Class 103—Construction and Repair

For Repairing of Automobiles and Trucks.

Class 105—Transportation and Storage

First use in or about April 1961.

For Leasing of Automobiles and Trucks.

SECTION 2

Class 1 — Raw or Partly Prepared Materials

811,116. Roll Dippers, Inc., Maumee, Ohio. SN 199,225. Filed P.R. 8–4–64; Am. S.R. 5–11–66.

FLOWER ART FOAM

For Powder Which When Mixed With Water Forms a Hardened Foam Which Can Be Cast in Suitable Base Forms for Flower Arrangements.
First use July 20, 1964.

811,117. Foote Mineral Co., Exton, Pa. SN 205,397. Filed P.R. 11–3–64; Am. S.R. 5–10–66.

THERMAL GRAIN

For Granular Ceramic Material Especially Adapted for Use in Making Low Expansion Ceramic Bodies or as a Filler for Plastics.
First use Apr. 12, 1963.

Class 2 — Receptacles

811,118. Consolidated Packaging Corporation, Monroe, Mich., by change of name from Consolidated Paper Company, Monroe, Mich. SN 190,064. Filed P.R. 4–1–64; Am. S.R. 5–23–66.

Sure-Close

For Paperboard Cartons—Namely, Egg Cartons.
First use on or about Feb. 26, 1964.

Class 12 — Construction Materials

811,119. PRW Corporation, d.b.a. Watson Fiberglass Co., Gladwyne, Pa. SN 214,902. Filed P.R. 3–24–65; Am. S.R. 5–26–66.

POLYPATCH

For Pre-Impregnated Fibrous Glass Structural Repair Kit.
First use Sept. 30, 1964.

811,120. Limestone Products Corporation of America, Newton, N.J. SN 229,827. Filed P.R. 10–11–65; Am. S.R. 5–16–66.

CRYSTAL SPAR

For Crushed, Screened Calcitic Limestone for Use in the Construction of Walks and Driveways, Patio Surfaces, Various Applications in Landscape Decoration, and as an Aggregate for Poured Concrete and Cast Stone.
First use 1925.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

811,121. Ajax Hardware Corporation, City of Industry, Calif. SN 200,809. Filed P.R. 8–27–64; Am. S.R. 5–9–66.

FILIGREE

For Cabinet and Drawer Knobs and Pulls.
First use Aug. 15, 1962.

Class 15 — Oils and Greases

811,122. Yale Engineering Company, Chicago, Ill. SN 204,866. Filed P.R. 10–26–64; Am. S.R. 5–18–66.

START OIL

For Automotive Lubricating Oil.
First use Oct. 8, 1964.

811,123. The Fuller Brush Company, East Hartford, Conn. SN 215,854. Filed P.R. 4–6–65; Am. S.R. 5–18–66.

Fuller

For Lubricants, Particularly Penetrating, Lubricating, and Corrosion-Resisting Oils.
First use on or about June 16, 1964.

Class 16 — Protective and Decorative Coatings

811,124. Pacific Coast Company, d.b.a. Westley Industries, Cleveland, Ohio. SN 211,004. Filed P.R. 12–2–64; Am. S.R. 5–16–66.

VINYL COLOR

For Spray Coating To Renew and Recolor Vinyl Plastic, Synthetic Fabrics and Rubber Products.
First use Sept. 1, 1964.

Class 17 — Tobacco Products

811,125. Helme Products, Inc., New York, N.Y. SN 221,267. Filed P.R. 6–16–65; Am. S.R. 5–11–66.

LADY HELME

For Snuff.
First use Dec. 3, 1964.

811,126. Helme Products, Inc., New York, N.Y. SN 221,268. Filed P.R. 6–16–65; Am. S.R. 5–11–66.

LORD HELME

For Snuff.
First use Dec. 3, 1964.

Class 19 — Vehicles

811,127. Allen Electric and Equipment Company, Kalamazoo, Mich., assignee of Berkson Products, Inc., Chicago, Ill. SN 196,010. Filed P.R. 6–19–64; Am. S.R. 5–13–66.

SEAL-TITE

For Locking Gas Cap.
First use Jan. 1, 1964.

Class 21 — Electrical Apparatus, Machines, and Supplies

811,128. General Lamp Co., Inc., Inwood, N.Y. SN 190,916. Filed P.R. 4–13–64; Am. S.R. 3–21–66.

REFLECT A LAMP

For Incandescent Lamp With Attached Reflector for Household and Commercial Lighting Fixtures.
First use about March 1963.

811,129. Woodward-Schumacher Electric Corporation, Chicago, Ill. SN 210,831. Filed P.R. 1–27–65; Am. S.R. 5–17–66.

HY CHARGE

For Storage Battery Chargers.
First use on or about June 7, 1963.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

811,130. Vogel Tool & Die Corporation, Stone Park, Ill. SN 222,636. Filed P.R. 7–2–65; Am. S.R. 4–26–66.

VOGEL

For Apparatus for Punching, Piercing, Slotting, Cutting, and Shaping Metal Parts.
First use Dec. 13, 1962.

811,131. Waycrosse, Inc., Minneapolis, Minn. SN 232,879. Filed P.R. 11–17–65; Am. S.R. 2–23–66.

WILLMAR

For Vehicle Mounted Fertilizer Spreaders and Fertilizer Hauling Units Therefor.
First use on or about July 1, 1963.

811,132. Waycrosse, Inc., Minneapolis, Minn. SN 232,880. Filed P.R. 11–17–65; Am. S.R. 2–23–66.

Willmar.

For Vehicle Mounted Fertilizer Spreaders and Fertilizer Hauling Units Therefor.
First use on or about July 1, 1963.

Class 26 — Measuring and Scientific Appliances

811,133. Exactel Instrument Company, Mountain View, Calif. SN 188,347. Filed P.R. 3–10–64; Am. S.R. 5–2–66.

SERVOBAROMETER

For Servomechanical-Following Type Barometers and the Like.
First use on or about June 1, 1958.

811,134. Exactel Instrument Company, Mountain View, Calif. SN 188,348. Filed P.R. 3–10–64; Am. S.R. 5–2–66.

SERVOBLENDER

For Device for Blending Liquids To Maintain Constant Density.
First use on or about July 1, 1959.

811,135. John Zemansky, d.b.a. Rite-Fit, Frackville, Pa. SN 228,285. Filed P.R. 9–21–65; Am. S.R. 12–1–65.



For Eyeglass Grips.
First use on or about May 1, 1964.

Class 28 — Jewelry and Precious-Metal Ware

811,136. Textron Inc., Providence, R.I. SN 220,706. Filed P.R. 6–8–65; Am. S.R. 5–19–66.

GOLDEN LINKS

For Expansion Bracelets Including Watch Bracelets.
First use May 17, 1965.

Class 32 — Furniture and Upholstery

811,137. National Furniture Manufacturing Co., Inc., Evansville, Ind. SN 160,197. Filed P.R. 1–4–63; Am. S.R. 5–18–66.

"Authentic Salem" COLLECTION

For Upholstered Furniture.
First use September 1961.

811,138. Clopay Corporation, Cincinnati, Ohio. SN 217,092. Filed 4–22–65.

BLOCK-LITE

For Window Shades.
First use January 1962.

Class 36 — Musical Instruments and Supplies

811,139. W. W. Kimball Company, Jasper, Ind. SN 214,878. Filed P.R. 3–24–65; Am. S.R. 3–29–66.

WHITMORE

For Pianos.
First use Mar. 9, 1965.

Class 37 — Paper and Stationery

811,140. E. Ruth Marler, Greenwich, Conn. SN 194,631. Filed P.R. 6–1–64; Am. S.R. 5–16–66.

PHOTONOTE

For Notepaper and Cards.
First use May 2, 1964.

811,141. E. Errett Smith Inc., New York, N.Y. SN 208,702, Filed P.R. 12–22–64; Am. S.R. 5–12–66.

FOLD 'N SEAL

For Envelopes and Stationery.
First use Nov. 24, 1964.

Class 38 — Prints and Publications

811,142. Gellert-Wolfman Publishing Corp., New York, N.Y. SN 209,009. Filed P.R. 12–31–64; Am. S.R. 4–28–66.

Training
IN BUSINESS AND INDUSTRY

For Magazine.
First use during the month of June 1964.

Class 39 — Clothing

811,143. Brae-Burn Hat Co., Inc., New York, N.Y. SN 184,028. Filed P.R. 1–6–64; Am. S.R. 5–20–66.

Youth-"FULL"

For Ladies' Hats.
First use Dec. 23, 1963.

811,144. Glen Oak Sales, Inc., New York, N.Y. SN 192,390. Filed P.R. 4–30–64; Am. S.R. 5–10–66.

REDI-CUFF

For Men's Slacks.
First use Jan. 15, 1964.

811,145. Wright Manufacturing Company, Toccoa, Ga. SN 197,929. Filed P.R. 7–15–64; Am. S.R. 4–25–66.

Ban-press

For Men's Slacks.
First use July 9, 1964.

811,146. Penn-Carol Hosiery Mills Inc., Glenside, Pa. SN 201,962. Filed P.R. 9–15–64; Am. S.R. 5–13–66.



The drawing is lined for red, green, and yellow.
For Hosiery.
First use Sept. 15, 1961.

811,147. Camptown Togs, Inc., Clanton, Ala. SN 209,911. Filed P.R. 1–14–65; Am. S.R. 4–27–66.

NICE 'N NEAT

For Infants' and Children's Knit Shirts and Pants.
First use Nov. 19, 1963.

811,148. Exquisite Form Industries, Inc., New York, N.Y. SN 216,400. Filed P.R. 4–13–65; Am. S.R. 5–17–66.

LIGHT AND LOVELY

For Brassieres.
First use Apr. 1, 1965.

811,149. Dublin Sportswear, Inc., Dublin, Tex. SN 219,330. Filed P.R. 5–20–65; Am. S.R. 4–25–66.

ULTRA-Z PREST

For Trousers and Shirts for Men.
First use Apr. 19, 1965.

811,150. McGregor-Doniger Inc., New York, N.Y. SN 220,009. Filed 5–28–65.

EIRELIN

For Men's Jackets, Shorts, and Shirts.
First use Feb. 11, 1964.

811,151. Barrow Manufacturing Company, Winder, Ga. SN 240,243. Filed 3–7–66.

Prest-4-Life

For Permanent Press Pants for Men and Boys.
First use Oct. 22, 1964.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

811,152. Palmer Distributors, Inc., Detroit, Mich. SN 216,866. Filed P.R. 4–19–65; Am. S.R. 5–13–66.

NU-KLOTH

For Dish Cloths.
First use Mar. 1, 1965.

Class 44 — Dental, Medical, and Surgical Appliances

811,153. Sterilon Corporation, Buffalo, N.Y. SN 155,849. Filed P.R. 10–24–62; Am. S.R. 5–10–66.



For Enema Bags, Bags for Medical Use Including Feeding Bags, Douche Bags, and the Like.
First use on or about Oct. 5, 1962.

Class 46 — Foods and Ingredients of Foods

811,154. **Bridgford** Foods Corporation, Anaheim, Calif. SN 210,188. Filed P.R. 1–19–65; Am. S.R. 3–9–66.

READY-DOUGH

For Bakery Goods—Namely, Frozen Prepared Bread Dough.
First use Aug. 31, 1964.

811,155. Diamond Fruit Growers, Inc., Hood River, Oreg. SN 212,294. Filed P.R. 2–18–65; Am. S.R. 3–7–66.

CUBELET

For Canned Apples.
First use Oct. 12, 1964.

811,156. La Mantia-Cullum-Collier & Co., Inc., Crystal City, Tex. SN 216,840. Filed P.R. 4–19–65; Am. S.R. 4–27–66.

Sugar Sweet

For Cabbage, Onions, Carrots, Cantaloupes, and Watermelons.
First use Nov. 15, 1960.

811,157. Nugget Foods, Inc., Stockton, Calif., by change of name from Frank M. Wilson Company, Inc., d.b.a. Frank M. Wilson Company, Frank M. Wilson Co., Inc., and Frank M. Wilson Co., Stockton, Calif. SN 226,874. Filed P.R. 8–31–65; Am. S.R. 5–2–66.

PICK O'THE GARDEN

For Tomato Puree; Chili Sauce; Canned Fruit Cocktail; Canned Fruit and Vegetables.
First use at least as early as October 1949.

811,158. Nugget Foods, Inc., Stockton, Calif., by change of name from Frank M. Wilson Company, Inc., d.b.a. Frank M. Wilson Company, Frank M. Wilson Co., Inc., and Frank M. Wilson Co., Stockton, Calif. SN 226,875. Filed P.R. 8–31–65; Am. S.R. 5–2–66.

PICK O'THE ORCHARD

For Canned Fruit; Canned Vegetables; Tomato Catsup.
First use at least as early as the year 1920.

Class 51 — Cosmetics and Toilet Preparations

811,159. Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. SN 229,478. Filed P.R. 10–7–65; Am. S.R. 5–6–66.



For Face Cream and Body Cream.
First use Jan. 10, 1961.

Service Marks

Class 103 — Construction and Repair

811,160. See Section 1 (Combined Certificate).

Class 105 — Transportation and Storage

811,160. See Section 1 (Combined Certificate).

TRADEMARK REGISTRATIONS RENEWED

28,866. A AND EAGLE AND STAR AND DESIGN. Cl. 48. 9–8–1896.
50,751. BENGAL. Cl. 42. 3–27–06.
50,874. CINCO AND DESIGN. Cl. 17. 4–3–06.
51,459. WEBER. Cl. 36. 4–17–06.
52,654. MALT-NUTRINE. Cl. 48. 5–15–06.
53,519. MAGNOLIA ANTIFRICTION METAL AND DESIGN. Cl. 14. 6–5–06.
53,908. SCOTCH FIGURE (DESIGN). Cl. 46. 6–12–06.
53,910. SCOTCH. Cl. 46. 6–12–06.
53,941. SUFFOLK. Cl. 42. 6–12–06.
54,155. BUCKEYE. Cl. 46. 6–19–06.
54,296. CROYDON. Cl. 42. 6–26–06.
54,415. IVORY. Cl. 52. 6–26–06.
54,541. QUAKER AND DESIGN. Cl. 46. 6–26–06.
54,550. AMAZON. Cl. 35. 6–26–06.
54,568. QUAKER FIGURE (DESIGN). Cl. 46. 6–26–06.
54,771. SATINE. Cl. 52. 7–31–06.
54,846. ATLAS. Cl. 33. 7–31–06.
55,457. SPLENDID. Cl. 52. 8–14–06.
55,478. FELS-NAPTHA. Cl. 52. 8–14–06.
55,842. ACME QUALITY AND DESIGN. Cl. 16. 8–21–06.
56,563. ARGUTO. Cl. 23. 10–9–06.
56,921. KING C GILLETTE AND DESIGN. Cl. 23. 10–23–06.
57,005. SECURITY. Cl. 35. 10–30–06.
209,218. "GOODS OF THE WOODS." Cl. 12. 2–16–26.
210,233. FOLDTITE MAILING BOX AND DESIGN. Cl. 2. 3–9–26.
211,501. RED STAR (DESIGN). Cl. 51. 4–13–26.
212,596. HI-LO. Cl. 46. 5–11–26.
212,811. BATH JOY. Cl. 51. 5–11–26.
212,878. ENO EFFERVESCENT SALT AND DESIGN. Cl. 18. 5–18–26.
213,093. GERMA-MEDICA. Cl. 52. 5–18–26.
213,099. EXCLUSIVE. Cl. 46. 5–18–26.
213,257. EMPIRE AND DESIGN. Cl. 33. 5–25–26.
213,594. ALBA AND DESIGN. Cl. 33. 6–1–26.
213,665. TURN STYLE AND DESIGN. Cl. 39. 6–1–26.
213,971. KAYO. Cl. 45. 6–8–26.
214,076. SPIC AND SPAN. Cl. 52. 6–15–26.
214,115. CREAM SUDS. Cl. 52. 6–15–26.
214,469. DALEN PORTLAND CEMENT BREVIK NORWAY AND DESIGN. Cl. 12. 6–22–26.
214,474. ROYTYPE. Cl. 11. 6–22–26.
215,099. RISQUE. Cl. 51. 7–13–26.
215,424. OCEAN CHAMPION. Cl. 39. 7–20–26.

215,544. CIRCULAR DESIGN WITH FOUR QUARTER CIRCLES AND STARS. Cl. 14. 7–20–26.
215,802. IVANHOE. Cl. 46. 7–27–26.
216,074. ACME QUALITY AND DESIGN. Cl. 16. 8–3–26.
217,591. ZESTA. Cl. 46. 9–7–26.
217,786. REFRACTICON. Cl. 33. 9–7–26.
219,332. FOOTEZE. Cl. 39. 10–19–26.
219,429. HEART OF GOLD. Cl. 46. 10–19–26.
420,636. CODUR. Cl. 16. 4–23–46.
420,637. DULAC. Cl. 16. 4–23–46.
420,673. DEXSAL. Cl. 18. 4–30–46.
420,805. CHEMISTAT. Cl. 13. 5–7–46.
420,878. COPLAST. Cl. 16. 5–7–46.
420,879. DURAD. Cl. 16. 5–7–46.
420,894. ECONOMY. Cl. 17. 5–7–46.
421,043. DUSTROL. Cl. 15. 5–14–46.
421,215. CAM-STAT. Cl. 26. 5–21–46.
421,370. LILT. Cl. 28. 5–28–46.
421,456. SPOTMASTER. Cl. 52. 6–4–46.
421,476. D. W. DRUNTON'S. Cl. 26. 6–4–46.
421,592. GAMTOX. Cl. 6. 6–4–46.
421,604. GAUNTLET. Cl. 51. 6–4–46.
421,701. DYKAST. Cl. 16. 6–11–46.
421,702. SLATITE. Cl. 16. 6–11–46.
421,780. PRISMLAC. Cl. 16. 6–18–46.
421,781. SOLAC. Cl. 5. 6–18–46.
421,821. CINCH. Cl. 52. 6–18–46.
421,941. VELVET SKIN. Cl. 51. 6–25–46.
422,221. KAFFEE HAG. Cl. 46. 7–9–46.
422,318. DURVIN. Cl. 16. 7–16–46.
422,319. RAYDUR. Cl. 16. 7–16–46.
422,375. MORTEX. Cl. 52. 7–16–46.
423,218. AIRBORNE. Cl. 39. 8–27–46.
423,554. KADET. Cl. 37. 9–3–46.
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423,815. EBONY. Cl. 38. 9–10–46.
424,226. COMBISUL. Cl. 18. 9–24–46.
424,237. TWINDOW. Cl. 12. 9–24–46.
424,742. HAMISEAL. Cl. 6. 10–22–46.
424,852. SINGER SEWING MACHINES AND DESIGN. Cl. 23. 10–29–46.

TRADEMARK REGISTRATIONS CANCELED

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778,708. IMPERIAL. Cl. 21. 10–20–64.
793,158. KORMIX. Cl. 10. 7–27–65.

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697,937. ADIRONDACK AND DESIGN. Cl. 2.
697,940. T-KIT. Cl. 3.
697,941. WISK-O-PET. Cl. 3.
697,943. DURANEAL. Cl. 4.
697,952. "RED" EMM. Cl. 6.
697,958. TEMEX 3. Cl. 6.
697,969. BAT BRAND. Cl. 10.
697,973. HONEY OAK. Cl. 12.
697,976. KOR-PLY. Cl. 12.
697,977. SWEDGE-GRIP. Cl. 12.
697,978. REPRESENTATION OF INDIAN HEAD. Cl. 12.
697,980. EAVESEAL. Cl. 12.
697,991. MAGNITE. Cl. 13.
697,992. INSUL-SCREW AND DESIGN. Cl. 13.
697,993. BATH-O-LETT. Cl. 13.
698,002. LEVEL-LOK. Cl. 13.
698,006. MOW-POWER AND DESIGN. Cl. 15.
698,012. COLUMBIA. Cl. 16.
698,013. ALUMA-FLEX ETC. AND DESIGN. Cl. 16.
698,023. ROB ROY. Cl. 17.
698,029. TROPAID AND DESIGN. Cl. 18.
698,031. N JOY. Cl. 18.
698,037. MIGHTY-POPS. Cl. 18.
698,040. MUCAMINE. Cl. 18.
698,044. ALYMYCIN. Cl. 18.
698,048. AMP-VAC. Cl. 18.
698,049. PREGNIDOX. Cl. 18.
698,053. FLARE CRAFT. Cl. 19.
698,054. HERALD. Cl. 19.
698,056. RETRACTO. Cl. 19.
698,058. PIG-PALLET. Cl. 21.
698,060. GUTHFAN. Cl. 21.
698,061. E-Z-SNAP. Cl. 21.
698,065. SOUND-PIPER. Cl. 21.
698,067. AUD-I-TONE. Cl. 21.
698,070. SLENDERLINE. Cl. 21.
698,072. DUNCAN YO-YO RETURN TOPS AND DESIGN. Cl. 22.
698,073. AQUA SNOW SKI-BOB AND DESIGN. Cl. 22.
698,075. THERMOLOFT. Cl. 22.
698,076. WEE BIRD. Cl. 22.
698,077. LOOKO. Cl. 22.
698,079. TORNADO. Cl. 22.
698,080. JACK'S MO-FISH AND DESIGN. Cl. 22.
698,082. BRIKETTE. Cl. 22.
698,090. SHIP-SHAPE. Cl. 23.
698,091. FI FI. Cl. 23.
698,095. NEOPOST. Cl. 23.
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698,104. SUMAT. Cl. 26.
698,110. TELEVANCE. Cl. 26.
698,112. ICRONOME AND DESIGN. Cl. 26.
698,119. WHIRL-WEIGH. Cl. 26.
698,120. CIRCAMETER. Cl. 26.
698,123. CARAVEL. Cl. 27.
698,125. TIME CAPSULE. Cl. 27.
698,126. CASCADE. Cl. 27.
698,127. LEGEND. Cl. 27.
698,128. DYNAMIC. Cl. 27.
698,130. LOVE-ALARM. Cl. 27.
698,131. MIRACLE. Cl. 27.
698,134. INTEGER. Cl. 27.
698,140. STARLETTE. Cl. 31.
698,142. CANDLELIGHT. Cl. 32.
698,144. TAMCO. Cl. 34.
698,145. REPRESENTATION OF FIREBIRD AND DESIGN. Cl. 34.
698,147. ALASKAN GRIP. Cl. 35.
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698,150. HOLL-"O." Cl. 35.
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698,165. SLIDE-SHO. Cl. 37.
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698,189. ROBERTA FAYE. Cl. 39.
698,190. MONSIEUR X. Cl. 39.
698,191. SUGAR SWEET. Cl. 39.
698,194. XTRA SIZERS. Cl. 39.
698,200. O STROCO. Cl. 39.
698,202. GERBERICH GOLD COIN. Cl. 39.
698,211. GUYS AND GALS. Cl. 39.
698,213. BURLY. Cl. 39.
698,214. WEAR KING. Cl. 39.
698,220. BAMBINO BY MILAN. Cl. 39.
698,222. DERMAFIN. Cl. 39.
698,226. PRECISION WARE AND DESIGN. Cl. 40.
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698,232. HARDIKOOL. Cl. 42.
698,233. BERDAV'S. Cl. 42.
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698,245. SINOLA. Cl. 45.
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698,248. KISSES FROM LOVELAND AND DESIGN. Cl. 46.
698,251. MANCHESTER DAIRY ETC. AND DESIGN. Cl. 46.
698,253. MIXIT. Cl. 46.

698,254. N-JOI. Cl. 46.
698,267. 4 GIRLS. Cl. 46.
698,274. PARKABAR. Cl. 46.
698,290. DESIGN OF THREE CIRCLES. Cl. 100.
698,291. MID-CENTRAL, CO. AND DESIGN. Cl. 101.
698,293. SR (DESIGN). Cl. 101.
698,297. ONE WAY INC. ETC. AND DESIGN. Cl. 105.
698,299. QUALITAS. Cl. 1.
698,301. INSTANT AND REPRESENTATION OF STAR. Cl. 6.
698,303. SNAP-IN. Cl. 13.
698,307. FIRMA-GLAZE. Cl. 21.
698,308. ARMOR-GLAZE. Cl. 21.
698,311. E-Z-WAY. Cl. 26.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

27,959. DUNDEE AND DESIGN. Cl. 49. 3-17-1896. The Mellwood Distillery Company. National Distillers and Chemical Corporation, doing business as National Distillers Products Co., New York, N.Y. Amended: In the statement, line 10 through line 30 is deleted, and the drawing is amended to appear:

DUNDEE

218,465. DOUBLE Q. Cl. 46. 9-28-26. P. E. Harris & Co. Peter Pan Seafoods, Inc., Seattle, Wash. Amended: In the statement, column 1, lines 9 and 10, "canned fruits and vegetables and" is deleted.

417,204. TRIGS. Cl. 39. 10-16-45. The William Carter Company, Needham Heights, Mass. Amended: In the statement, column 1, lines 7 through 9, the description of goods is deleted and *garments—namely, men's shorts* is inserted.

419,488. "D" IN A DIAMOND. Cl. 14. 2-26-46. Dodge Manufacturing Corporation, Mishawaka, Ind. Amended: In the statement, column 1, lines 7 through 20, the description of goods is deleted and *metal parts for power transmission machinery—namely, shaft supports, shaft hangers, bearing housings and supports, gears, sprockets, pulleys, sheaves, collars, clutch parts and shaft-coupling parts; and parts for elevating and conveying machinery—namely, conveyer rolls and conveyer roll supports but not including textile machinery or special parts specifically intended for use therewith* is inserted.

423,320. VETO. Cl. 4. 8-27-46. Colgate-Palmolive-Peet Company Colgate-Palmolive Company, Jersey City, N.J. Amended to appear:

VETO

505,509. SR SOUTHERN RAILWAY SERVES THE SOUTH AND DESIGN. Cl. 55. 1-4-49. Southern Railway Company, Richmond, Va., and Washington, D.C. Amended: In the statement, column 1, line 32 "The" is deleted and after "Southern" *Railway* is inserted, and the drawing is amended to appear:

SOUTHERN RAILWAY SR SERVES THE SOUTH

527,252. WATASEAL AND DESIGN. Cl. 42. 7-4-50. Harte & Company, Inc., New York, N.Y. Amended to appear:

WATASEAL

545,501. EGYPTIAN FINISHES AND DESIGN. Cl. 16. 7-24-51. The Egyptian Lacquer Manufacturing Company, South Kearny and Newark, N.J. Amended: In the statement, column 2, line 9 "word 'Finishes' is" is deleted and *words "Chemical Coatings" are* is inserted, and the drawing is amended to appear:

EGYPTIAN CHEMICAL COATINGS

560,251. ARMCO AND DESIGN. Cl. 100. 6-17-52. Armco Steel Corporation, by change of name from The American Rolling Mill Company, Middletown, Ohio. Amended to appear:

ARMCO

583,436. MILLER AND DESIGN. Cl. 21. 12-8-53. Miller Electric Mfg. Co., Appleton, Wis. Corrected: In the certificate, lines 4 and 15, in the heading, signature and in the statement, column 1, line 1, "Manufacturing" should be deleted and *Mfg.* should be inserted.

622,218. GULF AND DESIGN. Cl. 26. 2-28-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 4, *The drawing is lined for orange and blue. Owner of Reg. No. 621,650 and others.* is inserted, and the drawing is amended to appear.

Gulf

644,850. THORNE'S HERITAGE. Cl. 49. 4-30-57. R. Thorne & Sons Limited. Robt. Thorne & Sons (Whisky Merchants) Limited, Dumbarton, Scotland. Amended: In the statement, after line 1, , *now by change of name Robt. Thorne & Sons (Whisky Merchants) Limited, 5 Park Gardens, Glasgow C. 3, Scotland and* is inserted.

700,304. DESIGN OF BARS. Cl. 1. 7-5-60. Mobay Chemical Company, Pittsburgh, Pa. Corrected: In the statement, column 1, line 1, "Corporation" should be deleted and *Company* should be inserted.

705,946. MONROE AND DESIGN. Cl. 23. 10-18-60. Monroe Calculating Machine Company, Orange, N.J. Amended to appear:

MONROE

727,636. UNISPERS. Cl. 6. 2-20-62. Ciba Limited, Basel, Switzerland. Amended to appear:

UNISPERSE

775,033. BOARDROOM. Cl. 39. 8-11-64. Bullock's, Inc. Federated Department Stores, Inc., Los Angeles, Calif. Amended to appear:

BOARD ROOM

793,544. CAPASIN. Cl. 6. 8-3-65. Ciba Limited, Basel, Switzerland. Amended to appear:

CAPASINE

800,177. S AND DESIGN. Cl. 14. 12-14-65. Fuji Seitetsu Kabushiki Kaisha (Fuji Iron & Steel Co., Ltd.), Chiyoda-ku, Tokyo, Japan. Corrected: In the statement, column 2, line 6, "1960" should be deleted and *1950* should be inserted.

803,943. MONCLER. Cl. 39. 2-15-66. Moncler, Grenoble, France. Corrected: In the statement, column 1, line 1, "Monclear" should be deleted and *Moncler* should be inserted.

806,572. HOLLAND-SUCO. Cls. 6 and 11. 4-5-66. Holland-Suco Color Company, Holland, Mich. Corrected: In the statement, column 2, line 1, "linking" should be deleted and *inking* should be inserted.

806,599. GARLOCK AND CALIPERS AND SCALE DESIGN. Cls. 12, 21, 23, and 35. 4-5-66. Garlock Inc., Palmyra, N.Y. Corrected: In the statement, column 2, line 15, "1961" should be deleted and *1901* should be inserted.

807,516. VIDEO-MATIC. Cl. 32. 4-26-66. E. J. Wright Central Limited. Strathroy, Ontario, Canada. Corrected: In the statement, column 1, line 1, after "Wright" *Central* should be inserted.

807,847. NEAREST TO HEAVEN. Cls. 42 and 43. 5-3-66. Forté-Fairbairn Inc., Needham Heights, Mass. Corrected: In the statement, column 1, line 1, "Fairbain" should be deleted and *Fairbairn* should be inserted.

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A/S, Dalen Portland-Cementfabrik, Brevik, Norway. 214,469, ren. 7–12–66. Cl. 12.

Acme Cotton Products Co., Inc., Valley Stream, N.Y. 811,012, pub. 4–26–66. Cl. 29.

Acme Quality Paints, Inc. : *See*—
Acme White Lead & Color Works.

Acme White Lead & Color Works, to Acme Quality Paints, Inc., Detroit, Mich. 55,842, ren. 7–12–66. Cl. 16.

Acme White Lead and Color Works, Hamtramck, to Acme Quality Paints, Inc., Detroit, Mich. 216,074, ren. 7–12–66. Cl. 16.

Add-A-Club, Inc., Minneapolis, Minn. 811,109, pub. 4–26–66. Cl. 101.

Addimult Rechenmaschinenfabrik H. W. Kubler : *See*—
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Adirondack Bowls, Inc., Auburn, N.Y. 697,937, canc. Cl. 2.

Aeolian American Corp. : *See*—
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Aerojet-General Corp., El Monte, Calif. 811,025, pub. 9–22–64. Cl. 34.

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Ainsworth, Wm., & Sons, Inc., Denver, Colo. 421,476, ren. 7–12–66. Cl. 26.

Air-A-Plane Corp., Norfolk, Va. 811,036, pub. 4–26–66. Cl. 34.

Ajax Hardware Corp., City of Industry, Calif. 811,121. Cl. 13.

Aktiebolaget Jonkopings Vacuumindustri, Jonkoping, Sweden. 810,900, pub. 4–26–66. Cl. 2.

Aktiebolaget Vibro-Verken, Solna, Sweden. 810,966, pub. 9–10–63. Multiple Class (Classes 21 and 23).

Alexon-Pac Aktiebolag, Boras, Sweden. 811,002, pub. 4–26–66. Cl. 23.

Allen Electric and Equipment Co., Kalamazoo, Mich., from Berkson Products, Inc., Chicago, Ill. 811,127. Cl. 19.

Allied Stores Corp., New York, N.Y. 698,214, canc. Cl. 39.

All-State Welding Alloys Co., Inc., White Plains, N.Y. 811,034, pub. 4–26–66. Cl. 34.

Aloe Creme Laboratories, Inc., Fort Lauderdale, Fla. 811,159. Cl. 51.

Alumidise Pty. Ltd., Fairfield, New South Wales, Australia. 810,945, pub. 4–26–66. Cl. 16.

Aluminum Co. of America, Pittsburgh, Pa. 215,544, ren. 7–12–66. Cl. 14.

Alva Museum Replicas, Inc., New York, N.Y. 811,102, pub. 4–26–66. Cl. 50.

Amalgamated Leather Companies, Inc., Wilmington, Del. 698,299, canc. Cl. 1.

Amerace Corp., New York, N.Y. 698,231, canc. Cl. 42.

American Cereal Co., The, Akron and Ravenna, Ohio, to The Quaker Oats Co., Chicago, Ill. 53,908, ren. 7–12–66. Cl. 46.

American Cereal Co., The, Akron and Ravenna, Ohio, to The Quaker Oats Co., Chicago, Ill. 53,910, ren. 7–12–66. Cl. 46.

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American Cereal Co., The, Akron and Ravenna, Ohio, to The Quaker Oats Co., Chicago, Ill. 54,541, ren. 7–12–66. Cl. 46.

American Cereal Co., The, Akron and Ravenna, Ohio, to The Quaker Oats Co., Chicago, Ill. 54,568, ren. 7–12–66. Cl. 46.

American Home Products Corp., New York, N.Y. 810,959, pub. 4–26–66. Cl. 18.

American Home Products Corp., New York, N.Y. 810,960, pub. 4–26–66. Cl. 18.

American Metallurgical Products Co., Inc., Pittsburgh, Pa. 810,931, pub. 4–26–66. Cl. 12.

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American Oil Co., The, Chicago, Ill. 811,111, pub. 4–19–66. Cl. 103.

American Oil Co., The, Chicago, Ill. 811,112, pub. 4–19–66. Cl. 103.

American Velcro, Inc. Manchester, N.H. 810,913, pub. 8–24–65. Multiple Class (Classes 7, 39, and 44).

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Anheuser-Busch Brewing Association, to Anheuser-Busch, Inc., St. Louis, Mo. 52,654, ren. 7–12–66. Cl. 48.

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Arcos Corp., Philadelphia, Pa. 811,037, pub. 4–26–66. Cl. 34.

Arcos Corp., Philadelphia, Pa. 811,038, pub. 4–26–66. Cl. 34.

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Armco Steel Corp., by change of name from The American Rolling Mill Co., Middletown, Ohio. 560,251. Am. 7(d). Cl. 100.

Armour and Co., Chicago, Ill. 810,909, pub. 4–26–66. Cl. 6.

Atlas Steel Stud Co., Inc., Huntington Park, Calif. 697,977, canc. Cl. 12.

Atlas Supply Co., Springfield, N.J. 810,943, pub. 4–26–66. Cl. 15.

Atom-Jet Humidifiers Ltd., Brandon, Manitoba, Canada. 811,029, pub. 4–26–66. Cl. 34.

Austin Screw Products Co., Chicago, Ill. 697,992, canc. Cl. 13.

Avco Corp., Williamsport, Pa. 811,033, pub. 4–26–66. Cl. 34.

B & B Plastic Art, Inc., New York, N.Y. 811,079, pub. 4–26–66. Cl. 42.

Babcock & Wilcox Co., The, New York, N.Y. 810,941, pub. 4–26–66. Cl. 13.

Baldwin-Ehret-Hill, Inc., Trenton, N.J. 810,929, pub. 4–26–66. Cl 12.

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Barrow Mfg. Co., Winder, Ga. 811,151. Cl. 39.

Barry Products Co., Chicago, Ill. 697,964, canc. Cl. 8.

Basic, Inc., Cleveland, Ohio. 810,999, pub. 4–26–66. Cl. 23.

Bateman, Edward L., Ltd., Braamfontein, Johannesburg, South Africa. 811,014, pub. 4–26–66. Cl. 31.

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Berdav, Inc., New York, N.Y. 698,233, canc. Cl. 42.

Berkson Products Inc. : *See*—
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Bird Corp., Richmond, Calif. 811,085, pub. 4–26–66. Cl. 44.

Bird Corp., Richmond, Calif. 811,086, pub. 4–26–66. Cl. 44.

Bonat, Samuel, & Bro., Inc., West Paterson, N.J. 811,103, pub. 2–22–64. Cl. 51.

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Boos, Albert A., d.b.a. Fruit Basket Packing Co., Reedley, Calif. 811,092, pub. 4–19–66. Cl. 46.

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Brae-Burn Hat Co., Inc., New York, N.Y. 811,143. Cl. 39.

Brandon, Arthur E., Sauk Rapids, Minn. 698,073, canc. Cl. 22.

Bridgford Foods Corp., Anaheim, Calif. 811,154. Cl. 46.

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Brockway Glass Co., Inc. : *See*—
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Brohman, John J., d.b.a. Nymoc Products Co., Toronto, Ontario, Canada. 421,456, ren. 7–12–66. Cl. 52.

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Brunswick Corp., Chicago, Ill. 811,023, pub. 4–26–66. Multiple Class (Classes 22 and 44).

Brunswick Worsted Mills, Inc., Moosup, Conn. 811,081, pub. 4–26–66. Cl. 43.

Bullock's, Inc., Federated Department Stores, Inc., Los Angeles, Calif. 775,033. Am. 7(d). Cl. 39.

Bulova Watch Co., Inc., Flushing, N.Y. 698,123, canc. Cl. 27.

Burron Medical Products, Inc., Bethlehem, Pa. 811,091, pub. 4–26–66. Cl. 44.

Buster Brown Textiles, Inc., Wilmington, Del. 811,066, pub. 4–26–66. Cl. 39.

Bustin Aluminum Products Corp., Dover, N.J. 810,934, pub. 4–26–66. Cl. 12.

Butler Mfg. Co., Kansas City, Mo. 810,935, pub. 4–26–66. Cl. 12.

Calavo Growers of California, Los Angeles, Calif. 810,912, pub. 4–26–66. Cl. 6.

California Spray-Chemical Corp., Wilmington, Del., and Richmond, Calif., to Chevron Chemical Co., San Francisco, Calif. 421,592, ren. 7–12–66. Cl. 6.

California Trading Co., Ltd., Chiyoda-ku, Tokyo, Japan. 810,969, pub. 4–26–66. Cl. 21.

Cam-Stat, Inc. : *See*—
Henry, Paul.

Canada Packers Ltd., Toronto, Ontario, Canada. 810,917, pub. 4–26–66. Multiple Class (Classes 10 and 46).

Cannon Electric Co., Los Angeles, Calif. 725,305, canc. Cl. 21.

Caprico International, Inc., New York, N.Y. 698,079, canc. Cl. 22.
Carter, William, Co., The, Needham Heights, Mass. 417,204. Am. 7(d). Cl. 39.
Cat-A-Gator Corp., Minneapolis, Minn. 810,963, pub. 4–26–66. Cl. 19.
Catalytic Corp. of America, Dallas, Tex. 697,991, canc. Cl. 13.
Ceilcote Co., Inc., The, Cleveland, Ohio. 810,921, pub. 4–26–66. Cl. 12.
Chesapeake Corp. of Virginia, The, West Point, Va. 810,898, pub. 4–26–66. Cl. 1.
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Churchill Chemical Co., Galesburg, Ill. 810,905, pub. 4–26–66. Cl. 4.
Ciba Corp., New York, N.Y. 810,955, pub. 9–28–65. Cl. 18.
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Ciba Ltd., Basel, Switzerland. 727,636. Am. 7(d). Cl. 6.
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Cincinnati Milling Machine Co., The, Cincinnati, Ohio. 810,-990, pub. 4–26–66. Cl. 23.
Clinton Mfg. Inc., Hillside, from Mel Appel and Martin Schnur, Livingston, N.J. 810,938, pub. 3–1–66. Cl. 13.
Clopay Corp., Cincinnati, Ohio. 811,138. Cl. 32.
Coats & Clark Inc., New York, N.Y. 810,942, pub. 4–26–66. Cl. 14.
Colgate-Palmolive-Peet Co. Colgate-Palmolive Co., Jersey City, N.J. 423,320. Am. 7(d). Cl. 4.
Colorima Paint Co., New York, N.Y. 810,946, pub. 4–26–66. Cl. 16.
Color-Tex Corp., Wheaton, Ill. 810,947, pub. 4–26–66. Cl. 16.
Columbia Varnish Co., Los Angeles, Calif. 698,012, canc. Cl. 16.
Comark Corp., Syracuse, N.Y. 810,911, pub. 4–26–66. Cl. 6.
Comark Corp., Syracuse, N.Y. 810,976, pub. 4–26–66. Cl. 22.
Comark Corp., Syracuse, N.Y. 811,096, pub. 4–26–66. Cl. 46.
Conmar Products Corp., Newark, N.J. 698,002, canc. Cl. 13.
Consolidated Packaging Corp., from Consolidated Paper Co., Monroe, Mich. 811,118. Cl. 2.
Consolidated Paper Co.: *See*—
Consolidated Packaging Corp.
Continental Mfg. Co., Baltimore, Md. 811,031, pub. 4–26–66. Cl. 34.
Continental Merchandise Co. Inc., New York, N.Y. 698,067, canc. Cl. 21.
Continental Tobacco Co., Huntington, W. Va. 698,023, canc. Cl. 17.
Corning Glass Works: *See*—
Macbeth-Evans Glass Co.
Craddock-Terry Co., Lynchburg, Va., to Chips 'n Twigs, Inc., Philadelphia, Pa. 213,665, canc. Cl. 39.
Curtis, Helene, Industries, Inc., Chicago, Ill. 698,242, canc. Cl. 44.
Darling Products, Inc., Troy, N.Y., to The Procter & Gamble Co., Cincinnati, Ohio. 212,811, ren. 7–12–66. Cl. 51.
Deering Milliken, Inc.: *See*—
Tremont & Suffolk Mills.
Deering Milliken, Inc., New York, N.Y. 811,077, pub. 4–26–66. Cl. 42.
Deering Milliken, Inc., New York, N.Y. 811,078, pub. 4–26–66. Cl. 42.
Deleteaille, Emile, Vilvorde, Belgium. 810,983, pub. 4–26–66. Cl. 23.
Denver Chemical Mfg. Co., The, d.b.a. Wampole Laboratories, Stamford, Conn. 698,040, canc. Cl. 18.
Design-Line Co., The: *See*—
Ellis, Donald C., and Marian Ellis.
Diagraph-Bradley Industries, Inc., Herrin, Ill. 810,918, pub. 4–26–66. Cl. 11.
Diamond Fruit Growers, Inc., Hood River, Oreg. 811,155. Cl. 46.
Dr. Schieffer Arzneimittel Ges. m.b.H. & Co., Ohg Villach, Austria. 810,953, pub. 5–18–65. Cl. 18.
Dodge Mfg. Corp., Mishawaka, Ind. 419,588. Am. 7(d). Cl. 14.
Dore, John L., Inc., Houston, Tex. 697,934, canc. Cl. 1.
Doulton & Co. Ltd., London, England. 810,967, pub. 4–26–66. Cl. 21.
Dragoco, Inc., Totowa, N.J. 811,094, pub. 4–26–66. Cl. 46.
Drug Houses of Australia, Ltd.: *See*—
Felton Grimwade & Duerdins Proprietary, Ltd.
Drug Products, Inc., Dallas, Tex. 698,037, canc. Cl. 18.
Dublin Sportswear, Inc., Dublin, Tex. 811,149. Cl. 39.
Duncan, Donald F., Inc., Chicago, Ill. 698,072, canc. Cl. 22.
Duriron Co., Inc., The, from Modern Industrial Plastics, Inc., Dayton, Ohio. 698,150, canc. Cl. 35.
E-Z Chart Co., Inc., Audubon, N.J. 698,311, canc. Cl. 26.
Eastern Cap and Closure Co., The, Baltimore, Md. 698,253, canc. Cl. 46.
Edmisson, Chris, d.b.a. National Marketing, Kansas City, Mo. 810,904, pub. 4–26–66. Cl. 2.
Egyptian Lacquer Mfg. Co., South Kearny and Newark, N.J. 545,501. Am. 7(d). Cl. 16.
Eisenlohr, Otto, & Bros., to Bayuk Cigars Inc., Philadelphia, Pa. 50,874, ren. 7–12–66. Cl. 17.
Electrochemicals, Inc., Cleveland, Ohio. 810,910, pub. 4–26–66. Cl. 6.
Elliott Glove Co., Inc., Oconto, Wis. 811,069, pub. 4–26–66. Cl. 39.
Ellis, Donald C., and Marian Ellis, d.b.a. The Design-Line Co., Lincoln, Nebr. 698,183, canc. Cl. 39.
Ellis, Donald C., and Marian Ellis, d.b.a. The Design-Line Co., Lincoln, Nebr. 698,184, canc. Cl. 39.
Ellis, Marian: *See*—
Ellis, Donald C., and Marian Ellis.
Elsmo, Ralph N., d.b.a. Ralph Elsmo Promotions, Baltimore, Md. 811,104, pub. 4–26–66. Cl. 52.
Elsmo, Ralph, Promotions: *See*—
Elsmo, Ralph N.
Embassy Industries, Inc., Framingdale, N.Y. 811,032, pub. 4–26–66. Cl. 34.
Eno, J. C., Ltd., London, England, to Beecham Products, Inc., Clifton, N.J. 212,878. Am. 7(d). Cl. 18.
Eureka Products Co., Inc., Newark, N.J. 811,020, pub. 4–26–66. Cl. 31.
Exactel Instrument Co., Mountain View, Calif. 811,133. Cl. 26.
Exactel Instrument Co., Mountain View, Calif. 811,134. Cl. 26.
Exquisite Form Industries, Inc., New York, N.Y. 811,148. Cl. 39.
Fabrimetrics, Inc., Los Angeles, Calif. 811,076, pub. 4–26–66. Cl. 42.
Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. 698,044, canc. Cl. 18.
Feinberg, Murray L., d.b.a. Murray Tire Co., Chelsea, Mass. 698,147, canc. Cl. 35.
Fels & Co., Philadelphia, Pa., to Purex Corp., Ltd., Lakewood, Calif. 55,478, ren. 7–12–66. Cl. 52.
Felton Grimwade & Duerdins Proprietary, Ltd., to Drug Houses of Australia, Ltd., Melbourne, Australia. 420,673, ren. 7–12–66. Cl. 18.
Ferro Corp., Cleveland, Ohio. 810,922, pub. 4–26–66. Multiple Class (Classes 12 and 23).
Fibreboard Paper Products Corp., San Francisco, Calif. 810,-928, pub. 4–26–66. Cl. 12.
Fibre-Metal Products Co., The, Chester, Pa. 811,008, pub. 4–26–66. Multiple Class (Classes 26, 39, and 50).
Finch, Pruyn, and Co., Inc., Glens Falls, N.Y. 811,055, pub. 4–26–66. Cl. 37.
Firestone Tire & Rubber Co., The, Akron, Ohio. 698,153, canc. Cl. 35.
Fit Container Ag., Chur, Switzerland. 810,998, pub. 4–26–66. Cl. 23.
Flagstaff Liquor Co., Perth Amboy, N.J. 811,101, pub. 4–26–66. Cl. 49.
Flair Originals, Inc., New York, N.Y. 811,063, pub. 4–26–66. Cl. 39.
Flare Craft Boat Co., Harkers Island, N.C. 698,053, canc. Cl. 19.
Flintkote Co., The, New York, N.Y. 810,964, pub. 4–26–66. Cl. 20.
Flood, William E.: *See*—
Sweetheart Sweets, Inc.
Flying Carpet Motor Inn, Inc., Rosemont, Ill. 811,105, pub. 3–23–65. Cl. 100.
Foote Mineral Co., Exton, Pa. 811,117. Cl. 1.
Fort Howard Paper Co., Green Bay, Wis. 811,047, pub. 4–26–66. Cl. 37.
Forte-Fairbairn, Inc., Needham Heights, Mass. 807,847, cor. Multiple Class (Classes 42 and 43).
Foster Grant Co., Inc., Leominster, Mass. 698,226, canc. Cl. 40.
Fox, C. J., Co., The, Providence, R.I. 210,233, ren. 7–12–66. Cl. 2.
Frank, S. M., & Co., Inc., New York, N.Y. 810,914, pub. 4–26–66. Cl. 8.
Frank, S. M., & Co., Inc., New York, N.Y. 810,915, pub. 4–26–66. Cl. 8.
Frank, S. M., & Co., Inc., New York, N.Y. 810,916, pub. 10–26–65. Cl. 8.
Franklin Glue Co., The, Columbus, Ohio. 810,906, pub. 11–30–65. Cl. 5.
Frigeco, Paris, France. 698,140, canc. Cl. 31.
Fruit Basket Packing Co.: *See*—
Boos, Albert A.
Fuji Photo Film Co., Ltd., Ashigara-Kanagawa, Japan. 811,-006, pub. 4–26–66. Cl. 26.
Fuji Seitetsu Kabushiki Kaisha (Fuki Iron & Steel Co., Ltd.), Chiyoda-ku, Tokyo, Japan. 800,177, cor. Cl. 14.
Fuller Brush Co., The, East Hartford, Conn. 811,123. Cl. 15.
Garlock, Inc., Palmyra, N.Y. 806,599, cor. Multiple Class (Classes 12, 21, 23, and 35).
Gellert-Wolfman Publishing Corp., New York, N.Y. 811,142. Cl. 38.
Gem Products, Inc., Los Angeles, Calif. 811,004, pub. 4–26–66. Cl. 24.
General Foods Corp., White Plains, N.Y. 422,221, ren. 7–12–66. Cl. 46.
General Lamp Co., Inc., Inwood, N.Y. 811,128. Cl. 21.
General Mills, Inc., Minneapolis, Minn. 811,099, pub. 4–12–66. Cl. 46.
General Motors Corp., Detroit, Mich. 810,993, pub. 4–26–66. Cl. 23.
General Time Corp., New York, N.Y. 698,125, canc. Cl. 27.
General Time Corp., New York, N.Y. 698,126, canc. Cl. 27.
General Time Corp., New York, N.Y. 698,127, canc. Cl. 27.
General Time Corp., New York, N.Y. 698,128, canc. Cl. 27.
Genesco, Inc., Nashville, Tenn. 811,068, pub. 4–26–66. Cl. 39.
Genesco, Inc., Nashville, Tenn. 811,070, pub. 4–26–66. Cl. 39.
Gerberich-Payne Shoe Co., Mt. Joy, Pa. 698,202, canc. Cl. 39.
Gillette Co., The: *See*—
Gillette Safety Razor Co.
Gillette Safety Razor Co., to The Gillette Co., Boston, Mass. 56,921, ren. 7–12–66. Cl. 23.

Gleason Works, The, Rocheater, N.Y. 811,001, pub. 4–26–66. Cl. 23.
Glen Oak Sales, Inc., New York, N.Y. 811,144. Cl. 39.
Globe Safety Products, Inc., Dayton, Ohio. 811,082, pub. 4–26–66. Cl. 44.
Globe Superior, Inc., Greensboro, N.C. 811,065, pub. 4–26–66. Cl. 39.
Goldberg, I., Marine World, Inc., Philadelphia, Pa. 698,090, canc. Cl. 23.
Gorham Rubber Co., San Francisco, Calif., to United States Rubber Co., New York, N.Y. 54,550, ren. 7–12–66. Cl. 35.
Gould-National Batteries, Inc., St. Paul, Minn. 810,981, pub. 4–26–66. Multiple Class (Classes 23 and 35).
Grammes, L. F., & Sons, Inc., Allentown, Pa. 811,015, pub. 4–26–66. Cl. 31.
Gregory Industries, Inc., Lorain, Ohio. 811,026, pub. 4–26–66. Cl. 34.
Guenther & Co., Frankfurt am Main, Germany. 810,982, pub. 4–24–65. Cl. 23.
Gulf Oil Corp., Pittsburgh, Pa. 622,218. Am. 7(d). Cl. 26.
Guth, Edwin F., Co., The, St. Louis, Mo. 698,060, canc. Cl. 21.
H & K Industries, Inc., Oregon, Wis. 810,940, pub. 4–26–66. Cl. 13.
Haas, J. G., Soap Co., St. Louis, Mo., to The Hewitt Soap Co., Inc., Dayton, Ohio. 55,457, ren. 7–12–66. Cl. 52.
Haas-Miller Corp., to Harry Miller Corp., Philadelphia, Pa. 424,742, ren. 7–12–66. Cl. 6.
Hall Drug Co.: *See*—
Hall, Elmer E.
Hall, Elmer E., d.b.a. Hall Drug Co., Garden Groove, Calif. 810,961, pub. 4–26–66. Cl. 18.
Hall's Enterprises: *See*—
Scott, Karl L.
Hammermill Paper Co., Erie, Pa. 811,044, pub. 4–26–66. Cl. 37.
Handal, Victor B., & Bro., Inc., New York, N.Y. 698,188, canc. Cl. 39.
Handi-Clean Products, Inc., Greensboro, N.C. 811,113, pub. 4–26–66. Cl. 103.
Harding & Leggett, Inc.: *See*—
Highgrove Fruit Association.
Hardy, John G., Ltd., London, England. 698,232, canc. Cl. 42.
Hargraves, Lyn C., East Lansing, Mich. 810,939, pub. 4–26–66. Cl. 13.
Harris, P. E., & Co. Peter Pan Seafoods, Inc., Seattle, Wash. 218,465. Am. 7(d). Cl. 46.
Harte & Co., Inc., New York, N.Y. 527,252. Am. 7(d). Cl. 42.
Hartline Products Co., Inc., Cleveland, Ohio. 810,926, pub. 1–25–66. Cl. 12.
Haunl-Werke Korber & Co. K.G., Hamburg-Bergedorf, Germany. 698,091, canc. Cl. 23.
Hazel-Atlas Glass Co., Wheeling, W. Va., to Brockway Glass Co., Inc., Brockway, Pa. 54,846, ren. 7–12–66. Cl. 33.
Heberlein & Co. Ag., Wattwil, Switzerland. 811,067, pub. 4–26–66. Cl. 39.
Helme Products, Inc., New York, N.Y. 811,125. Cl. 17.
Helme Products, Inc., New York, N.Y. 811,126. Cl. 17.
Henry, Paul, d.b.a. The Paul Henry Co., to Cam-Stat, Inc., Los Angeles, Calif. 421,215, ren. 7–12–66. Cl. 26.
Henry, Paul, Co., The: *See*—
Henry, Paul.
Hewitt Soap Co., Inc., The: *See*—
Haas, J. G., Soap Co.
Higgins Ink Co., Inc., Brooklyn, N.Y. 810,907, pub. 4–26–66. Cl. 5.
Higgins Ink Co., Inc., Brooklyn, N.Y. 811,046, pub. 4–26–66. Cl. 37.
Highgrove Fruit Association, Highgrove, to Harding & Leggett, Inc., Orange Cove, Calif. 219,429, ren. 7–12–66. Cl. 46.
Hi-Line Co., Inc., New York, N.Y. 698,194, canc. Cl. 39.
Hodgman Rubber Co., Framingham, Mass. 811,080, pub. 4–26–66. Cl. 42.
Holland-Suco Color Co., Holland, Mich. 806,572, cor. Cl. 11.
Holophane Co., Inc.: *See*—
Holophane Glass Co., Inc.
Holophane Glass Co., Inc., to Holophane Co., Inc., New York, N.Y. 217,786, ren. 7–12–66. Cl. 33.
Honig, Jack L., Inc., New York, N.Y. 811,056, pub. 4–26–66. Cl. 39.
Huntington Laboratories, Inc., Huntington, Ind. 213,093, ren. 7–12–66. Cl. 52.
Hyde Park Dairies, Inc., The, Wichita, Kans. 698,246, canc. Cl. 46.
Import-Export Corp., Houston, Tex. 811,072, pub. 4–26–66. Cl. 40.
Index Sales Corp., Chicago, Ill. 811,042, pub. 3–23–65. Cl. 37.
Inter-Coastal Products, Inc., San Diego, Calif. 811,097, pub. 4–26–66. Cl. 46.
International Shoe Co., St. Louis, Mo. 811,059, pub. 4–26–66. Cl. 39.
Iowa America Corp., Bagley, Iowa. 810,986, pub. 4–26–66. Cl. 23.
JFD Electronics Corp., Brooklyn, N.Y. 810,974, pub. 4–26–66. Cl. 21.
Jack's Mofish Lure Co.: *See*—
Weeks, Edgar T.
Jacquard, Wildman, Co., Norristown, Pa. 810,979, pub. 9–4–62. Cl. 23.
Jefferson Electric Co., Bellwood, Ill. 698,134, canc. Cl. 27.
Jelenko, J. F., & Co., Inc., New Rochelle, N.Y. 811,089, pub. 4–26–66. Cl. 44.
Jenn Air Products Co., Inc., Indianapolis, Ind. 778,708, canc. Cl. 21.
Johns-Manville Corp., New York, N.Y. 810,925, pub. 4–26–66. Cl. 12.
Johnson Publishing Co., Inc.: *See*—
Negro Digest Publishing Co., Inc.
Julee Mfg. Corp., Springfield, Mass. 698,075, canc. Cl. 22.
Kalamazoo Aero-Motive Mfg. Co.: *See*—
Becker, Rodger F.
Kanegafuchi Chemical Industry Co., Ltd., Higashi-ku, Osaka, Japan. 811,071, pub. 4–26–66. Cl. 40.
Kasar Co., Niles, Ill. 810,954, pub. 4–26–66. Cl. 18.
Ketrick & Son, Inc., Chester, Pa. 811,115, pub. 4–26–66. Cl. 103.
Kimball, W. W., Co., Jasper, Ind. 811,139. Cl. 36.
Klink Citrus Association, Ivanhoe, Calif. 213,099, ren. 7–12–66. Cl. 46.
Klink Citrus Association, Ivanhoe, Calif. 215,802, ren. 7–12–66. Cl. 46.
Koppers Co., Inc., Pittsburgh, Pa. 810,987, pub. 4–26–66. Cl. 23.
Kresge, S. S., Co., Detroit, Mich. 811,045, pub. 4–26–66. Cl. 37.
Kubler, Hans W., d.b.a. Addimult Rechenmaschinenfabrik H. W. Kubler, Bad Harzburg, Germany. 698,104, canc. Cl. 26.
Ladish Co., Cudahy, Wis. 811,035, pub. 4–26–66. Cl. 34.
Lakeside Central Co., Chicago, Ill. 811,051, pub. 4–26–66. Cl. 37.
Lakeside Central Co., Chicago, Ill. 811,052, pub. 4–26–66. Cl. 37.
La Mantia-Cullum-Collier & Co., Inc., Crystal City, Tex. 811,156. Cl. 46.
Lane Ltd.: *See*—
Lane Tobacco, Ltd.
Lane Tobacco, Ltd., to Lane Ltd., New York, N.Y. 420,894, ren. 7–12–66. Cl. 17.
La Salle, John F., d.b.a. La Salle Research, Minneapolis, Minn. 698,156, canc. Cl. 36.
La Salle Research: *See*—
La Salle, John F.
Lau Blower Co., The, Dayton, Ohio. 811,039, pub. 4–26–66. Cl. 34.
Leigh Chemist, Inc., New York, N.Y., to Shulton, Inc., Clifton, N.J. 215,099, ren. 7–12–66. Cl. 51.
Le Maire Machine Tool Co., Dearborn, Mich. 810,980, pub. 4–26–66. Cl. 23.
Liepelt, Dirk, d.b.a. Liepelt & Son, Seattle, Wash. 810,988, pub. 4–26–66. Cl. 23.
Liepelt & Son: *See*—
Liepelt, Dirk.
Lilly, Ell, and Co., Indianapolis, Ind. 810,957, pub. 4–26–66. Cl. 18.
Limestone Products Corp. of America, Newton, N.J. 811,120. Cl. 12.
Litton Systems, Inc., Beverly Hills, Calif. 810,972, pub. 4–26–66. Cl. 21.
Lo Duca Bros. Musical Instruments, Inc., Milwaukee, Wis. 811,041, pub. 4–26–66. Cl. 36.
Looko, Inc., Camden, S.C. 698,077, canc. Cl. 22.
Los Angeles Brush Mfg. Corp., Los Angeles, Calif. 811,011, pub. 4–26–66. Cl. 29.
Lundgren, Dale Rae, Chicago, Ill. 698,157, canc. Cl. 36.
Lurgi Apparatebau G.m.b.H., Frankfurt am Main, Germany. 810,991, pub. 4–26–66. Cl. 23.
Maas & Waldstein Co., Newark, N.J. 420,636, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 420,637, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 420,878, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 420,879, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 421,701, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 421,702, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 421,780, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 421,781, ren. 7–12–66. Cl. 5.
Maas & Waldstein Co., Newark, N.J. 422,318, ren. 7–12–66. Cl. 16.
Maas & Waldstein Co., Newark, N.J. 422,319, ren. 7–12–66. Cl. 16.
Macbeth-Evans Glass Co., Pittsburgh, Pa., to Corning Glass Works Corning, N.Y. 213,257, canc. Cl. 33.
Macbeth-Evans Glass Co., Pittsburgh, Pa., to Corning Glass Works, Corning, N.Y. 213,594, canc. Cl. 33.
MacDonald-Philippi Co., LaGrange, Ill. 698,006, canc. Cl. 15.
Macy, R. H., & Co., Inc., New York, N.Y. 211,501, ren. 7–12–66. Cl. 51.
Magic Music Corp., New York, N.Y. 698,158, canc. Cl. 36.
Magnolia Metal Co., New York, N.Y., to Magnolia Metal Co., Inc., Auburn, Nebr. 53,519, ren. 7–12–66. Cl. 14.
Magnolia Metal Co., Inc.: *See*—
Magnolia Metal Co.
Manchester Dairy Cooperative, Inc., from Manchester Dairy System, Inc., Manchester, N.H. 698,251, canc. Cl. 46.
Manchester Dairy System, Inc.: *See*—
Manchester Dairy Cooperative, Inc.
Marblecraft Co.: *See*—
Rexall Drug and Chemical Co.
Marler, E. Ruth, Greenwich, Conn. 811,140. Cl. 37.
Massachusetts Cotton Mills, Lowell, Mass., to West Point-Pepperell, Inc., West Point, Ga. 50,751, ren. 7–12–66. Cl. 42.
Mattel, Inc., Hawthorne, Calif. 810,978, pub. 4–26–66. Cl. 22.

McCray Refrigerator Co., Inc., Kendallville, Ind. 811,021, pub. 4–26–66. Cl. 31.
McCray Refrigerator Co., Inc., Kendallville, Ind. 811,022, pub. 4–26–66. Cl. 31.
McEvoy, Alfred P., and Tym F. Seay, Dallas, Tex. 697,973, canc. Cl. 12.
McGregor-Doniger Inc., New York, N.Y. 811,150. Cl. 39.
Meier, Joshua, Co., Inc., New York, N.Y. 698,165, canc. Cl. 37.
Mellor, Norman, to Arguto Oilless Bearing Co., Philadelphia, Pa. 56,563, ren. 7–12–66. Cl. 23.
Mellwood Distillery Co., National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 27,959. Am. 7(d). Cl. 49.
Melville Shoe Corp., New York, N.Y. 811,062, pub. 4–26–66. Cl. 39.
Merck & Co., Inc., Rahway, N.J. 810,958, pub. 4–26–66. Cl. 18.
Mercury Millwork Corp., Syosset, N.Y. 810,924, pub. 4–26–66. Cl. 12.
Metal Hoses, Inc., Los Angeles, Calif. 698,149, canc. Cl. 35.
Metropolitan Chemical Corp., Albany, N.Y. 422,375, ren. 7–12–66. Cl. 52.
Mid-Central Co., Joplin, Mo. 698,291, canc. Cl. 101.
Mid-Continent Equipment Distributors, Inc., Kansas City, Mo. 811,114, pub. 4–26–66. Cl. 103.
Midland-Ross Corp., Cleveland, Ohio. 811,028, pub. 4–26–66. Cl. 34.
Milan Mfg. Co., Asbury Park, N.J. 698,220, canc. Cl. 39.
Millus Shoe Co., to Brown Shoe Co., Inc., St. Louis, Mo. 423,-218, ren. 7–12–66. Cl. 39.
Miller, Harry, Corp.: *See*—
Haas-Miller Corp.
Miller Electric Mfg. Co., Appleton, Wis. 583,436, cor. Cl. 21.
Mobay Chemical Co., Pittsburgh, Pa. 700,304, cor. Cl. 1.
Modern Industrial Plastics, Inc.: *See*—
Duriron Co., Inc., The.
Molecular Products Inc., Burbank, Calif. 810,944, pub. 4–26–66. Cl. 15.
Monarch Chemicals Ltd., Rexdale, Ontario, Canada. 810,908, pub. 4–26–66. Cl. 6.
Moncler, Grenoble, France. 803,943, cor. Cl. 39.
Monroe Calculating Machine Co., Orange, N.J. 705,946. Am. 7(d). Cl. 23.
Monsanto Chemical Co., St. Louis, Mo. 697,952, canc. Cl. 6.
Morak Brakes, Inc., Brooklyn, N.Y. 810,962, pub. 4–26–66. Multiple Class (Classes 19 and 35).
Mueller, C. F., Co., Jersey City, N.J. 811,010, pub. 4–26–66. Cl. 28.
Mundt, Howard C., d.b.a. A & H Personnel Services, Cherry Hill, N.J. 811,110, pub. 4–26–66. Cl. 101.
Murray Tire Co.: *See*—
Feinberg, Murray L.
N.V. Zuid-Chemie, Sas Van Gent, Netherlands. 793,158, canc. Cl. 10.
Namko Produce Co., Inc., San Jose, Calif. 698,267, canc. Cl. 46.
National Autocraft Mfg. Co., Orlando, Fla. 698,303, canc. Cl. 13.
National Cup Co., Dover, Del. 810,902, pub. 4–26–66. Cl. 2.
National Furniture Mfg. Co., Inc., Evansville, Ind. 811,137. Cl. 32.
National Lead Co., New York, N.Y. 697,958, canc. Cl. 6.
National Marketing: *See*—
Edmisson, Chris.
Negro Digest Publishing Co., Inc., to Johnson Publishing Co., Inc., Chicago, Ill. 423,815, ren. 7–12–66. Cl. 38.
New England Industries, Inc., The, New York, N.Y. 697,976, canc. Cl. 12.
New Iberia Canning Co., Inc., New Iberia, La. 212,596, ren. 7–12–66. Cl. 46.
New York Air Brake Co., The, New York, N.Y. 811,009, pub. 4–26–66. Cl. 23.
New York Trap Rock Corp., West Nyack, N.Y. 810,932, pub. 4–26–66. Cl. 12.
Nichols & Co., Inc., Boston, Mass. 810,897, pub. 4–26–66. Cl. 1.
N-Joy Foods, Inc., Los Angeles, Calif. 698,031, canc. Cl. 18.
Nor-Cal Engineering Co., Inc., Redwood City, Calif. 698,145, canc. Cl. 34.
Norden-Ketay Corp.: *See*—
United Aircraft Corp.
Nugget Foods, Inc., from Frank M. Wilson Co., Inc., d.b.a. Frank M. Wilson Co., d.b.a. Frank M. Wilson Co., Inc., and Frank M. Wilson Co., Stockton, Calif. 811,157. Cl. 46.
Nugget Foods, Inc., from Frank M. Wilson Co., Inc., d.b.a. Frank M. Wilson Co., d.b.a. Frank M. Wilson Co., Inc., and Frank M. Wilson Co., Stockton, Calif. 811,158. Cl. 46.
Nymoc Products Co.: *See*—
Brohman, John J.
Ocean Bathing Suit Co., Inc., The, New York, to Ocean Pool Supply Co., Inc., Huntington Station, N.Y. 215,424, ren. 7–12–66. Cl. 39.
Ocean Pool Supply Co., Inc.: *See*—
Ocean Bathing Suit Co., Inc., The.
Oceanic Chemical Co., Inc., Seattle, Wash., to The Procter & Gamble Co., Cincinnati, Ohio. 421,821, ren. 7–12–66. Cl. 52.
Old Angus Beef House Restaurant: *See*—
Schweitzer, Raymond F.
Olin Mathieson Chemical Corp., New York, N.Y. 811,048, pub. 4–26–66. Cl. 37.
Oneida Ltd., Oneida, N.Y. 810,997, pub. 4–26–66. Cl. 23.
One Way, Inc.: *See*—
One Way Trailer Owners Association, Inc.
One Way Trailer Owners Association, Inc., d.b.a. One Way, Inc., Detroit, Mich. 698,297, canc. Cl. 105.
Osceola Fruit Distributors, Kissimmee, Fla. 811,093, pub. 4–26–66. Cl. 46.
PRW Corp., d.b.a. Watson Fiberglass Co., Gladwyne, Pa. 811,119. Cl. 12.
Pacific Coast Co., d.b.a. Westley Industries, Cleveland, Ohio. 811,124. Cl. 16.
Padco Mfg. Co., Inc., New Brunswick, N.J. 698,061, canc. Cl. 21.
Palmer Distributors, Inc., Detroit, Mich. 811,152. Cl. 42.
Pattreiouex, J. A., (Overseas) Ltd., Westminster, London, England. 810,948, pub. 4–26–66. Cl. 17.
Peerless Mfg. Corp., Fort Wayne, Ind. 698,056, canc. Cl. 19.
Penn-Carol Hosiery Mills Inc., Glenside, Pa. 811,147. Cl. 39.
Penn State Mills, Inc., Allentown, Pa. 698,211, canc. Cl. 39.
Pentapco, Inc., Elizabeth, N.J. 811,073, pub. 4–26–66. Cl. 40.
Personal Stationery Co.: *See*—
Williams, Thomas J.
Pez-Haas, Inc., New York, N.Y. 811,095, pub. 4–26–66. Cl. 46.
Phraner, Alice Y., Dallas, Tex. 698,301, canc. Cl. 6.
Pierce-All Mfg. Ltd., Rexdale, Ontario, Canada. 810,985, pub. 4–26–66. Cl. 23.
Pittsburgh Garter Co., Pittsburgh, Pa. 697,940, canc. Cl. 3.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 424,237, ren. 7–12–66. Cl. 12.
Plastic-Concrete Products, Inc., Santa Monica, Calif. 810,919, pub. 4–26–66. Multiple Class (Classes 12 and 16).
Pollak, Henry, Inc., New York, N.Y. 811,074, pub. 4–26–66. Cl. 40.
Ponderosa Mouldings, Inc., Redmond, Oreg. 697,978, canc. Cl. 12.
Portage Engineering Co., Kalamazoo, Mich. 811,027, pub. 4–26–66. Cl. 34.
Press Pallet Co.: *See*—
Press Pallet Inc.
Press Pallet Inc., from Press Pallet Co., Indianapolis, Ind. 698,058, canc. Cl. 21.
Procter & Gamble Co., The, Cincinnati, Ohio. 54,415, ren. 7–12–66. Cl. 52.
Procter & Gamble Co., The: *See*—
Brown, David S.
Darling Products, Inc.
Oceanic Chemical Co., Inc.
Whistle Bottling Co.
Procter & Gamble Co., The, Cincinnati, Ohio. 214,115, ren. 7–12–66. Cl. 52.
Procter & Gamble Co., The, Cincinnati, Ohio. 421,370, ren. 7–12–66. Cl. 28.
Procter & Gamble Co., The, Cincinnati, Ohio. 421,604, ren. 7–12–66. Cl. 51.
Procter & Gamble Co., The, Cincinnati, Ohio. 421,941, ren. 7–12–66. Cl. 51.
Purex Corp., Ltd.: *See*—
Fels & Co.
Quaker Oats Co., The: *See*—
American Cereal Co., The.
Rally Farms, Millbrook, N.Y. 810,896, pub. 4–26–66. Cl. 1.
Ravon Products Co., Bayside, N.Y. 697,941, canc. Cl. 3.
Reactions, Inc., Kennebunk, Maine. 811,108, pub. 4–26–66. Cl. 101.
Refreshment Service Inc., Milwaukee, Wis. 698,274, canc. Cl. 46.
Republic Industrial Corp., New York, N.Y. 810,936, pub. 4–26–66. Cl. 13.
Republic Industrial Corp., New York, N.Y. 810,937, pub. 4–26–66. Cl. 13.
Rexall Drug and Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 810,899, pub. 4–26–66. Cl. 2.
Rexall Drug and Chemical Co., d.b.a. Marblecraft Co., Los Angeles, Calif. 811,024, pub. 4–26–66. Cl. 32.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 810,950, pub. 4–26–66. Cl. 17.
Rite-Fit: *See*—
Zemansky, John.
Ritepoint Corp., St. Louis, Mo. 811,049, pub. 4–26–66. Cl. 37.
Revere Rubber Co., Boston, Mass., to United States Rubber Co., New York, N.Y. 57,005, ren. 7–12–66. Cl. 35.
Robinson Furniture Co., Detroit, Mich. 698,142, canc. Cl. 32.
Rogerio Azcarraga Madero, Mexico D.F., Mexico. 811,019, pub. 4–26–66. Cl. 31.
Roll Dippers, Inc., Maumee, Ohio. 811,116. Cl. 1.
Roneo-Neopost Ltd., Richmond, Surrey, England. 698,095, canc. Cl. 23.
Rotron Controls Corp., Woodstock, N.Y. 698,119, canc. Cl. 26.
Royal Typewriter Co., Inc., to Royal Typewriter Co., Inc., New York, N.Y. 214,474, ren. 7–12–66. Cl. 11.
St. Regis Paper Co., New York, N.Y. 811,053, pub. 4–26–66. Cl. 37.
Sales Relations, Los Angeles, Calif. 698,293, canc. Cl. 101.
Saphira Creations, Inc., New York, N.Y. 811,007, pub. 4–26–66. Cl. 26.
Saturn & Sedran, Inc., Nashville, Tenn. 698,189, canc. Cl. 39.
Scale Control, Inc., Fort Worth, Tex. 810,984, pub. 4–26–66. Cl. 23.
Scherlag Corp., Bloomfield, N.J. 424,226, ren. 7–12–66. Cl. 18.
Schering Corp., Bloomfield, N.J. 698,048, canc. Cl. 18.
Schering Corp., Bloomfield, N.J. 698,049, canc. Cl. 18.
Schwarzkopf, Hans, Hamburg-Altona, Germany. 698,241, canc. Cl. 44.
Schweitzer, Raymond F., d.b.a. Old Angus Beef House Restaurant, Washington, D.C. 811,106, pub. 4–26–66. Cl. 100.

Scott Aviation Corp., Lancaster, N.Y. 811,087, pub. 4–26–66. Cl. 44.
Scott, Karl L., d.b.a. Hall's Enterprises, Palmdale, Calif. 698,120, canc. Cl. 26.
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Sessions Clock Co., The, Forestville, Conn. 698,130, canc. Cl. 27.
Sessions Clock Co., The, Forestville, Conn. 698,131, canc. Cl. 27.
Seymour Shoes, Inc., Haverhill, Mass. 811,064, pub. 4–26–66. Cl. 39.
Shakey's, Inc., Burlingame, Calif. 811,107, pub. 4–26–66. Cl. 100.
Shaw, Theodore, d.b.a. Tropaid Products Co., Chicago, Ill. 698,029, canc. Cl. 18.
Sheaffer, W. A., Pen Co., Fort Madison, Iowa. 698,160, canc. Cl. 37.
Shillman, M. & S., Brooklyn, N.Y. 810,977, pub. 4–26–66. Cl. 22.
Shulton, Inc.: *See*—
Leigh Chemist, Inc.
Sinalco Aktiengesellschaft, Detmold, Germany. 698,245, canc. Cl. 45.
Singer Co., The: *See*—
Singer Mfg. Co., The.
Singer Mfg. Co., The, Elizabeth, N.J., to The Singer Co., New York, N.Y. 424,852, ren. 7–12–66. Cl. 23.
Sly, W. W., Mfg. Co., The, Cleveland, Ohio. 810,994, pub. 4–26–66. Cl. 23.
Smith, E. Errett, Inc., New York, N.Y. 811,141. Cl. 37.
Societe a Responsabilite Limitee Dite: Christian Dior, Paris, France. 698,190, canc. Cl. 39.
Societe Civile de Recherches et d'Etudes Industrielles, Neuville-les-Dieppe (Seine-Maritime), France. 810,989, pub. 4–26–66. Cl. 23.
Socony Mobil Oil Co., Inc.: *See*—
Socony-Vacuum Oil Co., Inc.
Socony-Vacuum Oil Co., Inc., to Socony Mobil Oil Co., Inc., New York, N.Y. 421,043, ren. 7–12–66. Cl. 15.
Solar Light Mfg. Co., Chicago, Ill. 698,070, canc. Cl. 21.
Sound-Piper Co., Cleveland, Ohio. 698,065, canc. Cl. 21.
Southern Railway Co., Richmond, Va., and Washington, D.C. 505,509. Am. 7(d). Cl. 55.
Spalding, A. G., & Bros. Inc., Chicopee, Mass. 810,975, pub. 7–6–65. Cl. 22.
Spiesshofer & Braun, Heubach-Wurttemberg, Germany. 698,-222, canc. Cl. 39.
Standard Motor Co. Ltd., The, from The Standard Motor Co. (1959) Ltd., Canley, England. 698,054, canc. Cl. 19.
Standard Motor Co. (1959) Ltd., The: *See*—
Standard Motor Co., Ltd., The.
Sterilon Corp., Buffalo, N.Y. 811,153. Cl. 44.
Stiefel Laboratories, Inc., Oak Hill, N.Y. 810,956, pub. 4–26–66. Cl. 18.
Strietmann Biscuit Co., The, Cincinnati, Ohio, to United Biscuit Co. of America, Melrose Park, Ill. 217,591, ren. 7–12–66. Cl. 46.
Stromeyer, L., & Co., Kreuzlingen, Switzerland. 698,200, canc. Cl. 39.
Straub, Paul A., & Co., Inc., New York, N.Y. 811,013, pub. 4–26–66. Cl. 30.
Sudmbler Engineering Corp., Gardena, Calif. 810,992, pub. 4–26–66. Cl. 23.
Suntemp Industries, Inc., Blackwood, N.J. 811,030, pub. 4–26–66. Cl. 34.
Super Vacuum Mfg. Co., Inc., Loveland, Colo. 810,971, pub. 4–26–66. Cl. 21.
Sviluppo Silicalcite S.p.A., Napoli, Italy. 810,923, pub. 4–26–66. Cl. 12.
Sweetheart Sweets, Inc., Loveland, from W. E. Flood, Denver, Colo. 698,248, canc. Cl. 46.
Sweetwater Rug Corp., New York, N.Y. 811,075, pub. 3–10–64. Cl. 42.
Sylvania Electric Products Inc., New York, N.Y. 810,973, pub. 4–26–66. Cl. 21.
Sylvan Pools, Inc., Doylestown, Pa. 811,017, pub. 4–26–66. Cl. 31.
Taylor Bros., Inc., Winston-Salem, N.C. 810,951, pub. 4–26–66. Cl. 17.
Taylor Bros., Inc., Winston-Salem, N.C. 810,952, pub. 4–26–66. Cl. 17.
Televance Corp., St. Louis, Mo. 698,110, canc. Cl. 26.
Tennison Bros., Inc., Memphis, Tenn. 697,980, canc. Cl. 12.
Tex-son, Inc., San Antonio, Tex. 811,057, pub. 4–26–66. Cl. 39.
Textron Inc., Providence, R.I. 811,136. Cl. 28.
Thorne, R., & Sons Ltd. Robt. Thorne & Sons (Whisky Merchants) Ltd., Dumbarton, Scotland. 644,850. Am. 7(d). Cl. 49.
Ticker and Treasure, Inc., Chicago, Ill. 810,901, pub. 4–26–66. Cl. 2.
Tiffin Art Metal Co., The, Tiffin, Ohio. 698,144, canc. Cl. 34.
Townsend Engineering Co., Des Moines, Iowa. 810,995, pub. 4–26–66. Cl. 23.
Trans-Audio Co., Inc., Boston, Mass. 811,090, pub. 4–26–66. Cl. 44.
Tremont & Suffolk Mills, Lowell, Mass., to Deering Milliken, Inc., New York, N.Y. 53,941, ren. 7–12–66. Cl. 42.
Tremont & Suffolk Mills, Lowell, Mass., to Deering Milliken, Inc., New York, N.Y. 54,296, ren. 7–12–66. Cl. 42.
Tropaid Products Co.: *See*—
Shaw, Theodore.
Tupperware: *See*—
Rexall Drug and Chemical Co.
"21" Club Selected Items, Ltd., New York, N.Y. 810,949, pub. 4–26–66. Cl. 17.
Union Tank Car Co., Chicago, Ill. 811,018, pub. 4–26–66. Cl. 31.
United Aircraft Corp., East Hartford, from Norden-Ketay Corp., Stamford, Conn. 698,103, canc. Cl. 26.
United Biscuit Co. of America: *See*—
Strietmann Biscuit Co., The.
U.S. Plastic Co., Pasadena, Calif. 698,076, canc. Cl. 22.
United States Rubber Co.: *See*—
Gorham Rubber Co.
Revere Rubber Co.
United States Rubber Co., New York, N.Y. 811,061, pub. 4–26–66. Cl. 39.
United States Safety Service Co., Kansas City, Mo. 811,005, pub. 4–26–66. Cl. 26.
Universal Injection Moulders Pty. Ltd., Marrickville, near Sydney, New South Wales, Australia. 698,187, canc. Cl. 39.
Van Arsdale Laboratories, Inc., Minneapolis, Minn. 698,254, canc. Cl. 46.
Vander Molen, Jack J., d.b.a. J. J. Vander Molen & Co., Oak Park, Ill. 698,290, canc. Cl. 100.
Vander Molen, J. J., & Co.: *See*—
Vander Molen, Jack J.
Vogel Tool & Die Corp., Stone Park, Ill. 811,130. Cl. 23.
Vogue Dolls, Inc., Medford, Mass. 698,082, canc. Cl. 22.
Vox Products, Inc., New York, N.Y. 811,040, pub. 4–26–66. Cl. 36.
Waldorf Paper Products Co., St. Paul, Minn. 811,050, pub. 4–26–66. Cl. 37.
Walter Brewing Co., The, Pueblo, Colo. 811,100, pub. 8–3–65. Cl. 48.
Walker Mfg. Co., Racine, Wis. 811,016, pub. 4–26–66. Cl. 31.
Wampole Laboratories: *See*—
Denver Chemical Mfg. Co., The.
Waste King Corp., Los Angeles, Calif. 810,970, pub. 4–26–66. Cl. 21.
Water Service Laboratories, to Water Service Laboratories, Inc., New York, N.Y. 420,805, ren. 7–12–66. Cl. 13.
Water Service Laboratories, Inc.: *See*—
Water Service Laboratories.
Watson Fiberglass Co.: *See*—
PRW Corp.
Waycrosse, Inc., Minneapolis, Minn. 811,131. Cl. 23.
Waycrosse, Inc., Minneapolis, Minn. 811,132. Cl. 23.
Weber Marketing Systems, Inc., Mount Prospect, Ill. 810,996, pub. 4–26–66. Cl. 23.
Weber Marketing Systems, Inc., Mount Prospect, Ill. 811,054, pub. 4–26–66. Cl. 37.
Weber Piano Co., The, to Aeolian American Corp., New York, N.Y. 51,459, ren. 7–12–66. Cl. 36.
Weeks, Edgar T., d.b.a. Jack's Mofish Lure Co., Belton, Mo. 698,080, canc. Cl. 22.
Westinghouse Electric Corp., Pittsburgh, Pa. 810,965, pub. 12–12–61. Cl. 21.
Westley Industries: *See*—
Pacific Coast Co.
West Point-Pepperell, Inc.: *See*—
Massachusetts Cotton Mills.
Weyerhaeuser Co., Tacoma, Wash. 810,920, pub. 4–26–66. Cl. 12.
Weyerhaeuser Co., Tacoma, Wash. 811,043, pub. 4–26–66. Cl. 37.
Whipstock, Inc., Midland, Tex. 811,003, pub. 4–26–66. Cl. 23.
Whistle Bottling Co., Johnsonburg, Pa., to The Procter & Gamble Co., Cincinnati, Ohio. 214,076, ren. 7–12–66. Cl. 52.
Williams Stationery Co., Inc.: *See*—
Williams, Thomas J.
Williams, Thomas J., d.b.a. Personal Stationery Co., to Williams Stationery Co., Inc., Camden, N.Y. 423,554, ren. 7–12–66. Cl. 37.
Wilson, Frank M., Co.: *See*—
Nugget Foods, Inc.
Wilson, Frank M., Co., Inc.: *See*—
Nugget Foods, Inc.
Windex Hearing Aid Co., Inc., Long Island City, N.Y. 811,-088, pub. 4–26–66. Cl. 44.
Wood, E. K., Lumber Co., San Francisco, Calif., to Wood Lumber Co., Whittier, Calif. 209,218, ren. 7–12–66. Cl. 12.
Wood Lumber Co.: *See*—
Wood, E. K., Lumber Co.
Woodward-Schumacher Electric Corp., Chicago, Ill. 811,129. Cl. 21.
Womack Electronics, Inc., Danville, Va. 810,968, pub. 10–6–64. Cl. 21.
World Wide Enterprises, Inc., Chicago, Ill. 698,307, canc. Cl. 21.
World Wide Enterprises, Inc., Chicago, Ill. 698,308, canc. Cl. 21.
Wright Central Ltd., Strathroy, Ontario, Canada. 807,516, cor. Cl. 32.
Wright Mfg. Co., Toccoa, Ga. 811,145. Cl. 39.
Wurtzilite Corp. of America, Long Island City, N.Y. 698,-013, canc. Cl. 16.
Yale Engineering Co., Chicago, Ill. 811,122. Cl. 15.
Younglife Fashions, Inc., New York, N.Y. 698,191, canc. Cl. 39.
Zemansky, John, d.b.a. Rite-Fit, Frackville, Pa. 811,135. Cl. 26.
Ziebarth Co.: *See*—
Ziebarth, Robert.
Ziebarth, Robert, d.b.a. Ziebarth Co., Los Angeles, Calif. 697,-969, canc. Cl. 10.

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
July 19, 1966 Volume 828 Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1966

Examiner affirmed	242
Examiner affirmed in part	59
Examiner reversed	76
Total	377

Deposit Accounts

The practice instituted on May 1, 1966, pursuant to the notice of February 23, 1966 (824 O.G. 1200), whereby statutory fees may be charged against deposit accounts, and such accounts are closed if overdrawn, has resulted in certain difficulties for the Patent Office and deposit account holders. It has been decided therefore to modify that practice as indicated below.

As was pointed out in that notice, the charging of a fee against an overdrawn account cannot be considered as payment of the fee until a proper balance is restored or payment is made in some other way. Accordingly, deposit account holders who charge such fees must assume the risk of losing vital dates if they do not maintain a proper balance in their accounts at all times.

Apart from this, however, the overdrawing of an account places a burden on the Patent Office, particularly where a number of items are charged after the overdraft occurs, and it is appropriate that those who are responsible for causing such a condition should bear the cost of correcting it. In view of this fact, and of the hardship frequently caused if an account is permanently closed, the practice of closing deposit accounts merely because they are overdrawn will be discontinued, effective August 1, 1966. In lieu thereof an overdrawn account will be immediately suspended and no charges will be accepted against it until a proper balance is restored, together with a payment of ten dollars to cover the work done by the Patent Office incident to suspending and reinstating the account and dealing with charges which may have been made in the meantime. It is expected, however, that reasonable precautions will be taken in all cases to avoid overdrafts, and if an account is suspended repeatedly it will be necessary to close it.

Similarly, because of the burden placed on the Patent Office incident to the operation of deposit accounts, a charge of ten dollars will be made for opening each new account.

EDWARD J. BRENNER,
June 23, 1966. *Commissioner.*

Dependent Claims

Although the notice published on October 5, 1965, in 819 O.G. 3, explained that for the purposes of the present fee bill, Public Law 89-83, approved July 24, 1965, the Patent Office will consider a proper dependent claim as being one which incorporates by reference a single preceding claim, whether independent or dependent, and includes all the limitations of the claim so incorporated, there appears to be still some uncertainty on this matter and it is therefore thought to be desirable to elaborate it.

Since the initial determination, for fee purposes, as to whether a claim is dependent must be made by persons other than examiners, it is necessary, at that time, to accept as dependent virtually every claim which refers to another claim, without determining whether there is actually a true dependent relationship. Such acceptance does not, however, preclude a subsequent holding by the examiner that a claim is not a proper dependent claim.

An essential characteristic of a proper dependent claim is that it shall include every limitation of the claim from which it depends (35 U.S.C. 112) or in other words that it shall not conceivably be infringed by anything which would not also infringe the basic claim. Thus, for example, if claim 1 recites the combination of elements *a*, *b*, c and *d*, a claim reciting the structure of claim 1 in which *d* was omitted or replaced by *e* would not be a proper dependent claim, even though it placed further limitations on the remaining elements or added still other elements.

The fact that a dependent claim which is otherwise proper might require a separate search or be separately classified from the claim on which it depends would not render it an improper dependent claim, although it might result in a requirement for restriction.

The fact that the independent and dependent claims are in different statutory classes does not, in itself, render the latter improper. Thus, if claim 1 recites a specific product a claim for the method of making the product of claim 1 in a particular manner would be a proper dependent claim since it could not be infringed without infringing claim 1. Similarly, if claim 1 recites a method of making a product, a claim for a product made by the method of claim 1 could be a proper dependent claim. On the other hand, if claim 1 recites a method of making a specified product, a claim to the product set forth in claim 1 would not be a proper dependent claim if the product might be made in other ways.

Any claim which is in dependent form but which is so worded that it does not, in fact, include every limitation of the claim on which it depends, will be required to be cancelled as not being a proper dependent claim; and cancellation of any further claim depending on such a dependent claim will be similarly required. The applicant may thereupon amend the claims to place them in proper dependent form, or may redraft them as independent claims, upon payment of any necessary additional fee.

The basis for the difference in fees between independent and dependent claims is the fact that the examination of a dependent claim is normally a comparatively simple matter

New Applications Received During May 1966

Patents	7,779
Designs	418
Plant Patents	12
Reissues	17
Total	8,226

Issue—July 19, 1966

Patents	1,102	No. 3,261,024 to No.	3,262,124½, incl.
Designs	60	No. 205,279 to No.	205,338, incl.
Reissues	7	No. 26,061 to No.	26,067, incl.
Total	1,169		

after the claim on which it depends has been examined. This relationship, however, obtains only when the independent claim represents a bona fide attempt to define the invention and to distinguish it from the known prior art. Accordingly, the presentation of a claim which on its face is obviously unpatentable or indefinite, as basis on which other claims are dependent, is not considered to be proper practice. One example of such a practice involves the use of a claim drawn to "all the features of novelty herein disclosed," with other claims, which actually recite the features thought to be novel, being dependent on the first. A similarly objectionable arrangement would involve the use, as a basic independent claim, of a claim merely reciting "a wheeled vehicle," "an amino acid" or "an internal combustion engine."

Such a practice as that just described involves not only an attempt to evade the fee provisions of Public Law 89–83, but also the presentation of a claim known by the attorney or agent presenting it to be unpatentable. Any registered patent attorney or agent who makes a practice of presenting claims of this character may be called on to explain his actions.

(Signed) EDWARD J. BRENNER,
Commissioner.

June 8, 1966.

Disclaimers

3,206,085.—*Mindaugas J. Klygis*, Chicago, Ill. COMBINED CONTAINER AND CLOSURE. Patent dated Sept. 14, 1965. Disclaimer filed Apr. 6, 1966, by the assignee *Continental Can Company, Inc.*

Hereby enters this disclaimer to claim 22 of said patent.

3,222,765.—*Gordon C. J. Parent*, Southgate, and *Karl Luther*, Lathrup Village, Mich., and *Walter W. Bulgrin* and *Meredith H. MacKusick*, Akron, Ohio. METHOD FOR PRODUCING WELDED DISK WHEELS. Patent dated Dec. 14, 1965. Disclaimer filed Apr. 26, 1966, by the assignee, *The Firestone Tire & Rubber Company.*

Hereby enters this disclaimer to the terminal portion of the term of said patent subsequent to Aug. 4, 1981.

Patents Available for Licensing or Sale

3,159,861. SEWER CLEANING MACHINE. Dominick C. Sarcone, 3239 Fenton Ave., Bronx, N.Y., 10469.

3,187,753. BRASSIERES. A.R.A.M. Industries Pty., Ltd., Sydney, Australia. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,211,155. GIRDLES. A.R.A.M. Industries Pty., Ltd., Sydney, Australia. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,215,917. ELECTRICALLY-DRIVEN TIMING DEVICE. Buck Instrument Co., Boulder, Colo. Correspondence to: Anderson, Spangler & Wymore, Suite 2114, 1700 Broadway, Denver, Colo., 80202.

3,220,681. BASE MAT. Adelhard Erbert, 3835 Trinity St., North Burnaby, British Columbia, Canada.

3,240,261. THERMOELECTRIC APPARATUS AND METHOD. E. L. Morales, 909 S. Gramercy Drive, Los Angeles, Calif., 90019.

The following 2 patents are offered by: Mason Trupp, Tampa, Fla. Correspondence to: Sherman Levy, Suite 602 Victor Building, 724 9th St. NW., Washington, D.C., 20001.

3,250,495. COMPOUND PHOTONIC JET PROPULSION.

3,250,496. PROPULSION SYSTEM.

General Electric Company is prepared to grant non-exclusive licenses under the following 28 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: General Electric Company, Patent Counsel, Silicone Products Department, Chemical and Metallurgical Division, Waterford, N.Y., 12188.

2,901,460. HALOSILANE HYDROLYSIS WITH TETRAHYDROFURAN AND WATER.

Applications for license under the following 10 patents may be addressed to: Patent Counsel, Major Appliance & Hotpoint Division, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,050,832. METHOD OF MANUFACTURING A MOTOR COMPRESSOR UNIT.

3,123,329. CONTROL BULB CLAMP.

3,225,564. COMPACT REFRIGERATOR.

3,227,502. SHELF GUARD FOR REFRIGERATOR DOOR SHELVES.

3,236,576. REFRIGERATOR CABINET.

3,248,758. MOLD FOR THE MANUFACTURE OF POLYURETHANE FOAM ARTICLES.

3,248,910. ADDITIVE DISPENSER FOR AUTOMATIC WASHING MACHINES.

3,249,118. DRAIN CONTROL MEANS FOR LIQUID-CONTAINING VESSEL.

3,249,156. FIN-ON-TUBE TYPE HEAT EXCHANGER.

3,249,470. METHOD OF JOINING THERMOELECTRIC ELEMENTS AND THERMOCOUPLE.

Applications for license under the following 17 patents may be addressed to: General Electric Company, Power Distribution Division, 100 Woodlawn Ave., Pittsfield, Mass., Attn: Division Patent Counsel.

D.171,952. LUMINAIRE.

D.178,007. TRAFFIC SIGNAL.

D.186,786. LUMINAIRE.

D.193,407. LUMINAIRE.

D.194,478. LUMINAIRE.

D.194,479. LUMINAIRE.

D.194,624. LUMINAIRE.

D.195,989. LUMINAIRE.

D.195,990. LUMINAIRE.

D.201,515. LUMINAIRE.

D.202,440. LUMINAIRE.

D.203,293. LUMINAIRE.

3,231,964. METHOD OF MAKING AN ELECTRICAL CONNECTION.

3,238,280. POROUS COATING FOR ELECTRICAL CONDUCTORS AND METHOD OF FORMING.

3,240,848. METHOD OF MAKING ENCAPSULATED TRANSFORMERS CONTAINING A DIELECTRIC GAS.

3,248,781. METHOD OF MAKING REACTIVE TRANSFORMERS.

3,249,773. OPTIMIZATION OF OPEN-WIRE TRANSMISSION LINES.

Erratum

In the OFFICIAL GAZETTE of May 24, 1966, among those listed as being available for non-exclusive licensing by General Electric Company, Patent Counsel, Major Appliance & Hotpoint Division, Appliance Park, Louisville Ky., 40225, "Patent 3,220,605" should have been *3,200,605*.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action: New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	9–17–62	11–14–60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1– 9–63	2–20–61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager. Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3– 4–63	4– 5–62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	2– 5–63	7–18–60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager. Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9–11–62	2– 26–60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager. Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	9–24–62	11–16–61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager. Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11–16–62	8–28–61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager. Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12–27–62	5–21–62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12–31–62	10– 5–61
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6– 5–63	1– 2–62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager. Communications; Multiplexing Techniques; Facsimile and Related Art.	1–28–63	12–22–61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager. Data Processing, Computation and Conversion; Storage Devices and Related Art.	9– 4–62	2–15–60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	11– 1–62	4– 5–61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager. Optics; Radiant Energy; Measuring.	11–13–62	6–15–61
ELEMENTS, GROUP 270—M. L. LEVY, Manager. Conductors; Switches; Miscellaneous.	3–19–63	8–17–62
PHYSICS, GROUP 280—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8–30–63	10–25–62
DESIGNS, GROUP 290—S. BOYD, Manager. Industrial Arts; Household, Personal and Fine Arts.	5–17–65	6– 8–64

Total number of pending applications (excluding Designs)	198,186
Total number of Design applications pending	4,690
Total number of applications awaiting action (excluding Designs)	146,208
Total number of Design applications awaiting action	2,722
Date of oldest new application awaiting action	Sept. 4, 1962
Date of oldest amended application awaiting action	Feb. 15, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.

Patents..... Numbers 2,474,805 to 2,477,557, inclusive

Plant Patents..... Numbers 852 to 857, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	8-14-64	12- 2-63
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	11-15-63	8-16-61
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	4-10-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	1-20-64	11- 7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8- 5-64	8-21-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	9-26-63	1- 3-62
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	10-14-63	6-18-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	5- 3-63	3-22-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-24-64	5-15-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-25-63	8-15-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7- 1-63	7-13-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE DON G. HUTTON AND CHRISTOPHER L. WILSON

No. 7486. Decided February 24, 1966

[53 CCPA —; 356 F.2d 111; 148 USPQ 545]

1. CLAIM—CONSTRUCTION OF CLAIMS.

Upon considering the scope of claims calling for flowing the mixed liquid reactants for forming cellular polyurethane through "an elongated conduit," *Held* that "While it is true that flow of the liquid through 'an elongated conduit' must result in the recited effects of 'retarding the flow' and 'building up a back pressure,' we think it clear that the claims do not exclude the presence of a valve or other constriction in that conduit to yield that result"; and that "The claims are not limited to an elongated conduit of *uniform* diameter."

2. APPLICATION—DISCLOSURE—RIGHT TO MAKE.

On the issue of the right to make certain functional statements appearing in process claims copied for the purpose of interference with a patent (to Ebneth) *Held* that "The disclosure is sufficient if the results flowing from the process are inherent in the process as taught by the specification and drawings"; that "Appellants have presented affidavits setting forth facts, not controverted by the Patent Office, from which the affiants conclude the functional results are inherent in the process carried out as disclosed in the specification"; that "Nothing appears in the present record to cause us to question the sufficiency or ability of the facts presented in those sworn ex parte statements to support the conclusion of inherency"; and that "*On this record*, we can see no reason, nor has the Patent Office presented any, why flow through the elongated conduit structure of appellants will not necessarily and inherently result in retarding the flow, building up back pressure and affecting the cell size and number in the claimed manner just as performance of the same process step in the similar apparatus of Ebneth retards the flow, builds up back pressure and predetermines cell size and number."

APPEAL from the Patent Office. Serial No. 158,613.

REVERSED.

Richard K. Parsell, Solon B. Kemon for appellants.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, JR., *Associate Judges*

WORLEY, *Chief Judge*, delivered the opinion of the court.

The sole issue here is whether the Board of Appeals committed reversible error in sustaining the Examiner's rejection of claims 1 and 2, copied from a patent to Ebneth [1] for purposes of interference, as not supported in appellants' application.[2]

The subject matter is reflected in claim 2, to which we have added emphasis to indicate the precise method step in issue:

2. In the preparation of a solidified cellular polyurethane [3] by a process which comprises mixing liquid components together in a mixing chamber and flowing the resulting mixture into a suitable shaping device while it is still liquid and before any substantial amount of chemical reaction between said components, *the method of predetermining the cell size and the number of cells per unit of area of solidified product which comprises flowing the said mixture*

[1] U.S. Patent No. 2,948,928, issued August 16, 1960, on an application filed December 17, 1956.

[2] Serial No. 158,613, filed December 11, 1961, as a division of Serial No. 585,298, filed May 16, 1956.

[3] Polyurethane foams are commonly prepared by reacting polyethers or polyesters containing free hydroxyl groups with polyisocyanates in the presence of a suitable aqueous catalyst solution. Carbon dioxide evolved during reaction forms the pores in the resulting solid polyurethane plastic.

while still liquid through an elongated conduit thereby retarding the flow thereof from said chamber and building up a back pressure, whereby said cell size of the product after solidification is larger and the number of cells per unit area smaller the greater the retardation of flow of liquid from said chamber.

Claim 1 differs from claim 2 in reciting "elongated enclosed passageway" instead of "elongated conduit."

In general, both Ebneth and appellants disclose methods which may be used to predetermine cell or pore size as well as the number of cells per unit area in finished polyurethane foam. Ebneth discloses a cylindrical mixing chamber provided with an agitator and appropriate inlets through which the individual components of the reaction mixtures may be continuously or intermittently introduced into the mixing zone under pressure. After passing through the mixing zone, the reaction mixture flows to an area below the agitator toward a discharge orifice at the bottom of the mixing chamber. Ebneth states:

It has been found that it is possible to predetermine the cell or pore size of the finished polyurethane foam plastic by passing the reaction mixture through a conduit and by controlling the time the reaction mixture of components spends in the conduit adjacent the discharge orifice of the mixing chamber. The period of dwell in the conduit may be predetermined by means of the cross-sectional dimensions of the conduit or by means of the length of the conduit extending from the discharge nozzle. * * *

* * * * * * *

It is preferred to provide the apparatus with a conduit having a means for easily adjusting the diameter without changing the conduit. For example, the conduit may be provided with a globular valve or other suitable valve for throttling the flow of liquid through the conduit [FIG. 3]. Likewise, the conduit may be made of a flexible material and may be provided with a suitable clamp for adjusting the diameter of the conduit to suitably restrict the flow of the reaction mixture therethrough. Any other suitable means for predetermining the internal diameter of the conduit including the use of a set of interchangeable conduits of various diameters [FIG. 1] or of a diaphragm or other partial blocking means may be utilized [FIG. 2], it being important only that the conduit diameter and length be controlled by following the rule that the smaller the cross-sectional dimension of the conduit or the longer the conduit, the smaller the number of pores per unit area and the larger the pore. The rule may also be stated thus: the longer the reaction mixture is retained in the conduit, the larger the pores and the smaller number thereof per unit area of foamed product. It is preferred to use a tubular extension or conduit having a means for varying the diameter.

* * * * * * *

No definitely proven theory has been advanced to explain the exact function of the conduit or extension in improving the porosity of the hardened foam. It may be that confinement of the reaction mixture in an area in which the back pressure is predetermined and controlled results in the improved pore structure because of the presence of this back pressure during the early stages of the chemical reaction. * * *

Employing a generally similar apparatus, appellants feed the components of the reaction mixture separately to a cylindrical mixing head from individual metering pumps which are capable of delivering the reactants "at a non-fluctuating rate" and at pressures of 50–300 pounds per square inch. The mixing chamber is provided with a particular arrangement of paddles and baffle means designed to create turbulence and shear effects conducive to mixing of the reactants. After passing downward from the mixing zone, the mixture is delivered to a suitable mold by means of an outlet nozzle having a valve arranged therein. From appellants' drawings it appears the nozzle can be a length of relatively small diameter pipe threaded into the base plate of the mixing head, to which a valve is threaded.

Another length of pipe is threaded into the opposite side of the valve. Appellants' specification further states:

* * * It has been found that the pore size [of the foamed product] may be carefully controlled by regulating the rotational speed of [the] paddles * * *.

* * * * * * *

Thus, with the higher mixing speeds the average pores in the foam will be quite fine whereas with a decrease in such mixing speed, said pores become coarse and of increased average size.

Appellants specifically ascribe the following function to the outlet valve of their apparatus:

* * * Pressure is maintained within [the] head * * * by appropriate settings on [the metering] pumps * * * and suitable regulation of [the] outlet valve * * *.

* * * * * * *

Optimum pressure conditions within [the] mixing head * * * are obtained by adjusting the outlet valve * * *. Normal pressures found in the head range between about 10 to 15 pounds per square inch.

The Examiner recognized that Ebneth discloses at least three methods of "retarding the flow" of liquid reactants through the "elongated conduit" to control pore size and the number of pores in the solid polyurethane foams, namely: (1) changing the discharge pipe diameter by substituting larger or smaller pipe as shown in FIG. 1 of Ebneth; (2) using a calibrated diaphragm to enlarge or narrow the diameter of the conduit as shown in FIG. 2 of Ebneth; and (3) providing the conduit with a suitable throttling valve to restrict flow as the valve is closed, illustrated in FIG. 3 of Ebneth. In rejecting claims 1 and 2 as "not readable" upon appellants' disclosure, the Examiner said:

* * * These claims both require the flowing of the liquid "through an elongated passageway [or conduit] thereby retarding the flow thereof from said chamber and building up a back pressure." * * * When the above quoted portion of these claims are read in the light of the disclosure of Patent No. 2,948,928, in which they originate, it is found that they are necessarily restricted to the species of FIGURE 1 of this patent which is the only figure wherein mere flow through a "conduit" or "passageway" produces the required function of "thereby retarding the flow thereof and building up a back pressure." In the species of FIGURES 2 and 3 the building up of the back pressure is accomplished by the use of valves or restrictions and not by mere flow through a passageway or conduit as required by these claims. Applicants have no disclosure which corresponds to the method of control shown in FIGURE 1 of the patent. * * *

The Examiner was of the further view that:

Granting, for the sake of argument alone, that claims 1 and 2 are not limited to FIGURE 1 of the patent, but may be regarded as also reading on FIGURES 2 and 3 of said patent, it is still held that applicants lack sufficient disclosure to support these claims. * * * Thus presuming (but not admitting) that these claims only call for the controlling of the pore density by the mere regulation of the pressure in the mixing head, no clear teaching to this effect can be found in applicants' specification.

The Board agreed, adding:

In our opinion, there is no necessity for interpreting the language pertaining to the flowing of the liquid through the elongated conduit or passageway, because the language is clear and unambiguous. The "thereby" clause follows the procedural step of flowing the liquid through the elongated conduit or passageway, plainly meaning that the recited step results in the specified effect. Even though other procedures, such as the use of a pressure control valve, might also produce the specified result, they would not satisfy the claim language calling for flow through an elongated conduit or passageway as the causative procedure.

* * * * * * *

Appellants' disclosure is also lacking in a teaching of predetermining cell size and number by controlling the flow retardation and back pressure buildup.

We realize that appellants disclose control of pore size and also the maintenance of pressure in the mixer. However, there is completely lacking any disclosure that variation in the pressure results in control of pore size. * * * Appellants disclose one method of pore size control (paddle speed); the claims of the Ebneth et al. patent specify a different method of pore size control (flow retardation and back pressure buildup) not disclosed by appellants.

With respect to the scope of the claims, as noted above, the Examiner and Board shared the view that the claims are necessarily restricted to the "FIGURE 1" embodiment of Ebneth, which relates to the use of interchangeable conduits of various uniform diameters, having no valve therein, to regulate liquid flow and back pressure. Since appellants disclose only an apparatus with a valve attached to the conduit, it is the position of the Patent Office that appellants' disclosure manifestly does not support the claim.

We cannot agree that such a restricted view of the broad, comprehensive language of either claim is proper. [1] While it is true that flow of the liquid through "an elongated conduit" must result in the recited effects of "retarding the flow" and "building up a back pressure," we think it clear that the claims do not exclude the presence of a valve or other constriction in that conduit to yield that result. The claims are not limited to an elongated conduit of *uniform* diameter. Nor is there anything in this record to justify limitation of the seemingly broad language to only one of Ebneth's disclosed embodiments. Finally, as can be seen from his disclosure, Ebneth prefers to provide his apparatus with a conduit having a means for easily adjusting the diameter *without* changing the conduit, such as a *valve*. We think the Board's position as to the scope of the claims is without support in the record and are satisfied that appellants do disclose flowing liquid through an elongated conduit or passageway, the sole process step of consequence recited in the claims.

We now turn to whether the functional results derived from flowing the liquid reaction mixture through the conduit are satisfied by appellants' disclosure. The Examiner and Board concerned themselves primarily with the fact that appellants make no express disclosure that flowing the liquid through a discharge nozzle with a valve therein results in "retarding the flow thereof" from the mixing chamber and "building up a back pressure" whereby cell size is larger and number of cells per unit area is smaller the greater the retardation of flow. From our reading of the record and appellants' brief, we think it fair to say that appellants concede they have no explicit disclosure of those results other than predetermining the pressure in the mixing head by adjusting the outlet valve. They urge, however, that the Examiner and Board erred in failing to hold that the subject matter of the claims is inherent in their disclosure.

We agree with appellants. [2] The disclosure is sufficient if the results flowing from the process are inherent in the process as taught by the specification and drawings. *In re Spencer*, 47 CCPA 751, 273 F.2d 181, 124 USPQ 175. Appellants have presented affidavits setting forth facts, not controverted by the Patent Office, from which the affiants conclude the functional results are inherent in the process carried out as disclosed in the specification. Nothing appears in the present record to cause us to question the sufficiency or ability of the facts presented in those sworn ex parte statements to support the conclusion of inherency. *On this record*, we can see no reason, nor has the Patent Office presented any, why flow through the elongated conduit structure of appellants will not necessarily and inherently result in retarding the flow, building up back pressure and affecting the cell size and number in the claimed manner just as performance of the same process step in the similar apparatus of Ebneth retards the flow, builds up back pressure and predetermines cell size and number.

The decision is reversed.

REVERSED.

RICH, *J.*, concurring.

I fully agree with the result reached but with qualifications as to what might be drawn therefrom.

This case seems to me quite similar in principle to *In re Walter*, 48 CCPA 1094, 292 F.2d 547, 130 USPQ 168. We there found support for a claim copied for interference purposes on the theory of inherency even though, as the dissenting opinion there pointed out (the same being true here), "appellant's application contains no express disclosure of the limitation in the appealed claim," "the property claimed * * * was not recognized or disclosed," and "appellant did not appreciate the advantage" of the structure as recited in the copied claim, at least so far as his disclosure was concerned. In *Walter*, although "the public would not have been taught the desirability" of what the *patentee* taught, had he "not entered the field," as the dissent in *Walter* pointed out, we nevertheless believed the applicant *was entitled to contest priority* of claims reading on his apparatus, on the basis of inherent disclosure.

For precedents in addition to *In re Spencer* which establish the supposedly "solid law" on inherency followed in *Walter*, see the cases cited in the dissenting opinion therein. To what may be gleaned therefrom I wish to add that, in my view, a holding of a right to *copy* for the purpose of *contesting priority* does not preclude further consideration of the right to *make* upon further evidence, if any, not before us, which might be produced in inter partes proceedings. Neither is it a ruling, one way or the other, that the applicant has so complied with 35 U.S.C. 112, first paragraph, as to be entitled to a *patent* containing the copied claims. For my part, I am passing only on the right to have an interference—and that preliminarily. That was my view in *Walter*, contrary to the apparent dissenting view that what was at issue was whether the applicant could be "granted a claim."

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

3,158,213, O'Neill and Homanick, DRILL STRING SUSPENSION ARRANGEMENT, **filed** Apr. 18, 1966, D.C., W.D. La. (Shreveport), Doc. 11937–S, *Leyman Corporation et al. v. Hycalog, Inc.*

3,158,973, A. C. Monaghan, PACKAGING MACHINE; **3,226,839**, same, HEATING TUNNEL, **filed** Apr. 19, 1966, D.C., S.D.N.Y., Doc. 66/1103, *Serv-All Machinery Corp. et ano. v. Weldotron Corp.*

3,164,838, E. L. Heinrich, PANNING AND TILTING MOUNT FOR A CAMERA, **filed** June 16, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–896–FW, *Pelco Sales, Inc. v. Ram Electronics et al.* Stipulation and order dismissing complaint and counterclaims with prejudice Mar. 10, 1966.

3,167,176, C. E. Saunders, PAINT BRUSH WRAPPER, **filed** July 12, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–680, *Paintmaster Brush Mfg. Co., Inc. v. J. C. Farber, Inc.* Order discontinuing action with prejudice Apr. 18, 1966.

3,171,458, B. Strong, PLASTIC CONTAINER, **filed** Mar. 12, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–398–TC, *Strong Plastics, Inc. v. Vita-Pakt Citrus Products Co.* Stipulation and order of dismissal with prejudice Apr. 25, 1966.

3,171,652, J. W. Newman, EXERCISING WEIGHT FILLED WITH SOLIDIFIED MATERIAL; **Des. 203,837**, F. H. James, Jr., BARBELL WEIGHT, **filed** Nov. 8, 1965, D.C., Md. (Baltimore), Doc. 16848, *Diversified Products Corporation et al. v. Sports Center Co., Inc. et al.* Patent Des. 203,837 and defendant Billard Barbell Company, Inc. included by amended complaint Apr. 27, 1966.

3,172,289, S. N. Blackman, GLASS THERMOMETER, **filed** Apr. 27, 1966, D.C., N.D.N.Y. (Utica), Doc. 66–CV–153, *Seymour N. Blackman et al. v. Faichney Instrument Corp.*

3,175,514, E. D. McMurry, APPARATUS FOR GAS LIFT PRODUCTION OF LIQUID FROM WELLS, **filed** Apr. 20, 1966, D.C., S.D. Tex. (Houston), Doc. 66–H–229, *McMurry Oil Tool Specialties, Inc. v. Dresser Industries, Inc.*

3,179,026, A. F. Crone, SEALING ELEMENT FOR PAVEMENT GROOVES, **filed** Apr. 29, 1966, D.C., N.D. Ohio (Toledo), Doc. C66–89, *Acme Highway Products Corporation* v. *The D. S. Brown Company et al.*

3,180,119, A. E. Goldfarb, COMBINATION LOCK STRUCTURE, **filed** June 10, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–869–S, *Adolph E. Goldfarb* v. *Sunset House.* Stipulation and order dismissing plaintiff's complaint with prejudice and defendant's counterclaims without prejudice Feb. 21, 1966.

3,211,197, W. C. Jones, EDGE STRAIGHTENING DEVICE, **filed** Apr. 26, 1966, D.C., W.D. La. (Shreveport), Doc. 11965–A, *Temple Industries, Inc. et al.* v. *Tremont Lumber Company.* **Same, filed** May 3, 1966, D.C., W.D. La. (Shreveport), Doc. 11988, *Temple Industries, Inc.* v. *Matthews Lumber Company.*

3,213,462, A. P. Ramsell, BRASSIERE, **filed** Apr. 29, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–728–CC, *Alberta P. Ramsell, also known as Penny Rich* v. *Con-Stan Industries, Inc. et al.*

3,218,757, E. Benkoe, POWERED WHEEL VEHICLE AND TRACK ASSEMBLY, **filed** Apr. 25, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–1250, *Transogram Co., Inc.* v. *Dell Plastics Co., Inc.* Consent judgment for injunction Apr. 22, 1966.

3,219,752, L. A. Harris, HIGH FREQUENCY ELECTRICAL LEAD-IN CABLE, **filed** Jan. 17, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c113, *Columbia Wire and Supply Co.* v. *Phalo Corp. et al.* Order dismissing cause Apr. 21, 1966. **Same, filed** Jan. 6, 1966, D.C., N.D. Ill. (Freeport), Doc. 66–C–1, *Columbia Wire and Supply Co.* v. *Saxton Products, Inc. et al.* Consent judgment for plaintiff; defendants enjoined May 13, 1966.

3,226,839. (See 3,158,973.)

3,246,793, C. E. Wade, SEALING CLOSURE, **filed** Apr. 26, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–705–EC, *CHD Pool Equipment, Inc. et al.* v. *Swimrite, Inc. et al.*

Re. 23,422, F. R. Perry, CLEANING METHOD AND MATERIAL THEREFOR, **filed** July 23, 1963, D.C., S.D.N.Y., Doc. 63/2191, *Agrashell, Inc.* v. *Composition Materials Co., Inc.* Judgment in favor of defendant; complaint dismissed Apr. 29, 1966.

Re. 24,382, E. M. Greer, PISTON ACCUMULATOR, **filed** Apr. 19, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C–353, *Greer Hydraulics, Inc.* v. *Hydrodyne Industries, Inc.*

Des. 195,175, L. E. Greenberg, PLAY POOL OR SIMILAR ARTICLE, **filed** Dec. 4, 1964, D.C., S.D.N.Y., Doc. 64/3737, *Coleco Industries, Inc.* v. *Kransco Manufacturing, Inc. and Saul Mondschein, doing business as Mondschein & Co.* Case transferred to northern district of California as to defendant Kransco only (notice July 2, 1965). Stipulation and order dismissing action with prejudice Apr. 19, 1966.

Des. 199,143, H. A. Daum, LIGHTING FIXTURE, **filed** Oct. 15, 1965, D.C.N.J. (Newark), Doc. 1112–65, *Hadco Aluminum Products Co.* v. *Frank Dini Co., Inc.* Consent judgment holding patent infringed; injunction issued Apr. 12, 1966.

Des. 199,789, A. M. Pearsall, SOFA; **Des. 201,130**, same, **filed** May 27, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c834, *Craft Associates, Inc.* v. *Comfo Sleep Inc. et al.* Final consent judgment, patents held valid and infringed; defendants enjoined Apr. 29, 1966.

Des. 201,130. (See Des. 199,789.)

Des. 203,837. (See 3,171,652.)

Des. 204,175, B. Zuckerman, GARMENT HANGER, **filed** Apr. 15, 1966, D.C., S.D.N.Y., Doc. 66/1083, *Mr. Hanger, Inc.* v. *Carl Birnbach et al.* **Same, filed** Apr. 29, 1966, D.C., S.D.N.Y., Doc. 66/1249, *Mr. Hanger, Inc.* v. *Yankee Plastics, Inc.*

REISSUES

JULY 19, 1966

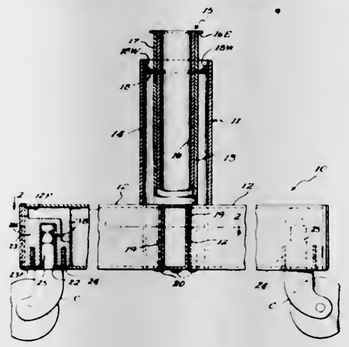
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,061
METHOD OF MAKING A CHAIR BASE

Bruce O. Buhrmaster, North Aurora, Ill., assignor to All-Steel Equipment Inc., a corporation of Illinois

Original No. 3,186,064, dated June 1, 1965, Ser. No. 366,363, May 11, 1964, which is a division of Ser. No. 288,948, June 19, 1963. Application for reissue Oct. 20, 1965, Ser. No. 502,775

2 Claims. (Cl. 29—150)



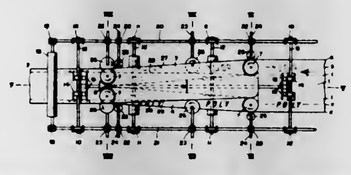
1. The method of making a chair base for swivel chairs which consists in [preplating] *taking* an inner tubular shell, assembling and securing to said shell in radial directions, four, substantially rectilinear, preplated leg elements each having a substantially rectangular cross-sectional shape with the inner ends of said leg elements abutting said shell and with parallel vertical welds at juncture lines between the leg elements and the shell, mounting a preplated slotted outer shell over said inner shell and leg assembly in radially spaced relation to the inner shell with the slots of the outer shell opening downwardly and being shaped and spaced to receive the rectangular leg elements in close fitting relationship to thereby mask the welds, and then securing the outer shell to the inner shell and leg assembly in said radially spaced relation.

26,062
FOLDING FLATTENED TUBES

Andreas Ahlbrandt, Lauterbach, Hesse, Germany, assignor to Walter Durbeck Papiersackfabriken G.m.b.H., Lauterbach, Hesse, Germany

Original No. 3,185,044, dated May 25, 1965, Ser. No. 243,285, Dec. 10, 1962. Application for reissue Nov. 18, 1965, Ser. No. 512,818

12 Claims. (Cl. 93—20)



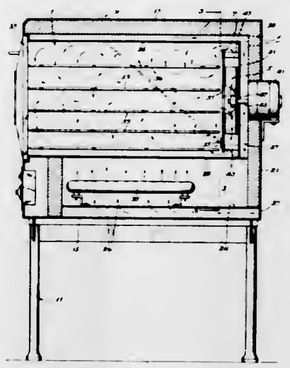
1. A method of [folding continuously moving] *transforming* flat tube-like webs [to produce] *in the production of* package bags of artificial material [with the bag in a filled state being approximately rectangular in cross section], comprising continuously moving the web *which is characterized by a longitudinally extending marginal portion thereof bearing indicia,* [longitudinally] and rotating the web around its *longitudinal* axis [as to the movement of the web] a distance which is equivalent to one half the width of [two opposite sides] *the marginal portion* of the [rectangular configuration of the bag] *web.*

26,063
HIGH VELOCITY OVEN

Richard T. Keating, 144 N. Cuyler Ave., Oak Park, Ill.

Original No. 3,074,393, dated Jan. 22, 1963, Ser. No. 829,408, July 24, 1959. Application for reissue Jan. 15, 1965, Ser. No. 440,973

4 Claims. (Cl. 126—21)



1. A roasting and baking oven comprising

(a) a closed rectangular oven chamber having top, bottom, side and end walls,

(b) a continuous heating chamber spaced from and surrounding the top, bottom, sides and one end wall of said closed oven chamber,

said heating chamber including heating means in the lower portion thereof,

(c) a centifugal impeller mounted within said oven chamber adjacent said one end wall and parallel therewith,

(d) means for driving said impeller, and

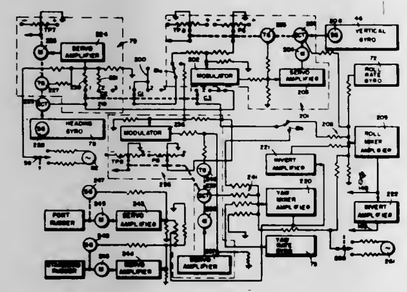
(e) a flat rectangular baffle plate lying completely in a single plane adjacent and substantially parallel with said impeller on the side thereof opposite said one end wall,

(1) said baffle plate having

a central opening for air to be pulled axially into said impeller from said oven chamber,

(2) and the peripheral edges of said baffle plate being square to the plane of one face thereof and spaced from the respective opposing walls of said oven chamber sufficiently to cause air moving radially outward from said impeller between the baffle and said one wall to turn sharply over the said edges to enter into said oven chamber along said opposing walls in violently turbulent condition.

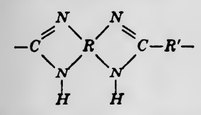
26,064
AUTOPILOT
Robert W. Bond, Whittier, Harold G. Markey, San Jose, John H. Ladd, Downey, Roy L. Roberts, Jr., Fullerton, and George R. Keller, Whittier, Calif., by North American Aviation, Inc., a corporation of Delaware
Original No. 3,094,299, dated June 18, 1963, Ser. No. 757,852, Aug. 28, 1958. Application for reissue Feb. 2, 1966, Ser. No. 532,504
7 Claims. (Cl. 244—77)



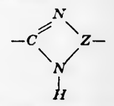
6. In combination with an aircraft having roll and yaw control surfaces, gyroscopic means for generating roll and yaw rate signals, heading deviation means for generating a heading control signal indicative of the difference between the heading of said aircraft and a selected heading reference signal, means for selectively varying said heading reference signal, means for generating a turn control signal, mode selector means for alternatively selecting said turn signal or said heading control signal, roll and yaw mixing means having inputs receiving said roll and yaw rate signals, turn mode selector means for alternatively transmitting to either said roll or yaw mixing means the signal selected by said selector means, and roll and yaw actuator means respectively responsive to said roll and yaw mixing means for actuating said roll and yaw control surfaces respectively, *said roll mixing means being additionally responsive to the output of said yaw mixing means for providing compensation of adverse rolling moments induced by actuation of said yaw control surface.*

26,065
POLYBENZIMIDAZOLES AND THEIR PREPARATION
Carl S. Marvel, Tucson, Ariz., and Herward A. Vogel, St. Paul, Minn., assignors to University of Illinois Foundation, Urbana, Ill., a corporation of Illinois
Original No. 3,174,947, dated Mar. 23, 1965, Ser. No. 174,355, Feb. 14, 1962. Application for reissue Oct. 28, 1965, Ser. No. 506,150
24 Claims. (Cl. 260—47)

24. A polybenzimidazole consisting essentially of a member of the group of recurring units of the class consisting of (I) a unit of the formula

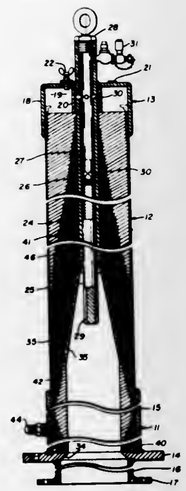


wherein R is an aromatic nucleus symmetrically tetra substituted with the nitrogen atoms of the formula being part of benzimidazole rings and with the nitrogens being bonded in pairs upon adjacent carbon atoms of the said aromatic nucleus, R' being a member of the class consisting of (1) an aromatic hydrocarbon ring and (2) a heterocyclic ring from the class consisting of (A) pyridine, (B) piperazine, (C) furan and (D) quinoline, and (II) a unit of the formula



wherein Z is an aromatic hydrocarbon nucleus substituted with the nitrogen atoms of the formula being part of a benzimidazole ring and with the nitrogens being bonded in pairs upon adjacent carbon atoms of the said aromatic nucleus.

26,066
POTHEADS AND CABLE TERMINALS
Elmo F. Huston, San Francisco, Calif., assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey
Original No. 3,033,915, dated May 8, 1962, Ser. No. 10,363, Feb. 23, 1960. Application for reissue Apr. 30, 1964, Ser. No. 377,155
12 Claims. (Cl. 174—73)

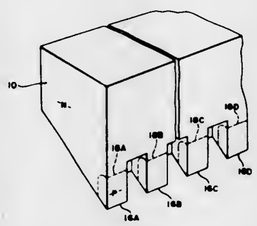


12. An arrangement for terminating a cable, including as parts thereof a conductor of the cable, insulation therefor, a core constituted by a cylindric winding of insulating sheet material extending circumferentially about the insulation of the cable, means at one end of the core for supporting the said core along the conductor with the said one end along the cable away from an extremity of the conductor thereof including a base plate, means at the remaining end of the core including terminal means electrically connected to the conductor of the cable, rigid insulating means extending between the said base plate and the last named means for supporting the last named means, and a plurality of conducting foils disposed between the windings of the sheet material of the core along the turns thereof, in two groups, a first group of said foils arranged adjacent the said one end of the core and electrically connected along the turns thereof, the extremities of the foils of the said first group being progressively more distant from the base plate in proceeding radially outward from the conductor to constitute a ground potential transition, and a second group of said foils arranged in concentric radially spaced relation to each other, spaced from the foils of the first group and arranged progressively more distant from the base plate at the extremities thereof

nearest the base plate in proceeding radially inward from the outermost foil toward the conductor for grading electrical stresses about the conductor, and means electrically connecting the outermost foils of the said groups of foils.

26,067
SOLID STATE LIGHT TO ELECTROSTATIC CHARGE IMAGE TRANSDUCER
Louis J. Kabell, Palo Alto, Calif., assignor to A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Original No. 3,137,857, dated June 16, 1964, Ser. No. 20,060, Apr. 5, 1960. Application for reissue Sept. 3, 1965, Ser. No. 485,977
12 Claims. (Cl. 346—74)

9. Apparatus for forming an electrostatic charge image of a light image on a dielectric writing medium comprising photodiode means having a common first electrode, a plurality of separate spaced second electrodes, means forming a separate light sensitive junction between said common first electrode and one side of each of said plurality of separate spaced second electrodes, means including a conductive backing plate and the other sides of said plurality of separate spaced electrodes for establishing a writing region, means for moving said writing medium through said writing region, a source of potential having two output terminals, means for connecting one of said output terminals to said common first electrode, means



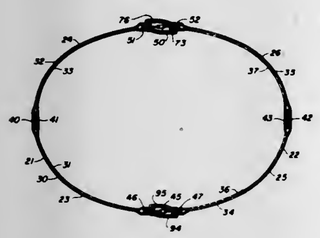
connecting the other of said output terminals to said backing plate, resistive means connecting said other of said output terminals to each of said second electrodes, and means for illuminating said plurality of light sensitive areas with successive portions of said light image.

PATENTS

GRANTED JULY 19, 1966

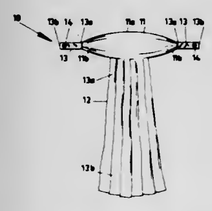
GENERAL AND MECHANICAL

3,261,024
REVERSIBLE GARMENT
Rachelle C. Delaney, 3680 Riverside Ave., Jacksonville, Fla.
Filed Mar. 2, 1964, Ser. No. 348,471
8 Claims. (Cl. 2—74)



1. A garment comprising a right side portion and a left side portion, each said portion including an elongated back member and an elongated front member, each said back and front member having side edges extending therealong, a right side seam joining one said side edge of one said front member to one said side edge of one said back member, a left side seam joining one said side edge of the other said front member to one said side edge of the other said back member, a slide fastening device including fasteners disposed along the other said side edge of said one and other front member, a control side slidably disposed on said other side edge of said one front member for releasably connecting said fasteners on said one and other front member, another slide fastening device including fasteners disposed along the other said side edge of said one and other back member, a control slide slidably disposed along said other side edge of said one back member for releasably connecting said fasteners on said one and other back member.

3,261,025
NECK SCARF ATTACHMENT
Oscar R. Simek, 5331 Cumberland Ave., Montreal, Quebec, Canada
Filed Oct. 30, 1963, Ser. No. 320,076
3 Claims. (Cl. 2—149)



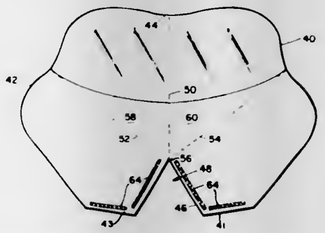
1. In combination with a sports shirt, a neck scarf including a first section and a second section; said first section comprising a length of fabric material formed in such a manner as to have a relatively wide center portion and reducing gradually on either side thereof to relatively narrow end sections; said second section comprising a further length of material similar in texture and pattern to said first section; said second section having an upper end and a lower end, said upper end thereof being slightly narrower than said lower end and being affixed to said first section at a location centrally and toward the lower edge thereof, said second section depending vertically downwardly therefrom; said second section being free to be folded around said relatively wide center portion of said first section through substantially three hundred and sixty degrees in such a manner as to cover completely the join between said first and said second sections; said second section being tucked within the front of said shirt and retained therein by the buttoning thereof; means whereby said neck scarf and said shirt are detachably attached together at the neck band location of said shirt, said means including a plurality of extension tapes, said tapes having their inner ends securely affixed one to each of said narrow end sections; each of said tapes having affixed at its terminal end a small button member; said shirt having formed in the neck band section thereof a plurality of button holes; at least two of said button holes being located one each side of the open necked portion of said shirt; said buttons being received and detachably retained within said button holes thereby disposing said first section of material transversely of a wearer's throat; said first and said second sections of material being pleated longitudinally for at least part of their length; and said neck scarf completely filling the open portion of said shirt at the neck portion thereof, said neck scarf remaining in position irrespective of the movements of the wearer thereof.

3,261,026
WRIST SUPPORT
Blanchard W. Joseph, Twin View Heights, R.R. 2, Solon, Iowa
Filed July 12, 1965, Ser. No. 471,232
1 Claim. (Cl. 2—161)



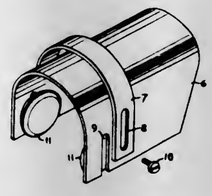
In combination with a glove having finger portions individually receiving the fingers of the hand of a wearer and a hand enveloping portion, a wrist support comprising a flexible, tensionally resilient band secured at one end to said finger portion along the base thereof and extending therefrom generally along the far side of the hand to the wrist, the other end of said band carrying means effective to secure said end about the wrist of the wearer just above the wrist joint against displacement when there is tension upon said band, said band having a length such that there is tension thereon when the hand of the wearer is in a position in which it is bent at the wrist to its maximum extent in the direction toward the far side of the hand, the tension on said band increasing as the wearer's hand is bent away from said position in the direction toward the near side of the hand.

3,261,027
FACE SHIELDS
Carolyn C. Lambert, Atlanta, Ga., assignor of one-half to Patrick F. Henry, Atlanta, Ga.
Filed June 4, 1962, Ser. No. 199,701
1 Claim. (Cl. 2—174)



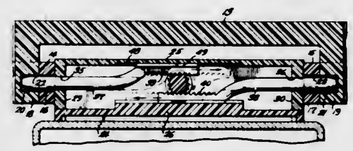
A disposable face shield, comprising:
(a) a relatively stiff, self-supporting, flexible, paper-like, impervious-to-hair spray material two dimensional blank having a fold line substantially centrally located thereon,
(b) a pair of side marginal edges,
(c) a top edge, said side marginal edges each extending from the top edge,
(d) bottom edges extending from said fold line at the bottom outwardly to each of a respective marginal side edge, said bottom edges secured together,
(e) and said fold line in (a) and said secured bottom edges forming therewith,
(f) a three-dimensional apex at the bottom of said mask to form a place at which said mask may be held which causes said mask when opened to assume a three-dimensional cup-like effect having an area to enclose and protect the wearer's face.

3,261,028
NOISE ATTENUATING DEVICE
James N. Coletta, 555 Franklin St., Elmira, N.Y.
Filed Aug. 14, 1962, Ser. No. 216,929
1 Claim. (Cl. 2—209)



A headpiece comprising a U-shaped thin wall body adapted to be removably secured around the top and sides and forwardly of the head of the wearer; said body having an elongated configuration with two transversely aligned slots at one end and a sloped front end opposite to the slotted end; a permanently bent U-shaped rectangular metal band with a slot at each end; said band situated circumferentially around the body so that the band slots are aligned with the body slots; screws passing through the aligned slots and securing said band to said body; earpieces disposed on the inner face of said body opposite each other; said earpieces being tapped to accommodate said screws and thereby said earpieces are held in position to cover the ears of the wearer when the device is situated on the wearer.

3,261,029
TOILET SEAT AND COVER ASSEMBLY
Henry Beneke, Jr., Columbus, Miss., assignor to Beneke Corporation, Columbus, Miss., a corporation of Mississippi
Filed Sept. 17, 1963, Ser. No. 309,573
15 Claims. (Cl. 4—236)



1. A seat and cover assembly for a toilet bowl comprising a support means, said support means having means for securing the same to said toilet bowl, at least one movable pin member mounted on said support means, a seat member having at least one ear portion with an opening therein, a cover member having at least one ear portion with an opening therein registrable in alignment with the opening in the ear portion of said seat member and rotary means mounted on said support means and operatively engageable with said pin member for selectively extending and retracting said pin member into and out of the openings in the ear portions of said seat and cover members when said openings are disposed in alignment with said pin member and adjacent said support means.

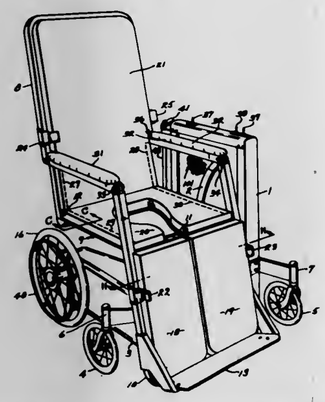
3,261,030
PORTABLE SEAT
Donald W. Blem, Burbank, Calif. (10516 Edison Way, North Hollywood, Calif.), and John I. Syler, 407 North Ave. 52, Los Angeles, Calif.
Filed June 18, 1963, Ser. No. 288,782
6 Claims. (Cl. 4—239)

1. A portable seat comprising a plurality of arcuate segments interconnected by hinge means to form a continuous ring, a first pair of said segments being hingedly connected, a second pair of said segments respectively hingedly connected to said first pair of segments, and a linking segment hingedly connected to the respective ones of said second pair of said segments, said segments being foldable against one another into a compact, integrated package.

3,261,031
PATIENT HANDLER
James T. Gates, 1611 Kirkley Road, Columbus, Ohio
Filed June 17, 1964, Ser. No. 375,899
12 Claims. (Cl. 5—86)

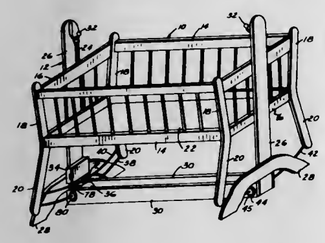
1. A patient handler comprising a hollow base housing, wheel means operatively mounted on said housing for movement of the latter along a surface, wheel control mechanism in the hollow of said housing, a vertical housing rigidly fixed to said base housing and wholly to one side thereof, a lift carriage mounted for vertical movement in said vertical housing, a rear support arm having a fixed mounting on said carriage, a front support arm hori-

zontally spaced from said rear support arm and vertically movably mounted relative to said carriage, a seat section mounted on said arms wholly on the base housing side of said vertical housing, a pivot connection between said front support arm and the forward portion of said seat section, a back section hingedly connected to the rear of said seat section, a leg section hingedly connected to the front of said seat section, means for moving said back and leg sections between a position coplanar with



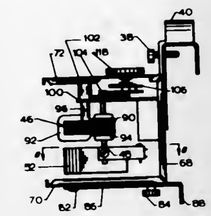
said seat section and positions angularly related to said seat section, means for simultaneously raising and lowering said support arms, and means for raising and lowering said front support arm independently of the position of said rear support arm, said base housing and wheel means being of a height to pass beneath a hospital bed, whereby said sections in coplanar relationship may pass in cantilever fashion over the upper surface of the bed.

3,261,032
ELECTROMAGNETICALLY ACTUATED SWINGING CRADLE
Richard F. Reardon, 13242 Common St., Warren, Mich.
Filed Oct. 21, 1964, Ser. No. 405,485
10 Claims. (Cl. 5—108)



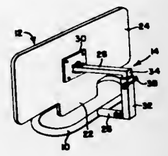
1. In an automatic swinging cradle, means for imparting swinging movement to said cradle comprising
(a) an electromagnet adapted for connection to a source of electrical power,
(b) a normally open switch means connected intermediate said source of electrical power and said electromagnet,
(c) a first and a second arcuate rod secured to said cradle in the plane of swinging thereof,
(d) an armature carried by said first rod in a position to move into the magnetic field of said electromagnet during swinging movement of said cradle, and
(e) means carried by said second rod for actuating said switching means as said armature moves into the magnetic field of said electromagnet.

3,261,033
BABY CRIB SHAKERS
Ernest N. Martin, 1141 High St., Escondido, Calif.
Filed Sept. 21, 1964, Ser. No. 397,962
5 Claims. (Cl. 5—109)



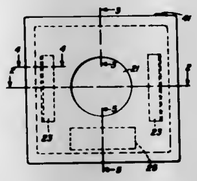
1. In combination:
(A) A vibratable baby crib having legs, the lower ends thereof resting stationarily on a floor;
(B) a rotatable shaft;
(C) an electric motor for rotating the shaft;
(D) means for supporting the electric motor and the shaft by the crib with said shaft on a vertical axis;
(E) a weight extending from one side of the shaft;
(F) means for supporting the weight for rotatable movement by the shaft and for horizontal outward movement relative to the shaft for imparting vibrator movement to the crib;
(G) and means for maintaining the vibratory movement which is imparted to the crib by the rotation of the weight at a constant frequency, comprising a spring disposed to yieldingly resist outward movement of the weight relative to the shaft.

3,261,034
MATTRESS DEPRESSOR AND AUXILIARY MEANS
George S. Bradley, 3424 24th St., Rock Island, Ill.
Filed Oct. 26, 1964, Ser. No. 406,338
14 Claims. (Cl. 5—317)



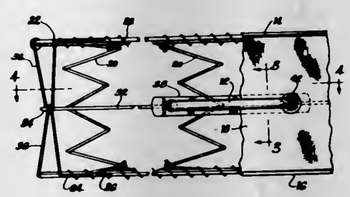
1. In combination, a mattress depressor including upper and lower elements arranged in vertical opposition to each other and adapted to engage, respectively, upper and lower mattress portions spaced inwardly from the marginal edge of such mattress, and means operatively connected between the elements for holding the elements in closed vertically spaced apart relation with the mattress gripped therebetween, said elements being of such relative sizes that the lower element is substantially larger than the upper element and is thereby adapted to engage a relatively large area of the bottom of the mattress without material upward deformation of the mattress bottom in that area, the upper element, being materially smaller than the lower element, engaging a relatively small area of the top of the mattress directly over and generally centered on the bottom area so as to deform said small top area into a depression concentrated at the element-engaged portion of the mattress, and an auxiliary means carried by the depressor and rising therefrom to an upper terminal portion generally centered on and spaced above the upper element.

3,261,035
PILLOW
Marian A. Slocum, R.D. 2, Cohocton, N.Y.
Filed Apr. 16, 1964, Ser. No. 360,241
5 Claims. (Cl. 5—338)



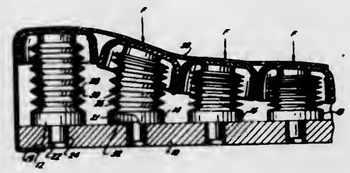
1. A pillow for use by persons wearing hair curlers, comprising two separate layers of thick resilient foamed material, the lower layer being substantially continuous throughout the area of the pillow, the upper layer having a large central hole therein of sufficient size to underlie the major part of the area of a human head laid thereon, and a pillow case covering the outer surfaces of said layers of foamed material, the part of the case which covers the upper layer of foamed material having a cup-like pocket extending into said central hole in said upper layer.

3,261,036
MATTRESS HOLDING MEANS
Edward L. Bronstien, Sr., St. Paul, Minn., assignor to The United States Bedding Company, St. Paul, Minn., a corporation of Minnesota
Filed Oct. 31, 1963, Ser. No. 320,262
1 Claim. (Cl. 5—345)



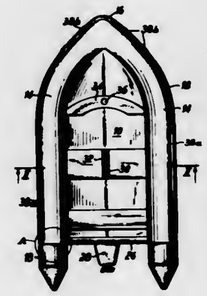
In a mattress construction wherein a plurality of coil springs are arranged in side-by-side relationship with their respective axes disposed vertically and wherein a covering is provided for the top, bottom and side walls of said construction, and including upper and lower border wires defining the outer edges of said construction, the improvement comprising generally U-shaped handle means disposed on said side walls, said handle means including integrally formed portions extending through said covering and into the interior of said construction, each of said end portions defining openings comprising bores extending through the end portions near the extremities thereof, an intermediate wire running adjacent the interior surface of said side walls, said wire being positioned between said upper and lower border wires and extending in parallel relationship therewith, means at the corners of said construction for connecting the ends of said intermediate wire to said border wires, said intermediate wire passing through said openings in said end portions to thereby provide support for said handle, a flat flexible plate defining openings for receiving said end portions, said plate being located intermediate said wire and side walls, and including grommets defining openings in said side walls through which said end portions extend.

3,261,037
MOLDED BODY SUPPORT
Warren C. Cermak, Neshanic Station, and Anthony P. Limbach, New Brunswick, NJ., assignors to Union Carbide Corporation, a corporation of New York
Filed June 3, 1963, Ser. No. 285,119
12 Claims. (Cl. 5—351)



1. In a resilient load supporting device having a panel member and a plurality of resilient, vented hollow, columnar bellows springs mounted on said panel member, the improvement comprising, each of said springs having an enlarged head member at a first end and a base member at said second end, said head member having a substantially planar, polygonal, section and a flange section extending from the periphery of said polygonal section, approximately perpendicularly to said polygonal section and each flange section being in a sliding relationship with a flange section of an adjacent spring said springs having their base members mounted on said panel member.

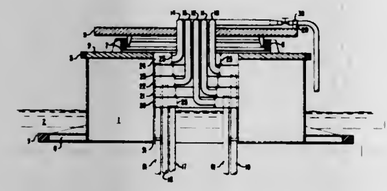
3,261,038
BOAT
Hans Klepper, Rosenheim, Germany, assignor to Hans Klepper Corporation, New York, N.Y.
Filed Feb. 17, 1965, Ser. No. 433,308
Claims priority, application Germany, Feb. 19, 1964, K 52,145; July 2, 1964, K 53,372
25 Claims. (Cl. 9—2)



1. A boat comprising, in combination:
(a) a shell having two longitudinal side walls of shape retaining material,
(1) each side wall being of substantially circularly arcuate cross section about a longitudinally extending axis, the outer face of said wall being concave; and

(b) a flotation tube conformingly engaging each of said faces along an arc about said axis extending from a substantially horizontal plane through said axis upwardly at least to a substantially vertical plane through said axis.

3,261,039
BUOY FOR LOADING AND UNLOADING TANKERS
Pieter Koppenol, The Hague, Netherlands, assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Aug. 7, 1964, Ser. No. 388,149
Claims priority, application Netherlands, Aug. 7, 1963, 296,353
1 Claim. (Cl. 9—8)



A water buoy for interconnecting a plurality of tubular lines located beneath the water with a ship moored to the buoy, said buoy comprising:

a. a float;
b. a plurality of vertically superposed annular chambers all formed at a point below the upper surface of said float and having top and bottom walls and a first vertically extending side wall formed at the float body;
c. a swivel means on each chamber formed by a second vertically extending, annular, radially inner wall, slidably sealed between said top and bottom walls of each chamber;
d. said slidable second wall of each chamber being formed on a substantially common radius measured from the center of the float and forming a hollow well which extends through the center of the float;
e. a first plurality of conduit means fixedly secured to said float and each communicating with a selected one of said chambers through the bottom wall thereof;
f. a second plurality of conduit means extending from the top of and rotatably mounted on said float, said second plurality of conduit means being adapted for connection with a ship moored to the buoy; and
g. each of said conduits comprising said second plurality of conduit means having a section which extends downwardly through said hollow well and radially outwardly into communication with a selected one of the slidable second walls of each chamber.

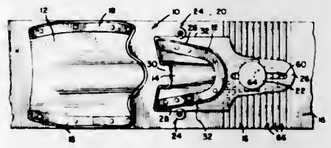
3,261,040
SWIMMER'S GLOVES
Everett M. Olson, 3535 Olsen Drive, San Jose, Calif.
Filed Oct. 14, 1963, Ser. No. 315,786
3 Claims. (Cl. 9—308)

1. A swimmer's glove made of two sheets of light and pliable plastic material that are overlaid and extend over the four outstretched fingers of the swimmer's hand leaving the thumb free, said overlaid sheets being joined together along opposite edge portions so that these edge portions form strong narrow flaps, web portions formed by joining said sheets between adjacent finger receiving portions, said web portions being of V-shape and substantially uniform size and said finger receiving portions being tapered so that the swimmer's fingers are adapted to be inserted therein far enough so that the light, pliable plastic sheet material conforms to the shape of the fingers and clings thereto even when wet, corresponding parts



of said finger receiving portions also being uniformly spaced so that the glove will fit either on the left or the right hand.

3,261,041
SKI HARNESS
Robert Neel Roley, 414 Rucker Place, Alexandria, Va.
Filed June 26, 1964, Ser. No. 378,470
13 Claims. (Cl. 9—310)



9. Apparatus for adjustably mounting binder structure of a ski harness for movement between a plurality of desired selectable positions relative to a base support, said apparatus comprising,

an elongate substantially planar bodily flexible plate-like member,

means fixedly securing the binder structure to said plate-like member,

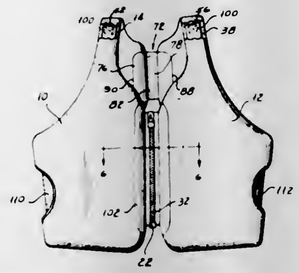
spacer-guide means mounted on said base support for slidably engaging and disposing said plate-like member in an inclined position relative to the base support with one end portion of the plate-like member being generally upwardly spaced from the base support and the other end portion thereof in direct engagement therewith and with the plate-like member being movable relative to the spacer-guide means, and

means for deflecting an intermediate portion of said plate-like member towards the base support to wedgingly bind portions of said one end portion of said plate-like structure against the spacer-guide means and the other end portion of the plate-like structure against the base support.

3,261,042
BUOYANT JACKET
Edgar G. Baker, Carbondale, Pa., assignor to Gentex Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 14, 1964, Ser. No. 359,703
9 Claims. (Cl. 9—342)

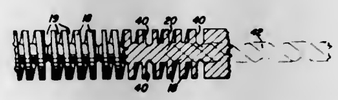
9. In a buoyant vest a pair of bodies of buoyant material, each of said bodies having an edge, said edges facing each other, slits in said edges, pieces of sheet material disposed in said slits and having portions extending

beyond said edges, respective fastener elements on said pieces of sheet material, flaps of sheet material, means for



securing said flaps to said sheet material pieces and means for securing said flaps to the outer surface of said bodies.

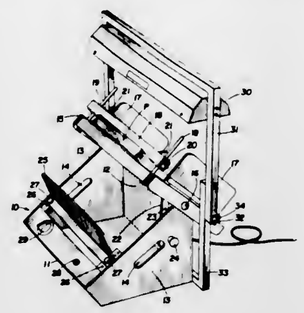
3,261,043
PROCESS FOR MAKING NUTS
Hans Guthmann, 2825 Annapolis Road, Baltimore, Md.
Filed Dec. 24, 1963, Ser. No. 333,078
8 Claims. (Cl. 10—86)



1. A method of fabricating lock nuts from solid cylindrical blanks comprising the steps of heating a solid cylindrical blank to a predetermined temperature, rotating said solid blank about its longitudinal axis while compressing it between oppositely moving complementary dies in order to impress, without cutting, a spiral groove therein, forming an axial bore through said grooved blank of a diameter greater than the internal diameter of said spiral groove and intersecting said spiral groove along its entire length thereby producing an open spiral body, and shearing said spiral body into a rectangular polygonal shape by forcing said open spiral body through a die of polygonal cross-section.

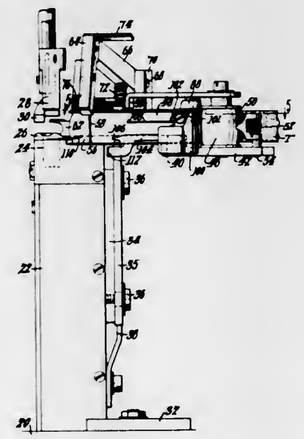
3,261,044
HEAVY DUTY BINDING APPARATUS
Wally Charles Hoff, 15 Anewen Drive, Toronto, Ontario, Canada
Filed Nov. 17, 1964, Ser. No. 411,824
1 Claim. (Cl. 11—1)

Apparatus for binding sheet paper and the like material and comprising: a housing for standing on a support or the like and having a base and side walls; a paper support plate swingably mounted on said housing about an axis extending between opposite sides of said housing; clamping means operable to clamp said paper to said support plate; housing abutment means on said housing for locating said paper on said support plate; threaded fastening members passing through said abutment means and a plurality of threaded holes formed in said housing for receiving the same; plate abutment means on said support plate for further locating said paper thereon; a plate locating member swingably mounted on said plate and having at least one locking opening therein; a locking plunger member slidably mounted in said housing and oriented to register with said opening; heating means supported on said housing substantially vertically above said axis of said plate; a mounting bracket carrying said heating means and hingedly connected to said housing for swinging of said heating means on either side of said axis of said plate; axle members passing through said bracket



and said housing; and, threaded means on said axle members operable to adjustably clamp said bracket and said housing and locate said heating means in position.

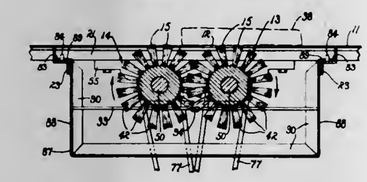
3,261,045
SHOE INSOLE EDGE BINDER
Hubert J. Vachon, Lynn, Mass., assignor to Boston Machine Works Company, Lynn, Mass., a corporation of Massachusetts
Filed Dec. 13, 1963, Ser. No. 330,359
2 Claims. (Cl. 12—24.5)



1. In a machine for applying binding tape which is sticky on one side to the edge of an object requiring an edge binding, said machine including means for feeding the edge of the object and means for pressing progressively a binder tape thereon, a binder head having an open longitudinal groove with a U-shaped cross-section, said binder head being beveled at its entering end whereby the side walls of the groove decrease in height toward said end until their rims meet at said end, a guide channel for tape having a vertical wall and low side walls leading to said binder head, the longitudinal axis of said binder head making an angle of substantial size with the plane of said back wall, means supporting said binder head in operative proximity to said tape feeding means and tape pressing means, manually operable means for cutting across the tape in said guide channel,

said cutting means including a knife blade in a plane perpendicular to the longitudinal axis of said guide channel, and means automatically wiping said blade after each cutting operation.

3,261,046
MEAT CLEANING MACHINE
Leondro A. Massaglia, Daly City, Calif., assignor of one-half to said Massaglia, one-fourth to Joseph Kusber, and one-fourth to Leo Kusber, co-partners under the firm name of Kusber Manufacturing Company, Daly City, Calif.
Filed Oct. 26, 1964, Ser. No. 406,459
5 Claims. (Cl. 15—3.1)



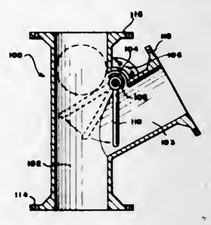
3. In a machine for cleaning the surfaces of meat and the like, the combination of a pair of substantially cylindrical brushes, each brush having a hub and sets of bristles radially extended from the hub in planes normal to the axis of the hub, said sets being of a common thickness axially of their respective hubs and being spaced substantially the same distance as their respective thickness; means mounting the brushes in substantially parallel relation with the sets of bristles of each brush radially overlapping the sets of bristles of the opposite brush and extended into the spaces therebetween; means rotating the brushes; a cleaning wire tensioned in substantially parallel relation to the brushes in bristle engagement at a position downwardly spaced from alignment between the axes of the brushes; and a substantially flat-topped cover supported above said brushes and providing openings for accommodating the respective sets of bristles up to a predetermined distance above the top of said cover, said cover being adapted to support meat and the like during movement of the meat thereacross in cleaning contact with the brushes.

3,261,047
TOOTHBRUSH
William Klang, 1371 E. 85th St., Brooklyn 36, N.Y.
Filed Dec. 20, 1965, Ser. No. 515,134
2 Claims. (Cl. 15—22)



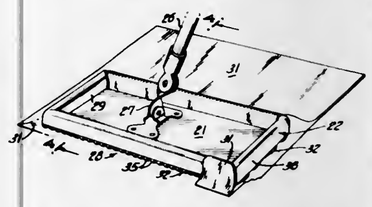
1. A toothbrush comprising:
(a) an elongated brush support rod of plastic material including an end portion offset from the axis of the rod and the other end portion being cylindrical and straight,
(b) a plurality of bristles projecting from the surface of the offset end portion,
(c) a hollow open ended tubular handle of plastic material effectively providing a low friction bearing allowing the brush rod to reciprocate and oscillate therein while extending completely therethrough,
(d) helical slots extending through the tubular handle, and
(e) guide pins on the rod and extending to within the helical slot to cause the rod to oscillate when the handle is reciprocated.

3,261,048
SPHERE DIRECTOR
Ernest A. Ericson, Channelview, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Dec. 30, 1964, Ser. No. 422,346
4 Claims. (Cl. 15—104.06)



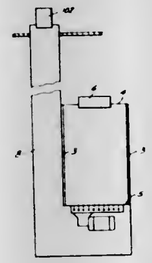
1. For use in a vertical portion of a fluid pipeline, a sphere director comprising
a tubular run portion having a substantially circular interior cross section,
a tubular lateral portion having a substantially circular interior cross section of identical diameter with respect to said tubular run portion,
said run portion and said lateral portion being joined at an angle medially of said run portion, said angle of juncture being inclined from the horizontal at an angle from 30° to 60°, the walls of said run portion and said lateral portion defining an acute junction,
tubular bearing means attached to, depending from, and extending exteriorly of said run portion and said lateral portion at said acute junction, said bearing means being arranged about a center line normal to the plane defined by the center lines of said run portion and said lateral portion,
shaft means freely rotatably supported within said bearing means, and
pervious vane means rigidly attached to said shaft means and extending into said sphere director a distance of three-fourths to one and one-fourth diameters of the run portion, said vane means being movable from a first position substantially blocking said run portion to a second position substantially blocking said lateral portion.

3,261,049
TOOL HAVING A PNEUMATIC BOOT
James J. Murphy, Scarsdale, N.Y., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Dec. 3, 1963, Ser. No. 327,742
4 Claims. (Cl. 15—147)



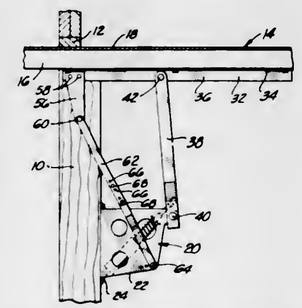
1. A tool adapted to present a surface treating sheet comprising a handle and a boot attached to an end of said handle by a universal joint, said boot comprising: relatively rigid supporting means presenting a supporting surface; resilient pneumatic means cooperating with said supporting surface to trap air between said pneumatic means and said surface; said pneumatic means comprising a multiplicity of spaced working portions adapted to contact the surface treating sheet, a multiplicity of supporting portion adapted to contact said supporting surface, and a multiplicity of flexible and resilient walls connecting said working portions and said supporting portions; said walls, said working portions and said supporting portions being integral and defining a multiplicity of at least partially collapsible hollow nodules, said spaced working portions presented at the bottom of the nodules and said supporting portions located between the nodules, said nodules being normally closed at the bottom and adapted to be closed at the top to form individual air chambers when said supporting surface is pressed into contact with said supporting portions, and said nodules spaced from one another longitudinally and transversely of said pneumatic means, said nodules when partially collapsed tending to return to their normal shape due to their resiliency and the influence of the air trapped between the pneumatic means and the supporting surface; whereby said tool is adapted to conform easily to uneven surfaces when only relatively light pressure is applied to the tool.

3,261,050
CONTROL DEVICES FOR ULTRACLEAN FACILITIES
Eugene H. Caille, Livingston, and Raymond H. O'Brien, Verona, N.J., assignors to C-K Air Conditioning Inc., a corporation of New Jersey
Filed Jan. 28, 1964, Ser. No. 340,707
5 Claims. (Cl. 15—311)



1. In combination with an access chamber having a ceiling, a floor, side walls extending between said ceiling and floor, and a plurality of doors mounted in said side walls, in combination,
(a) a like plurality of electrically operated door locks, each lock being associated with a corresponding door whereby when a door is closed and its corresponding lock is energized said closed door is locked, said closed door being unlocked when said corresponding lock is deenergized;
(b) a like plurality of door switches, each switch being associated with a corresponding door, each switch having a first switch position when its corresponding door is open and having a second switch position when its corresponding door is closed:
(c) door locking and unlocking apparatus electrically interconnected between said switches and locks, said apparatus having first means actuated when one of said doors is opened and all other doors are closed to energize the locks of all other doors in order to lock each of said all other doors, second means actuated after said first means is actuated and said one door is closed to energize the lock of said one door to lock said one door, and third means actuated a predetermined interval after said first and second means are actuated to deactuate said first and second means and deenergize all locks to unlock all of said doors;
(d) a timer for determining the length of said interval, said timer being coupled to said third means to actuate same when the timer has indicated the expiration of said interval; and
(e) foot pressure responsive means in the floor of said chamber which when stepped on cooperates with the actuated second means to cause said timer to initiate the timing action to determine the length of said interval.

3,261,051
DOOR HARDWARE
Harry Dale Priest, 8454 Jupiter Drive, Buena Park, Calif.
Filed Apr. 27, 1964, Ser. No. 362,794
8 Claims. (Cl. 16—1)



1. A door supporting structure adapted to support a door in association with framing defining a door opening; the structure comprising a main bracket adapted to be secured to said door frame and a door bracket adapted to be secured to the door, first and second pivots on said main bracket and first and second pivots associated with said door bracket, a main link pivoted to said first pivots and a control link pivoted to said second pivots, said pivots and said links being such that upon movement of the door, the door moves from a closed to an open position, and a compression spring connected between said main bracket and said main link to urge said main link in a direction toward the open position of the door, said main link being formed so as to terminate in a torque arm, pivotal connection means pivotally connecting said compression spring to said torque arm, said pivotal connection means being substantially positioned between said first pivots when the door is in closed position, said compression spring being arranged to release energy as the arm moves toward its open position.

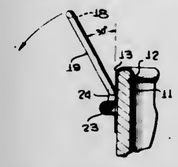
3,261,052
DRAPERY HANGER
Raymond H. Galland, Costa Mesa, Calif., assignor to Klemer and Wiseman, Los Angeles, Calif., a co-partnership
Filed Sept. 4, 1964, Ser. No. 394,505
2 Claims. (Cl. 16—87.6)



1. A drapery hanger formed of a plastic material and including a flat hanger strap bent to provide two arms in obtuse angle relationship, one arm formed with an integral

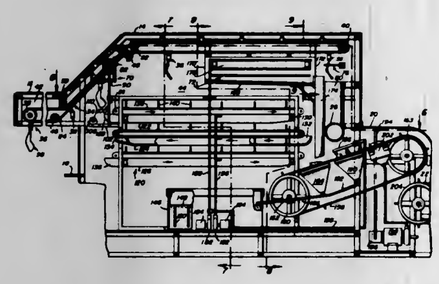
axle and with an integral boss portion between the axle and the arm, said other arm of the hanger strap provided with a transverse opening for receiving a drapery hook and a plastic grooved wheel free to rotate on the axle and abutting the boss.

3,261,053
WIRE HANDLE FOR METAL CHIME ON FIBRE DRUM
Harry E. Lesher, Van Wert, Ohio, assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 27, 1963, Ser. No. 261,458
3 Claims. (Cl. 16—126)



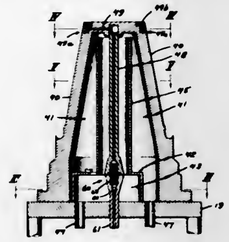
1. A one-piece wire handle comprising a grasping portion; a pair of connecting sections, one for each end of the grasping portion; and reversely bent attaching means for each of said pair of connecting sections; said attaching means comprising a U-shaped segment having an inner leg member, a free leg member and a bight portion connecting the free leg member to the inner leg member; said attaching means being connected to the connecting sections by the inner leg member; said bight portion of each of said attaching means defining a plane which is angularly disposed with respect to a plane defined by said pair of connecting sections, the free leg member of each of said attaching means being bent out of the plane defined by the bight portion of each of said attaching means.

3,261,054
AUTOMATIC LEG BONING MACHINE AND SYSTEM
John J. Kaplan and William R. Kaplan, Omaha, Nebr., assignors to Campbell Soup Company, Camden, N.J., a corporation of New Jersey
Filed Mar. 19, 1964, Ser. No. 353,180
11 Claims. (Cl. 17—11)



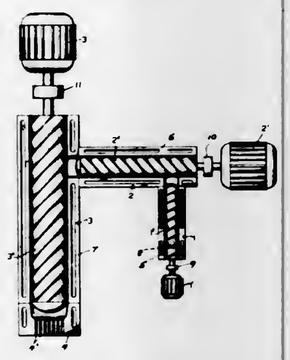
1. In a machine for boning poultry legs having an intermediate knuckle joint, the combination of a suspension hook pivotally carried by a conveyor for movement in an upwardly inclined path and a stripping mechanism for removing meat from the leg carried by the hook comprising, a pair of pivotally mounted members between which the suspension hook passes along said upwardly inclined path, a pair of opposite strip bars yieldably mounted by the members for engagement with the leg during a stripping operation, and cam-operated means operative in timed relation to movement of the conveyor for temporarily displacing the members away from each other to release the leg bone during said stripping operation permitting passage of the knuckle joint between the strip bars.

3,261,055
APPARATUS FOR FORMING PLASTIC ARTICLES
William A. Dart, Mason, Mich., assignor to Dart Manufacturing Company, Mason, Mich., a partnership of Michigan
Filed Jan. 20, 1964, Ser. No. 338,686
15 Claims. (Cl. 18—5)



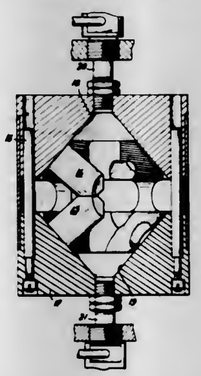
1. In a mold apparatus for forming plastic articles, the combination including:
(a) a frame;
(b) a mold assembly supported by said frame, said mold assembly defining a mold cavity therein; and
(c) a housing defining a condensate chamber provided within said mold assembly, said condensate chamber adapted to remove moisture from steam passing therethrough into said mold cavity.

3,261,056
DEVICE FOR WORKING UP THERMOPLASTIC SYNTHETIC MATERIAL
Rudolf Paul Fritsch, Stuttgart-Weilimdorf, Germany, assignor to Werner & Pfleiderer, Stuttgart-Feuerbach, Germany, a firm of Germany
Filed Feb. 16, 1965, Ser. No. 433,037
Claims priority, application Germany, Feb. 29, 1964, W 36,290
2 Claims. (Cl. 18—12)



1. A device for working up thermoplastic synthetic material by densifying, plasticizing and extruding, said device comprising several rotary worm extruding means disposed in series arrangement and in communication with each other for feeding the material to be worked up sequentially through said extruding means, and a rotary drive means for each of said extruding means for independently driving the same, the sequentially first one of said extruding means constituting a densifying means and having a comparatively narrow diameter and being driven at a comparatively high rate of r.p.m. by the respective drive means, the sequentially second one of said extruding means constituting a plasticizing means and having a wider diameter and being driven at a lower rate of r.p.m. and the sequentially third one of said extruding means constituting a discharge means and having a still larger diameter and being driven at a still lower rate of r.p.m.

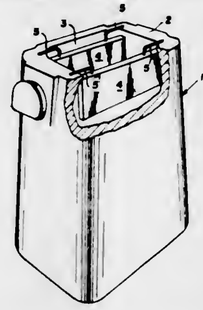
3,261,057
APPARATUS FOR PRODUCING VERY HIGH STATIC PRESSURES WITHIN A HEXAHEDRAL SOLID
Michel Contre, Massy, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Nov. 24, 1964, Ser. No. 413,558
Claims priority, application France, Dec. 6, 1963, 956,306
2 Claims. (Cl. 18—16)



1. Apparatus for producing very high static pressures within a hexahedral solid having triangular faces, said apparatus comprising six rams each fitted at its extremity with a part forming an anvil which exerts normal and simultaneous compressive stresses on each face of the solid, said rams being grouped together in two sets of three rams and arranged symmetrically at an angle of 120° relatively to each other within two angular members which are coupled together by means of two vertical columns, said vertical columns being also arranged symmetrically between said rams at an angle of 120° relatively to each other, each of the faces of the hexahedral solid having the shape of a right-angled isosceles triangle.

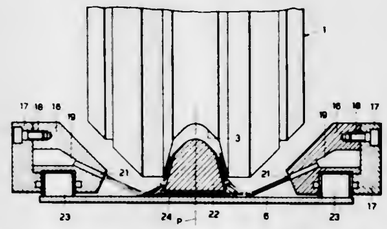
3,261,058
EXOTHERMIC SIDE BOARD SUSPENSION
Norman F. Tisdale, Jr., Valencia, Pa., assignor to Treesdale Laboratories, Inc., Mars, Pa.
Filed Jan. 18, 1962, Ser. No. 167,045
2 Claims. (Cl. 22—57)

1. In combination with an ingot mold having an open top and inner walls of rectangular outline, a pair of rectangular sideboards of refractory molded material including embedded supporting rod means for suspending said sideboards below the top portions of opposing inner walls of greatest length, said supporting rod means including embedded portions extending horizontally, longitudinally of the lower portions of the sideboards and embedded portions extending vertically upwardly transversely of the sideboards and terminal portions of inverted L-shape extending vertically upwardly from the top of the sideboards and horizontally outwardly away from each other and in horizontal alignment and having extremities spaced apart at a greater distance than the length of said inner walls of greatest length and supported on top of the end walls of shorter length, and a coating of exothermic material



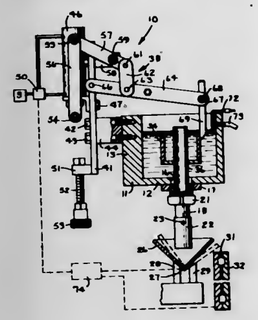
on the exposed surfaces of said sideboards, said supporting rod means constituting the sole support for said sideboards.

3,261,059
DEVICE FOR COOLING THE ROD BEING FORMED IN A MACHINE FOR THE CONTINUOUS CASTING OF METAL RODS OF INDEFINITE LENGTH
Ilario Properzi, Via Cosimo del Fante 10, Milan, Italy
Filed Dec. 7, 1962, Ser. No. 243,087
Claims priority, application Italy, Dec. 13, 1961, 22,326/61
3 Claims. (Cl. 22—57.4)



1. In a machine for the continuous casting of molten metal in a continuous rod form having a rotatable casting wheel with a peripheral casting groove therein and a moving endless belt which contacts said wheel to define an enclosed casting area with the peripheral casting groove extending over an arcuate segmental length of the travel of the rotating wheel, in combination, the means for cooling said metal within a predetermined cooling portion of said segmental length of the moving enclosed casting area, into which the metal enters hardened to a degree that it is in a cohesive condition in the casting groove and will remain in that condition so that it may be separated slightly from the wall of the casting groove without breaking, said means cooling including apparatus comprising separating means for displacing the endless belt radially away from the wheel and casting groove in said predetermined cooling portion to an extent to provide for sufficient separation of casting wheel, bell and rod and permitting the rod in the casting groove to be positioned radially away from the same in said predetermined portion so that a cooling liquid may contact and cool the rod around its entire cross sectional periphery while the rod is still in said casting groove, and including also liquid-impinging means for impinging cooling liquid directly against the outside surface of the rod to cool the rod over its entire cross-section for the length which is maintained displaced from the casting groove over said predetermined portion of the enclosed casting area in the machine.

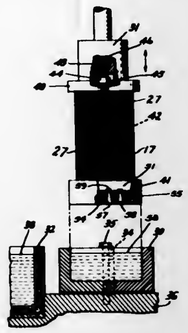
3,261,060
PRECISE POURING APPARATUS
Charles H. McAlpine, Coloma Township, Berrien County, and Kenneth G. McGowan, Lawrence Township, Van Buren County, Mich., assignors to Winkel Machine Co., Inc., Kalamazoo, Mich., a corporation of Michigan
Filed Sept. 5, 1963, Ser. No. 306,811
3 Claims. (Cl. 22—79)



1. A device for transferring a precisely controlled amount of liquid into a mold, comprising the combination:
- a well containing liquid to be transferred;
- a tube extending upwardly through the bottom of said well:
- a dipping trap chamber slidable axially of said tube and located within said well;
- transfer means conducting liquid discharged from the lower end of said tube into said mold;
- linkage means secured at one end thereof to said dipping trap chamber;
- power means secured to the other end of said linkage means;
- said linkage means comprising a pair of sets of levers defining parallel planes centered upon said tube and said power means, each of said sets of levers including a first link secured at one end thereof to said power means, a first lever secured at one end thereof to the other end of said first link and pivotally supported intermediate the ends thereof on means fixed with respect to said well, a second link pivotally supported at one end thereof upon the other end of said first lever, a second lever pivotally supported at one end thereof on means fixed with respect to said well and pivotally supported intermediate the ends thereof upon the other end of said second link and a final link pivotally supported at and depending from the other end of said second lever and fixed at its lower end to said dipping trap chamber;
- whereby said dipping trap chamber may be raised or lowered by operation of said power means through said linkage means.

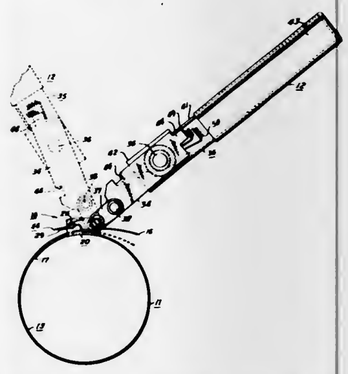
3,261,061
CASTING EQUIPMENT FOR USE IN THE FABRICATION OF ROTOR SECONDARY WINDINGS
Alvin L. Rediger, Zeeland, and Julius Slager, Holland, Mich., assignors to General Electric Company, a corporation of New York
Original application May 14, 1962, Ser. No. 194,540. Divided and this application Sept. 16, 1965, Ser. No. 487,878
4 Claims. (Cl. 22—150)

1. For use in the manufacture of a rotor including cast conductors carried by aligned slots in the rotor and interconnected at each end to form a squirrel-cage winding, a die for casting the winding comprising a plate including a generally annular cavity to be arranged at one end of the core and in communication with the slots, said plate including a plurality of angularly spaced apart sprue ports



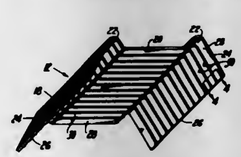
each having an egress projecting into said cavity for the introduction of casting material, the cross-section area of each egress being substantially in the range 0.0069–0.0145 square inch.

3,261,062
CLAMP ASSEMBLY FOR HOSE, PIPE AND OTHER ARTICLES
Clarence H. Scarborough, Jr., Grand Prairie, Tex., assignor to Frank Holister Co., Inc., Dallas, Tex., a corporation of California
Filed Mar. 23, 1964, Ser. No. 354,000
5 Claims. (Cl. 24—19)



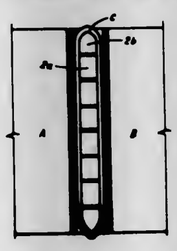
1. A clamp assembly including a flexible band having perforations in one of the end portions thereof, a housing mounted on and projecting outwardly from the other of the end portions of the band and having opposed open ends to permit the perforated end portion of said band to extend therethrough, fastening means pivotally supported within the housing and biased into engagement with the perforations of said perforated band end portion to fasten said band around an article, a tool for tightening and loosening said band, cog means rigidly fixed on one of the ends of the tool for engaging said perforations of said band to impart longitudinal movement to the perforated band end portion upon pivotal movement of said tool, and coacting means on said housing and tool for detachably and pivotally supporting said tool with its cog means in engagement with said perforations, the coacting means comprising opposed open ended slots formed in said housing and opposed trunnions formed on said one end of said tool closely adjacent said cog means and adapted to be slidably received by the housing slots, said housing having an opening in its top adjacent said slots and adapted to receive a portion of said one end of said tool and permit limited pivotal movement of said tool about the axis of its trunnions, the opening of the housing top having an inner transversely extending edge for limiting pivotal movement of said tool whereby rotation of said tool about the edge of said opening causes said trunnions to slide outwardly of said slots to facilitate disengagement of said cog means from said band perforations.

3,261,063
SEAL FOR STRAPPING AND THE LIKE
Edward C. Rutty, Portland, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed June 2, 1964, Ser. No. 372,017
5 Claims. (Cl. 24—23)



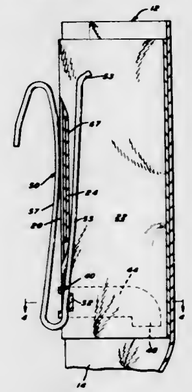
3. An open type seal for securing overlapping portions of elongated strapping having a longitudinally extending generally rectangular sheet metal body with a generally M-shaped transverse cross section and comprising a generally flat top portion, two flat side portions transversely spaced from said top portion and diverging downwardly with respect thereto, and intermediate channel portions connecting the side portions to the top portion having inner flat side parts diverging outwardly and upwardly from the longitudinal edges of the top portion and inclined at acute angles from the side portions, and arcuate parts connected between the upper ends of the side parts and the side portions.

3,261,064
AUTOMATICALLY ADJUSTING CONNECTING PIN
Charles William Turbyfill, Box 490, Marshall, Tex.
Filed May 13, 1964, Ser. No. 367,076
1 Claim. (Cl. 24—26)



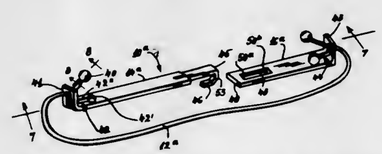
The combination of an adjustable collar maintained in frictional contact with a tubular section and a pin for holding the collar in frictional contact therewith comprising:
- (a) a collar for surrounding pipe including two plates joined at one end thereof and having elongated rectangular spaced apart resilient ferrules transverse to the longitudinal length of said plates at each of the other ends thereof, each of said ferrules positioned whereby said plates may be matched and joined together to surround the pipe and said ferrules are thereby positioned in a meshed relationship,
- (b) an outwardly arcuately curved loop pin including two similarly curved arcuate legs facing each other whereby the legs are farthest apart at their centers,
- (c) said legs joined at one end thereof to thereby form said loop pin whereby said loop pin is forcibly inserted in said meshed ferrules and said legs of said pin exert a force against said ferrules to hold said collar together and in frictional contact with the tubular section, and
- (d) said resilient ferrules are thereafter pinched to prevent said legs of said loop pin from being meshed together whereby said collar is locked on the tubular section.

3,261,065
DRAPERY HOOK AND CLIP
Ralph Romano, Levittown, Pa., assignor of ten percent to Samuel Saewitz, Levittown, N.J.
Filed Feb. 13, 1964, Ser. No. 344,627
4 Claims. (Cl. 24—81)



1. A substantially U-shaped resilient clip for hanging drapery, said clip comprising a bight portion and a pair of generally parallel horizontally extending legs for insertion into openings in a drape, a portion of said bight forming a loop for engagement with a portion of a drapery hook, said loop extending in a vertical direction for holding said portion of said drapery hook in generally vertical orientation, and extensions integrally connected to the outer ends of said legs and extending substantially perpendicular thereto in a vertical direction to retain said legs in said openings.

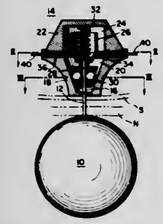
3,261,066
FLEXIBLE PAPER FASTENER
Coleman R. Chamberlin, Thompson Ridge, N.Y. (P.O. Box 1266, New Windsor, Newburgh, N.Y.)
Filed Aug. 14, 1964, Ser. No. 389,720
2 Claims. (Cl. 24—153)



1. A paper fastener, comprising a first substantially rigid strip having a hook and eye at one end, a second substantially rigid strip having another hook and another eye at one end, a catch member formed at the other end of the first strip, the second section having an opening formed

at the other end thereof for receiving and engaging said catch member, and an elastic band having opposite ends engaged respectively with the hooks and eyes of the first and second strips, said band having enlargements at its opposite ends, said eyes being in the form of keyhole slots having larger ends to receive said enlargements and having narrower ends to engage end portions of the band adjacent to said enlargements to prevent withdrawal of the band, the catch member and opening having coacting inclined surfaces to facilitate entrance of the catch member into the opening and to interlock the strips effectively.

3,261,067
STICKPIN
Kazuo Ikeda, 30—10 3-chome, Kyojima, Sumida-ku, Tokyo, Japan
Filed Jan. 13, 1965, Ser. No. 425,141
2 Claims. (Cl. 24—155)



1. A stickpin including an ornament, a pin projecting from the ornament, and a gripping member for releasably gripping the free end portion of the pin and having formed therein a central hole through which the pin extends, wherein said gripping member includes therein a longitudinal hollow space tapered down toward that side thereof having the hole formed therein, a chuck element disposed coaxially in said longitudinal hollow space for longitudinal movement and having a central bore extending therethrough, a plurality of spherical balls held by one end portion of said chuck element adjacent said hole and the adjacent portion of the tapered wall surface of the hollow space in such a manner that, when the chuck element is in its first position nearer to the reduced end of the hollow space, the balls tightly grip that portion of said pin extending through said central bore and that, when the chuck element is moved to its second position far away from said reduced end of said hollow space, the balls release the pin, a helical spring disposed between the other end portion of said chuck element and the bottom of said hollow space to tend to urge said chuck element to its first position, said chuck element including an intermediate portion having an external periphery in the form of a truncated cone reduced toward said one end portion thereof, and a pair of releasing elements each including an inner end portion abutting against said intermediate conical portion and a short operating projection loosely extending outwardly of said gripping element and aligned with said inner end portions, said releasing elements being movably disposed in opposing relationship such that the respective inner end portions thereof diametrically sandwich the adjacent portion of said conical surface of said chuck element.

3,261,068
GARMENT FASTENER
Patricia N. Gurney, 512 S. Hobart Blvd., Los Angeles, Calif.
Filed Aug. 24, 1964, Ser. No. 391,607
3 Claims. (Cl. 24—203)

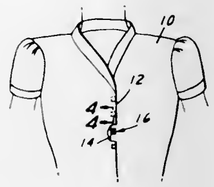
1. The combination of:

(A) a garment having free edge portions terminating at one side in a free edge;

(B) a fastening means for releasably securing together said free edge portions of said garment, said fastening means comprising:

(a) a multi-sided piece of thin, flexible material having a V-shaped notch extending inwardly of said piece from one side thereof,

(b) means securing edge portions of said piece of material to one of said free edge portions of the garment, said securing means being at the sides of said V-shaped notch, said piece of material forming with the portion of the garment thereunder a button receiving pocket;



(c) a thin, round, button;

(d) and means adjacent the center of the button securing said button to the other free edge portion of said garment and in alignment with the V-shaped notch of said piece of material,

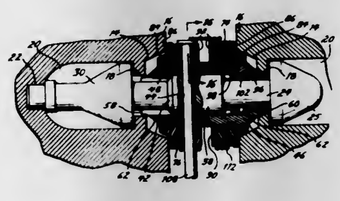
(e) said button being adapted to be removably disposed beneath said piece of material with the fastening means for said button positioned in said V-shaped notch.

3,261,069
FASTENERS AND ARTICLES EMPLOYING SAME
Robert V. Mathison, 5 Woodcrest Road, Asheville, N.C.
Filed June 4, 1963, Ser. No. 285,261
7 Claims. (Cl. 24—204)



1. A fastener structure adapted to be removably fastened on a material with penetrable surface openings and comprising a molded synthetic polymer article embodying a molded base with groups of closely spaced, integrally molded, small projections emanating from a face thereof, said projections of each group being arranged in rows, said projections being smooth-sided and tapering from the bases thereof to relatively pointed outer ends, the longitudinal axes of said projections of each respective group being straight lines extending at right angles to said rows of the respective group and obliquely to said face at an acute angle with respect to said face, said projections having a height from their respective tips to their bases in the range of 0.030 inch to 0.150 inch, the projections of one of said groups sloping relative to said face in the same general direction and forming respective units of sloping, closely spaced, penetrating members adapted to penetrate a plurality of closely spaced surface openings of a material of the character aforedescribed, the projections of another of said groups sloping relative to said face in another general direction essentially opposite to said first-mentioned general direction and forming another unit of sloping, closely spaced, penetrating members adapted to penetrate other closely spaced surface openings of said material, the shortest side of the respective projections of said respective groups also defining from the respective base to the respective tip thereof a straight line sloping in the same general direction as said longitudinal axes of the respective projections of each respective group and at an acute angle relative to said face, whereby material of the aforesaid character penetrated by said projections may be firmly seated on said projections and thereby firmly, but releasably, gripped on said fastener structure.

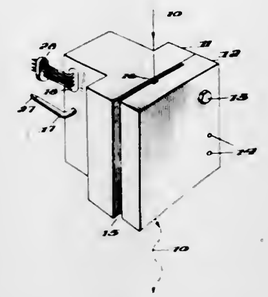
3,261,070
SEMI-AUTOMATIC HORIZONTAL CONTAINER COUPLER
Andrew Abolins, 431 Crescent Ave., Penndel, Pa.
Filed Sept. 15, 1964, Ser. No. 396,669
15 Claims. (Cl. 24—221)



1. A device for coupling two members horizontally comprising a vertical wall in each member having an elongated opening therethrough, a rod having spaced enlarged heads adapted to extend through said openings when aligned therewith in the about to couple position. each head having a length shorter than said opening but greater than the width thereof and adapted to extend partially across said opening in the cocked position and fully across said opening in the coupled position, an elongated sleeve mounted for axial movement on said rod between said heads, said rod being rotatable relative to said sleeve, resilient means urging said sleeve towards one of said heads, a circumferentially extending slot in said sleeve closed at its upper and lower ends, a handle extending through said slot, means keying said handle to said rod, and a shoulder in said slot intermediate its ends dividing said slot into upper and lower portions, said heads being in the about to couple position when said rod is adjacent said upper end of said slot and is in the cocked position when said rod is retained by said shoulder in said upper portion of said slot, said handle clearing said shoulder and dropping into said lower portion of said slot and adjacent said lower end thereof in response to a force applied axially to the end of said sleeve opposite said one head against action of said resilient means whereby said heads are rotated to the coupled position.

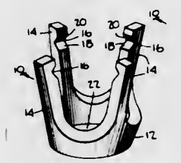
3,261,071
YARN TREATING JET
Francis Joseph Clendening, Jr., and Joseph Cyril Osborne, both of Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 25, 1965, Ser. No. 463,459
4 Claims. (Cl. 28—1)

1. An apparatus for fluid treatment of continuous filamentary material comprising in combination a frame having a fluid inlet means, passage means associated with said frame defining a passage for said filamentary material, fluid conduit means operatively connecting said fluid inlet means and said passage means for introducing fluid along the length of said filamentary material as it passes through said passage means, and heating means within said frame in operative association with said fluid



conduit means for heating said frame and said fluid prior to contact of the fluid with said filamentary material.

3,261,072
JEWEL SETTING
Joseph Stanley, 97—07 63rd Road, Rego Park, Long Island, N.Y.
Filed Dec. 4, 1963, Ser. No. 328,009
12 Claims. (Cl. 29—8)



1. The method of preparing a jewel setting comprising the steps of successively: punching a substantially star-shaped piece of metal having a hole at its center and an indentation toward the extremity of each finger of the star out of a sheet of metal; forming the star-shaped piece of metal into a socket by bending the fingers of the star upward such that the indentations in the fingers of the star are on the inside of the socket; and inserting a jewel into the socket such that a portion of its girdle lies within each indentation.

3,261,073
CLINCHING PUNCH
Karl J. Klenk, Chadds Ford, Pa.
(20 Germay Industrial Park, Wilmington, Del.)
Filed June 2, 1965, Ser. No. 460,767
4 Claims. (Cl. 29—21.1)

1. A punching and clinching tool comprising

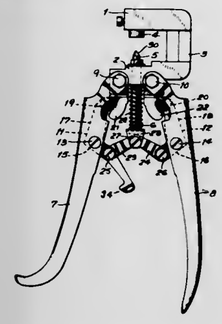
a C-shaped punch head having vertically spaced upper and lower generally parallel arms and laterally spaced rigid cams dependent from said lower arm,

companion punch and die elements on said upper and lower arms and including a punch plunger extending between said cams up through said lower arm and a cooperating punch element on said upper arm,

hand levers pivoted at their upper ends to the lower arm of the punch head at opposite sides of said plunger,

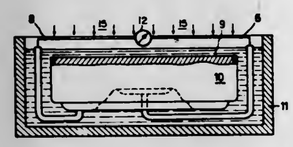
bell cranks pivoted at their elbows on said hand levers and having short lever arms extending toward said plunger and longer lever arms projecting upward toward said cams,

rollers on the upper ends of said longer lever arms in riding engagement with said cams and



toggle links pivotally connected between said short arms and said plunger.

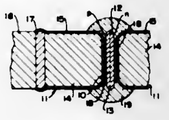
3,261,074
METHOD OF MANUFACTURING PHOTO-ELECTRIC SEMI-CONDUCTOR DEVICES
Claude Beauzée, Paris, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 20, 1961, Ser. No. 139,455
Claims priority, application France, Oct. 11, 1960, 840,830
2 Claims. (Cl. 29—25.3)



1. A method of manufacturing a semiconductor device utilizing a semiconductive body exhibiting photoelectric properties, comprising the steps of providing said semiconductive body with a surface layer of one conductivity type forming a junction with a bulk portion of the opposite conductivity type and providing contacts to said surface layer and said bulk portion, irradiating with light the said body at said surface layer, while so irradiating measuring the light generated electrical current output of said body across the contacts thereto and subjecting the said surface layer to a material-removal by etching operation reducing the layer thickness and causing the measured electrical output to increase, and terminating the material-removal operation not before the relative measured electrical output change with time reaches its maximum value but before the absolute output substantially declines.

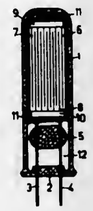
3,261,075
SEMICONDUCTOR DEVICE
Justice N. Carman, Gloucester, Mass., assignor to Carman Laboratories Inc., a corporation of Massachusetts
Original application Sept. 22, 1959, Ser. No. 841,513, now Patent No. 3,200,310, dated Aug. 10, 1965. Divided and this application Dec. 10, 1964, Ser. No. 435,103
8 Claims. (Cl. 29—25.3)

1. The method of making a glass encapsulated semiconductor device comprising a semiconductor crystal bounded by a circumferential edge and having at least one n-p junction terminating at said edge, which comprises bonding conductive leads to faces of said crystal on opposite sides of said junction by means of a bonding layer fusing at above 700° C., enclosing the circumferential edge of the crystal with an envelope of glass having a coefficient of thermal expansion substantially matching that of the crystal, and heating the glass-enveloped assembly of leads



and crystal to a temperature above the softening point of the glass but below the fusing temperature of the bonding layer until the glass has fused into direct contact with the assembly.

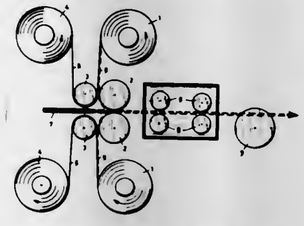
3,261,076
METHOD OF MANUFACTURING PHOTO-ELECTRIC CELL
Herman Mathieu Schröder and Gerardus Bots, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 7, 1963, Ser. No. 249,828
Claims priority, application Netherlands, Jan. 26, 1962, 274,024
6 Claims. (Cl. 29—25.11)



6. A method of making a photo-electric cell, comprising providing a photosensitive body consisting essentially of a pressed and sintered powder mixture of a chalcogenide of a bivalent metal and including spaced electrodes to the body, embedding said body portion containing the electrodes in an insulating flowable filling mass by centrifuging, subjecting at least the portion of said body containing the electrodes and the surrounding filling mass to a reduced pressure below atmospheric pressure to drive off gas inclusions, thereafter increasing the pressure to press the filling mass against the surface of the said body portion, and thereafter hermetically sealing said embedded body in a transparent, substantially non-porous envelope.

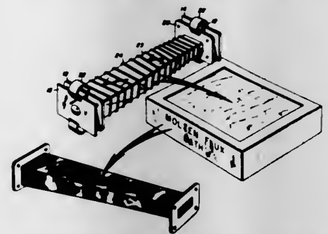
3,261,077
METHOD OF PRODUCING REGENERATIVE CAPACITORS
Johannes Meisinger, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed Feb. 19, 1962, Ser. No. 174,188
Claims priority, application Germany, Feb. 23, 1961, S 72,680
5 Claims. (Cl. 29—25.42)

1. A method of making an electrical capacitor, comprising the steps of placing upon a suitable auxiliary supporting foil a first varnish layer, providing upon said first varnish layer a thin metal coating, leaving a strip-like marginal zone bare of metal coating, disposing upon said metal coating a second varnish layer, assembling a plurality of said three-layer foils to form a capacitor by disposing at least one of such foils with the marginal zone thereof disposed at one edge of the assembly and disposing at least one other of such foils with the marginal zone thereof disposed at the opposite edge of the assembly, firmly bonding together at least two of such three-



layer foils to form a composite foil, and winding the so assembled foils to form a wrapped capacitor body.

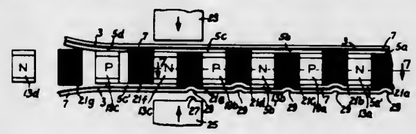
3,261,078
METHOD OF MANUFACTURE OF WAVEGUIDE COMPONENTS
Herman A. Hanemann, Jr., New Cumberland, and Albert T. Spiese, York, Pa., assignors to The Bendix Corporation, York, Pa., a corporation of Delaware
Filed Aug. 9, 1962, Ser. No. 215,835
3 Claims. (Cl. 29—155.5)



1. The method of manufacture of hollow waveguide components, comprising preparing a mandrel with an exterior shape corresponding to the internal configuration desired of the waveguide component, winding a tightly fitting spiral of metal wire upon said mandrel, assembling flanged fittings to the terminal ends of said spiral, securing said spiral and fittings to said mandrel by means of removable clamps, placing filler metal upon the outer surface of said spiral and adjacent said fittings, immersing said mandrel with said spiral and fittings clamped thereto in a bath of flux at a temperature sufficiently elevated to liquefy said filler metal but below the melting point of said metal wire, removing said mandrel, spiral, fittings and adherent filler metal from said bath, cooling said mandrel, spiral and fittings to cause the adherent filler metal to solidify and thereby secure said spiral and said fittings in rigid form, and removing said clamps and mandrel from said rigid spiral.

3,261,079
FABRICATION OF THERMOELECTRIC APPARATUS
William H. Clingman, Jr., and Foster L. Gray, Dallas, James F. Haefling, Garland, and Barry R. West, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Sept. 10, 1962, Ser. No. 222,310
2 Claims. (Cl. 29—155.5)

1. A method of fabricating thermoelectric modules comprising:
(a) bonding a first layer of electrical insulating material between two sheets of conductive material to form a first assembly;
(b) bonding a second layer of electrical insulating material between two sheets of conductive material to form a second assembly;
(c) removing portions of one of the conductive sheets of each of said first and second assemblies, whereby each of said assemblies includes a plurality of spaced, substantially coplanar electrically insulated conductive plates;
(d) positioning said assemblies substantially parallel to one another with the conductive plates of said assemblies in off-set facing relationship;
(e) forming a sheet of p-type thermoelectric material clad on both sides of said sheet with conductive material;
(f) segmenting said sheet to form a plurality of p-type thermoelements each having opposed surface portions of conductive material;
(g) forming a sheet of n-type thermoelectric material clad on both sides of said sheet with conductive material;
(h) segmenting said sheet of n-type thermoelectric material to form a plurality of n-type thermoele-



ments each having opposed surface portions of conductive material;
(i) alternately placing said p-type thermoelements and said n-type thermoelements between said assemblies, said off-set relationship of said assemblies allowing one end of each of said thermoelements to be in contact with a conductive plate of one of said assemblies and a second end of each of said assemblies to be in contact with a conductive plate of the other assembly, whereby said thermoelements are electrically connected in series;
(j) positioning blocks of insulating material between said assemblies, whereby said alternately placed p and n-type thermoelements are insulated from each other; and
(k) bonding said blocks of insulating material, said p-type thermoelements and said n-type thermoelements between said assemblies by hot pressing said assemblies.

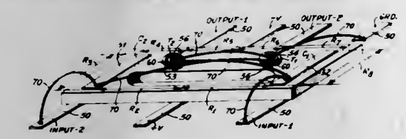
3,261,080
METHOD OF MANUFACTURING A PHOTOCONDUCTING DEVICE
Hermann Georg Grimmeiss and Heinz Scholz, Aachen, Germany, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 12, 1964, Ser. No. 351,468
Claims priority, application Netherlands, Apr. 3, 1963, 291,095
9 Claims. (Cl. 29—155.5)



7. A method of manufacturing a photoconductive device comprising a gallium phosphide semiconductor body, comprising contacting the gallium phosphide body with a copper-containing material and subjecting the contacting body and material to a first heating step at a temperature between about 300° C. and 750° C. causing copper to be absorbed into the surface of the gallium phosphide body until the latter discolors, thereafter removing any residual free copper-containing material which could produce a molten phase with the body during the subsequent heating step, thereafter subjecting the body with the absorbed copper to a second heating step at a temperature between about 700° C. and 1100° C. to diffuse the absorbed cop-

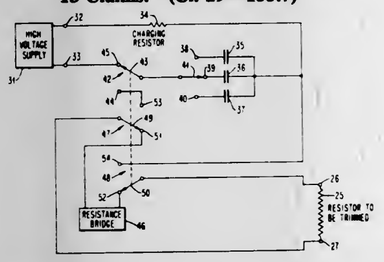
per throughout the body and until the discoloration disappears, whereby the said copper-activated gallium phosphide body with the diffused copper exhibits high photoconductivity, and thereafter providing spaced electrodes contacting the body, said resultant device exhibiting a high photosensitivity in the blue region of the spectrum.

3,261,081
METHOD OF MAKING MINIATURIZED ELECTRONIC CIRCUITS
Jack S. Kilby, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas Tex., a corporation of Delaware
Original application Feb. 6, 1959, Ser. No. 791,602, now Patent No. 3,138,743, dated June 23, 1964. Divided and this application Mar. 16, 1964, Ser. No. 352,380
21 Claims. (Cl. 29—155.5)



1. In a method of manufacturing an integrated circuit of the type having a plurality of separate transistors and a plurality of separate passive circuit components including elongated semiconductor resistors in a semiconductor body, the steps of diffusing conductivity-determining impurity material into one face of the body to convert the conductivity-type of semiconductor material adjacent said one face to form what in the completed integrated circuit functions as the base regions of said plurality of transistors and to form at the same time what in the completed integrated circuit functions as at least parts of said passive circuit components, applying contacts to a face of the body at opposite ends of said elongated semiconductor resistors, and applying interconnections to connect selected ones of the passive circuit components including said semiconductor resistors to selected ones of the transistors, the method including the steps of treating the body to electrically isolate said base regions from one another and from said parts of the passive circuit components.

3,261,082
METHOD OF TAILORING THIN FILM IMPEDANCE DEVICES
Leon I. Maissel and Donald R. Young, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 27, 1962, Ser. No. 182,818
13 Claims. (Cl. 29—155.7)



1. A method of tailoring the resistance of a thin film impedance device, comprising:

heating the film of the impedance device to a temperature above its normal stabilizing temperature by applying at least one discrete electrical impulse to the film for a predetermined period of time equal to or less than one hundred milliseconds to modify its bulk resistivity from its initial value to a predetermined desired value.

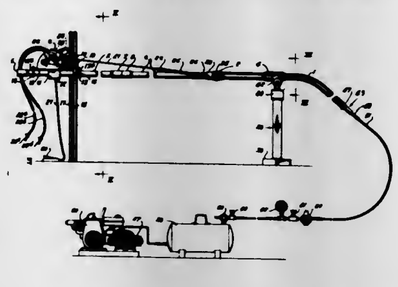
3,261,083
METHOD OF FABRICATING WHEELS
Martin Mayrath, Dallas, Tex., and Wayne E. Sinclair, Compton, Ill., assignors to Mayrath Company, a corporation of Illinois
Filed Oct. 14, 1960, Ser. No. 62,758
3 Claims. (Cl. 29—159)



1. The method of fabricating a wheel, comprising securing a double-flanged endless rim in a precisely circular configuration about a centrally-apertured bearing sleeve, assembling a first centrally-apertured spider with its aperture-defining portion aligned with the outer end of the bearing sleeve and with peripheral margin portions located above one flange of said endless rim, pressing the spider into contact with the bearing sleeve and said one flange of said endless rim, separately applying additional pressure to one of the peripheral margin portions of said spider, simultaneously welding the spider to the bearing sleeve and the marginal portion of the spider, which is under the said additional pressure, to one flange of said endless rim while the parts are under pressure, again simultaneously welding the spider to the bearing sleeve and another marginal portion of the spider to the said flange of said endless rim at positions spaced from the first marginal welding position while the parts are under pressure, and repeating said operation until all of the marginal portions of said spider have been welded to the said flange of said endless rim, assembling a second centrally-apertured spider with its aperture-defining portion aligned with the opposite end of the bearing sleeve and with peripheral margin portions located above the other flange of said endless rim, pressing the second spider into contact with the bearing sleeve and the other flange of said endless rim, separately applying additional pressure to one of the peripheral margin portions of said second spider, simultaneously welding the second spider to the bearing sleeve and the marginal portion of the spider, which is under the said additional pressure, to the other flange of said endless rim while the parts are under pressure, and repeating said welding operation at positions spaced from the first welding position until all of the marginal portions of said second spider have been welded to the said other flange of said endless rim.

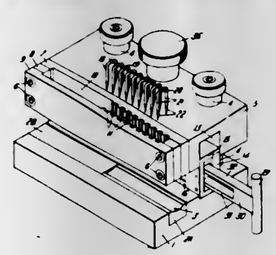
3,261,084
MEANS OF APPLYING PIPE PROTECTORS
Monroe Mirsky, Houston, and John W. Tinning, Dallas, Tex., assignors, by mesne assignments, to Dresser Industries, Inc., a corporation of Delaware
Original application Jan. 3, 1961, Ser. No. 80,343, now Patent No. 3,126,624, dated Mar. 3, 1964. Divided and this application Dec. 23, 1963, Ser. No. 339,051
5 Claims. (Cl. 29—234)

1. Means for placing an elastic sleeve on a pipe including, a first support for the pipe attached to the pipe at one end thereof, providing a free end portion of the pipe; a winch attached to said free end portion of the pipe; a second support engaging the other end of the pipe; rollers on the upper end of the second support supporting the said other end of the pipe; a closure member inserted in the said other end of the pipe; a pull-on adapter attached to one end of the sleeve and being slidable over



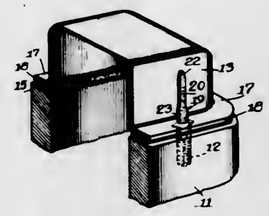
the said other end of the pipe to guide the sleeve thereon; an air adapter attached in the other end of the sleeve; a line operable by the winch and attached to the pull-on adapter; and means to admit fluid under pressure through the air adapter to the interior of the sleeve as it is pulled on the pipe by the winch.

3,261,085
BELT-FASTENING MACHINES
George C. Hobson, Sheffield, England, assignor to Hayden-Nilos Limited
Filed Mar. 30, 1965, Ser. No. 443,933
Claims priority, application Great Britain, Apr. 4, 1964, 13,973/64
6 Claims. (Cl. 29—243.51)



1. A belt-fastening machine for making a joint-half consisting of U-shaped clamps having pairs of holes in both limbs and staples to pass through the pairs of holes and the thickness of a belt interposed between the limbs, the machine comprising a base, a cheek along the front of the base and presenting an upper face that is formed along half its length with a lengthwise recess to provide point-bending surfaces and along the remaining half of its length is plain, upright guiding means upstanding from the rear of the base, a slide block mounted for vertical movement on the guiding means and overhanging the cheek, means for adjusting the slide block vertically with respect to the base, the overhanging portion having a slot through its thickness and extending in the lengthwise direction of the cheek and aligned with the recessed part of the cheek, there being registering pairs of vertical grooves formed in the lengthwise walls of the slot over the length corresponding to the recessed part of the cheek, to receive the downwardly pointed legs of U-shaped wire staples of a width to bridge the slot, a comb-bar disposedly rearwardly of the cheek, with a vertically slotted front face to receive the base of U-shaped clamps to be laid with one limb resting across the cheek, and a pressing member of a width to fit the slot for the forcing of the pointed legs of staples bridging the slot through the pairs of holes in the limbs of the clamps and a belt interposed between those limbs.

3,261,086
ALIGNING AND RETAINING PRONG AND METHOD OF ASSEMBLING APERTURED MATING MEMBERS
Lawrence H. Dunn, Skokie, Ill., assignor to Felt Products Mfg. Co., a corporation of Illinois
Filed Sept. 14, 1964, Ser. No. 396,117
11 Claims. (Cl. 29—423)



1. An aligning and retaining prong comprising a compressible, resilient elongated wedge-shaped section having one end dimensioned to extend through aligned apertures in a gasket and in one of two mating parts that are to be held together with said gasket interposed between their meeting edges, and a portion having a transverse width greater than the diameter of said aligning apertures, said wider portion being engageable with said aligned apertures to hold said gasket against accidental displacement relative to said one mating part.

11. A method of assembling an apertured gasket with mating parts having apertures in their meeting edges spaced to conform to the spacing of the apertures of said gasket, said method comprising the steps of positioning the gasket on one of said mating parts with the apertures of said gasket and said one mating part in axial alignment, inserting wedge-shaped compressible, resilient prongs into a plurality of pairs of said axially aligned apertures, pulling said prongs partially through said apertures into a tight frictional engagement therewith, positioning said first mating part, with said gasket held thereagainst, into mating relationship with said second mating part with projecting sections of said prongs extending into apertures in said second mating part, pulling one prong out of its aligned apertures, inserting a permanent fastening member into the aligned apertures from which said one prong has been removed while said gasket and mating parts are held in position by other prongs, securing said permanent fastening member in place, and thereafter replacing each prong by a permanent fastening member as a separate operation.

3,261,087
PROCESS FOR FORMING A SEAL FOR A CONTAINER FOR STORING A LIQUEFIED GAS
Etienne Maurice Schlumberger, London, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Feb. 28, 1963, Ser. No. 261,888
Claims priority, application Great Britain, Mar. 6, 1962, 8,653/62
18 Claims. (Cl. 29—450)

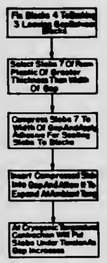
1. A process for forming a fluid-tight thermal insulating liner for a liquid gas container which comprises

(a) affixing to a backing support at ambient temperature a number of rigid blocks of thermal-insulating

material, with a small gap between adjacent blocks,

(b) compressing slabs of semi-rigid compressible closed cell foamed plastic by at least 5% from their normal thickness at ambient temperature to at least the thickness of the gap width,

(c) inserting said compressed slabs into the gaps after applying adhesive bonding material between the adjacent surfaces of the slabs and the blocks between which they are inserted to firmly bond the slabs



and blocks so as to provide a fluid-tight liner consisting of said blocks with slabs filling all the gaps between them,

(d) the thickness of said slabs in relation to the blocks being such that when the container is filled with low-temperature liquid gas, the resulting thermal contraction of the blocks and of the slabs changes the condition of the slabs from compression to tension by virtue of said adhesive bonding, without impairing the fluid seal provided by the liner.

3,261,088

PROCESS FOR EXPLOSIVELY BONDING METAL LAYERS

Arnold H. Holtzman, Cherry Hill Township, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 23, 1963, Ser. No. 253,484
7 Claims. (Cl. 29—486)



1. A process for preparing a metallurgically bonded clad metal system which comprises:

(1) supporting a metal cladding layer directly above, substantially parallel to, and separated a distance of at least 0.010 inch from an equi-dimensional metal base layer,

(2) covering the exposed outside surface of the metal cladding layer with a layer of a first detonating explosive, said first explosive having a detonation velocity of between about 1200 meters per second and 100% of the sonic velocity of the metal having the highest sonic velocity in the system,

(3) placing a linear charge of a second detonating explosive along a median line extending across said layer of a first explosive, said second explosive having a detonation velocity greater than the detonation velocity of said first explosive and less than 120% of the sonic velocity of the metal having the highest sonic velocity in the system, and

(4) initiating said linear charge at a single point on said charge.

3,261,089

METHOD OF TREATING LEAD-IN WIRES OF ELECTRODE TUBES

Heinrich Jarczyk, Reinheim, Germany, assignor, by mesne assignments, to Robert Bosch G.m.b.H., Stuttgart, Germany

No Drawing. Filed Jan. 8, 1963, Ser. No. 250,007
Claims priority, application Germany, Jan. 9, 1962, F 35,729
7 Claims. (Cl. 29—527)

1. Method of treating lead-in wires of electron tubes, comprising the steps of sealing a portion of a metal wire spaced from the opposite end portions thereof in a glass body, thereby exposing the portions of said wire adjacent to the sealed-in portion thereof to heat and causing scale formation on said heat exposed wire portions; removing the scale from said exposed wire portions; and forming on the now scale-free surface of said exposed wire portions, respectively, a composite metal layer consisting of an outer gold layer and an inner silver layer, said silver layer adhering to and contacting said scale-free wire surface and said outer gold layer, whereby upon subsequent exposure to heat a protective silver-gold alloy layer will be formed on said surface of said exposed wire portions, respectively, preventing scale formation thereon so that a reliable soldering connection between said surface portion and another metal body may be formed without impairing the electric conductivity of the thus-formed connection.

3,261,090

METHOD OF MAKING LIGATURE SEALS

Hobart P. Young, Winnetka, Ill., assignor to Signode Corporation, a corporation of Delaware

Filed June 7, 1963, Ser. No. 286,344
11 Claims. (Cl. 29—527)



1. A method of making grit coated seals for securing together overlapping portions of a ligature, forming sheet material into suitable size and shape for use as a seal, applying a thermoplastic adhesive to a surface of the sheet material, and heating the adhesive to a temperature such that it is softened and has adhesive properties, contacting the adhesive in its softened state with particles of a hard grit material, removing particles that fail to adhere to the adhesive, and cooling the adhesive to harden the same.

9. A method of making grit coated seals comprising the steps of applying a layer of thermoplastic adhesive to the inner surface of a sheet of metal, drying said adhesive, shearing said sheet into individual pieces each of a size suitable for a seal, forming said pieces into seals, heating a supply of grit in a container, passing said seals through said grit, whereby some of said grit adheres to said adhesive, and cooling said seals to secure the adhered grit in place.

3,261,091

SHAVING HEAD HAVING CONCENTRIC CUTTER ELEMENTS

Jan van den Driest, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 23, 1964, Ser. No. 384,613
Claims priority, application Netherlands, Aug. 20, 1963, 296,894
3 Claims. (Cl. 30—43.6)

1. A shaving head for use in a dry shaver comprising an inverted cup-shaped, apertured shear plate having concentric annular grooves therein and a central bore, a rotary cutter support having at least two concentric rings of cutter blades, each of said blades being rotatable in the grooves of said shear plate adjacent to said apertures,

the thickness of the lateral walls of the shear plate surrounding said grooves being more than twice the thickness of the portions of the shear plate directly above said grooves, said rotary cutter support being provided with



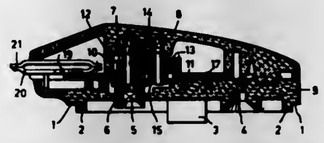
an upwardly projecting centering pin fitted in said central bore, and a plurality of additional grooves extending radially from said rotary cutter support and each adapted to have secured therein at least one of said cutter blades.

3,261,092

HAIR CLIPPING DEVICE

Karel Martin Tiemes, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 7, 1963, Ser. No. 314,118
Claims priority, application Netherlands, Oct. 26, 1962, 284,800
2 Claims. (Cl. 30—90)



1. A hair clipper for a dry shaver provided with a rotary driving member and a shaver housing comprising a hair clipper housing having a surface for engagement with a corresponding surface on said shaver housing, relatively movable hair clipper blades in said hair clipper housing, an apertured driving plate in said hair clipper housing, means pivotally mounting said driving plate in said hair clipper housing, a drive shaft extending substantially at right angles to the plane of said engagement surface and passing freely through said aperture in said plate, said drive shaft having teeth on one side of the plate, means on the other side of said plate for coupling said drive shaft to said rotary driving member of the dry shaver for rotation therewith, a toothed wheel meshing with the teeth on said drive shaft, and an eccentric rotatable with said toothed wheel and engaging in said aperture of said plate whereby movement is imparted to the plate for operating at least one of said hair clipper blades, said driving plate being elongated with said aperture in the median portion thereof, said aperture being provided with an extension in the form of a slot, said eccentric being located in said slot and engaging the sides thereof.

3,261,093

COMBINED NAIL CLIPPER AND KNIFE

James B. Reswick, 3229 Fairmont Blvd., Cleveland Heights, Ohio

Filed Oct. 21, 1964, Ser. No. 405,339
6 Claims. (Cl. 30—142)



1. A combined tool, comprising opposed upper and lower elongated jaw members of stiffly yieldable material connected at one end and having normally spaced cutting jaws at the other end, a pivotally mounted operating lever for forcing the jaws together for a clipping operation and arranged to lie adjacent the top surface of the upper member when in inoperative position, said jaws being closer together when said lever is in inoperative position than when said lever is elevated into cutting position, and an elongated blade member having a hub end pivotally connected to the connected end of said jaw members on the outer surface of one of said jaw members, said blade member having a blade end associated with said hub end via a lateral offset portion, whereby in inoperative position said blade portion may be swung into and received in the space between said jaw members and whereby in operative position said blade member may extend in the direction away from said cutting jaws, the thickness of said blade member being such in relation to the spacing of unconnected portions of said jaw members that when said lever is in elevated position a clearance exists for swinging movement of said blade member between said jaw members and that when said lever is lowered to said inoperative position said jaw members compressionally engage a part of the blade end of said blade member to retain the same should it then be between said jaw members.

3,261,094

COMBINATION IMPLEMENT ASSEMBLY

Harvey N. Bliss, Windsor, Conn., assignor to The Britton Corporation, Newington, Conn., a corporation of Connecticut

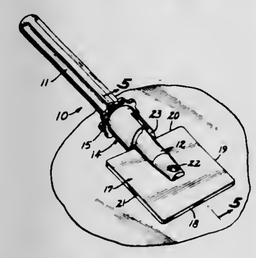
Filed Aug. 17, 1964, Ser. No. 390,122
12 Claims. (Cl. 30—143)



1. A combination implement assembly comprising a casing unit having a pair of spaced generally parallel extending face portions of sheet material and means along one side edge of said portions joining said portions; an elongated implement within said casing unit at the opposite side edge of said face portions and having an elongated housing of generally U-shaped cross-section opening outwardly of said casing unit at said opposite side edge, said housing having generally parallel side wall portions extending adjacent said face portions and a connecting base portion facing said joining means of said casing unit and spaced therefrom to define a pocket therebetween, said implement having a knife-like blade pivotally mounted within said housing; means securing said housing in said casing unit with said knife-like blade being pivotable outwardly of said housing and casing unit into operative position extending longitudinally of said housing; and a nail clipper having a pair of superposed elongated jaw elements having cooperating cutter jaws at one end thereof and fastened together at the other end thereof, said jaw elements being biased apart in operative position to provide yieldable spacing between said cutter jaws, a pivot pin intermediate the length of said jaw elements and adjacent said one end, and an elongated operating lever for said jaw elements pivotably mounted on said pivot pin and extending generally longitudinally of said jaw elements, the major portion of said jaw elements including said other end thereof being slidably received within said pocket defined by said casing unit and knife-like implement and said operating lever extending along the outer surface of one of said casing unit face portions, said operating lever and said one face portion having interengaging means to limit pivotal movement of said lever

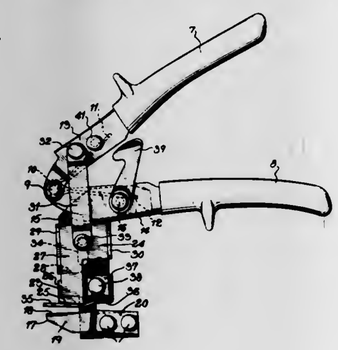
laterally of the casing unit and sliding movement of said clipper with respect to said casing unit, said interengaging means being disengageable by movement of said lever generally normally outwardly from said one face portion.

3,261,095
ICE SCRAPER FOR WINDSHIELDS AND THE LIKE
Oscar C. Nelson and Esther V. Nelson, Tracy, Minn., assignors to Donald W. Meyer and Betty Meyer, both of Tracy, Minn.
Filed May 18, 1964, Ser. No. 368,297
1 Claim. (Cl. 30—169)



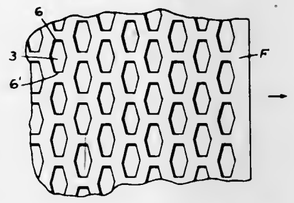
An ice scraper comprising:
(a) an elongated handle having a bifurcated end;
(b) a circumferentially extending stop flange on said handle;
(c) a bifurcated sleeve member concentrically mounted on said handle, one end of said sleeve member resting against said stop flange, the bifurcated end of said sleeve member defining a camming surface, said sleeve member being rotatable relative to said handle; and
(d) a multiedged blade rotatably mounted between the tines of said bifurcated end of said handle on an axis transverse to said handle, the camming surface of said sleeve member camming against one edge of said blade to lock said blade in a nonrotatable position, said blade being rotatable when the bifurcated sleeve and the bifurcated end of said handle are aligned.

3,261,096
HAND PUNCH FOR CUTTING SHEET MATERIAL ON VARIOUS CURVES AND STRAIGHT LINES
Karl J. Klenk, Center Mill Road, R.D. 1, Chadds Ford, Pa.
Filed May 6, 1964, Ser. No. 365,261
2 Claims. (Cl. 30—242)



1. A hand punch for cutting sheet material on variously curved or straight lines, comprising companion upper and lower hand levers pivoted together at one end,
a dependent guide post pivotally hung from the lower hand lever on a pivot center located inwardly of said end pivot,
a cutting die on the lower end of said guide post,
a punch forming slide operable over said guide post above said cutting die and having a companion punch element at the lower end of the same cooperable with said cutting die,
a push-pull link pivotally connected with said slide and with the upper hand lever, and
a spring coiled about said end pivot and having its opposite ends expansively engaged with the upper and lower hand levers to apply a spreading force to said levers and lifting action on said punch forming slide.
said hand levers being of folded hollow construction, with the guide post of flat sheet metal pivoted in the folded hollow portion of the lower hand lever and the slide of sheet metal folded flat about the guide post and there being two links extending about opposite sides of the hand levers.

3,261,097
PERFORATED STATIONARY BLADE FOR A DRY RAZOR HAVING A SHARP HAIR RAISING EDGE
Ernst Michel Ritter, Falkenstrasse 92b, St. Gallen, Switzerland
Filed Mar. 10, 1964, Ser. No. 350,776
Claims priority, application Switzerland, June 6, 1963, 7,074
1 Claim. (Cl. 30—354)

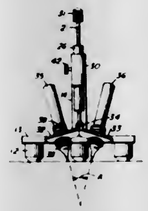


A stationary blade for the cutting head of a dry-shave razor which comprises a foil having a plurality of apertures therein and adapted for fitting to the cutting head over a movable cutter, said apertures being in the form of elongated hexagons having their two shortest parallel sides parallel to the smallest internal width of the hexagon and parallel to the direction in which the movable cutter is moved relative to said foil and said apertures having sharp edges both at the underside of the foil adjacent the movable cutter and at the upper surface of the foil which is in contact with the skin during shaving.

3,261,098
DRAFTING DEVICE
Worth N. Twist, Jr., 1136 York St., Apt. 304, Denver, Colo.
Filed Aug. 23, 1963, Ser. No. 304,287
4 Claims. (Cl. 33—18)

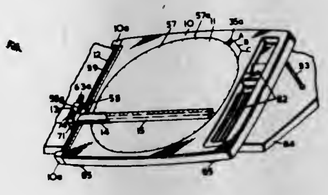
1. A drafting device operable upon a plane drawing surface for producing uniformly spaced double lines on said drawing surface including in combination with a carriage structure displaceable over said drawing surface a manipulatable means maintaining two line drawing means in predetermined operative positions, said manipulatable means comprising an element having two parts respectively constituting surfaces in planes equally and oppositely inclined to said drawing surface, said parts being adapted thereby to receive therethrough said drawing means, and hold them in said predetermined operative positions, and a shaft means, angularly displaceable about a longitudinal axis thereof disposed perpendicular to said drawing surface,

operatively connecting said element to said carriage structure, said element further including an extension angularly inclined with respect to said drawing surface and centrally arranged between said parts of said element, an open-



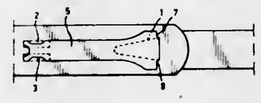
ing in said extension having detachably fastened therein an extension of said shaft, whereby said element maintains said drawing means directed toward each other and away from said shaft in said predetermined operative positions.

3,261,099
DRAWING AID
Leslie Reginald Blake, 17 Cotes Road, Barrow-upon-Soar, Leicestershire, England
Filed May 7, 1964, Ser. No. 365,748
4 Claims. (Cl. 33—78)



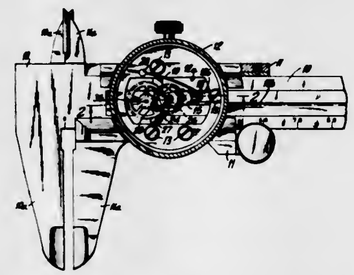
1. Apparatus, for use in preparing a drawing, comprising a circular table for supporting a sheet on which the drawing is to be made, said table provided with notches in its periphery, a rectangular frame, means rotatively supporting said table at its centre from said frame, a control lever pivotally supported from said frame, a clamping member supported from said frame, screw-operated means for moving said clamping member into clamping relationship with said table, an arm extending radially from said screw-operated means, a link interconnecting said arm and said control lever to move said clamping member into its clamping position when said control lever is actuated to one side of a neutral position, a bar pivotally supported at one end from said frame, a cam surface at the outer end of said arm, a cam-follower at the other end of said bar, a roller pivoted from said bar intermediate the ends of said bar, means biasing said cam-follower on to said cam, said cam when said control lever is at the other side of the neutral position permitting said roller to engage the periphery of said table and to enter a notch when brought into registration by a rotation of said table, a rectilinear guide of circular cross-section supported from said frame parallel to a side edge thereof in a position laterally clear of said table, a slide movable along said guide, and a rule supported from said slide to extend perpendicularly from said guide to over-lie said table, said slide rotatable on said guide so that said rule can be raised clear of the sheet.

3,261,100
ARRANGEMENT FOR INTERCONNECTING TWO ELASTIC TAPES
Michel Quenot, Besancon, Doubs, France, assignor to Etablissements Quenot & Cie S.A., Besancon, Doubs, France
Filed May 25, 1964, Ser. No. 369,662
Claims priority, application France, Dec. 17, 1963, 957,541
5 Claims. (Cl. 33—138)



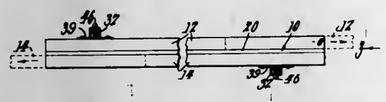
1. A system of two elastic interconnectable tapes comprising a first elastic tape provided with at least two openings at different points of its length one of said openings consisting of generally U-shaped slots and the other opening having longitudinal edges, and a second elastic tape including a terminal section of a reduced breadth adapted to be threaded in succession through said openings in the first tape and the terminal portion of said section being held fast between the longitudinal edges of the opening in the first tape which is the second opening to be engaged by the said terminal section, and said slots defining oppositely disposed inwardly projecting flaps in the plane of said first tape for overlying said terminal portion of said second tape and holding said terminal portion substantially in the plane of said first tape, whereby said tapes are connected in a substantially flush connection.

3,261,101
SLIDE CALIPER HAVING A DIAL INDICATOR
Hans Neumayer, Oberndorf (Neckar), Germany, assignor to Messrs. Mauser-Messzeug G.m.b.H., Oberndorf (Neckar), Germany, a corporation of Germany
Filed Sept. 11, 1961, Ser. No. 137,460
Claims priority, application Germany, Sept. 10, 1960, M 46,535
2 Claims. (Cl. 33—147)



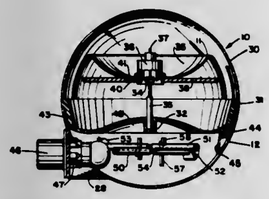
1. A caliper comprising a slide supporting arm having rack teeth on one edge thereof and a jaw at one end, a slide slidably supported on said slide supporting arm and having a jaw complementary to the jaw on said arm, a pinion carried by said slide in position to engage said rack, a first pointer rotated by said pinion, a second pointer, a step-down gearing between said first pointer and said second pointer to rotate said second pointer at a reduced speed relative to that of said first pointer, a housing mounted on said slide and enclosing said pinion, gearing and dial, a bearing member carrying said pinion, gearing and pointers and pivoted in said housing off-center from the axis of said pinion, and a spring biasing said bearing member to hold said pinion in mesh with the rack teeth of said slide.

3,261,102
EXTENSIBLE RULE
Victor S. Stedman, 6 Blair St., Worcester, Mass.
Filed June 16, 1964, Ser. No. 375,584
3 Claims. (Cl. 33—161)



1. An extensible rule comprising a central longitudinal core portion having a slide guide adjacent opposite faces thereof, a sliding member engaged in each slide guide, scales arranged at the faces of said central core portion, said scales normally being covered by said slide members when they are in fully retracted position as respects the central core portion, and being uncovered as either or both of said sliding members is moved in a certain predetermined direction, one of said scales reading from left to right and the other scale reading from right to left, a spring-pressed latch on each sliding member and a cooperating notch at opposite sides and opposite ends of said central core portion, the latches entering said notches to hold the three parts in aligned minimum length condition, and means for manually retracting the latches against the action of the springs.

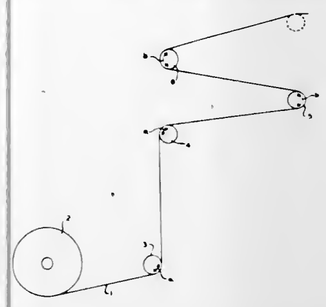
3,261,103
MAGNETIC COMPASS
James M. Bosland, Wayne, and James Hunter Giltzow, Roseland, N.J., assignors, by mesne assignments, to Aqua Meter Instrument Corporation, Roseland, N.J., a corporation of New Jersey
Filed Mar. 5, 1963, Ser. No. 263,385
15 Claims. (Cl. 33—225)



3. In a compass of the type described, in combination, a generally hemispherical transparent dome completely enclosing a magnet and compass card, the magnet and compass card being supported on a needle point for rotation about a vertical axis, an opaque bowl member mating with the dome to form a sphere, means mounting said sphere for limited angular movement about a horizontal axis to normally place the juncture between said dome and bowl in a horizontal plane perpendicular to said vertical axis, and means mounted in said bowl for compensating the compass for magnetic deviation resulting from magnetic interference.

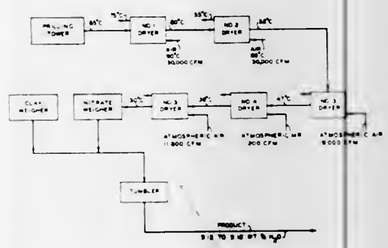
3,261,104
HEAT TREATMENT OF POLYVINYL ALCOHOL FILM
Seiichi Sakakibara, Kurashiki-shi, Okayama-ken, and Keisuke Nakahari, Nishinomiya-shi, Hyogo-ken, Japan, assignors to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Okayama Prefecture, Japan, a corporation of Japan
Filed Dec. 4, 1962, Ser. No. 242,318
Claims priority, application Japan, Dec. 7, 1961, 36/44,507
4 Claims. (Cl. 34—12)

1. A process for fabricating products from polyvinyl alcohol film which comprises continuously and uniformly heating both sides of a relatively moist polyvinyl alcohol film in first and second heating zones to reduce the moisture content of said film taken from the second heating zone to about 3 to 4% by weight, the temperature in the



second zone being maintained higher than that in the first zone, and immediately after withdrawing the film from said second zone fabricating said film into a folded or printed product.

3,261,105
DRYING AMMONIUM NITRATE PRILLS
Charles V. Mullen, Jr., Idaho Falls, Idaho, assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 29, 1962, Ser. No. 233,674
5 Claims. (Cl. 34—13)

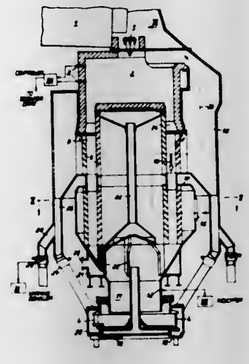


1. In the production of ammonium nitrate prills wherein molten ammonium nitrate, containing about 3 to 6 percent water, is sprayed into the top of a prilling tower countercurrent to a flow of cooling gas, the improvement which comprises collecting the prills at the bottom of the tower; passing the prills serially through a plurality of drying zones; passing air through each of said drying zones in an amount sufficient and at a temperature sufficient to reduce the temperature of the prills about 2 to 10° C. in each drying zone; and recovering dried prills from the last of said drying zones.

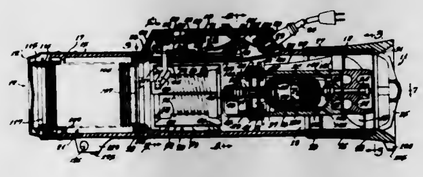
3,261,106
METHOD AND DEVICE FOR EFFECTING HEAT EXCHANGE
Otto Brockelmann, Moers, Erich Hatje, Rheinhausen, and Reinhold Asel, Dornap, Germany, assignors to Beteiligungs- und Patentverwaltungs-Gesellschaft mit beschrankter Haftung, Essen, Germany, and to Rheinisch-Westfalische Kalkwerke Aktiengesellschaft, Dornap, Germany
Filed Mar. 4, 1965, Ser. No. 437,018
Claims priority, application Germany, Mar. 7, 1964, B 75,785
14 Claims. (Cl. 34—20)

1. A method for cooling hot granular bulk material falling under the force of gravity within a shaft having air-permeable walls, said method comprising the step

of passing coolant air along a meandering path having portions within said shaft and portions outside of said shaft, the portions within said shaft extending substantially transversely to the flowing granular material, and the flow of coolant outside of said shaft being substantially upwardly.

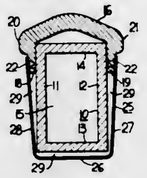


3,261,107
HAIR DRYER HAVING HOSE STORAGE MEANS
George M. Ponczek, Chicago, Worthy L. Chambers, Wilmette, and Frederick J. Ritter, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed June 23, 1965, Ser. No. 466,307
17 Claims. (Cl. 34—99)



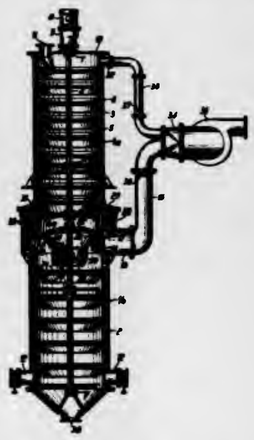
11. In a hair dryer comprising the combination of a portable electrically operated motor-blower and heater unit, a head receiving hair drying hood, a flexible hose interconnecting the portable unit and hood for delivering air to the hood, and a switch for controlling the motor and heater; said portable unit including a housing containing an air blower, an electric motor for operating the blower, an electric air heater, and an air inlet and an air outlet passageway; the end of the hose which is connected to the hood being releasably connected thereto and the other end thereof being connected to the air outlet passageway; the improvements of said hose being lengthwise collapsible and expansible within the range of from a few inches to a few feet, said outlet passageway having a length which is equal to the collapsed length of said hose and a transverse size which is slightly larger than the transverse size of said hose, said hose when released from said hood and in lengthwise collapsed position being stored in said outlet passageway, and means releasably retaining said lengthwise collapsed hose stored in said outlet passageway, said last-mentioned means comprising a fitting on the outer end of said hose which is adapted for releasable interlocking connection to said hood when the hose is expanded and releasable interlocking connection to the outer end of said outlet passageway when the hose is stored in said outlet passageway.

3,261,108
GRIZZLY BAR CONSTRUCTION
Eugene F. Rossi, Wauwatosa, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 2, 1964, Ser. No. 415,304
6 Claims. (Cl. 34—164)



1. A grizzly bar assembly comprising a rectangular bar having a top, bottom and side walls, a cap on said top wall, said cap having depending portions outwardly of said side walls with said depending portion being fastened to said side walls, and a heat reflecting shield spaced around the side walls and bottom of said bar and said shield having a bottom portion and side portions generally U-shaped in cross section, the upper edges of said side portions overlapping the outer surfaces of said depending portions, said shield being fastened to the overlapped depending portion of said cap.

3,261,109
APPARATUS FOR DRYING AND COOLING PARTICULATED MATERIAL
Heinrich Tillmanns, Wevelinghoven, Germany, assignor to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany
Filed Nov. 20, 1964, Ser. No. 412,650
Claims priority, application Germany, Nov. 26, 1963, M 59,040
10 Claims. (Cl. 34—171)



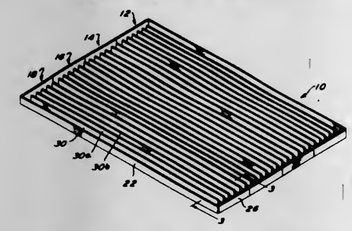
1. Apparatus for drying and cooling particulated material comprising, in combination, an elongated substantially vertical housing having an upper drying zone and a lower cooling zone and having an inlet opening at the upper end thereof for feeding material to be dried and cooled into said housing and a discharge opening at the lower end thereof for discharging the dried and cooled material from said housing; chamber means surrounding said housing in the region where said drying zone borders said cooling zone, said chamber means having an upper end communicating with said drying zone and a lower end communicating with said cooling zone; distributor means in the interior of said housing

to cause the material entering through said inlet opening to pass in finely divided form through said drying and said cooling zone; cooling air inlet means for feeding cooling air into the lower end of said housing so that the cooling air will pass in countercurrent to the material upwardly through said cooling zone; cooling air outlet means communicating with the interior of said housing in the region of said lower end of said chamber means for discharging part of the cooling air from the interior of said housing; deflector means in said housing in the region of said lower end of said chamber means for deflecting another part of said cooling air into said chamber means; heating means in said chamber means for heating the cooling air deflected into said chamber means, so that the thus heated air will pass through said upper end of said chamber means into said drying zone for drying the particulated material passing therethrough heating thereby the particulated material and so that the cooling air before being deflected into said chamber means will be preheated by heat exchange with heated material passing through said cooling zone; and air discharge means communicating with the interior of said housing at the upper end thereof for discharging the heated air therefrom.

3,261,110
DRYING TRAY

Manuel E. Fuentevilla, Haddonfield, N.J., assignor, by mesne assignments, to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 6, 1963, Ser. No. 286,078
6 Claims. (Cl. 34—237)



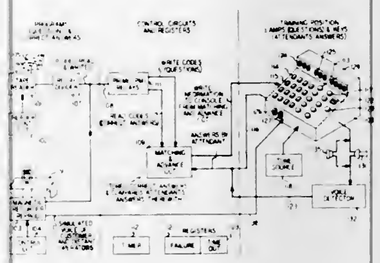
1. An open drying tray for drying material supported thereby comprising a bottom wall, first and second end walls, first and second side walls, said walls being fixed to and extending upwardly from and substantially perpendicular to the upper surface of the bottom wall, spaced substantially parallel straight ribs fixed to said surface of said bottom wall and extending upwardly therefrom substantially parallel to said side walls, the length of the ribs being less than the distance between said first and second end walls thereby defining first and second gaps at opposite ends of the bottom wall, said gaps providing communication between channels on opposite sides of said ribs, and spaced substantially parallel straight projections fixed to a bottom surface of said bottom wall, said projections materially increasing the surface area of the lowermost surface of said bottom wall.

3,261,111
TRAINING EQUIPMENT FOR TELEPHONE OPERATORS

Donald F. Johnston, Red Bank, Robert D. Kroning, Neptune Township, Monmouth County, and Joseph Orost, West End, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 13, 1963, Ser. No. 308,716
23 Claims. (Cl. 35—6)

1. In training equipment for control board attendants, a training position, visual indicators at said position for indicating program problems to a trainee, a first group of relays for controlling said visual indicators, a group of match relays, a program tape perforated to control the origination of problem codes and of response codes, a plurality of code transmission leads. means for connecting said code transmission leads to said match relays, means for transmitting response codes over said leads when so connected whereby to selectively operate match relays in accordance with the particular program segment, means effective upon completion of the transmission of said response codes for connecting said same code transmission leads to said first group of relays, means for

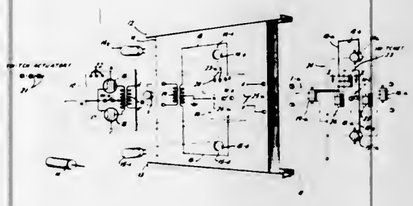


transmitting problem codes over said code transmission leads when so connected whereby to selectively activate said visual indicators in accordance with the particular program segment, a plurality of keys at said position for use by a trainee in responding to indicated problems, and a respective responding circuit closed by each of said keys, each of said responding circuits corresponding respectively to one of said match relays, closure of a respective responding circuit being effective to release the corresponding match relay if operated whereby to indicate a correct response by the trainee.

3,261,112
TEACHING APPARATUS

Jay H. Schlag, Atlanta, Ga., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Nov. 7, 1963, Ser. No. 322,126
4 Claims. (Cl. 35—19)

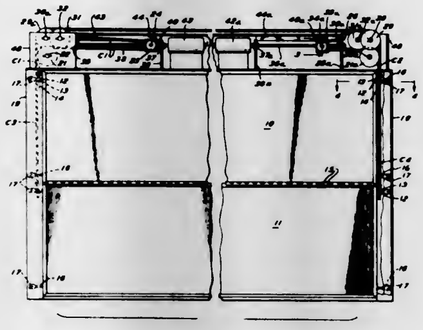


1. Circuit teaching apparatus comprising a demonstration panel with circuit symbols disposed in front thereof; circuit means disposed in back thereof and including control means for selectively activating different ones of said circuit means; a series of overlay boards for said panel, such overlay boards having circuit symbols disposed in front thereof and matching with the circuit symbols of said panel in the selective completion of different circuit representations; and actuator means associated with such overlay boards and indexed with such control means, whereby to correlate such overlay boards with the different circuit means.

3,261,113
MOTOR OPERATED CHALK BOARD MOUNTING

Stanley M. March, Warminster, Pa., assignor to Penn Steel, Inc., North Wales, Pa., a corporation of Pennsylvania

Filed Nov. 13, 1963, Ser. No. 323,454
9 Claims. (Cl. 35—63)

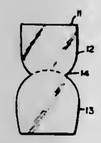


1. The combination with an elongated chalk board and apparatus for moving the same up and down, of the improvement for reducing the danger of unequal total elongation in flexible tension members connecting said board with said apparatus, said improvement including a motor, a rotatable threaded shaft driven by said motor, a nut in threaded engagement with said shaft, a roller type chain secured to each side end portion of said board and of a type to sustain its portion of the weight of said board with substantially no elongation, a support pulley over each end portion of said board and over which one chain is passed, a force applying pulley on each of opposite sides of said nut, a support for said motor and for said support pulleys, a chain from one side being passed from its end pulley and thence over a nut supported pulley and secured to said support, a chain from an opposite side of said board being passed from its end pulley thence over a pulley for changing the direction of chain movement and finally over the nut supported pulley and secured to said support whereby on translation of said nut by rotation of said shaft said board is moved substantially vertically.

3,261,114
INTEGRATED SHOE AND SHOEHORN

Kenneth W. Saunders, Quincy, Mass., assignor to Perma Shoehorn Corporation, Braintree, Mass, a corporation of Massachusetts

Filed July 2, 1964, Ser. No. 379,901
7 Claims. (Cl. 36—2.5)



1. An integrated shoe and shoehorn which forms a permanent part of the shoe comprising, a precut flexible component of soft supple tear-resistant material having an upper section and a lower section, a plurality of metal stays in said shoehorn, heel pad means of material substantially more rigid than said flexible component, an insole, and means securely fastening said heel pad to said flexible component and to said insole.

3,261,115
HEEL LIFT FASTENER

Gerard M. Manze, 721 Ponce de Leon Ave. NE., Atlanta, Ga.

Filed Dec. 2, 1965, Ser. No. 511,145
3 Claims. (Cl. 36—34)



1. A longitudinally extending reinforcing heel lift fastener of hard material for a relatively fragile heel comprising:

a substantially straight cylindrical shank having a sharp point at one end;

a plurality of outwardly extending knurls, on the outer surface of the shank, longitudinally extending along at least a portion thereof;

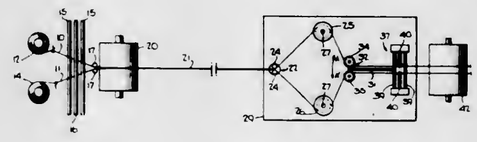
a flat plate perpendicularly affixed to the shank at the other end thereof and extending beyond the confines of the shank; and

a plurality of prongs perpendicularly affixed to the plate outwardly of the dimension of the shank, the prongs extending away from and parallel to the shank.

3,261,116
METHOD AND APPARATUS FOR CRIMPING YARNS

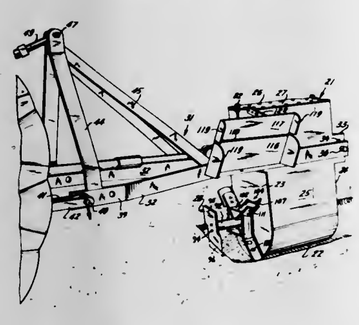
August Kunzle and Ludwig Horvath, Wattwil, St. Gall, Switzerland, assignors to Heberlein Patent Corporation, New York, N.Y., a corporation of New York

Filed June 25, 1964, Ser. No. 377,845
Claims priority, application Switzerland, July 25, 1963, 9,263/63
10 Claims. (Cl. 57—34)



1. In apparatus for permanently crimping textile yarns in which at least two yarns are twisted together along a selected distance and are fixed while in twisted condition and then separated by being drawn apart in different directions at the same speed; yarn braking means, and yarn guide means engaging the individual separated yarns, one of said means being shiftable in relation to the other in response to uneven tension in the yarns to render the brake means effective upon the yarn of greatest tension.

3,261,117
DITCHING MACHINE
Henry Houston Shoemaker, P.O. Box 505, Rayville, La., and Wiley D. Poole, 4468 Cypress St., Baton Rouge, La.
Filed June 18, 1963, Ser. No. 288,641
3 Claims. (Cl. 37—92)



2. A ditching machine, in combination, a tractor, a housing mounted on said tractor in the rear thereof to be drawn thereby, a driven shaft arranged to be driven from the drive for said tractor journaled for rotation in the upper portion of said housing, a drive shaft in the lower portion of said housing driven by said driven shaft, said drive shaft having one end thereof extending from the end of said housing adjacent said tractor, said housing forming a substantially gas tight enclosure for said driven shaft and said drive shaft, said housing having ears on each of its opposite side walls extending in a direction away from the tractor, each ear having a substantially vertical slot therein, a frame comprising side bars extending from the tractor, said side bars having one end pivotally secured to the tractor and the opposite end fastened by adjustable bolts in the slots in said ears to permit adjustment of the position of the heel portion of said housing relative to said side bars, said frame comprising upwardly extending bars, adjustable means pivotally securing the upper end of the upwardly extending bars to said tractor to raise and lower said frame and the housing carried thereby, connecting bars extending from the tractor having one end of each connecting bar pivotally fastened to said frame and means on the tractor for raising and lowering the connecting bars to raise and lower said frame and thus raise and lower said housing, soil cutting and soil scattering means on said drive shaft, said soil cutting and soil scattering means being positioned exteriorly of said housing on the end thereof adjacent said tractor and a soil deflecting member mounted on a side bar extending laterally therefrom away from said housing and positioned directly above said soil scattering means.

3,261,118
LAND LEVELER
Levi J. Litherland, R.R. 1, Allendale, Ill.
Filed Apr. 10, 1964, Ser. No. 358,709
5 Claims. (Cl. 37—180)



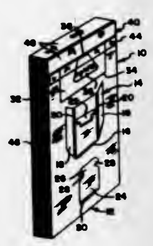
1. A tractor drawn land leveler comprising an elongated rectangularly shaped tubular frame having forward and rear elongated longitudinal structural members,

(a) a scraper blade mounted beneath said forward longitudinal structural member,
(b) a pair of ground engaging caster-type wheel units carried by said rear longitudinal structural member of said frame behind and intermediate the ends of said blade,
(c) means for pivotally connecting each of said wheel units to said rear longitudinal structural member,
(d) means for pivoting each of said wheel units in an arcuated path about a horizontal axis defined by said rear longitudinal structural member which is normally disposed between said blade and said caster-type wheel units relative to said frame into and out of ground engaging position,
(e) a pair of tractor hitch means pivotally connected to the said forward longitudinal structural member intermediate the ends thereof for connecting and positioning said blade behind a pair of tractors whereby the positioning of said blade may be varied angularly about a vertical axial middle point thereof relative to the respective position of the tractors, and
(f) downwardly directed socket means provided by each of said longitudinal structural members for removably receiving vertical stud members of a wheeled frame for transportation of said leveler in the direction of its length with said blade and said wheel units out of ground engaging positions.

ERRATUM

For Class 40—10 see:
Patent No. 3,261,116

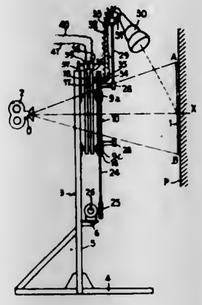
3,261,119
PACKAGING AND DISPENSING APPARATUS
Elmore L. King, 301 E. 66th St., New York, N.Y.
Filed Sept. 11, 1964, Ser. No. 395,725
14 Claims. (Cl. 40—10)



1. A packaging and dispensing device comprising, in combination:
a quantity-controlled amount of advertising material defined by:
a plurality of pieces of literature;
means individually detachably connecting said pieces with respect to one another;
a backing and supporting panel for positioning said advertising material in any one of a multiplicity of arrangements relative to any one of a plurality of stationary and even movable objects, said panel comprising:
an easel flap;
an easel lock flap;
said easel and easel lock flaps being capable of assembly and disassembly with respect to one another; and
a connector extending across said panel adjacent one end thereof; and
a reinforcing strip connecting said advertising material to said panel;

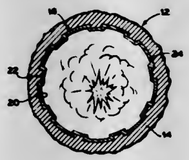
said strip being superimposed relative to said connecting means, and extending from said material to said panel, and being connected to the latter, enabling said pieces of literature to be individually detached, while yet precluding the inadvertent detachment of groups of said literature, particularly as the supply thereof nears depletion.

3,261,120
UNIT AND APPARATUS FOR FILMING A PICTURE WHICH HAS A SURFACE INCLUDING PROJECTIONS AND GIVES AN ILLUSION OF MOVEMENT WHEN ILLUMINATED BY A MOVING LIGHT SOURCE
Marcel Cyprien Kuczewski de Poray, 74 Rue Saint-Lazare, Paris, France
Filed Jan. 23, 1964, Ser. No. 339,774
Claims priority, application France, Feb. 4, 1963, 923,615
9 Claims. (Cl. 40—106.52)



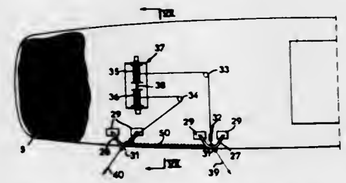
1. A rotary illuminating device of utility in a unit for filming a picture which has a surface including projections and gives an illusion of movement when illuminated by a moving light source, said device comprising a stand, a support which is rotative relative to the stand and consisting of a ring, rollers rotatably mounted on the stand and supporting said ring, said ring carrying arms which are angularly spaced equal distances apart and extend radially relative to the axis of the ring, light beam projectors respectively fixed to the outer ends of the arms, a driving device fixed on said support and driving the ring in rotation about its axis by applying a circumferential force thereto, and means for supplying power to the projectors.

3,261,121
GUN BARREL WITH EXPLOSIVELY WELDED LINER
Joseph R. Eves, Springfield, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 13, 1961, Ser. No. 145,006
7 Claims. (Cl. 42—78)



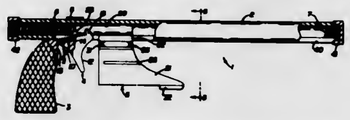
1. A gun barrel comprising a casing provided with an axial bore, grooved rifling formed in said bore, and a protective cladding for said bore consisting of a tube explosively welded to said casing into conformation with said bore along the entire interfaces of said tube and bore, the interior surface of said cladding having the configuration of said rifling.

3,261,122
HANDLING DEVICES FOR FISHING NETS
François Guicheney, La Rochelle, France, assignor to Ateliers & Chantiers de la Manche, Lille, Nord, France, a corporation of France
Filed June 15, 1964, Ser. No. 375,109
Claims priority, application France, June 21, 1963, 938,894
3 Claims. (Cl. 43—8)



1. A handling device for a seine fishing net having a series of drawing rings attached to the lower edge thereof and a draw cable slidably received by said rings comprising a pair of davits secured to a boat in spaced relation, a pulley secured to each of said davits, a pair of winch drums secured to said boat, each end portion of said draw cable on opposite ends of said series of rings being guidingly engaged on one of said pulleys and connected to a corresponding drum, said spacing between said davits being such that when said draw cable is drawn up taut between said davits by said drums said series of rings will be suspended in a straight line between said pulleys.

3,261,123
CASTING ACCESSORY FOR FISHING TACKLE
Guy F. Guglíotta, Los Altos Hills, Calif. (Apt. 608, 620 McCully St., Honolulu, Hawaii)
Filed Feb. 8, 1963, Ser. No. 257,264
7 Claims. (Cl. 43—19)



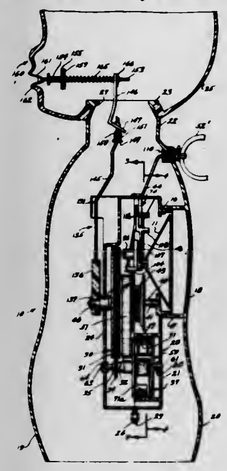
2. A casting device comprising a straight guide member, a handle for said guide member, a lure carrier, and means for projecting said carrier along said guide member, said lure carrier having a hollow shape open at one end, and means on the underside only of said lure carrier for retaining a lure therein when said open end is pointed downwardly, said retaining means being restrained against movement across said open end of the lure carrier.

3,261,124
ANIMATED SPEAKING FIGURE TOY
William Bodenstein, Teaneck, N.J., assignor to Mattel, Inc., Hawthorne, Calif., a corporation of California
Filed Mar. 11, 1964, Ser. No. 351,095
9 Claims. (Cl. 46—118)

3. A figure toy comprising:
body means including a torso and a head, said head including free continuous, flexible material formed to simulate flexible lip means and an outwardly concave mouth cavity;
sound reproducing means mounted in said body means and having a movable member;

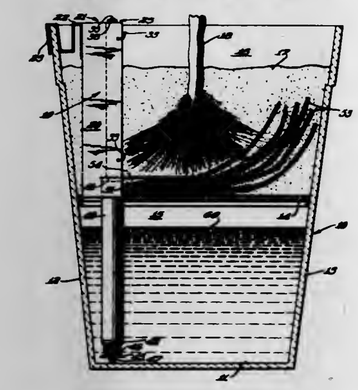
means for actuating said sound reproducing means and movable member; and

means connecting the material at the rear of said mouth cavity to said movable member for flexing said material at the rear of said cavity and thereby flexing said



lip means in conjunction with the operation of said sound reproducing means when said sound reproducing means is actuated, whereby said lip means simulates natural lip movements in conjunction with sounds coming from said sound reproducing means.

3,261,125
SYSTEM FOR CONTROLLING THE MOISTURE CONTENT OF SOIL
Harry H. Arkebauer, 828 Smith Ave., Ferguson, Mo.
Filed June 15, 1964, Ser. No. 375,045
10 Claims. (Cl. 47—38.1)



1. In a system for controlling the moisture content of soil for the growth of plants therein,

a supply of water,

means for conducting water from said supply to the soil to be moistened,

flow control means associated with said conductor means, and

sensing means including a moisture-absorbing solid in contact with said soil and expansible in response to the moisture content thereof to operate said flow control means.

3,261,126
FLOWER MOUNTING SYSTEM
Harold Marks, Flushing, N.Y., assignor to Modern Miltex Company, New York, N.Y., a corporation of New York
Filed Feb. 19, 1962, Ser. No. 174,204
1 Claim. (Cl. 47—41.12)

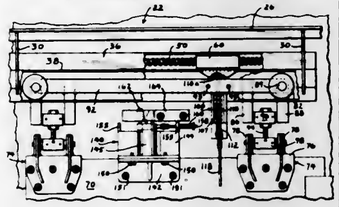


In combination a porous, rigid resinous block for mounting artificial flowers attached to a flat surface by means of a pressure-sensitive adhesive porous plastic pad having a strong, adherent, tenacious pressure-sensitive adhesive on both sides of said pad, said adhesive being nonsolvent with respect to and compatible with the material of the block and of sufficient strength to withstand and resist torsion stresses from the mounted flowers.

3,261,127
PREVENTION OF SOIL CRUSTING
Richard L. Ferm, El Cerrito, and Charles E. Moran, Berkeley, Calif., assignors to Chevron Research Company, a corporation of Delaware
No Drawing. Filed July 15, 1963, Ser. No. 295,230
6 Claims. (Cl. 47—58)

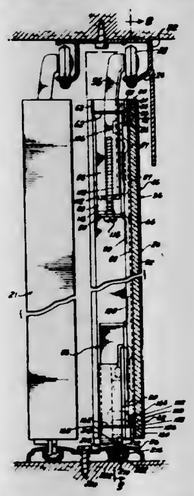
1. A method of preventing the formation of a crust on the surface of soil, said method comprising distributing polybutene over the surface of the newly seeded soil, at a rate of from about 0.02 to about 0.12 gallons per one square yard of the soil surface, such distribution being made by spraying polybutene as an aqueous emulsion of from about 25 to about 70% by weight of liquid polybutene having an average molecular weight from about 1100 to about 2800.

3,261,128
POWER OPERATED DOOR
Robert E. Slopa and George W. Slopa, both of 1000 Butcher Boy Drive, Harvard, Ill.
Filed Mar. 31, 1964, Ser. No. 356,105
16 Claims. (Cl. 49—98)



1. An apparatus for separating and closing a pair of doors over a door opening comprising, a frame, an overhead trackway inclined downwardly from its ends to an intermediate point and secured to the frame, door supporting carriages mounted on the trackway for supporting the doors on the trackway for movement thereon, a pair of elongated screw members mounted on the frame and operatively connected to the carriages, one such screw member disposed substantially parallel to one inclined portion of the trackway and the other screw member disposed substantially parallel to the other inclined portion of the trackway, connecting means for flexibly connecting adjacent ends of said screw members whereby the screw members are connectedly turnable about their axes, said connecting means having means disconnectable for selectively turning said screw members about their axes and moving said carriages along the trackway thereby adjusting the relative positions of the doors, and means for turning the screw members about their axes.

3,261,129
PANEL HARDWARE
Robert Brydolf, Pasadena, and Kenneth K. Kellems, Ontario, Calif., assignors to Acme Appliance Manufacturing Company, Monrovia, Calif., a corporation of California
Filed Apr. 6, 1964, Ser. No. 357,490
3 Claims. (Cl. 49—411)



2. In a one-piece guide for use with a track having a longitudinal groove provided with an outwardly facing mouth and an inwardly facing shoulder inwardly of and offset laterally relative to said mouth, the combination of:

(a) a guide body having integral first and second guide elements extending therefrom in side-by-side relation and insertable into said groove through said mouth and spaced longitudinally of said mouth when inserted therethrough;

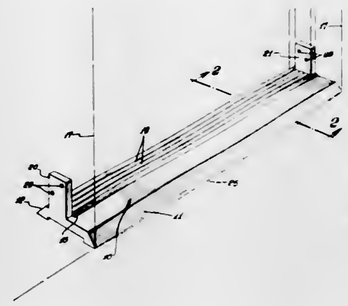
(b) said first guide element being relatively thick laterally of said mouth as compared to said second guide element and being engageable with the edges of said mouth;

(c) said second guide element being relatively thin laterally of said mouth and being laterally bendable and having a laterally extending lug engageable with said shoulder; and

(d) said second guide element with its said laterally extending lug being narrower than said mouth and being insertable therethrough to bring said laterally extending lug into engagement with said shoulder upon lateral bending of said second guide element.

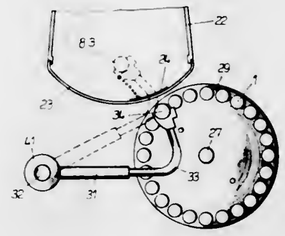
3,261,130
THRESHOLD AND METHOD OF INSTALLATION
Lowell M. Lawson, 12534 Dexter Park, San Fernando, Calif.
Filed July 28, 1964, Ser. No. 385,590
13 Claims. (Cl. 49—469)

1. The combination comprising door side frame members, an elongated threshold received between said frame members, abnormally shortened door jambs carried by said members and terminating above and fully overlying the threshold, and a pair of projections extending upwardly from the ends of the threshold and received below and in alinement with the jamb terminals so that



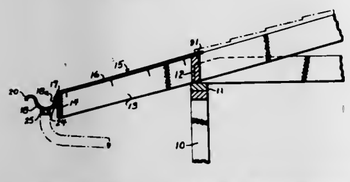
the bottom ends of the jambs directly overlie the top ends of said projections to block upward displacement thereof, and means for attaching said projections to the door frame members.

3,261,131
LOADING MECHANISM FOR MACHINES FOR WORKING ON OPTICAL LENSES
Ernst Loh, Wetzlar, and Wilhelm Döll, Burgsolms, Germany, assignors to Wilhelm Loh K.G., Wetzlar, Germany, a company of Germany
Filed Dec. 16, 1964, Ser. No. 418,843
Claims priority, application Germany, Dec. 18, 1963, L 46,618
13 Claims. (Cl. 51—215)



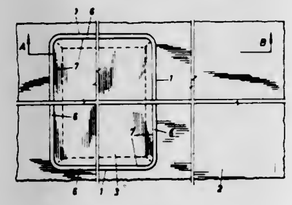
1. An automatic loading mechanism for a centering machine for the machining of lenses said machine having lens receiving spindles said mechanism comprising a frame, a movable lens receiving platform on said frame, a plurality of lens receiving stations on said platform, automatically actuable indexing means for indexing said platform to bring each station in succession to an unloading station, automatically actuable lens transporting means supported on said frame including lens grasping and releasing means carried by said lens transporting means, automatically actuable means for moving said lens grasping and releasing means to and from a receiving station positioned at said loading station and to and from the spindles of the centering machine and means for operating said grasping and releasing means and transporting means in timed sequence for causing a lens to be transported from the lens receiving station to the spindle to be machined and returning said lens to the receiving station after machining.

3,261,132
OVERHANGING EAVES WITH GUTTERS
Maurice M. Miller, 4404 E. 105th, Seattle, Wash.
Filed Aug. 6, 1962, Ser. No. 215,088
5 Claims. (Cl. 52—11)



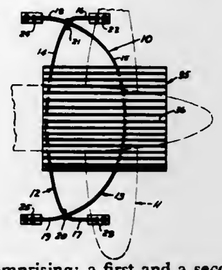
1. In combination, a building structure with a side wall surmounted by a sloping roof with overhanging rafters terminating at a facia, a translucent plastic sheet secured to said rafters and covering the overhanging portion thereof as an eave sheathing section with upper and lower faces exposed for light transmission and extending by its upper edge above said side wall as a roof flashing section, roofing overlapping said flashing section, the lower edge of said sheet bending downwardly by an elbow against said facia to an integral gutter extending therealong and having its outer free longitudinal edge spaced below the level of the lower edge of said eave sheathing section, said eave sheathing section and roof flashing sections being collectively considerably wider than said gutter.

3,261,133
SLIDING ROOF ARRANGEMENT
Gerhard Herr, Wuppertal-Vohwinkel, and Kurt Cziptschirsch, Wuppertal-Elberfeld, Germany, assignors to Gebr. Happich G.m.b.H., Wuppertal-Elberfeld, Germany, a company of Germany
Filed Feb. 5, 1963, Ser. No. 257,052
3 Claims. (Cl. 52—19)



1. An automobile roof having a thru opening, a rigid panel carried by said roof for back-and-forth movement between a closed position in circumferentially spaced relation within said roof opening and an open position below said roof rearward of said opening, an integral edge margin on said panel turned inward into spaced underlying relation with the adjacent portion of said panel and combining therewith to define a peripherally extending inwardly opening groove, a stiffening frame extending peripherally about the underside of said panel and having its outer edge portion firmly engaged in said groove, the inner region of said frame being stepped downward from said panel, a clamp ledge secured along the underside of said frame and extending outward in spaced relation beneath said inturned edge margin circumferentially therealong to define with the latter a peripherally extending outwardly opening groove, a sealing strip extending peripherally about the outer perimeter of said panel in engagement therewith and engageable with the inner perimeter of said opening in the closed position of said panel to seal the space about said panel within said opening, said strip including a hollow deformable head extending externally along said outwardly opening groove for sealing engagement with the inner perimeter of said opening, an attaching flange on said bead extending into and firmly secured within said outwardly opening groove, a roof-drain channel depending from the inner perimeter of said roof opening inwardly thereof and extending continuously along the front and sides of said opening, and a panel drain projecting rearwardly from the rearward portion of said clamp ledge extending laterally therealong and spanning the side portions of said roof-drain channels.

3,261,134
SHELTER
Wayne L. Crist, 1950 Oakwood Ave., Sierra Madre, Calif.
Filed Apr. 19, 1963, Ser. No. 274,198
2 Claims. (Cl. 52—66)

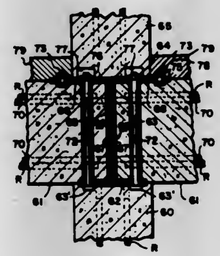


1. A shelter comprising: a first and a second rigid arch member, each of said arch members having a central bight, and a pair of legs, the legs and bight of each arch member lying in a single plane to form a U shape, the legs of the second member being longer than those of the first member, the legs of the two arch members being crossed and joined together in pairs at points spaced from the ends of all of the legs; anchoring terminals at the ends of said legs; and a rigid canopy overlying said bights in conformity with the arch shape thereof and fixedly inter-connecting the two bights for defining a roof of said shelter, said canopy extending forwardly when the ends of the legs are on a horizontal surface, said canopy having a forward and a rearward terminal edge; the anchoring terminals and bight of the first arch member lying between vertical planes through the said edges and normal to the forward direction when the legs are on a horizontal surface, the bight of the second arch member lying between a vertical plane through the anchoring terminals of the first arch member and the vertical plane which pass through the forward one of said edges, the rear edge of the canopy projecting beyond the bight of the first arch member, away from both bights, all of said vertical planes being referred to a substantially horizontal surface upon which all four legs are resting, the points at which the legs are fixedly secured being substantially midway in elevation between the center of the canopy and the anchoring terminals.

3,261,135
PRECAST CONCRETE BEAM AND COLUMN JOINT CONSTRUCTION
Martin C. Knabe, 1017 Oliver Bldg., Bethel Park, Pa.
Filed May 16, 1963, Ser. No. 280,791
8 Claims. (Cl. 52—127)

5. A building construction comprising,
(A) a lower precast concrete column having
(1) an end plate secured to the upper end and embedded in the concrete so that only the upper surface is exposed,
(2) holes in said end plate, and
(3) bolts extending through said holes, the heads of said bolts being welded to the lower surface of said end plate;

(B) precast concrete beams, each of said beams having
(1) an end cap secured to at least one end, each of said end caps having,
(a) a base portion in contact with the end of the corresponding beam,
(b) a pair of parallel legs extending along and embedded in the upper and lower surfaces of the end of the corresponding beam,
(c) bolt holes in each of said legs aligned with bolt holes in the opposite leg,
(d) pipes extending through the concrete beam connecting said aligned holes,
(e) additional bolt holes in the upper legs of the end caps, and
(f) bolts extending through said last mentioned holes, the heads of said bolts being welded to the lower surface of said upper legs;
(C) an upper precast concrete column having
(1) notches formed in the lower end, said notches opening to the lower end and opposite sides of said column, and



(2) an end plate secured to the lower end and extending beyond opposed sides of said column to provide a lip portion at each of said sides, said end plate having
(a) apertures aligned with said notches, and
(b) bolt holes in said lip portions,
(D) said bolts on said lower end plate, said bolt holes and pipes in said end caps and said apertures and pockets in said upper column all being vertically aligned when said beam ends are positioned on said lower column and said upper column is positioned on said beam ends whereby said bolts extend through the pipes and apertures into said pockets and said bolt holes in said lip portions being aligned with the bolts on said upper legs of said end caps when the upper column is positioned on said beam ends whereby said bolts extend through the bolt holes in said lip portions; and
(E) nuts threaded on the bolt ends in said pockets to positively connect said beams to said lower column and on said bolts extending through said lip portions to positively connect said upper column to said beam ends.

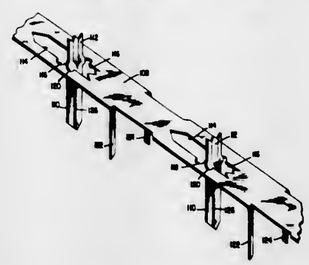
3,261,136
FASTENING MEANS FOR SUPPORTING SIDING PANELS
Thomas L. Abner, Gerald R. Brooks, and Edward M. Williston, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Oct. 10, 1963, Ser. No. 315,143
1 Claim. (Cl. 52—471)

A siding structure comprising: a generally vertical support wall structure; a plurality of siding panels on the outer surface of said wall structure; each of said siding panels being provided with a recess on its lower portion having a transverse portion and a longitudinal portion; said transverse wall portion being provided with a slot; a siding fastener attached to said wall structure supporting said siding panels; said siding fastener being provided with a recess having a transverse portion and a longitudinal portion complementary with said recess in the lower portion of said siding panels; said transverse portion of said recess in said fastener being provided with a slot; a metal spline secured in said slot in said transverse portion of said siding fastener and extending into said slot in said



transverse portion of said recess in the lower portion of said siding panels; said siding fastener being provided with a recess formed on the lower interior portion thereof provided with a transverse portion and a longitudinal portion; said recess receiving the upper end of the next lower siding panel to hold the same adjacent the wall structure; said longitudinal portion and transverse portion of said recess being of a dimension to provide a space above the end of the next lower siding panel of from 1/8" to 1/4" to allow for expansion and contraction of said next lower siding.

3,261,137
FASTENER
John C. Jureit, Miami, Fla., assignor to Automated Building Components, Inc., Miami, Fla., a corporation of Florida
Filed Dec. 28, 1962, Ser. No. 248,151
7 Claims. (Cl. 52—483)



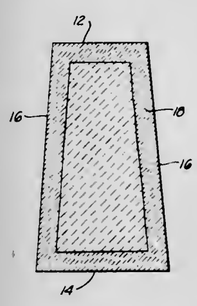
3. A fastener for forming lap joints wherein the fastener is sandwiched between the members of the joint comprising a sheet metal plate in the form of an elongated strip, first tooth means comprising a plurality of groups of three substantially parallel teeth immediately adjacent to one another struck from the plate to leave a single

slot and extending substantially perpendicular thereto, the ends of the teeth having inclined surfaces such that movement of the teeth into one of the members causes the teeth to depart from the substantially perpendicular relationship to the plate and to create a three-way clinching action in the member, the inclined surfaces being beveled at the ends of the teeth, the inclined surface on each tooth of the outermost teeth of the first tooth means being non-symmetrical relative to the longitudinal axis of that tooth, the center tooth in each of the first tooth means having inclined surfaces which are symmetrical relative to the longitudinal axis of the center tooth, and a second tooth means struck from the plate in a direction opposite to that of the first tooth means, the second tooth means being adapted to be embedded in the other of the members of the joint.

3,261,138
KILN BRICK OF PORTLAND CEMENT CLINKER WITH A FUSED SHELL

Gerald M. Spence, Monolith, and Alif R. Bryan, Tehachapi, Calif., assignors to Monolith Portland Cement Co., Los Angeles, Calif., a corporation of Nevada

Filed Feb. 6, 1963, Ser. No. 256,601
2 Claims. (Cl. 52—612)



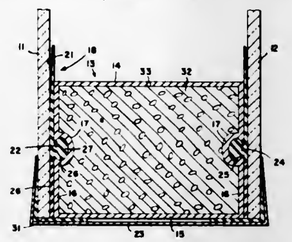
2. A kiln brick for use in a rotary cement kiln which comprises a brick-shaped body, said body having two ends and four sides connecting said ends, one of said ends being adapted to be exposed to the interior of a rotary kiln, the other of said ends being adapted to be located away from the interior portion of a rotary kiln, said body consisting essentially of ingredients of Portland cement clinker, the interior of said body consisting of compressed particles of Portland cement clinker, the exterior of said body being a shell of fused, vitrified cement clinker, the thickness of said shell being from 10 to 25% of the length of the smallest dimension of said body.

3,261,139
MULTIPLE GLAZED UNIT

Joseph M. Bond, Jenkintown, Pa., assignor to Polarpane Corporation, Pennsauken, N.J., a corporation of New Jersey

Filed May 14, 1964, Ser. No. 367,447
5 Claims. (Cl. 52—616)

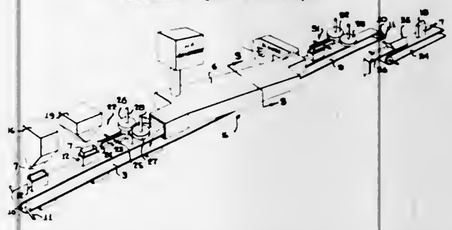
1. A multiple glazed unit comprising a plurality of spaced-apart glass sheets, a spacer element separating the glass sheets at their marginal edges to form a dead air space between the glass sheets, said spacer element having an inner wall and outer wall connected together by sidewalls, said spacer element having a longitudinal groove formed in each of its sidewalls, a resilient tape having a flat portion positioned between the sidewall and the glass sheet to provide a resilient seal, said resilient tape being keyed to said groove by a key member extending from said flat portion and seated in said groove, and a U-shaped channel member surrounding the edges of said glazed unit, each groove being provided with an entrance slot formed by opposed entrance shoulders, said slot being narrower than the diameter of the groove, and said key member including a neck portion and a head portion, said head portion being seated in said groove and being larger than the entrance slot of said groove so that said entrance shoulders oppose movement of said head portion through said slot.



3,261,140
MICROWAVE STERILIZATION AND VACUUMIZING OF PRODUCTS IN FLEXIBLE PACKAGES AND APPARATUS THEREFOR

Florren E. Long, La Grange, Ill., and Fred B. Shaw, Mount Vernon, and Harvey C. Lisle, New Knoxville, Ohio, assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Aug. 30, 1963, Ser. No. 305,750
9 Claims. (Cl. 53—22)



1. An improved method of simultaneously sterilizing and vacuumizing a product comprising, partially filling an open topped pouch of low dielectric constant polymeric material with a moisture containing product so as to provide a head space thereover, said product having a relatively high dielectric constant, sealing portions of the top of said pouch above said head space so as to provide a vent for volatiles therethrough, passing the thus partially packaged product through a zone of electromagnetic energy within the microwave range to thereby quickly heat said product to a temperature of about 100 degrees C. and to quickly product large amounts of steam by vaporization of the moisture present in said product, maintaining the walls of said pouch against expansion so as to prevent excessive ballooning of the pouch walls defining said head space, rapidly venting the pouch of air and steam produced by said rise in temperature, and immediately thereafter entirely sealing the top of said pouch so as to provide a vacuum package of a sterile product.

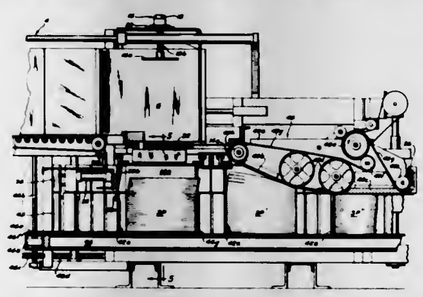
3,261,141
ARTICLE BAND WRAPPING MACHINE

Frank S. Hyer, Appleton, and Palmer T. Severson, Wauwatosa, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Mar. 28, 1963, Ser. No. 268,816
14 Claims. (Cl. 53—124)

1. In an article wrapping machine:
(a) a flat bed plate having a first level and a second level offset below said first level,

(b) a pair of conveyors having active portions extending the length and on opposite sides of the bed plate and in perpendicular relation to the latter,
(c) means for placing a pre-cut length of wrap material across the upper edges of the conveyors over the first level of said bed plate,
(d) means for moving an article downwardly against a length of wrap and together with the latter against the first level of said bed plate,
(e) means for clamping each length of wrap adjacent its ends against said conveyors when the intermediate portions of the wrap and article thereon bottoms against said bed plate,
(f) means for operating said conveyors in synchronism to move clamped lengths of wrap and any articles thereon in equal increments along said bed plate each time a length of wrap is clamped as aforestated, in

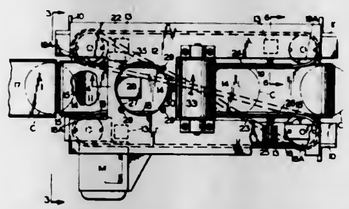


a manner such that the first increment of movement of a clamped length of wrap and article thereon will be on said bed plate from said first level to said second level to effect tightening of an intermediate portion of the wrap around the bottom and sides of the article,
(g) means disposed between said conveyors over the second level of said bed plate for compressing the article in each length of wrap, comprising a belt which has an active portion running angularly downwardly toward said bed plate between first and second points along said bed plate and then parallel with the latter between said second point and a third point, said belt running in increments corresponding to those of the conveyors each time the latter are operated, and a cantilever member overlying the active portion of said belt and supported adjacent said second point and extending to said third point.

3,261,142
DEVICE FOR MOUNTING LIDS ON CONTAINERS

Martin J. Wilcox, 425 SW. Maplecrest Drive, Portland, Oreg.

Filed Apr. 8, 1963, Ser. No. 271,069
4 Claims. (Cl. 53—128)

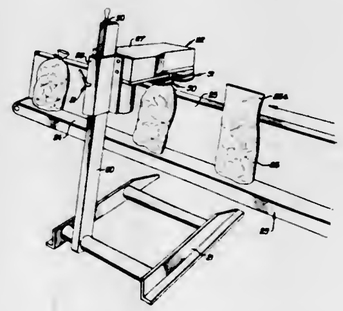


4. A device for mounting auxiliary plastic lids on sealed cans, including a lower conveyor belt and a pair of endless side-engaging belts for moving the sealed cans through the device, pressure guide plates for said side belts holding said side belts in engagement with said sealed cans while traveling through the device, holding elements for a vertical stack of auxiliary plastic lids above the path of said sealed cans, said holding elements including a supporting bottom spring plate and a guideway for said stack, said supporting plate positioned a slight distance above the top line of said sealed cans while passing under said stack and extending underneath the underside of the bottom lid in said stack in the direction of travel of said sealed cans for not more than approximately halfway across the underside of said bottom lid and leaving the remaining unsupported portion of said bottom lid capable of being pushed slightly downwardly, intermittently operating air jet discharging means located slightly beyond the top edge of the rim of said bottom lid in the direction of travel of said sealed cans for directing an air jet inwardly and downwardly on said top edge, whereby to cause the unsupported portion of said bottom lid to be pushed slightly downwardly, an automatic control assembly for said air jet discharging means, a switch element in said control assembly actuated by engagement with a can moving into position beneath said bottom plate and stack, and a spring mounted pressure roller positioned beyond said air jet discharging means in the line of travel of said cans for bearing down on the lid carried along by a can and completing the pressing of the lid firmly down in place on the can.

3,261,143
FLEXIBLE BAG CLOSING MACHINE

John D. Platt and Leland H. Platt, Jr., Los Angeles, Calif., assignors to Doughboy Industries, Inc., New Richmond, Wis., a corporation of Wisconsin

Filed Mar. 15, 1963, Ser. No. 265,531
14 Claims. Cl. (53—135)



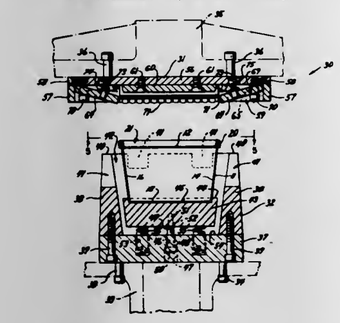
13. Bag closing apparatus comprising:
(A) structure for supporting an assemblage in which flexible open neck bags are movable to an essentially single location closing station,
(B) blocking means positioned at said station in the bag path,
(C) means operating to thrust and compactly gather each bag neck against said blocking means,
(D) means for feeding successive lengths of a twistable strand to said station so that the strand becomes doubled about the bag neck,
(E) a rotatable twister positioned at said station to receive the doubled extents of the strand and operating to twist them about the bag neck immediately upon doubling of the strand, and
(F) a member receiving and positioning the strand at the side of the bag neck opposite the gathering means, said member and gathering means being relatively movable together to double the strand about the bag neck.

3,261,144

APPARATUS FOR CRIMPING A COVER TO AN OPEN END OF A CONTAINER OR THE LIKE

Otto R. Weber, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Jan. 31, 1962, Ser. No. 170,193
14 Claims. (Cl. 53—344)



1. In combination, a pair of relatively movable support members, one of said support members being adapted to carry a container having a recessed cover disposed over an open end thereof, the other of said support members carrying a central die means adapted to be received in said recess of said cover, means for moving said other support member toward and away from said one support member, peripheral die means attached to said other support member and being movable relative to said other support member, said peripheral die means being engageable with said one support member and cooperable with said central die means to crimp said cover to said container when said peripheral die means is in one position thereof and said central die means is in one position thereof, said peripheral die means normally being in another position thereof, said die means being so constructed and arranged that said peripheral die means and said central die means are simultaneously moved to said one positions thereof by said moving means moving said other support member to crimp said cover to said container when said other support member is moved toward said one support member by said moving means to cause said central die means to be received in said recess of said cover.

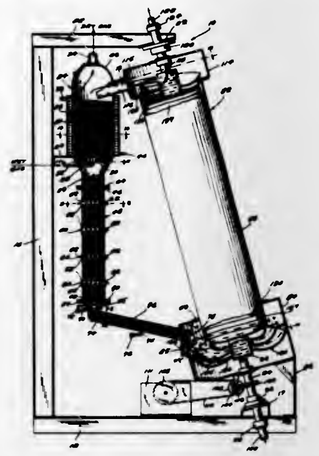
3,261,145

METHOD AND APPARATUS FOR CONTINUOUSLY TREATING A GAS STREAM

Carl G. Paulson, Cranston, and Herbert W. Westeren, Barrington, R.I., assignors to C. I. Hayes, Inc., Cranston, R.I., a corporation of Rhode Island

Filed Sept. 26, 1962, Ser. No. 226,518
3 Claims. (Cl. 55—28)

1. In apparatus for continuously treating a circulating atmosphere, an adsorption chamber into which the atmosphere is introduced, a bed of desiccant material moving continuously by gravity through said adsorption chamber for removing moisture and impurities therefrom, a reactivation chamber located below said adsorption chamber and communicating therewith for receiving the desiccant material after it has removed the moisture and impurities from said atmosphere, means for heating the saturated and impure desiccant material in said reactivation chamber for separating the moisture and impurities therefrom, means located downstream of said reactivation chamber for venting the separated moisture and impurities therefrom, means for elevating the heated desiccant material to the upstream end of said adsorption chamber for reintroduction therein, the upper end of said elevating means communicating with said adsorption chamber for directing the reactivated and cooled desiccant material thereto, means for directing a portion of the treated and dried atmosphere into the upper end of said elevating means for circulation therein in counter-current flow to the desiccant material being elevated to the adsorption chamber, wherein the dried atmosphere further conditions and dries the reactivated desiccant material as it moves upwardly in said elevating means, conducting means com-



municating with the downstream end of said reactivation chamber and the lower end of said elevating means for directing the heated desiccant material thereto, means located in said conducting means for venting the dried gases that have passed downwardly through said elevating means, and means located in said elevating means for cooling the heated desiccant material simultaneously with the elevation thereof to the upstream end of said adsorption chamber.

3,261,146

AIR FILTER APPARATUS FOR REMOVING MOISTURE AND FOREIGN MATTER FROM COMPRESSED AIR

Jerry P. Malec, Omaha, Nebr., assignor to Comet Industries, Inc., Omaha, Nebr.

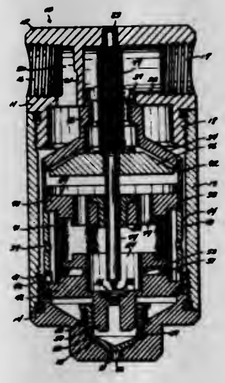
Filed Apr. 24, 1963, Ser. No. 275,427
11 Claims. (Cl. 55—218)

1. An air filter apparatus for removing the moisture from compressed air comprising in combination:

an enclosed cylinder having a top wall, a bottom wall, and a side wall, said side wall having an inlet opening formed therein adjacent the top thereof and an outlet opening formed therein arcuately spaced from said inlet opening, said bottom wall having an inverted frusto-conical inner surface with a discharge opening formed centrally therein at the apex thereof,

baffle means mounted within said cylinder and including a barrel unit having an upper frusto-conical surface against which air incoming through said inlet opening impinges, said barrel unit having an opening formed in said upper surface fluidly connected to said outlet opening, said barrel unit having a cylindrical wall concentric with said cylinder side wall wherein said incoming air spirals downwardly between said cylinder side wall and barrel cylindrical wall, said barrel cylindrical wall having a plurality of arcuately spaced upper holes formed therein through which the air flows internally of said barrel unit, said barrel cylindrical wall having a plurality of arcuately spaced lower holes formed therein through which moisture is adapted to flow internally of said barrel unit, said baffle means also including a bottom baffle unit secured to the base of said barrel cylindrical wall, said bottom baffle unit having a chamber open to the interior of said barrel unit and for receiving said moisture, and having further an outlet port formed in the bottom thereof;

a first valve means including a cup-shaped valve having an upper ledge disposed against said bottom baffle unit, said first valve having a passage formed therein, and a first spring means compressed between said bottom baffle unit and said bottom wall and biasing said first valve against said bottom baffle unit obstructing thereby said passage, said first valve movable against the bias of said spring means, in response to compressed air internal of said barrel unit, and away from said bottom baffle unit whereby said passage is unobstructed, said passage and said discharge opening being in constant fluid communication when said valve is moved away from said bottom baffle unit; and



a second valve means including a circular guide element mounted within said barrel unit and having a plurality of passageways formed therein for transmitting the air internal said barrel unit through said barrel unit upper opening to said cylinder outlet opening, said guide element having a bore formed centrally therein, a shaft reciprocally inserted through said bore and having a lower end adapted to close said outlet port, a circular baffle plate mounted on said shaft and adapted upon impingement of the compressed air being transmitted to said barrel unit upper opening, to move said shaft in said bore to remove said lower end from said outlet port, and a second spring means embracing said shaft and compressed between said cylinder top wall and said baffle plate, said second spring means biasing said shaft to a position where said lower end closes said outlet port.

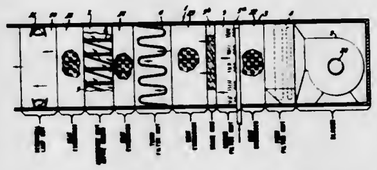
3,261,147

ARRANGEMENT FOR THE PURIFICATION OF AIR IN INSTALLATIONS FOR THE VENTILATION AND AIR CONDITIONING OF OPERATING THEATRES AND SIMILAR PREMISES

Claes Allander, Bromma, Sweden, assignor to Aktiebolaget Svenska Fläktfabriken, Stockholm, Sweden

Filed Oct. 4, 1962, Ser. No. 228,460
1 Claim. (Cl. 55—222)

Apparatus for conditioning contaminated air containing dust particles of mixed sizes and bacteria, said apparatus comprising a horizontally elongated conduit having an inlet means at one end and an outlet means at the other end thereof for allowing ingress and egress, respectively, of air into and out of said conduit, a fan disposed in said conduit and adjacent said inlet means, said fan being constructed and arranged so that all air entering said conduit must pass through said fan, an oil-wetted filter disposed within said conduit, said oil-wetted filter being constructed and arranged to block passage of a dust particle fracttion above a predetermined particle size while passing the remaining fraction of said dust particles through said oil-wetted filter, a first heat exchanger disposed within said conduit and downstream of said oil-wetted filter, a plurality of spray nozzles disposed within said conduit and extending transversely across said conduit and downstream of said first heat exchanger, said spray nozzles being connected to a source of lithium chloride solution to produce a bacteria killing effect in the spray, a liquid draining grid disposed in said conduit and downstream of said spray nozzles, said grid being so constructed and arranged that it blocks passage of a second dust particle fraction above a second predetermined particle size smaller than said first



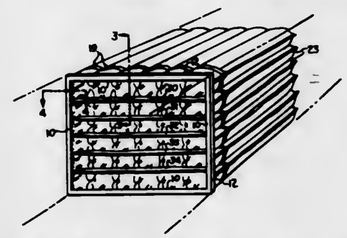
named fraction while passing the remaining fraction of said dust particles through said grid, a second heat exchanger disposed within said conduit and downstream of said grid, a dry filter of the zig-zag throw-away type disposed within said conduit and downstream of said second heat exchanger, said dry filter being constructed and arranged so that substantially the remaining fraction of said dust particles will not pass therethrough, a third heat exchanger disposed within said conduit and downstream of said dry filter, an active carbon filter disposed within said conduit and downstream of said third heat exchanger, a fourth heat exchanger disposed within said conduit and downstream of said active carbon filter, and lamps which emit bacteria-killing radiation disposed within said conduit and downstream of said fourth heat exchanger; said oil-wetted filter, said grid, said dry filter and said active carbon filter each extending transversely across said conduit and all points of the outer periphery of each contacting the inner periphery of said conduit.

3,261,148

BAG-TYPE AIR FILTER

Oscar A. Wurtenberg, Louisville, Ky., assignor to Continental Air Filters, Inc., Louisville, Ky., a corporation of Delaware

Filed Feb. 19, 1964, Ser. No. 346,006
3 Claims. (Cl. 55—341)



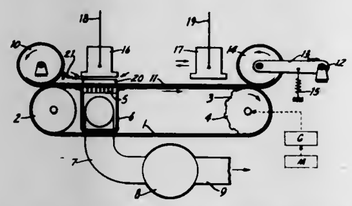
1. A high-efficiency, bag-type air filter comprising, a channel-shaped rectangular frame having the channel facing inwardly thereof, a plurality of open-mouth bags whose peripheries at the open mouth are disposed in a plane generally coinciding with the plane of the upstream

side of said frame, each of said bags having a plurality of pocket-defining fasteners extending in spaced parallel rows along the direction of flow of air into said bag and joining opposite sides of the bag together in order to subdivide the bag into generally tubular pockets during the flow of air under pressure therethrough, the upstream ends of said rows of fasteners terminating short of the open mouth of said bag, each bag having that portion of its open-mouth periphery nearest the adjacent bag joined thereto by a flexible bag-supporting binding strip extending transversely of the frame, the remainder of the open-mouth portion of the bag being affixed to the adjacent interior portion of said frame channel, a plurality of rigid parallel narrow supports extending transversely of said frame and in loose contact with the respective binding strips on the filtered air sides thereof, the ends of said supports being confined within the channel of said frame at opposite sides of said frame, each of said bags having a first and a second flexible tensioning strip attached thereto and extending transversely of the bag on the respective filtered air sides of the bag and located downstream from said supports and at the upstream ends of said rows of fasteners thereby to form a manifold space for such bag between its binding and tensioning strips and with which space the intake ends of the bag pockets communicate and without requiring spacer means other than said narrow supports, said flexible tensioning strips for each bag upon passage of air under pressure into the bag serving jointly to adopt a generally circular shape between adjacent rows of fasteners of the bag and to define a nozzle-like entrance into the pockets of the bag.

3,261,149
FILTER MEANS FOR USE IN MEASURING THE RADIO-ACTIVITY OF AEROSOLS

Meinrad Althuser, Zug, Switzerland, assignor to Landis & Gyr, A.G., Zug, Switzerland, a body corporate of Switzerland

Filed Sept. 10, 1962, Ser. No. 222,341
2 Claims. (Cl. 55—354)



1. For use in measuring the radioactivity of aerosols, the combination of

means for providing a suction orifice through which aerosols to be tested can pass;

a perforated conveyer;

means driving said conveyer across said orifice in continuous fashion;

a supply roll of fragile filter strip material;

a take up roll;

said fragile filter-strip conveyed from said supply roll to said take-up roll across said orifice by said conveyer;

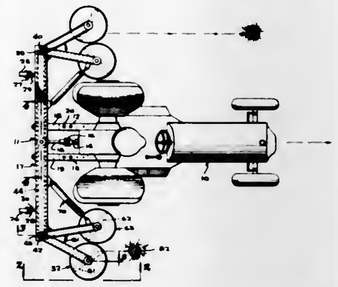
means for mounting each of said rolls for free rotation;

means urging said take-up roll into engagement with said conveyer so that said take-up roll is driven by said conveyor via the portion of said filter-strip wound thereon to thereby maintain the linear speed at the periphery of said take-up roll the same as the linear speed of said conveyer, said filter-strip being supplied, conveyed across said orifice and taken-up without imparting any significant tension thereto.

3,261,150
GROUND OR FLOOR WORKING DEVICE

Joseph E. Fitzgerald, Sr., 1402 Westridge Road, Richmond, Va.

Filed July 27, 1964, Ser. No. 385,229
16 Claims. (Cl. 56—25.4)



1. An attachment for a vehicle including means adapted to be positioned about a vertical member disposed laterally relative to the line of travel of the vehicle comprising a frame member attachable to said vehicle and extending laterally relative to the centerline of the vehicle, a first arm member pivotally connected to said frame member for pivotal movement in a horizontal plane, a second arm member pivotally connected to said frame member for pivotal movement in a horizontal plane, working means mounted on the free ends of said arm members, a first housing means mounted on the working means of said first arm member, a second housing means mounted on the working means of said second arm member, said second housing means being disposed outwardly relative to said first housing means and engageable therewith, yieldable means maintaining said first arm member in a preselected position, extending forwardly and disposed angularly inwardly relative to the centerline of said vehicle, biasing means operatively interconnecting said arm members for urging said first and second housing means into engagement and means for transmitting drive from a power take-off of said vehicle to said working means.

3,261,151
CROP CHOPPER KNIFE

Arie E. Breed and Glenn L. Myers, Ottumwa, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Apr. 23, 1964, Ser. No. 362,109
3 Claims. (Cl. 56—294)

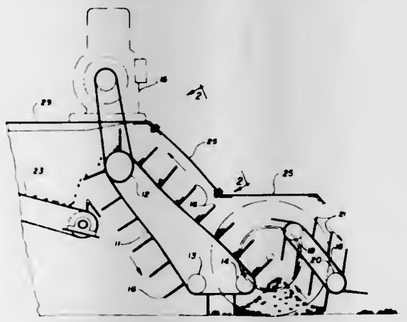


1. A crop chopper knife comprising a plate-like element shaped symmetrically at opposite sides of a fore-and-aft median plane and having a rear, upright, relatively transversely narrow shank and a lower shovel-like part integral with the shank and into which the shank smoothly merges forwardly and downwardly and laterally outwardly and downwardly, said shank having upright front and rear edges, a terminal upper end and opposite upright, fore-and-aft sides and said lower part having a transverse, relatively wide front cutting edge offset ahead of the shank front edge and opposite side edges converging rearwardly and upwardly from opposite ends of the cutting edge to opposite lower portions of the shank rear edge, said lower part having a top, front surface facing upwardly and forwardly and extending between the cutting edge and a lower portion of the shank and said surface further converging rearwardly and upwardly to and merging smoothly with said shank lower portion, said shank front edge narrowing thence from and above its said lower portion and being relatively smoothly rounded generally about an upright axis in said median plane, and said opposite sides of the shank in lower portions thereof curving concavely laterally outwardly and downwardly respectively to and merging smoothly with the opposite side edges of said shovel-like lower part, and said shank being a double-thickness part of said element and said lower part is a single-thickness part of said element, the components of said double-thickness part being substantially in contact with each other and being provided by folding the plate-like element along the leading edge of the shank.

3,261,152
NUT PICK-UP DEVICE

Roy W. Johnson and Bernell H. Johnson, Woodland, Calif., assignors, by mesne assignments, to Johnson Farm Machinery Co., Inc., Woodland, Calif., a corporation of California

Filed Aug. 19, 1964, Ser. No. 390,652
4 Claims. (Cl. 56—328)



1. Apparatus for harvesting nuts laying on the ground comprising: a frame movable over the ground, an endless conveyor having a pair of vertically spaced extremities and being mounted on said frame for movement with respect thereto, a plurality of rows of teeth mounted on and projecting laterally from said conveyor for movement therewith, the outer ends of the teeth of each row being normally adjacent to the ground when the row moves through a region adjacent to said lowermost extremity to effect raking of nuts forwardly with respect to the direction of travel of said frame and into a pile substantially in advance of said lowermost extremity, said teeth of each row being of a length sufficient to penetrate said pile of nuts as the teeth move upwardly and being in sufficiently close proximity to each other to permit a number of the nuts of the pile in the path of upward movement of the teeth to be elevated therefrom and to be carried upwardly with the conveyor after the teeth have successively penetrated the pile and moved out of the latter, means mounted on said frame and disposed in advance of said conveyor for cooperating with said teeth to facilitate the formation of the forward portion of said pile and to maintain the latter whereby said teeth may continue to gather the nuts by elevating the same after said pile has been formed, and means on the frame for moving said conveyor.

3,261,153
RAKE TOOTH CONSTRUCTION

Edward J. Johnston, La Grange, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Oct. 8, 1964, Ser. No. 402,431
7 Claims. (Cl. 56—400)



1. A rake tooth comprising an elongated tine; means for connecting said tine to a rake bar, and a spring-like protector replaceably mounted on and protectively covering a lower end portion of said tine, and said protector comprising a split tube snugly embracing said tine and having an open end portion extending beyond an adjacent end of the tine.

3,261,154
YARN GUIDING AND FEEDING MEANS FOR A FALSE TWISTING MACHINE

Charles C. Michalek, Nanticoke, Pa., assignor to The Duplan Corporation, Winston-Salem, N.C., a corporation of Delaware

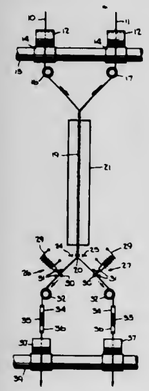
Filed Oct. 21, 1963, Ser. No. 317,597
5 Claims. (Cl. 57—34)



1. In a machine for false twisting a running yarn having false twisting means including a false twist spindle and yarn heating means through which the running yarn is passed as it is withdrawn from a supply package and fed onto a take-up package, upper feed roll means engaging the yarn following said false twisting means and including a driven upper feed roll and a separator roll positioned closely adjacent said feed roll, the yarn being helically wound about said feed roll and said separator roll, and a covering of frictional material on said feed

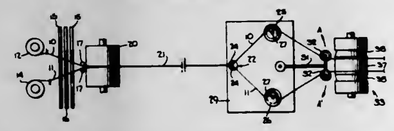
roll, the improvement which comprises means for positively overfeeding the yarn substantially greater than 2% to the false twisting means, comprising a lower feed roll and a separator roll cooperating therewith, the yarn being helically wound about said lower feed roll and separator roll cooperating therewith, drive means for said lower feed roll for overfeeding the yarn helically wound thereon said substantially greater amount, and said lower feed roll having a covering of frictional material thereon, whereby the false twisted yarn has enhanced crimp retraction, uniformity and stretchability.

3,261,155
METHOD AND APPARATUS FOR TREATMENT OF YARNS
August Kunzle, Wattwil, Switzerland, assignor to Heberlein Patent Corporation, New York, N.Y., a corporation of New York
Filed Dec. 18, 1963, Ser. No. 331,568
Claims priority, application Switzerland, Feb. 1, 1963, 1,277/63
13 Claims. (Cl. 57—34)



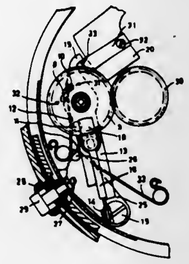
1. Method of permanently crimping textile yarns in which at least two yarns are twisted together along a selected distance, are subjected to heat fixation while in this condition and then separated at a separation point by being drawn apart in different directions at the same speed, characterized in that the tension of each of the separated yarns is regulated by sensing difference between the tensions in the respective yarns being separated, and applying a braking force to the separated yarn of higher tension.

3,261,156
APPARATUS AND METHOD FOR CRIMPING TEXTILE YARNS
August Kunzle and Ludwig Horvath, Wattwil, St. Gall, Switzerland, assignors to Heberlein Patent Corporation, New York, N.Y., a corporation of New York
Filed June 25, 1964, Ser. No. 377,911
Claims priority, application Switzerland, July 25, 1963, 9,263/63
14 Claims. (Cl. 57—34)



1. In apparatus for permanently crimping textile yarns in which at least two yarns are twisted together along a selected distance and are fixed while in twisted condition and then separated by being drawn apart in different directions at the same speed; driving and driven roller means for controlling the tension in said yarns, guide means for engaging the individually separated yarns, one of said means being shiftable in relation to the other in response to uneven tension in the yarns whereby said roller means changes the delivery speed of at least one of the yarns to equalize the tension in said yarns.

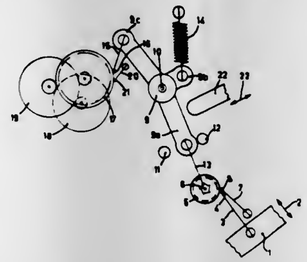
3,261,157
TIMEPIECE ALARM MECHANISM
Paul Maurice Turel, Tavannes, Switzerland, assignor to Tavannes Watch Co. S.A., Tavannes, Switzerland, a firm
Filed Oct. 20, 1964, Ser. No. 405,081
Claims priority, application Switzerland, Oct. 28, 1963, 13,214/63
3 Claims. (Cl. 58—21.15)



1. In an alarm time-piece including a movement, an alarm mechanism, an alarm lever operatively connected with the alarm mechanism to normally lock the latter and adapted to be shifted positively by the movement transversely of the movement at a predetermined adjustable moment to transiently release the alarm mechanism, the combination of a manually operable stop-controlling knob, a yoke adapted to pivot in a plane parallel to the movement, between a position slightly to one side of and underneath the alarm lever and a position registering vertically with the latter to be urged by said knob when depressed into its last-mentioned position to engage the alarm lever when in its alarm-releasing position and raise the latter into its alarm-locking position and hold it therein, a spring urging the alarm lever into its alarm-locking position for engagement with the yoke in its last-mentioned position, the next release of the alarm lever by the movement disengaging the yoke with reference to the latter, and elastic means urging the yoke when disengaged from the alarm lever back into its starting position to thereby also return the knob into its starting position.

3,261,158
VIBRATOR DRIVEN TIMEPIECE
Max Hetzel, Bienne, Switzerland, assignor to Centre Electronique Horloger S.A., Neuchatel, Switzerland
Filed May 27, 1965, Ser. No. 459,177
Claims priority, application Switzerland, May 28, 1964, 6,991/64
4 Claims. (Cl. 58—23)

1. A timepiece the regulating and driving member of which is constituted by a mechanical oscillator (1), actuating, through a catch device, a first ratchet wheel (5), characterised by a cam (6), fixed upon this ratchet wheel; by a three-armed lever (9), upon one arm of which there acts a restoring spring (14), while upon its second arm is fixed a resilient blade (13), and upon the third arm is mounted a second pawl (15); and by a minutes wheelwork, of which the first wheel (17) is a second ratchet wheel, upon which there acts this second pawl; all in order that the mechanical oscillator driving the first ratchet wheel, the cam rigid with the latter may displace the lever against the action of its restoring spring, and



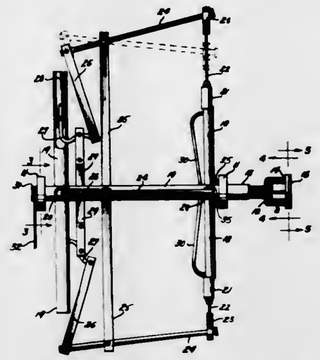
may then abandon the lever, returning briskly to its initial position, and carrying the minutes wheel along by the second abovementioned pawl.

3,261,159
WATER RESISTANT WATCH CASE
John Simon, Tramelan, and Josef Gunzinger, Welschenrohr, Switzerland, assignors to Gunzinger Freres S.A. Fabrique Technos, Welschenrohr, Switzerland, a firm
Filed Sept. 29, 1964, Ser. No. 400,133
Claims priority, application Switzerland, Sept. 30, 1963, 11,989/63
1 Claim. (Cl. 58—90)

In combination in a water resistant watch case assembly:
- (A) a case body having upper and lower surfaces;
- (B) a ring-shaped projecting ledge having inner and outer faces integral with said case body and having threads on said inner face and a snap on said outer face;
- (C) a circular groove in the said upper surface of said case body said groove being disposed inwardly of said ledge;
- (D) a sealing ring within said groove;
- (E) a crystal having lower extermities fitting over said ring flush with said upper surface of said case body;
- (F) a bezel screwed in said threads for securing said crystal to said case body; and
- (G) a false bezel fitted over said outer face of said ledge and over said bezel; said false bezel being maintained in place by said snap on said outer face.

3,261,160
REVOLVING MACHINE
Area C. Hart, Rte. 3, Westminster, S.C.
Filed Sept. 1, 1964, Ser. No. 393,675
5 Claims. (Cl. 60—10)

1. A revolving machine of the character described, comprising a hollow pipe having a plurality of equally spaced and radially extending cylinders projected outward from one end thereof, and a like number of equally spaced and radially extending tubes projected outward from the other end of the said hollow pipe, and a piston in each said cylinder and a weight in each said tube, and mechanism connecting each said piston to its opposite said



weight, and a pair of air lines feeding each said cylinder a supply of air from any desired source, and means of transmitting the power generated by the said revolving machine as it rotates to any other desired machine.

3,261,161
EXHAUST COMBUSTION CHAMBER
Howard C. Sawyer, Detroit, Mich., assignor to Howard R. Ward, Inc., a corporation of Ohio
Filed Aug. 31, 1964, Ser. No. 393,822
7 Claims. (Cl. 60—30)

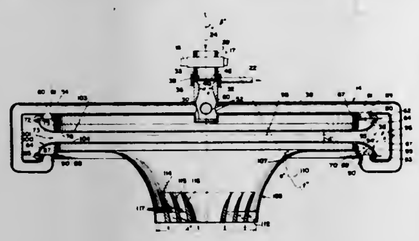


1. The combination with an internal combustion engine having exhaust ports of
- (a) a combustion chamber disposed internally of such engine to accept and burn exhaust gases expelled through said ports, said chamber being formed with an inlet and an outlet,
- (b) means communicating between said exhaust ports and said inlet to afford a directed flow of said exhaust gases to said chamber,
- (c) admission means in said communicating means (b) to introduce atmosphere into said flow of gases, said admission means being adapted to effect a substantially uniform mixture of atmosphere with said gases,
- (d) ignition means in said communicating means to ignite said mixture, so that combustion initiates at said inlet and continues in said chamber, said inlet being formed to impede said flow as ignition initiates and creates back pressure of burning and expanding gases, so that such gases spurt into the combustion chamber (a), said chamber being adapted to afford expansion of said gases as combustion continues.

3,261,162
LIFTING APPARATUS
Henri Coanda, Paris, France
(777 Summer St., Stamford, Conn.)
Filed May 20, 1964, Ser. No. 368,852
20 Claims. (Cl. 60—35.5)

1. In propulsion apparatus, in combination, first and second fluid conductor means symmetrically disposed about an axis of flow in spaced-apart relationship with

each other, said conductor means respectively including first and second Coanda slots and the facing portions of said conductor means defining a third Coanda slot, a supply of fluid under pressure, means for directing fluid from said supply to said conductor means and through said first and second Coanda slots, the fluid passing through said first and second Coanda slots inducing a primary flow

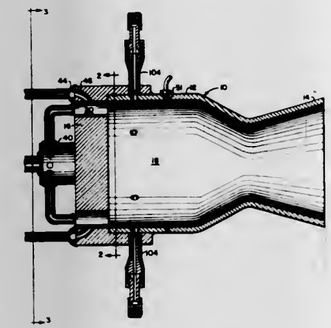


of ambient fluid into said third Coanda slot, and lip means on the downstream side of said third Coanda slot and having a curved surface in juxtaposition therewith, the fluid flowing through said third Coanda slot inducing a secondary flow of ambient fluid over said curved surface and in the direction of said axis, to thereby produce an axially directed propulsion force.

3,261,163
ROCKET MOTOR TESTING APPARATUS

Herbert B. Ellis, Pasadena, Richard G. Peoples, Covina, Herman C. Krieg, Jr., La Puente, Rollo S. Pickford, Sierra Madre, Stanley W. Baker, West Covina, and John E. Tahl, Sierra Madre, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio

Filed June 19, 1961, Ser. No. 117,929
5 Claims. (Cl. 60—35.6)

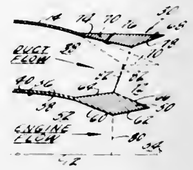


1. An apparatus of the class described comprising in combination a rocket motor and a pulse gun, said rocket motor comprising a motor housing having a nozzle portion, a fuel injection portion, and a combustion chamber, said pulse gun comprising a tube having a muzzle portion and a loading portion, said pulse gun connected to said motor housing in such a way that said muzzle portion opens into said combustion chamber, a rupturable diaphragm removably mounted in said tube, both for insulating and separating the loading portion of the tube from said muzzle portion, and means for filling the loading portion of the tube with gas under sufficient pressure to rupture the diaphragm whereby a shock wave is formed and moves out the muzzle portion of said tube into said combustion chamber.

3,261,164
CONVERGENT-DIVERGENT CO-ANNULAR PRIMARY NOZZLE

Thomas F. Tumicki, Yantic, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Sept. 23, 1964, Ser. No. 398,622
5 Claims. (Cl. 60—35.6)



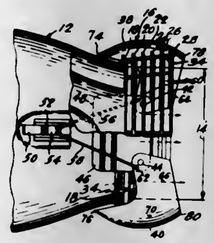
1. A bypass fan engine of circular cross section and concentric about an axis and having a forward and an after end and which generates thrust by discharging exhaust gases to atmosphere through an exhaust nozzle and including an outer duct of circular cross section and extending the full length of the engine and having an inner surface culminating in an outlet at said engine after end, which inner surface first converges towards said axis then diverges away from said axis adjacent said outer duct outlet, an engine fan section positioned at the forward end of said outer duct, a central duct of circular cross section extending from said fan section to said engine after end and having an inner and outer surface and culminating in an outlet co-planar with said outer duct outlet, said central duct being concentrically enveloped within said outer duct and cooperating with said outer duct to form an annular gas passage therebetween and defining a second gas passage therewithin and separated thereby from said annular gas passage, said inner surface of said central duct converging towards said axis then diverging away from said axis adjacent said inner duct outlet to define a convergent-divergent exhaust nozzle of circular cross section therewithin, said outer surface of said central duct diverging away from said axis then converging towards said axis adjacent said outer duct outlet and positioned to cooperate with said converging surface and said diverging surface of said inner duct to define a convergent-divergent, annular exhaust nozzle therebetween, means to support combustion within said annular gas passage, and positioned to cooperate with said fan section to produce high energy gas for discharge through said annular exhaust nozzle, and compressor means, combustion chamber means and turbine means within said inner duct to discharge high energy exhaust gases through said circular exhaust nozzle.

4. A coannular, coplanar exhaust nozzle of circular cross section and concentric about an axis and including a central duct of circular cross section and concentric about said axis and having an inner and outer surface and an outlet, said inner surface of said central duct converging toward said axis then diverging away from said axis adjacent said outlet to define a convergent-divergent exhaust nozzle of circular cross section, said outer surface of said central duct diverging away from said axis then converging toward said axis adjacent said outlet, an outer duct of circular cross section and concentric about said axis and positioned exterior of said inner duct and cooperating therewith to form an annular passage therebetween and having an inner surface and an outlet coplanar with said central duct outlet, said outer duct inner surface first converging toward said axis then diverging from said axis adjacent said outer duct outlet and cooperating with said central duct outer surface to define an annular convergent-divergent exhaust nozzle.

3,261,165
JET THRUST REVERSER

James Smith, Boucherville, Quebec, Canada, assignor to United Aircraft of Canada Limited, Longueuil, Quebec, Canada

Filed July 1, 1964, Ser. No. 379,472
6 Claims. (Cl. 60—35.54)

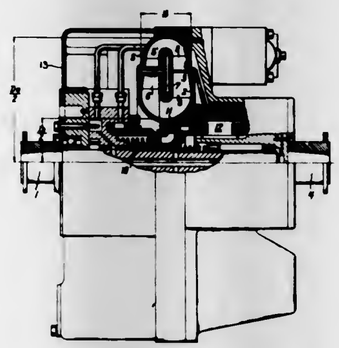


1. In a jet propulsion power plant having a jet pipe and nozzle for the rearward discharge of a propulsive jet stream; louver means fixedly secured on said jet pipe rearwardly and outwardly of said nozzle; shroud means on said jet pipe, said shroud means comprising a pair of shell elements pivotally mounted on mutually parallel axes of rotation outwardly of said nozzle, said shell elements including a forward edge normally blending with the outer surface of said jet pipe and enclosing a portion of said fixed louvers therein, said shells including a trailing edge disposed outwardly of said jet nozzle during normal engine operation, and power means operatively connected to said shells for pivoting them into confronting relation with respect to said nozzle and positioning said trailing shell edges in juxtaposed relation.

3,261,166
CONVERTER

Heinz Völker and Alfred Weis, Olpe, Westphalia, Germany, assignors to Elektro-Mechanik G.m.b.H., Westphalia, Germany

Filed Mar. 25, 1965, Ser. No. 442,650
Claims priority, application Germany, Mar. 25, 1964, E 26,700
10 Claims. (Cl. 60—54)

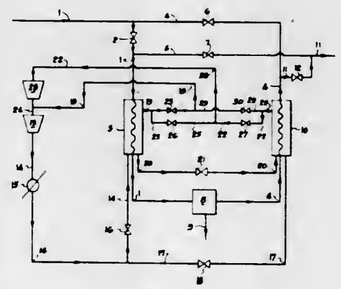


1. In a torque converter having sump and pressure maintaining means for the annular working chamber thereof and means for firmly connecting the pump wheel and the turbine wheel, the improvement wherein the width of the working chamber is not more than 20 percent of the outer diameter of the working chamber and the inner diameter of the working chamber is not less than 35 percent of the outer diameter.

3,261,167
METHOD FOR REMOVAL OF CONTAMINANTS FROM GAS

Jackson O. Carr, Overland Park, Kans., assignor to Conch International Methane Limited, Nassau, Bahamas, a corporation of the Bahamas

Filed Sept. 19, 1962, Ser. No. 224,646
4 Claims. (Cl. 62—12)



1. The method of cooling a gas which contains contaminants that deposit in liquid and solid form at the temperature to which the gas is to be cooled, said method comprising operations (a) and (b) as follows:

(a) passing the gas into indirect heat exchange with a liquid refrigerant evaporating in a first evaporative cooler wherein the refrigerant is evaporating at a temperature at which said contaminants liquefy without liquefying the gas, thereafter passing the gas in indirect heat exchange with said refrigerant evaporating in a second evaporative cooler, wherein said refrigerant is evaporating at the lower temperature to which the gas is to be cooled without liquefying the gas whereby said contaminants will solidify, passing said refrigerant from said first evaporative cooler to said second evaporative cooler through an expansion device, and removing liquefied contaminants from said gas between said coolers;

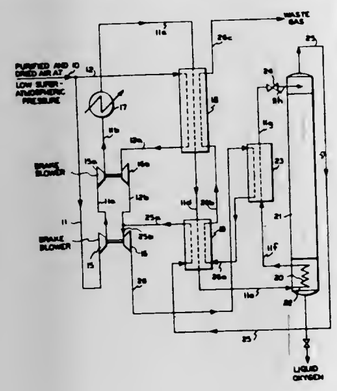
(b) reversing the flow paths of the gas and refrigerant by passing said gas in indirect heat exchange with said refrigerant evaporating in said second evaporative cooler wherein the refrigerant is evaporating at a temperature at which said contaminants liquefy without liquefying the gas, thereafter passing said gas in indirect heat exchange with said refrigerant evaporating in said first evaporative cooler wherein said refrigerant is evaporating at said lower temperature to which said gas is to be cooled without liquefying the gas and at which said contaminants solidify, passing said refrigerant from said second evaporative cooler to said first evaporative cooler through an expansion device, and removing liquefied contaminants from said gas between said coolers;

said method involving the steps of supplying said gas, first conducting operation (a) on said gas, thereafter conducting operation (b) on said gas and continuing said operations in alternating sequence while the supply of gas continues.

3,261,168
SEPARATION OF OXYGEN FROM AIR
Martin Siegfried William Rubemann, Brooklands, Sale, and Barbara Yale, Sale, England, assignors to Petrocarbon Developments Limited
Filed Nov. 2, 1962, Ser. No. 235,075
Claims priority, application Great Britain, Nov. 3, 1961, 39,496/61
9 Claims. (Cl. 62—13)

1. A process for separating liquid oxygen from air by low temperature fractionation in a single fractionation column comprising:

(a) supplying a feed air stream at a relatively low super-atmospheric pressure; including, a first part of



said feed air stream to be fractionated and a second part of said feed air stream to be utilized to provide at least a part of the cooling required for the fractionation of said first part of said feed air stream;

(b) further compressing said first part of said feed air stream through a brake blower forming an integral part of at least one high speed expansion turbine, to produce a further compressed first part of said feed air stream;

(c) removing at least a part of the heat of compression from said further compressed first part of said feed air stream by passing said further compressed first part of said feed air stream through a cooling unit supplied by an external source of coolant, to produce partially cooled first part of said feed air stream;

(d) passing said partially cooled first part of said feed air stream through at least one heat exchange unit, to produce a cooled first part of said feed air stream;

(e) passing said cooled first part of said feed air stream to said fractionation column to separate said cooled first part of said feed air stream into a liquid oxygen stream and an overhead gas stream;

(f) withdrawing said liquid oxygen stream as a product;

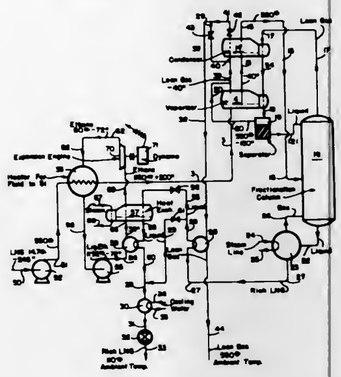
(g) passing said overhead gas stream through said heat exchange unit, in indirect heat exchange with and countercurrent to the direction of flow of said partially cooled first part of said feed air stream;

(h) passing said second part of said feed air stream through said expansion turbine, to produce an expanded second part of said feed air stream; and

(i) passing said expanded second part of said feed air stream through said heat exchange unit, in indirect heat exchange with and countercurrent to the direction of flow of said partially cooled first part of said feed air stream;

(j) said first part of said feed air stream being separated from said second part of said feed air stream prior to the passage of said expanded second part of said feed air stream through said heat exchange unit.

3,261,169
METHOD OF PROCESSING A MIXTURE OF LIQUEFIED GASES
Alexander Harmens, Purley, Surrey, England, assignor to Couch International Methane Limited, Nassau, Bahamas, a Bahamian company
Filed Oct. 21, 1963, Ser. No. 317,511
Claims priority, application Great Britain, Jan. 2, 1963, 254/63
4 Claims. (Cl. 62—28)



1. A method of separating liquefied natural gas into a lean gas and a rich liquefied gas, comprising:

(a) partly vaporising the liquefied natural gas to separate some lean gas therefrom;

(b) subjecting residual liquid from (a) to fractionation to give a gaseous top product and a liquid bottom product;

(c) partly condensing said gaseous top product to obtain further lean gas;

(d) recycling the condensate from (c) to give a descending liquid stream in said fractionation;

(e) partly vaporising said liquid bottom product to obtain rich liquefied gas;

(f) recycling gas from (e) to give an ascending gas stream in said fractionation;

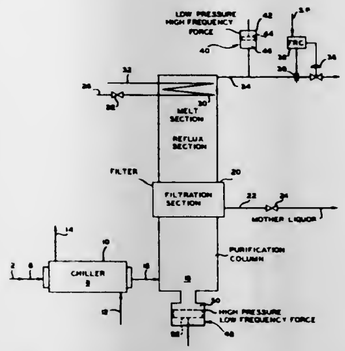
(g) increasing the pressure of the liquefied natural gas to the pressure required in the fractionation in step (b) before it is partly vaporised in step (a);

(h) before partly vaporising the liquefied natural gas in step (a), using the liquefied natural gas to cool by indirect heat exchange a separate gas supply used as the working medium of a closed compression/expansion system for converting heat into mechanical power by expanding the cooled working medium in an expansion engine.

3,261,170
MULTI-STAGE CRYSTALLIZATION PROCESS AND APPARATUS
William C. McCarthy and Glenn H. Dale, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed May 10, 1963, Ser. No. 279,543
7 Claims. (Cl. 62—58)

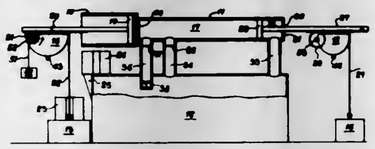
1. The method of separating a mixture of liquefiable compounds into higher melting and lower melting fractions which comprises the steps of maintaining an elongated, confined body of the mixture of liquefiable compounds to be separated, maintaining a temperature differential between the ends of said body, maintaining within said body a temperature such that a portion of said mixture can be made to solidify by the application of pressure to said body, subjecting said body to a first pulsating pressure to cause portions of said mixture to solidify and

portions of the solidified mixture to melt, moving the remaining solid so formed towards the warmer end of said body, subjecting the warmer end of said body to a second pulsating pressure thereby forcing liquid at the warmer end of said body countercurrent to said solidified mixture and toward the cooler end of said body thereby establish-



ing a reflux in the form of a pulsating stream of liquid against the body, withdrawing a higher melting fraction of said mixture of liquefiable compounds from the warmer end of said body, and withdrawing a lower melting fraction of said mixture of liquefiable compounds from said cooler end.

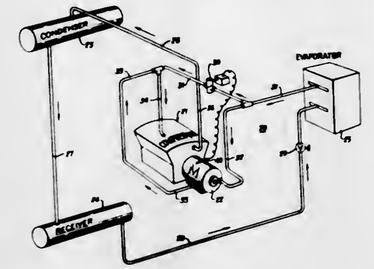
3,261,171
HEAT MACHINE AND METHOD
David S. Bennetch, P.O. Box 241, Schaefferstown, Pa.
Filed Feb. 14, 1964, Ser. No. 345,046
16 Claims. (Cl. 62—87)



2. The method of transferring heat which comprises confining a first fluid in a first closed chamber, expanding the fluid to reduce temporarily its temperature, storing in mechanical form the energy obtained from the expansion, confining a second fluid in a second closed chamber, flowing heat from said second chamber to said first chamber through the walls thereof while said first fluid is at reduced temperature and while maintaining said second fluid at generally constant volume, using the stored mechanical energy to recompress said first fluid, and returning the heat from said first chamber to said second chamber through the walls thereof while maintaining said second fluid at generally constant pressure.

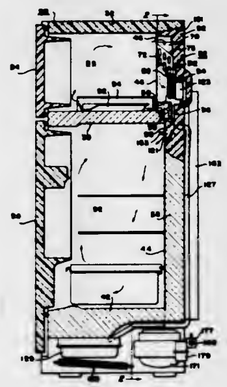
3,261,172
COOLANT SYSTEM FOR HERMETICALLY SEALED MOTOR
Whitney I. Grant, Muskego, Wis., assignor to Vilter Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Nov. 12, 1963, Ser. No. 323,012
13 Claims. (Cl. 62—117)

1. A cooling system for a hermetically sealed motor in a refrigerating system having a compressor driven by said motor, a condenser, first conduit means connecting said condenser with an evaporator, second conduit means connecting said evaporator with the suction side of said compressor, means located interiorly of said motor in direct heat exchange relation with the motor winding for sensing motor temperature, third conduit means connecting said first conduit means with said motor for



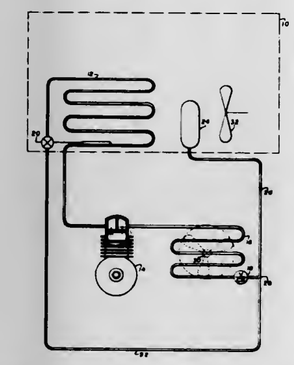
supplying liquid refrigerant thereto for the cooling thereof, and a valve in said third conduit actuated by said motor temperature sensing means for regulating the supply of liquid refrigerant to said motor in response to motor temperature.

3,261,173
REFRIGERATING APPARATUS
Ira L. Gould, Hamilton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 29, 1964, Ser. No. 385,906
7 Claims. (Cl. 62—156)



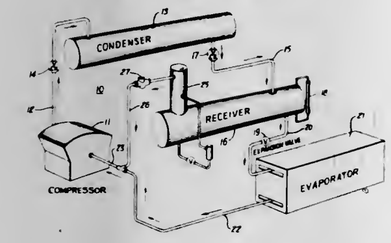
1. A refrigerator including an insulated cabinet having first and second compartments insulated from each other, an evaporator, means for circulating air from said first and second compartments into heat transfer with said evaporator and returning the air in proportions to maintain said first compartment at below freezing temperatures and to maintain said second compartment at above freezing refrigerating temperatures, a refrigerant liquefying means, supply and return conduit means having portions in heat interchanging relation operatively connecting said evaporator and said liquefying means, means for defrosting said evaporator, temperature responsive means responsive to a predetermined high temperature of said second compartment and a concurrent predetermined low temperature of a part of said portions in heat interchanging relation for initiating the functioning of said defrosting means, said portions in heat interchanging relation comprising a substantial portion between said temperature responsive means and said evaporator.

3,261,174
CONTROL MEANS INCLUDING AN ACCUMULATOR FOR REFRIGERATION APPARATUS
Robert G. Miner, La Crosse, and Carl M. Lewis, Medary Township, La Crosse County, Wis., assignors to The Trane Company, La Crosse, Wis., a corporation of Wisconsin
Filed June 8, 1964, Ser. No. 373,256
4 Claims. (Cl. 62—174)



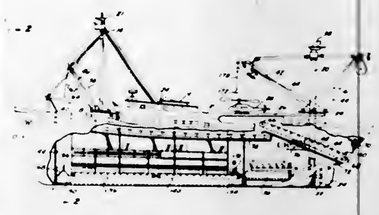
1. Refrigeration apparatus for conditioning a space comprising a refrigerant evaporator disposed in heat exchange relation with said conditioned space; a refrigerant compressor; an air cooled refrigerant condenser; refrigerant throttling means; refrigerant circuit means serially connecting said evaporator, compressor, condenser and throttling means in a closed refrigerant circuit; a liquid refrigerant accumulator disposed in heat exchange relation with said conditioned space; conduit means connecting said accumulator to said refrigerant circuit at a point downstream of said condenser and upstream of said throttling means; and a check valve disposed in said refrigerant circuit between said point and said condenser.

3,261,175
NORMALLY CONTINUOUSLY OPERATING COMPRESSOR WITH CONTROLS THEREFOR
Wallace W. Fullerton, Wayne, Pa., assignor to Vilter Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 24, 1964, Ser. No. 362,298
5 Claims. (Cl. 62—197)



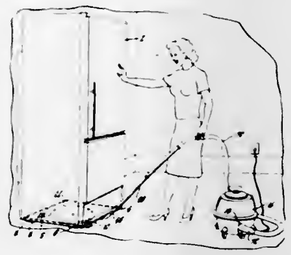
1. In a refrigerating system, a low pressure portion including an evaporator, a high pressure portion including a condenser, a receiver interposed between said condenser and said evaporator, a normally continuously operating compressor having a low pressure inlet and a high pressure outlet for circulating refrigerant from the low pressure portion of the system to the high pressure portion thereof, and means responsive to conditions prevailing in the low pressure inlet for by-passing refrigerant from said receiver directly to the low pressure inlet of the compressor past said evaporator during periods of reduced load.

3,261,176
FISHING VESSEL
Mario J. Puretic, 901 E. 27th St., Long Beach, Calif. 90806
Filed Apr. 9, 1964, Ser. No. 377,148
12 Claims. (Cl. 62—240)



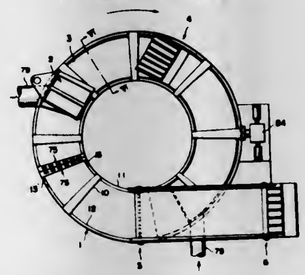
1. In a fishing vessel, the combination of:
a stern conveyor for removing fish from a net that is disposed adjacent the stern of said vessel;
a fish-receiving deck forward of said stern conveyor;
fish-distributing conveyor means that receive fish from said stern conveyor and moves said fish forwardly along said fish-receiving deck;
fish-freezing means accessible from and below said fish-receiving deck;
a refrigerated storage compartment below said freezing means that receives frozen fish from said freezing means under the influence of gravity;
and fish-unloading conveyor means that receive fish from said storage compartment under the influence of gravity.

3,261,177
DIRIGIBLE AIR BEARING TRANSPORT DEVICE
Charles A. Amann, Bloomfield Hills, and John S. Collman, Orchard Lake, Mich., and Jerold W. Scheel, Santa Barbara, Calif., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 23, 1965, Ser. No. 481,875
5 Claims. (Cl. 62—297)



1. A refrigerator assembly comprising an outer cabinet forming a food storage compartment and a machinery compartment, said machinery compartment being located at the base of said outer cabinet and including a refrigerant compressor therein, a condenser, an evaporator, means for serially connecting said compressor, condenser and evaporator in serial refrigerant flow relationship for cooling said food storage compartment, air lifting means disposed below said machinery compartment within said outer cabinet, a reinforcing member on the bottom edge of said outer cabinet, said air lifting means inculding a thin paltform element engageable with said reinforcing member on said cabinet, an annular flexible diaphragm connected to the lower surface of said platform element to form an inflatable cavity, means forming an opening in said platform element for directing air interiorly of said cavity, and means formed in said diaphragm for venting said cavity into the space beneath said diaphragm for producing an air lifting force to raise the bottom edge of said outer cabinet away from its supporting surface.

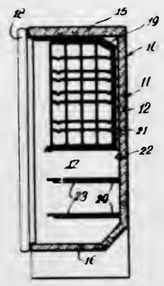
3,261,178
FREEZER FOR ICE-CREAM BARS AND THE LIKE
Katsuto Okada, Tokyo, Japan, assignor to Morinaga Nyugyo Kabushiki Kaisha, Tokyo, Japan
Filed Mar. 3, 1965, Ser. No. 436,840
Claims priority, application Japan Apr. 3, 1964, 39/25,643
8 Claims. (Cl. 62—345)



1. In a freezer for ice-cream bars and the like, in combination:
(a) a turntable mounted for rotation about an axis;
(b) a plurality of molds;
(c) engaging means on said turntable and on each mold securing the mold to the turntable for movement of the mold with the turntable in a closed path about said axis while permitting axial movement of the mold relative to the turntable;
(d) guide means for guiding said molds axially toward and away from said turntable in response to movement of the molds in said closed path;
(e) filling means for filling said molds with a material to be frozen;
(f) a refrigerating tank; and
(g) unmolding means for removing the refrigerated material from said molds, said filling means, refrigerating tank, and unmolding means being circumferentially offset along said path in said sequence in the direction of movement of said molds.

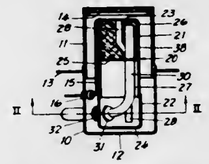
3,261,179
ADJUSTABLE SHELVES FOR VERTICAL FREEZERS
Charles R. Dill and William J. Hebbeler, Evansville, Ind., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Oct. 26, 1964, Ser. No. 406,325
12 Claims. (Cl. 62—382)

1. In a refrigeration apparatus provided with a cabinet having an upper, horizontal wall, a rear, vertical wall, and side vertical walls, shelf structure comprising:
evaporator coil means having an upper, horizontal portion and a rear, vertical portion;
a frame having an upper, horizontal portion and a rear, vertical portion juxtaposed to said evaporator coil means;
means securing said frame to said evaporator coil means;
means securing said frame and evaporator coil means to the cabinet with said upper portion of the evaporator coil means juxtaposed to the upper wall of the cabinet and said rear portion of the evaporator coil means juxtaposed to the rear wall of the cabinet;
a support defining a plurality of vertically spaced, shelf carrying elements;
means securing said support to said frame;
means constructed to be mounted on the side walls of the cabinet for defining a plurality of shelf carrying elements horizontally aligned with said shelf carrying elements of said support; and



a plurality of shelves each having a first mounting portion removably carried by a shelf carrying element of said support and a second mounting portion removably carried by a horizontally aligned shelf carrying element on the cabinet.

3,261,180
COOLER UNIT
Brian Porter, 137 Garden Ave., South Hatfield, England, and William A. Hoyes, 78 Leigh Sinton Road, Malvern, England
Filed Feb. 19, 1960, Ser. No. 9,996
Claims priority, application Great Britain, Feb. 20, 1959, 5,860/59
7 Claims. (Cl. 62—514)

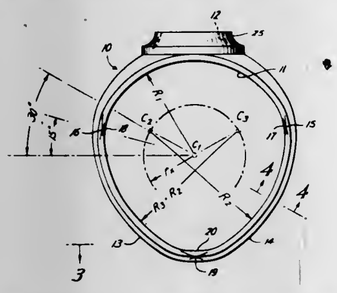


1. A cooler unit comprising a sealed container divided into two compartments, liquid coolant in each compartment, a transfer tube within the container extending between the two compartments and placing the compartments in communication with each other, a liquid flow restricting packing in at least one of said compartments, an exhaust tube connecting said one compartment to the exterior of said container, said tube extending through the other compartment of said container and means normally closing the exhaust tube and operable to place the interior of said one compartment in communication with the exterior of said container, said transfer tube having a means positioned on the end extending into said one compartment to restrict the flow therethrough relative to the flow afforded to the exhaust tube.

3,261,181
FINGER RING RELEASABLY LOCKABLE OVER KNUCKLE JOINT
John M. Scott, Houston, Tex., assignor to Star Engraving Company, a corporation of Texas
Filed May 15, 1962, Ser. No. 194,792
8 Claims. (Cl. 63—15)

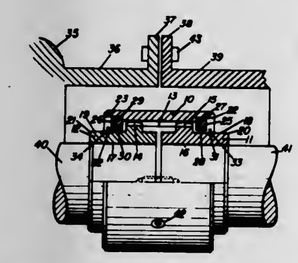
1. A finger ring defined with relation to first and second vertical planes perpendicular to each other and passing respectively through the ring bezel, through a first center, and through the palm side apex of the ring band, and passing through said bezel, said first center, and centrally through said ring band, and further defined with

relation to a horizontal plane perpendicular to said vertical planes and passing through said first center and through said ring band on opposite sides thereof, the upper, inner ring surface portion to receive the upper ring finger part being delineated by a first arc of predetermined radius from said first center, and the inner ring lower sides to receive the lower parts of said ring finger being delineated by second and third arcs of equal radii greater than said first radius with centers at the intersections of a fourth arc, on a radius shorter than said first radius and from said first center, with radial lines in said second vertical plane from said first center and subtending equal, substantially thirty degree angles above said horizontal plane on opposite sides of said first vertical plane, the inner surfaces on each side between said upper portion and said lower sides being delineated by gradual



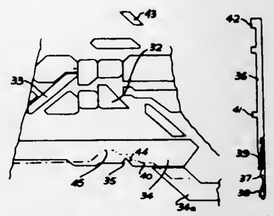
arcs of decreasing radius upwardly, and the inner surface to receive the lowermost part of said ring finger decreasing in radius in said second vertical plane on either side of the inner surface palm side apex, whereby since ring fingers, as extended horizontally for measurement at the knuckle joint are of greater horizontal than vertical dimension, with skin and muscle immediately over the upper part and sides of the bone and with a skin covered fleshy part below the bone which increases in vertical dimension inwardly of the knuckle joint, a ring with inner surfaces delineated as above described may be inserted on a ring finger substantially to lock it in position on the finger as the lower fleshy part of the finger inwardly of the knuckle joint is confined in the lower part of the ring which has less free area to receive the finger than a round ring would have in this lower area.

3,261,182
FLEXIBLE COUPLING
Edward E. Allen, Erie, Pa., and Grant E. Scott, Jr., Olean, N.Y., assignors to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania
Filed May 7, 1964, Ser. No. 365,600
5 Claims. (Cl. 64—9)



1. A coupling comprising
a sleeve and two spaced hubs,
said sleeve having a generally cylindrical bore therein with spaced internal teeth,
a counterbore in each end of said sleeve defined by an axially extending flange on each end of said sleeve,
each said hub having external crowned teeth therein,
said hubs each having a cylindrical portion axially outward of said crowned teeth,
a generally H-shaped sealing ring in each said counterbore and relatively loosely received on said cylindrical parts of said hubs,
each said sealing ring having a groove in its outer periphery and a groove in its inner periphery,
an O-shaped sealing washer in each said groove in said sealing rings,
a groove in each said hub in said cylindrical part thereof spaced from said teeth,
a snap ring generally rectangular in cross section in each said groove in said hubs,
said snap rings and said external teeth defining spaces with said sealing rings therebetween,
said O-shaped washers making sealing engagement with the outer peripheral surface of said cylindrical portions of said hubs and with the inner periphery of said flanges,
and means for attaching a shaft to each said hub.

3,261,183
METHOD OF TUCKING ON UPPER CYLINDER NEEDLES
George Edward England, Glenfield, England, assignor to Midland Hosiery Mills Limited, Leicester, England
Original application July 18, 1961, Ser. No. 124,938. Divided and this application Feb. 16, 1965, Ser. No. 432,993
3 Claims. (Cl. 66—14)

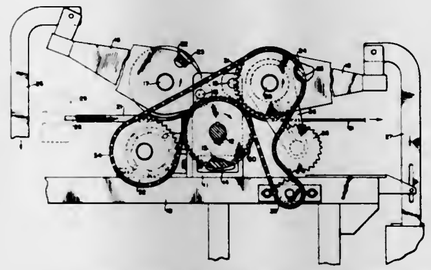


1. A method of performing knitting on a circular independent rib needle knitting machine of the opposed needle cylinder type comprising the steps of causing some needles to be placed in the rib cylinder while others are placed in the plain cylinder for the purpose of knitting rib fabric, causing selected ones of the needles in the rib cylinder to pass a knitting point whilst their latches are held open by a latch guard, and performing knitting at said knitting point so that tuck stitches are formed on said selected ones of the needles in the rib cylinder.

3,261,184
SYNCHRONIZED MULTI-ROLL WET PROCESS APPARATUS FOR TUBULAR KNITTED FABRICS
Eugene Cohn, Great Neck, and Frank Catallo, Elmont, N.Y., assignors to Samcoe Holding Corporation, Woodside, N.Y., a corporation of New York
Filed Mar. 4, 1964, Ser. No. 349,301
12 Claims. (Cl. 68—22)

6. A processing padder for tubular knitted fabric or the like, which comprises
(a) means to deliver tubular knitted fabric or the like,
(b) means including a plurality of roller nips forming a reservoir for treating liquid,
(c) means to drive one roller at each roller nip at a predetermined surface speed,
(d) at least one of the roller pairs forming a roller nip being of dissimilar resilience,

(e) means for maintaining the rollers of said one roller pair substantially in surface-to-surface contacting relation, and
(f) a chain-like synchronizing element connecting the rollers of one of said roller pairs for positive rota-



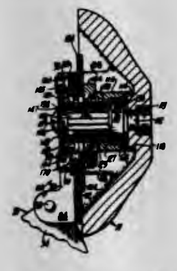
tion of said rollers in predetermined surface speed relationship,
(g) whereby said roller nips have equal effective speeds.

3,261,185
DRY CLEANING UNIT
Robert J. Rihr, 813 E. Colter, Phoenix, Ariz.
Filed May 18, 1964, Ser. No. 368,111
7 Claims. (Cl. 68—213)



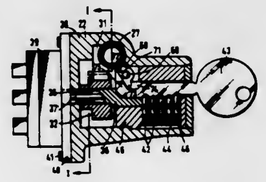
1. A dry cleaning unit for use in a clothes dryer comprising a container for a cleaning fluid, a cover pad having a bottom portion, said bottom portion having a plurality of apertures, an absorbent material, a porous material for holding said absorbent material in contact with said bottom portion, means for securing said cover pad to said container, said unit having an arcuate surface for contact with a surface of said clothes dryer and means for securing said unit to said dryer.

3,261,186
PARKING METER DOOR LOCK ASSEMBLY
Lawrence J. Laviana, Kensington, Conn., assignor to M. H. Rhodes, Inc., Hartford, Conn., a corporation of Delaware
Filed June 12, 1964, Ser. No. 374,698
3 Claims. (Cl. 70—116)



1. In a parking meter coin receptacle assembly comprising a coin receptacle having an access door and a door lock assembly mounted on the inside of the door for locking the door, the improvement wherein the door lock assembly comprises a bolt subassembly fixed to the inside of the door having a support plate with a laterally extending generally flat base portion and a pair of upstanding laterally spaced side flanges, a cover plate on the flat base portion having a pair of laterally spaced bridge portions defining with the base portion a pair of coaxial laterally extending channels, said side flanges having slots aligned with the channels, and a pair of flat locking bolts laterally reciprocable within the channels and the aligned slots, said cover plate having opposed edges between the channels providing edge bearings for the locking bolts; and a key-operated lock subassembly mounted on the door in axial alignment with the key opening for operation of the reciprocable bolts; and wherein the door is provided with an inwardly projecting boss substantially coaxial with the key opening therein; said lock subassembly comprising a bushing having a bore portion receiving the inwardly projecting boss, said bushing having an elongated end face adjacent its inner end and said base portion having a generally conforming elongated opening for axially receiving the bushing for installation and removal of the lock subassembly, the support plate having strengthening plate means adjacent the elongated opening engageable by the elongated end face when in angularly offset relationship with the elongated opening to prevent inward axial displacement of the bushing, fastener means threaded to the bushing for keying the bushing to the support plate in said angularly offset relationship, a key-operated lock within the lock bushing, a rotatable lock guard washer having a key slot therein revolvably mounted within the bore portion between the boss and the key-operated lock, and lock-operated means for reciprocating the bolts.

3,261,187
STEERING COLUMN AND IGNITION LOCK FOR MOTOR VEHICLES
Rudolf Eichenauer, Hollbergstrasse 1, Frankfurt am Main, Germany
Continuation of application Ser. No. 176,758, Mar. 1, 1962. This application Sept. 15, 1964, Ser. No. 396,577
5 Claims. (Cl. 70—252)

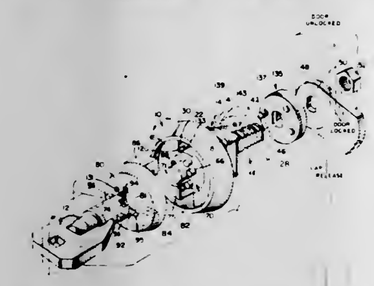


1. A lock arrangement for a vehicle having a steering column comprising, in combination:
(a) a housing;
(b) attaching means for securing said housing to the steering column of said vehicle;
(c) a lock bolt formed with a recess and movable on said housing between a locking position and a retracted position, said bolt when in said locking position projecting from said housing for engagement with said steering column;
(d) bolt actuating means for actuating movement of said bolt between said positions thereof, said actuating means including
(1) yieldably resilient means permanently urging said bolt toward the locking position thereof, and
(2) a driving member mounted on said housing for movement in engagement with said bolt against the urging of said resilient means;

(e) lock cylinder means mounted on said housing for rotation about an axis between an OFF position and an ON position, said cylinder means being operatively connected to said driving member for movement of the latter when said cylinder means rotates about said axis, said cylinder means defining at least a portion of a key slot for receiving an axially inserted key; and

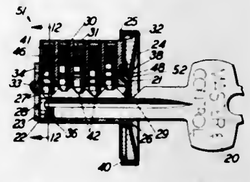
(f) latch means mounted on said housing for movement between an operative position in which a first portion of the latch means engages said recess of said lock bolt when the same is in said retracted position, while a second portion of said latch means extends into said key slot for engagement with said inserted key when said cylinder means is in said OFF position of the same, and an inoperative position in which said latch means is withdrawn from said recess and at least substantially withdrawn from said key slot.

3,261,188
QUICK-CHANGE AXIAL PIN TUMBLER LOCK ASSEMBLY
William J. Kerr, Glenview, Ill., assignor to Chicago Lock Company, Chicago, Ill., a corporation of Illinois
Filed July 15, 1964, Ser. No. 382,914
11 Claims. (Cl. 70—363)



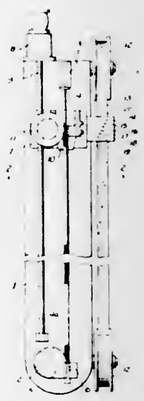
1. In an axial pin tumbler lock assembly, in combination, an open-ended, non-rotatable tubular barrel having an axial bore and annular front and rear end faces, a lock shaft rotatable within said bore and having an enlarged head presenting a rear end face in rotative sliding contact with said front end face of the barrel, an axial split pin tumbler arrangement including cooperating barrel and shaft pins, said shaft pins projecting forwardly of the head for cooperation with a key and being freely removable endwise from the shaft head for purposes of pin interchange, a forwardly and axially removable annular cap positioned forwardly of the barrel and encircling said shaft head, fixed interengaging means on the cap and barrel preventing rotation of the cap, said shaft being rotatable from a first angular unlocked position, through a second angular locked position, to a third overrun terminal position, slidable interengaging means on the cap and shaft head normally preventing removal of the cap, said slidable interengaging means permitting forward removal of the cap when the lock shaft is in its terminal position, a collar-like latch member mounted on and rotatable with the lock shaft rearwardly of the barrel and including an axially shiftable latch pin yieldingly and slidingly bearing against the rear end face of said barrel, first, second and third spaced shoulders on said rear end face of the barrel engageable by the latch pin to determine said first, second and terminal positions of the lock shaft respectively, there being access openings in said cap and barrel in axial alignment with said latch pin when the latter is in position against said second shoulder to permit depression of the latch pin by a suitable pin-like tool and consequent withdrawal of the latch pin from said second shoulder to allow the lock shaft to be moved to its terminal position.

3,261,189
SINGLE SHEAR LINE LOCK
Frank Ellison Best, 5802 E. Pleasant Run Parkway, Indianapolis, Ind.
Filed Dec. 10, 1963, Ser. No. 329,527
7 Claims. (Cl. 70—364)



1. In a pin-tumbler lock having the lock-controlled assembly feature, in a core having a core body and a core face, the combination of elements comprising hollow rivet extension means on said core body, a circular base face plate eccentrically staked on said extension means and a covering face plate joining said base face plate at its periphery.

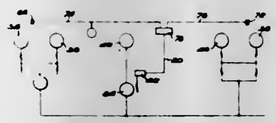
3,261,190
PIPE INDENTING MACHINE
Otto Oeckl, Munich, Germany, assignor, by mesne assignments, to Hilgers, Maschinen- u. Apparate-Bauanstalt m.b.H., Bezirk Cologne, Germany
Filed Oct. 4, 1963, Ser. No. 313,912
Claims priority, application Germany, Oct. 19, 1962, M 54,555
4 Claims. (Cl. 72—7)



1. In combination with a pipe bending machine having an arbor bolding block mounted on one end of a frame, a pipe bending assembly mounted on the opposite end of the frame, and a carriage carrying a rotatable chuck slidably mounted on said frame between said block and said assembly, program reading means attached to and movable along with said carriage for actuating said carriage and said chuck, and replaceable stationary recorded program means extending the entire length of said frame and readable by said recording means.

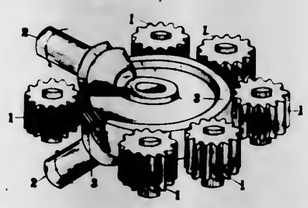
3,261,191
TENSION CONTROL MECHANISM
George F. Wasson, Bethel Park, Pa., assignor to Voss Engineering Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 6, 1963, Ser. No. 300,319
7 Claims. (Cl. 72—9)

1. A device for maintaining a condition of constant tension between the input side and output side of a leveler comprising a leveler device, motor means for driving said lever device, a first roll guiding a strip of material to said leveler, a second roll guiding a strip of material from said leveler, deflectable supports for said first and second rolls which deflect in response to tension on said respective strips of material, means for driving



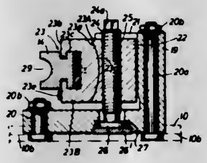
said respective rolls, means responsive to the deflection of each of said supports for sending a signal, and said motor means responsive to said signal for adjusting the speed thereof to control the tension of said strip material on the input and output side of said leveler.

3,261,192
METHOD AND APPARATUS FOR MANUFACTURE OF TOOTHED WHEEL
Tadashi Saito, 333—31 Aza Koshinzuka, Isoshi, Takarazuka, Japan, and Masaya Saito, 23—13 Aza Hiratsuka, Obayashi, Takarazuka, Japan
Filed Mar. 17, 1964, Ser. No. 352,455
4 Claims. (Cl. 72—87)



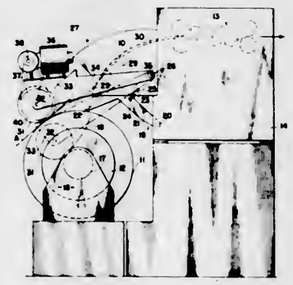
1. A method of producing a toothed wheel comprising receiving a blank of material within the circumference of a circle defined by the outer periphery of a plurality of master gears, said blank having sides, a top face and a bottom face, engaging the sides of the blank with the master gears subjecting the top and bottom faces of the blank to rolling compressive forces while providing relative rotational motion between the master gears and the blank until the toothed wheel has been shaped from the blank, and disengaging the master gears from the toothed wheel by radially displacing the master gears relative to the center of the toothed wheel.

3,261,193
BENDING MACHINE
Herbert van Harten, Rodenkirchen, near Cologne, Germany, assignor to Hilgers Maschinen- und Apparate-Bauanstalt m.b.H., Rodenkirchen, near Cologne, Germany
Filed Sept. 10, 1964, Ser. No. 395,528
Claims priority, application Germany, Sept. 10, 1963, H 50,232
15 Claims. (Cl. 72—150)



1. In a pressure-die-type bending machine, particularly for cold-bending of elongated tubular workpieces, in combination, a main support; a bending form mounted on said main support for rotation about a fixed axis; a clamping die adjacent to and arranged to clamp a leading portion of a workpiece against said form so that the workpiece is bent in response to rotation of the form; a pressure die arranged to engage a trailing portion of the workpiece which is clamped by said form and to hold such trailing portion against rotation with the form; means for adjustably securing said pressure die to said main support so that the pressure die may be adjusted with reference to the workpiece; and means for adjusting said pressure die in directions parallel with said fixed axis.

3,261,194
STRIP STOCK FEEDER
Alvin F. Groll, Box 347, Napoleon, Ohio
Filed Jan. 7, 1963, Ser. No. 249,739
2 Claims. (Cl. 72—161)

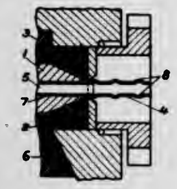


1. In a strip stock feeder, in combination means for carrying a coil of strip stock, a strip stock receiving station for the reception of strip stock from said coil, a strip stock guide spaced from the outer periphery of said coil and defining a smoothly curved path having a curvature less than that which imparts a permanent set to said strip stock, said guide leading said strip stock to said receiving station, said curved path and the outer periphery of a coil carried by said carrying means having common planes of tangency for all diameters of coils within the capacity of said carrying means, a pressure roll mounted to press against the outer periphery of a coil carried by said carrying means while uncoiled strip stock extends from said coil to said guide, drive means for rotating said roll to advance the strip stock toward said guide, and means positioning said roll to force said strip stock against said coil as a limiting backup means over a range of positions in which the planes common to the centers of said roll and coil intersect the plane of common tangency between the outer periphery of said coil and said guide intermediate said guide and the line of tangency to said coil and closely adjacent said line of tangency to apply a bending force to said strip stock between said guide and said coil for all sizes of coil accommodated by said feeder which is opposite the set of the coiled stock, said range of positions being such that in all positions the strip stock advanced to said guide is stressed beyond its elastic limit around said roll to develop a slight reverse bend relative to the set of the coiled stock.

3,261,195
METHOD FOR EXTRUDING PIPE OF METAL OR SIMILAR MATERIAL
Bror Hansson, Stockholm, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed Aug. 31, 1964, Ser. No. 393,231
2 Claims. (Cl. 72—256)

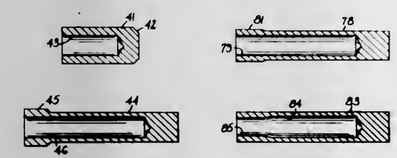
1. A method of manufacturing tubular members having ridges in radial planes in an extrusion press having a mandrel around which material is expressed and an

extrusion orifice cooperating with the mandrel, and having a cylindrically shaped member slidable within the mandrel for movement outwardly from the end thereof towards the orifice, the steps of extruding a fluent material over the mandrel and through the orifice in a radially



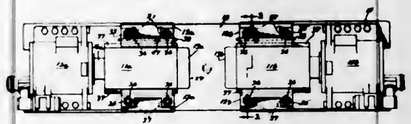
inward direction, and moving said cylindrical member, during such extrusion, between positions in which its free end is inside of and outside of said opening, said end reaching the position outside said opening while the material is still fluent.

3,261,196
METHOD FOR MAKING HOLLOW ARTICLES
Charles R. Bradlee, Cheshire, and Anthony M. Putetti, Waterbury, Conn., assignors to Textron, Inc., Providence, R.I., a corporation of Rhode Island
Filed May 8, 1964, Ser. No. 365,915
6 Claims. (Cl. 72—343)



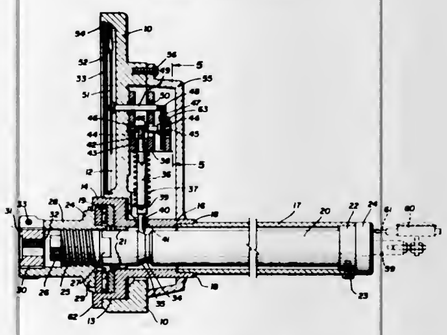
1. The method of making a hollow article having an outer bore of lesser diameter than an inner bore, comprising cutting a workpiece from a length of solid stock, confining the workpiece in a substantially uniform cavity of a predetermined depth in a die, driving an extruding pin into the workpiece to extrude a portion of the workpiece rearwardly around the extruding pin to form an elongated workpiece having a cylindrical bore extending into the workpiece from one end thereof, increasing the effective depth of the cavity at a reduced diameter, driving a mandrel into the initial portions of the bore in the workpiece and driving a portion of the workpiece into the deepened cavity of lesser diameter by pressure applied to the end of the workpiece through an extruding punch while maintaining the mandrel in the bore to prevent collapse of the bore and to extrude and lengthen the workpiece in the cavity of lesser diameter and form a peripheral shoulder at the outer end of the workpiece, stripping the workpiece from the mandrel, ejecting the workpiece from the die cavity, transferring the workpiece to a second die, driving the workpiece into a cavity in the second die whose diameter is less than the diameter of the previously-formed shoulder on the workpiece by pressure applied to the end of the workpiece through a trimming punch to trim a portion of the shoulder from the workpiece, splitting the trimmed portion while the workpiece is wholly within the cavity in the second die, partially ejecting the workpiece from the second die and holding it in the partially ejected position, ironing the remaining shoulder into the workpiece by pressure applied to the shoulder through an ironing punch to provide a uniform outside diameter along the length of the workpiece and to decrease the diameter of the bore in the workpiece for a length approximately equal to the length of the previously-formed shoulder, driving the workpiece out of the ironing punch by pressure applied to the end of the workpiece through a knockout rod within the ironing punch, and ejecting the finished article from the second die.

3,261,197
VIBRATION ABSORBING STRESS MEANS FOR HORIZONTAL RAM IMPACTERS
Henry A. Weyer, Chambersburg, Pa., assignor to Chambersburg Engineering Company, Chambersburg, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1963, Ser. No. 323,438
15 Claims. (Cl. 72—407)



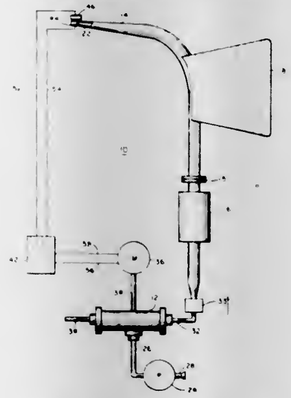
1. A horizontal impacter comprising a supporting base structure isolated from shock and vibrations, a pair of aligned rams, horizontally arranged and movable toward and away from one another, pistons for driving each of said rams connected to said rams, fluid cylinders on the supporting base containing the pistons, guide means for supporting and directing movement of said rams, said intermediate floating plate means through which said guide means are fixed to the base, such that the floating plate means serves to resiliently cushion the base from vibrations resulting from off-center blows struck by the rams and transmitted through the guides.

3,261,198
IMPACT WRENCH CHECKERS
Edward T. Able and Willard Krieger, Denver, Colo., assignors to B. K. Sweeney Manufacturing Co., Denver, Colo.
Filed July 9, 1964, Ser. No. 381,327
5 Claims. (Cl. 73—1)



1. A wrench checker comprising: a housing; an anchor tube fixedly mounted at its forward extremity in said housing and extending rearwardly therefrom; a tension bar extending longitudinally within said anchor tube; locking means affixing the rear extremity of said tension bar to said anchor tube; an annular thrust bearing in said housing surrounding the forward portion of said tension bar; a rotatable internally threaded nut on the forward extremity of said tension bar and bearing against said thrust bearing; wrench engaging means on said nut for imparting rotation to said nut to cause it to react against said thrust bearing to stretch said tension bar longitudinally; and gauge means actuatable in consequence of the stretch imparted to said tension bar to indicate the amount of torque being applied to said nut by said wrench.

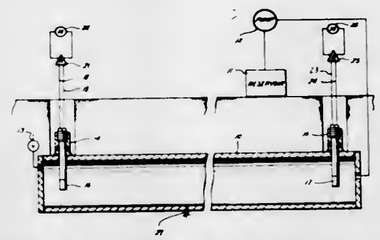
3,261,199
ISOKINETIC SAMPLING APPARATUS
Gilbert S. Raynor, Manorville, Long Island, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Feb. 3, 1965, Ser. No. 430,229
5 Claims. (Cl. 73—28)



1. Apparatus for the isokinetic sampling of gaseous fluid comprising:
(a) an inlet nozzle immersed in a medium of flowing gaseous fluid to be sampled;
(b) means for maintaining the position of said inlet nozzle with the opening thereof facing into the direction of flow of said fluid;
(c) means for receiving said gaseous fluid entering said nozzle to collect the particulate borne by said fluid;
(d) proportioning means for receiving said gaseous fluid from the aforesaid collection means and a gaseous fluid from a source other than said collection means and combining said gaseous fluids into a discharge;
(e) means operating at a constant rate of flow for receiving the discharge of said proportioning means and pumping same to some higher pressure; and
(f) means to control the operation of said proportioning means to maintain the velocity of gaseous fluid entering said inlet nozzle at a magnitude equal to that of said gaseous fluid in said medium adjacent to said nozzle;
(g) said proportioning means consisting of first and second nozzles having adjustable throat areas and means effected by said control means for regulating the throat areas of said nozzles to permit selective control over fluid flow rates through said first and second nozzles, the total flow through said proportioning means being substantially constant over the range of operation of said apparatus;
(h) said pump means operating at a rate of flow insuring sonic fluid velocities in the throat areas of said nozzles.

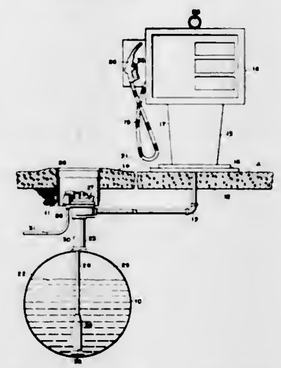
3,261,200
PIPELINE LEAK DETECTION METHOD
Francis Vinton Long, Shreveport, La., assignor to Texas Eastern Transmission Corporation, Shreveport, La., a corporation of Delaware
Filed Feb. 11, 1964, Ser. No. 349,523
5 Claims. (Cl. 73—40.5)

1. The method of locating a leak in a pipeline comprising:
closing the pipeline at both ends,
filling the pipeline with water under pressure,
determining the resonant frequency of an open tube having a length equal to the pipe wall thickness,
sensing at widely spaced points in the pipeline any compression waves at approximately said determined resonant frequency resulting from a leak in the wall of the pipeline with instruments sensitive to approximately said resonant frequency,



measuring the amplitude of such compression waves sensed at spaced points,
and comparing the amplitude of compression waves measured to determine the relative position of a leak from each sensing point.

3,261,201
GASOLINE LEAK DETECTOR
Herbert Pottash, 1000 S. 50th St., Philadelphia, Pa.
Filed Dec. 3, 1964, Ser. No. 415,747
1 Claim. (Cl. 73—40.5)



In a gasoline leak detector for use in remote type service station installations, the combination of
a system of piping connecting a gasoline storage tank and a gasoline dispensing unit,
said storage tank integrally supporting a submerged pump, and
said dispensing unit being equipped with a flow control nozzle designed to maintain piping system pressure when not in use,
said pump maintaining the said piping system under pressure during all periods of normal operation;
a pressure switch mounted within the said dispensing unit,
said switch having an open position and a closed position,
said switch having a pressure sensing element responsive to the said pressure being maintained in the said piping system,
said pressure sensing element normally maintaining the pressure switch in its said open position, and
the said sensing element closing the said switch upon a predetermined drop in the piping system pressure;

a source of electrical current energizing a pair of electrical terminals within the said dispenser,

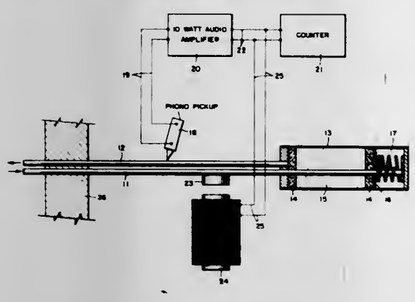
said terminals feeding an illumination circuit within the said dispenser, and

a pressure switch actuated electrical warning circuit connected to the said terminals,

said circuit including a signalling device and a signal modifying device,

said circuit being activated by the closing of the said pressure switch when a predetermined drop in pressure is sensed.

3,261,202
MOISTURE SENSOR
William H. King, Jr., Florham Park, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Jan. 8, 1963, Ser. No. 250,109
13 Claims. (Cl. 73—53)



1. An analyzer which comprises:

(1) receptacle means comprising fluid inlet and outlet means and container means;

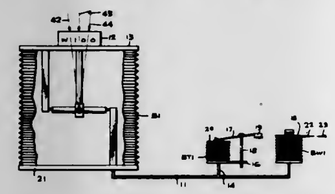
(2) adsorbent means within said receptacle means;

(3) means for producing vibration of said receptacle;

(4) support means for constraining said receptacle to vibrate in a desired manner;

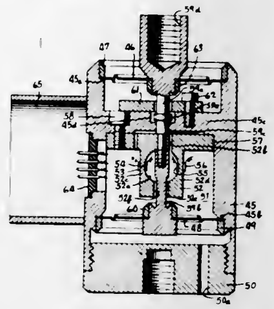
(5) measuring means to measure changes in the vibration of the said receptacle means.

3,261,203
APPARATUS FOR MEASURING FORCES IN COMPRESSION OR IN TENSION
Shirrel R. Young, Westminster, Calif., assignor to Astro-Space Corporation, Santa Ana, Calif., a corporation of California
Filed Aug. 15, 1963, Ser. No. 302,372
5 Claims. (Cl. 73—141)



1. In apparatus for measuring forces: a bellows comprising compressible and extensible sides, a top plate for receiving the force to be measured, and a bottom plate, said plates sealed to said sides to define a first chamber of variable capacity; instrumentalities defining a second chamber of variable capacity, said instrumentalities including a base and a cover, said cover having an area materially less than that of said top plate; conduit means communicating with said first and second chambers; first measuring means for accurately determining a variation in the distance between said plates; a third chamber of variable capacity communicating with said first and second chambers; a substantially noncompressible fluid filling said chambers and said conduit; said chambers, conduit and fluid constituting a closed hydraulic system; micrometric means for increasing or decreasing the capacity of said third chamber to selectively force fluid into or out of the remainder of said system in order to alter the distance between said plates when the distance between said cover and base is fixed, or to alter the distance between said cover and base when the distance between said plates is fixed; and means for applying a measured compensating force to said cover that will separate said plates by the same distance that separated them before the force to be measured was applied to said top plate, whereby the magnitude of the force to be measured may be determined by multiplying the measured compensating force by the ratio of the area of said top plate to the area of said cover.

3,261,204
FORCE MEASURING APPARATUS
Walter E. Jacobson, Meriden, Conn., assignor to Revere Corporation of America, Wallingford, Conn., a corporation of New Jersey
Filed Dec. 24, 1963, Ser. No. 333,013
14 Claims. (Cl. 73—141)



1. Force measuring apparatus, comprising:

(a) two elongated generally parallel stiffly flexible members;

(b) bridging means connecting one end of one member to the adjacent end of the other member;

(c) means for applying a force to be measured only to the other end of one of the two members and acting along a line parallel to the length of said member but spaced therefrom;

(d) means for applying a reactive force only to the corresponding end of the other member and acting along a line parallel to the length of said other member but spaced therefrom;

(e) said bridging means having a central aperture parallel to said members;

(f) one of said force applying means comprising:

(1) a column extending through said aperture; and

(2) means connecting the column to the end of one of said members farthest from said bridging means;

(g) the other of said force applying means comprising a lateral extension on the corresponding end of said other member and adapted to apply a resultant force acting along the same line as but opposed to the force applied through said column;

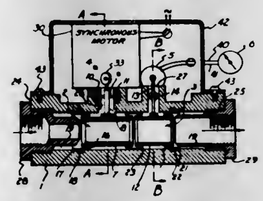
(h) said members, said two force applying means, and said bridging means cooperating to stress one member in tension and bending and the other member in compression and bending;

(i) a plurality of strain sensitive electrical resistance elements;

(j) means connecting said strain sensitive elements to said members so that their resistances vary as functions of the strains therein;

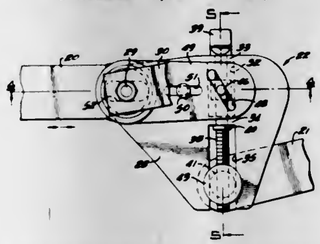
(k) said strain sensitive elements being adapted for connection in an electrical network so that resistance variations in the elements produce cumulative effects on an electrical output condition of the network.

3,261,205
MASS FLOW METERING MEANS
Anatole J. Sipin, 117 E. 77th St., New York, N.Y.
Original application May 24, 1961, Ser. No. 112,393, now Patent No. 3,218,851, dated Nov. 23, 1965. Divided and this application May 13, 1965, Ser. No. 455,523
9 Claims. (Cl. 73—194)



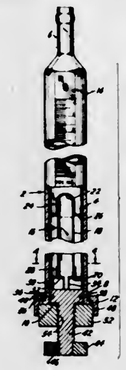
1. Means for metering the mass of matter flowing in a line, including a closed housing in a portion of : line with rigid inlet and outlet ports arranged in coax:.: and axially spaced relation, a pair of conduits in the chamber arranged in tandem relation with straight bores providing a continuous passageway for the matter flowing in the line between the ports, means for vibrating the upstream conduit differentially with respect to the downstream conduit so as to vibrate the matter flowing through the upstream conduit in a transverse direction to the line of flow and to impart an alternating transverse momentum to the matter flowing through the upstream conduit, and output means for sensing the reaction of the downstream conduit to the transverse momentum of the flowing matter.

3,261,206
DOUBLE ADJUSTMENT CRANK ASSEMBLY FOR DIAPHRAGM TYPE GAS METERS
Charles W. Stewart, Lancaster, Ohio, assignor to Karl L. Schaus, Tempe, Ariz.
Filed June 23, 1964, Ser. No. 377,185
3 Claims. (Cl. 73—281)



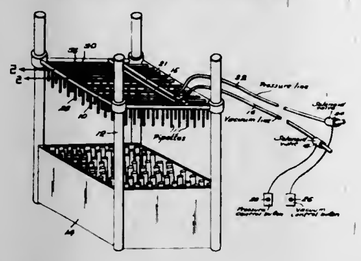
1. In a diaphragm-actuated crank assembly of a gas meter; a crank plate rotatable about a substantially vertical axis; a threaded adjusting screw rotatably carried by said crank plate and disposed in radial, intersecting relation to the axis of rotation of said crank plate; a bearing post slidably carried by said crank plate in eccentric relation to the axis of rotation of said plate and threadedly engaged with said screw, said bearing post being movable radially inwardly and outwardly with respect to axis of rotation of said crank plate upon axial rotation of said screw in opposite directions; a first diaphragm-actuated link pivotally connected with said bearing post; a traveling stud member threadedly carried on said screw in inwardly spaced relation to said bearing post and movable longitudinally of said screw upon axial rotation thereof; an arm slidably carried on said crank plate and having a longitudinal axis disposed in angularly offset relation to the axis of said screw and in radial intersecting relation to the axis of rotation of said crank plate, said arm being formed toward one end thereof with a diagonal slot embracing said stud member, and being movable radially inwardly and outwardly with respect to the axis of rotation of said crank plate and in unison with said bearing post upon axial rotation of said screw; a bearing member rigidly carried by and movable with said arm and disposed in eccentric relation to the axis of rotation of said crank plate and in rotationally spaced relation to said bearing post; and a second diaphragm-actuated link pivotally connected with said bearing member.

3,261,207
CARTESIAN DIVER TYPE DEVICE
Roger Gilmont, Douglaston, N.Y., assignor to Roger Gilmont Instruments, Inc., Great Neck, N.Y., a corporation of New York
Continuation of application Ser. No. 170,206, Jan. 31, 1962. This application June 22, 1965, Ser. No. 468,671
3 Claims. (Cl. 73—403)



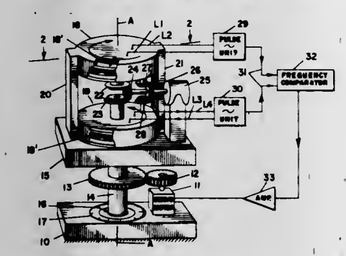
1. A cartesian diver type pressure sensitive instrument comprising a substantially straight piece of elongated glass tubing having walls defining a chamber adapted to contain a supply of liquid in a portion thereof, said tubing having an opening at one end of the same size as the interior of said tubing and having an outlet adjacent its other end communicating with said chamber, a vertically elongated float in said chamber, said float having an inner chamber open only at the bottom of said float, said float being adapted to float inside said liquid with a portion thereof above the level of said liquid and said liquid being adapted to enter said float chamber via the opening at the bottom of said float, a piston received inside said tubing through said opening at said one end thereof, sealing means carried by said piston, interposed between said piston and the inner surrface of said tubing and effective to produce a vacuum-tight sliding seal therebetween, said piston defining the bottom wall of said chamber in said tubing and being movable along the inside of said tubing in the direction of the length of said tubing so as to vary the volume of said chamber, and means operatively connected between said tubing and said piston and accessible from the exterior of said tubing effective to position said piston along said tubing, and output function means responsive to the position of said float relative to said tubing.

3,261,208
AUTOMATIC PIPETTE
Timothy L. Fisher, 863 W. Walnut St., Shamokin, Pa.
Filed May 13, 1964, Ser. No. 367,259
1 Claim. (Cl. 73—425.6)



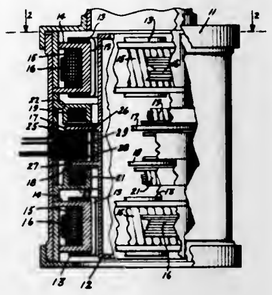
Apparatus comprising:
a rack mounted for vertical movement on supporting means;
a plurality of vacuum and pressure manifolds mounted on the rack;
a plurality of pipettes connected to the vacuum and pressure manifolds;
vacuum and pressure lines connected to the vacuum and pressure manifolds;
means to control application of vacuum or pressure alternatively to the lines to thereby apply vacuum or pressure at will to the pipettes; each pipette comprising:
a section with a cavity of a desired volume;
a float-operated valve in communication with the cavity;
vacuum line connection means;
pressure line connection means;
the vacuum line connection means communicating with the interior of the pipette at a point immediately above the valve such that any liquid which might get past the valve will be withdrawn from the pipette thereby assuring substantially equal volume even if the valve fails to operate perfectly.

3,261,209
METHOD AND APPARATUS FOR MEASURING ANGULAR RATE AND POSITION
Randolph S. Rae, 11740 Sunset Blvd., Los Angeles 49, Calif.
Filed Dec. 11, 1962, Ser. No. 243,805
15 Claims. (Cl. 73—505)



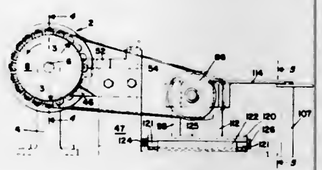
7. An apparatus for indicating angular rate and position comprising, in combination: a fluid; means for moving said fluid in a path having a radial component with respect to an axis about which said angular rate is to be indicated; and means for indicating the transit time of a given portion of said fluid between first and second points in said path, said transit time being a function of the angular rate of rotation of said fluid whereby said angular rate about said axis may be indicated.

3,261,210
SUPERCONDUCTIVE ACCELEROMETER
Theodor A. Buchhold, Schenectady, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 2, 1960, Ser. No. 73,367
8 Claims. (Cl. 73—517)



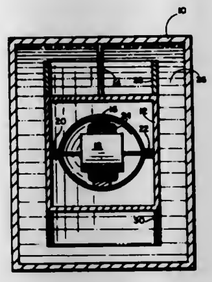
1. In a three-axis accelerometer, a case, a proof mass having a pair of opposite broad surfaces made of material which becomes superconductive at a cryogenic temperature, normal to each of three mutually orthogonal axes, three pairs of support coils made of material which becomes superconductive at cryogenic temperatures, three pairs of capacitive pick-off means, each of said support coils and pick-off means being attached to a separate wall of said case opposite one of said broad surfaces, each of said pairs of coils and said pairs of pick-off means being positioned normal to a separate one of said axes, means for maintaining said case and its contents at a cryogenic temperature, means for developing a separate control current connected to each of said pairs of coils for maintaining said proof mass in a balanced position magnetically supported in said case, and A.-C. power source means connected to each of said pairs of pick-off means, each said current developing means being operatively connected to an associated pair of said pick-off means.

3,261,211
SERVOMECHANISM
Raymond G. Frank, Salisbury, Md., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 26, 1964, Ser. No. 354,988
14 Claims. (Cl. 74—1)



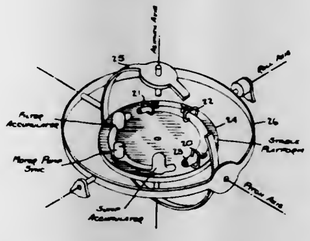
1. A servo mechanism comprising a drum, motor means to rotate the drum, output means spaced from the drum and having a pair of spaced portions movable in opposite directions to inversely vary their distances from the drum, a pair of spaced cables passing around at least a part of the drum with each cable engaging one of said portions of the output means, means mounted on the drum to vary inversely the path lengths of the cables around the drum to vary inversely the distances of the spaced portions of the output means from the drum to provide a resultant output from the output means.

3,261,212
DAMPED GYROCOMPASS
Loren R. McMurray, Whittier, Calif., assignor to North American Aviation, Inc.
Filed July 10, 1961, Ser. No. 122,752
2 Claims. (Cl. 74—5.5)



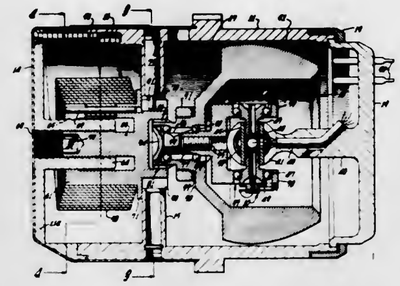
1. In a gyroscope having a gyroscope housing and a fluid housing, said gyroscope housing at least partially supported by a flotation fluid and partially supported by a flexible vertical mechanical member, the improvement comprising:
flotation fluid filling the region between said fluid housing and said gyroscope housing;
at least one pair of identical right circular cylindrical dampers engaging said fluid, positioned coaxially upon the top and bottom of said gyroscope housing and symmetrically with respect to the center of mass of said gyroscope, cylindrical dampers, and gyroscope housing.

3,261,213
FLUID RATE-INTEGRATING GYRO
Maurice I. Zeldman, West Hempstead, and Rubin Feinberg, Hicksville, N.Y., assignors to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 14, 1962, Ser. No. 237,664
9 Claims. (Cl. 74—5.6)



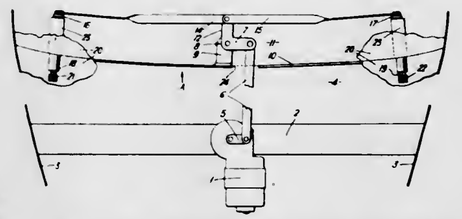
1. A fluid rate integrating gyro comprising a main flow tube having a longitudinal axis, said tube being mounted for rotation about an axis intersecting said longitudinal axis and at right angles thereto, means to flow fluid through said main tube under constant velocity, a loop communicating with said tube on opposing sides thereof, means to displace said tube about said axis of rotation in accordance with an input value whereby the resultant fluid pressure differential in said tube on opposing sides of said longitudinal axis by reason of Coriolis acceleration gives rise to a proportional fluid flow in said loop, and means to detect said loop flow to produce an indication of displacement.

3,261,214
SPRING DRIVEN GYROSCOPE
Clyde R. Amsler, San Gabriel, and Raymond L. Wald, La Puente, Calif., assignors to Clary Corporation, San Gabriel, Calif., a corporation of California
Filed Aug. 27, 1964, Ser. No. 392,426
6 Claims. (Cl. 74—5.12)



2. A gyroscope comprising a rotor having a first coupling part, means supporting said rotor for rotation about a spin axis and for movement about mutually perpendicular axes, a gyroscope housing suporting said last mentioned means, an extension integral with said housing and extending inwardly from the center of one end of said housing, a drive member rotatably mounted on said extension for movement therealong toward and away from said rotor, said drive member having a combined coupling and caging part engageable in said first coupling part whereby to drive and cage said rotor, means responsive to rotation of said drive member for moving said drive member away from said rotor, a spiral spring attached at one end thereof to said housing and at the other end thereof to said drive member for rotating said drive member, a release pawl engageable for said drive member, and means for moving said pawl to release said drive member.

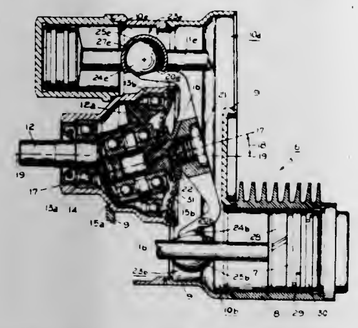
3,261,215
DRIVE MECHANISMS FOR MOTOR ROAD VEHICLE WINDSCREEN WIPER SYSTEMS
William Edward Simpson, Oakley, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 9, 1963, Ser. No. 329,161
Claims priority, application Great Britain, Dec. 12, 1962, 46,911/62; Jan. 29, 1963, 3,617/63
2 Claims. (Cl. 74—42)



1. In a motor vehicle having a front compartment and a passenger compartment separated by a partition and a windscreen adjacent said partition, a windscreen wiper drive mechanism comprising an electric windscreen wiper drive motor mounted forwardly and centrally of said front compartment, a drive crank mounted on said motor for rotation thereby, a wiper arm pivot shaft mounted adjacent said partition, an oscillatory driven crank secured on said pivot shaft rearwardly of said partition for movement in a substantially vertical plane, a bell crank lever member pivotally mounted rearwardly of said partition

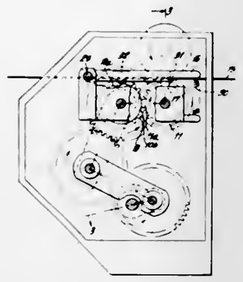
to transmit drive from said drive crank to said driven crank, a first reciprocable link member connecting one end of said bell crank lever member to said motor drive crank, and a second reciprocable link member connecting the other end of said bell crank lever member to said driven crank, said bell crank lever being mounted for pivotal movement in a substantially horizontal plane, said first reciprocable link member extending through an opening in said partition and through a transverse slit in a sheet of flexible material secured to said partition to overlie said opening.

3,261,216
MOTION TRANSLATING APPARATUS
Brian K. Woolfenden, Grafton, N.H., assignor to Cryonetics Corporation, Burlington, Mass., a corporation of Delaware
Filed Sept. 12, 1963, Ser. No. 308,434
4 Claims. (Cl. 74—60)



1. Apparatus for pumping refrigeration fluid, comprising a housing including two chambers, a drive shaft supported in said housing in one of said chambers for rotation about an input axis by motive means, a plurality of pump cylinders mounted in said housing with their centers along a circular path concentric with said input axis, pistons disposed in said cylinders, a different piston shaft connected with each of said pistons in the other of said chambers, the piston shafts being slidable along pumping axes parallel with and equidistantly spaced from said input axis, dry non-lubricated piston rings of material having relatively low coefficient of friction sealing said pistons with said cylinders, actuator means in said other of said chambers mounted on said drive shaft in said one of said chambers for relative rotation about a crank axis inclined in relation to and intersecting said input axis at a center of wobble motion, said actuator means including a hub portion and a plurality of arms extending radially therefrom each at a different angular position in said other of said chambers, different universal joints coupling the ends of said arms with different ones of said piston shafts at a predetermined radial distance from said crank axis and at a predetermined lateral distance from said pumping axes thereof in said other of said chambers, dry self-lubricated plastic bearing material providing bearing surfaces in said universal joints, the sum of said predetermined radial and lateral distances in each connection being in excess of the distance between said input axis and said pumping axes, bearing means lubricated with a moist lubricant mounting said actuator means on said drive shaft and disposed in said other of said chambers, an annular diaphragm of substantially impervious pliable material defining the separation between said chambers, means sealing the inner periphery of said diaphragm with said hub portion of said actuator means with the center of said diaphragm substantially coincident with said center of wobble motion, and means sealing the outer periphery of said diaphragm with said framework at a position wherein said diaphragm separates the sites of said plastic bearing material and said piston rings from the site of said bearing means lubricated with a moist lubricant, whereby rotation of said drive shaft results in out-of-phase reciprocations of said piston shafts and pistons, attended by angular oscillations of said piston shafts and pistons, while the moist lubricant is fully isolated from said other of said chambers by said diaphragm and is thereby prevented from freezing out in the refrigeration fluid.

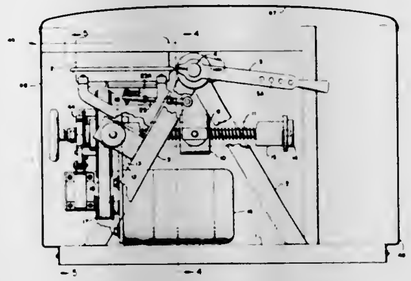
3,261,217
DRIVE MEANS FOR ROLLER FEED MECHANISMS ON PRINTING, STAMPING AND LIKE MACHINES
Johann Georg Schick, St. Gallen, Switzerland, assignor to Ferdinand Ruesch Maschinen- und Waagenfabrik, St. Gallen, Switzerland
Continuation of application Ser. No. 57,059, Sept. 19, 1960. This application Jan. 10, 1964, Ser. No. 337,097
Claims priority, application Switzerland, Sept. 18, 1959, 78,409/59
1 Claim. (Cl. 74—84)



Drive apparatus comprising: a rotatable driving shaft; a crank gear eccentrically keyed to said driving shaft for rotation therewith; a crank pin keyed to said crank gear and revolved concentrically about said driving shaft as said driving shaft rotates; a stub shaft; an intermediate gear journalled for idling rotation on said stub shaft, said intermediate gear being meshed with said crank gear for rotation thereby; an additional shaft; an additional gear journalled for idling rotation about said additional shaft and meshed with said intermediate gear for rotation thereby; a first partially rotatable link having said crank pin and said stub shaft journalled at respective ends thereof, said stub shaft and said crank pin serving as pivots for said first link; a second partially rotatable link having said additional shaft and said stub shaft journalled at respective ends thereof, said additional shaft and said stub shaft serving as pivots for said second link; an idler gear coupled with said additional gear for rotation therewith, said idler gear including an adjacent cam surface having a recess and having a section of gear teeth missing from said idler gear; a final shaft adapted for rotatably driving a load; a final gear keyed to said final shaft for rotatably driving said final shaft, said final gear meshing with said idler gear for rotation thereby, said final gear including an adjacently situated recessed groove and an enlarged tooth adapted for being moved into said section of missing teeth of said idler gear as said idler gear pivots about said additional shaft due to rotatable movement of said second link; pivoted lever means including a cam roller and a cam member; and spring means for biasing said lever means so that said cam member may become nested in said recessed groove when said cam roller becomes nested in said recess of said idler gear during

revolution of said idler gear; said enlarged tooth being reengaged by the teeth of said idler gear after said section of missing teeth has rotatively passed said enlarged tooth to restart rotation of said final gear simultaneously with the cam roller being moved out of said recess in said idler gear's cam surface thereby moving said cam member out of said recessed groove.

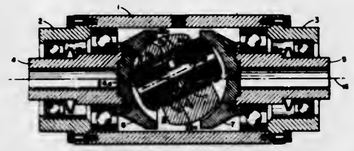
3,261,218
MOTOR OPERATED CONTROL DRIVE
Gardner L. Campbell, Wickliffe, Joseph A. Danvic, Cleveland, James E. McEvoy, South Euclid, and Michael Panich, Willoughby, Ohio, assignors to Bailey Meter Company, a corporation of Delaware
Filed Oct. 3, 1963, Ser. No. 313,461
8 Claims. (Cl. 74—89)



1. A control drive comprising, in combination, a support, an electric motor mounted on said support, an elongated threaded shaft rotatably mounted in said support, a driving connection between said motor and said shaft operative to transmit motion therebetween and to effect a torque multiplication, a carriage member having threaded engagement with said shaft for rectilinear movement relative thereto upon rotation of said shaft to effect an additional torque multiplication, means responsive to displacement of said carriage for producing additional torque multiplication and for producing an output motion, a toothed wheel rotatedly mounted on such shaft, a friction member providing a driving connection between said shaft and toothed wheel, a lever pivotally mounted on a fixed support adjacent to said toothed wheel, a detent member carried by said lever for engagement with the teeth of said toothed wheel, and a solenoid for actuating said lever to effect engagement of said detent with the teeth of said toothed wheel to oppose rotation of said shaft.

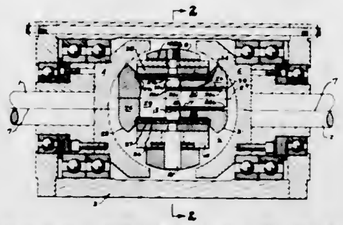
3,261,219
MOTION TRANSMITTING DEVICE
Charles E. Kraus, Franklin Lakes, N.J., assignor to Excelermatic, Inc., a corporation of New York
Filed Aug. 21, 1961, Ser. No. 132,985
7 Claims. (Cl. 74—200)

2. In a speed changer having opposed driving and driven discs, the opposed faces of said discs being shaped to form substantially a spherical cavity concentric with the axis of said discs; and means engaging said opposed faces for transmitting motion from said driving to said driven disc; said means being mounted for rotation in a carrier pivotally carried between said opposed faces on an axis normal to the common axis of said discs and with the axis of rotation of said means being laterally displaced therefrom a predetermined amount; said means comprising a pair of members, each having an inwardly extending body portion and an enlarged outer disc-engaging portion; one of said members being free to rotate with respect to the other of said members; and means disposed between adjacent ends of said members for



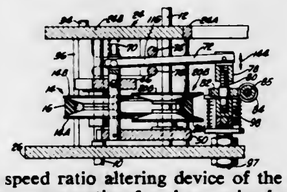
causing said members to tend to contact said discs with a force proportional to the tangential force of said driving disc on that member engaged thereby.

3,261,220
MOTION TRANSMITTING DEVICE
Charles E. Kraus, Franklin Lakes, N.J., assignor to Excelermatic, Inc., a corporation of New York
Filed Apr. 25, 1962, Ser. No. 190,086
24 Claims. (Cl. 74—200)



1. In a motion transmitting device having driving and driven discs, means engaging corresponding faces of said discs for transmitting motion from the driving to the driven disc, said means comprising two rotatable members, means for urging apart said members and for causing them to engage the respective adjacent faces of said discs, anti-friction means for both axial and rotational movement of said members, means for carrying said members in operative position, means for pivotally supporting said carrying means whereby precessing of said members may take place, and means for causing said members to precess, the last-mentioned means comprising an arm extending from said carrying means and means for applying an external force to said arm in a direction to move said arm in a direction to move said engaging means for a new speed-ratio position.

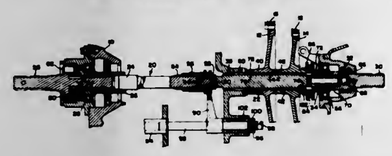
3,261,221
MOTION COMPENSATING DEVICE
Edward H. Zdvorak, San Diego, Calif., assignor to Fluidgenics, National City, Calif., a corporation of California
Filed Mar. 23, 1964, Ser. No. 353,941
12 Claims. (Cl. 74—230.17)



9. In a speed ratio altering device of the character described for compensating for changes in characteristics of fluids being metered, the combination comprising an input shaft, an output shaft, speed ratio altering means connected between said shafts, a lever operating said altering means and being connected to said altering means for op-

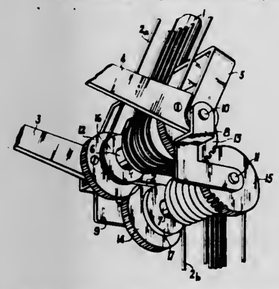
erating the same, adjustable fulcrum means for fulcruming said lever at an adjustable fulcrum point thereof, balanced condition responsive means, an adjustable length connection between said lever and said balanced condition responsive means with an unbalance in said condition responsive means producing movement of said lever through said adjustable length connection and about said adjustable fulcrum point.

3,261,222
DUAL-SPEED MULTIPLE PTO
Karl H. Fresmann, Waterloo, and George W. Pakala, Cedar Falls, Iowa, assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Aug. 20, 1964, Ser. No. 390,945
10 Claims. (Cl. 74—375)



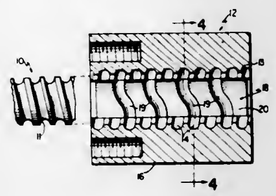
1. A two-speed PTO, comprising: a support; first and second coaxial closely spaced apart gears arranged for relative rotation and constrained against axial shifting, each gear having an axially apertured hub including an annular set of internal clutch teeth; a shaft rotatable relative to the gears and extending axially through the apertured hubs and carried by the support for axial shifting relative to the gears between first and second positions, said shaft having annular means thereon including external clutch teeth matching the aforesaid teeth and engageable with only the first gear internal teeth in the first position of said shaft and with only the second gear internal teeth in the second position of said shaft; means for driving the gears respectively at different speeds; a second shaft disposed coaxially with the first-mentioned shaft and arranged to enable said relative axial shifting of said first-mentioned shaft; means journaling said second shaft on the support for rotation relative to the gears and first-mentioned shaft and constraining said second shaft against axial shifting from one of said positions; and clutch means selectively connectible and disconnectible between the second shaft and the proximate one of the gears.

3,261,223
ARTICULATION DEVICES WITH TRANSMISSION OF MOVEMENTS
Jean Vertut, Paris, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Nov. 1, 1963, Ser. No. 320,637
Claims priority, application France, Nov. 2, 1962, 914,276
6 Claims. (Cl. 74—380)



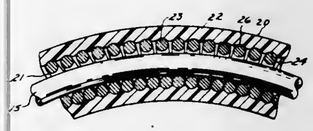
1. An articulated device for pivotally coupling two members and entailing the transmission of movement along said members, comprising: a pair of members disposed in spaced, opposed relation; a toothed sector rigidly connected with each of said member; a support arm; means pivotally mounting said toothed sectors on said support arm for movement about parallel axes spaced a fixed distance apart with the teeth of said toothed sectors in mesh; and a continuous mechanical power transmission means extending along said members in spaced, parallel relation thereto carried by said members for movement therewith, said power transmission means being pivotal about said parallel axes.

3,261,224
NUT FOR BALL SCREW AND NUT ASSEMBLY
David C. Anthony, Paterson, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Jan. 27, 1964, Ser. No. 340,472
10 Claims. (Cl. 74—459)



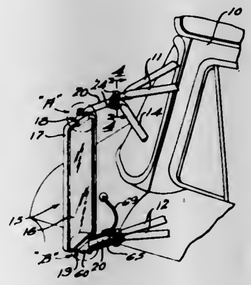
1. In a ball screw and nut assembly, the combination of a screw member having external helical ball groove convolutions thereon, a nut member having a bore provided with internal helical ball groove convolutions therein for cooperation with said screw member ball groove convolutions to confine balls therein and having an axially extending radially facing arcuate slot passing through said ball groove convolutions, balls confined between certain of said screw and nut member groove convolutions, and a cross-over element having cross-over groove means for transferring and circulating balls within one complete screw and nut member groove convolution, said element having an arcuate base approximately matching said slot and dimensioned to be movably positioned in said slot to enable said element to rotate slightly in said slot and to move slightly in an axial direction in response to balls transferred by said cross-over groove means.

3,261,225
CONTROL DEVICES
John O. Crouse, % Richland Auto Parts Company, Mansfield, Ohio
Filed Apr. 22, 1964, Ser. No. 361,862
2 Claims. (Cl. 74—501)



1. A Bowden controller comprising a laterally flexible and substantially nonextensible tubular housing, a Bowden control wire reciprocally disposed therein, said housing comprising a spring wire helix whose successive convolutions are resiliently maintained in lateral, contiguous, spring pressed engagement with each other, the interior of said helix providing a slideway on which the said control wire may be longitudinally adjusted, said helix having a substantially thick-walled coating of plastic material applied over all outwardly presented surfaces of said helix and coating, said coating being substantially nonerties generally corresponding to those possessed, to a substantial degree, by a vinyl having a durometer hardness rating of D–75, said coating being closely fitted within the exteriorly presented recesses between all pairs of successive helix convolutions, to longitudinally interlock said helix and coating, said coating being substantially nonstretchable, preventing longitudinal stretching of said helix and permitting free passage of the control wire therethrough.

3,261,226
REMOTE CONTROL FOR REAR VIEW MIRROR
Bernard K. Dent, Greenville, Ohio, assignor to Sheller Manufacturing Corporation, Detroit, Mich., a corporation of Indiana
Filed May 7, 1964, Ser. No. 365,584
4 Claims. (Cl. 74—501)

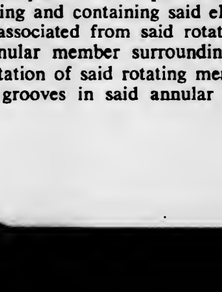


1. In a rear view mirror assembly for a vehicle provided with supporting brackets projecting therefrom having pivot openings in the free ends thereof, and a mirror assembly, including a frame and pivot supporting brackets attached to said frame, that improvement which comprises, pivot means carried by said pivot supporting brackets for rotatively supporting said mirror assembly including means engaging said pivot openings, an operating bracket provided with an opening embracing a portion of one of said pivot supporting brackets to nonrotatively connect the same to said mirror assembly, an operating cable connected at one end to said operating bracket to adjust said mirror assembly, a control bracket secured to one of said supporting brackets, a cable clamp secured to said control bracket and engaging said cable to support the same at a point remote from said mirror assembly, means within the vehicle remote from said mirror assembly for actuating said cable, and a spring having one end connected to said operating bracket and the other end connected to said control bracket to resiliently resist adjustment of said mirror assembly in one direction.

3,261,227
TRACK RINGS FOR RADIAL PISTON HYDRAULIC PUMPS AND MOTORS
Zbigniew Alexander Lomnicki, Codsall, England, assignor to Boulton Paul Aircraft Limited, Codsall, England
Filed Jan. 17, 1963, Ser. No. 252,128
1 Claim. (Cl. 74—567)

A track ring to be used in combination with a radial piston machine having n pistons, said track ring having a cam surface in driving connection with each of said pistons and being shaped such that, assuming a motion of each of said pistons around the center of said track ring along a path determined by said cam surface thereof, a point passing through the central longitudinal axis of each of said pistons would trace out an arcuate path which may be considered to comprise an integral number S of identical circumferential sections, where S is the number of strokes of each of said pistons per revolution of said pistons and track ring relative to each other, one half of each of said sections being a mirror image of the other half, and each of said section halves comprising three successive arcs subtending angles δ, 2α and δ respectively at the center of said track ring, the first and third of said arcs being circular arcs about said track ring center and of radius $(C-R)$ and $(C+R)$ respectively, and the second of said arcs being a spiral arc of radius

$$C+R\left(\frac{\Delta}{\alpha}+\frac{1}{\pi}\cdot\sin\frac{\pi\Delta}{\alpha}\right)$$



about the center of said track ring, where:

C is the radius of said spiral arc at the midpoint thereof,
R is the lift of said pistons and less than C,
Δ is the angle subtended at the center of said ring by a radial line to said midpoint of said spiral arc and a second radial line to another point of said spiral arc, Δ ranging from $-\alpha$ to $+\alpha$,
n is any integer not less than 5,
α has any value determined by the equation

$$S\alpha=(n-1)\cdot\frac{\pi}{2n}$$

when n is odd, and

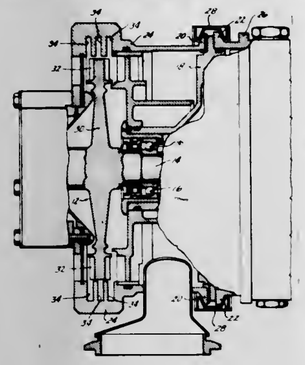
$$S\alpha=(n-2)\cdot\frac{\pi}{2n}$$

when n is even, whereby n and S have no common factor greater than unity, and in the case that n and S are both even numbers such that $n/2$ and $S/2$ have no common factor greater than unity, $n/2$ is an odd number greater than 3.

3,261,228
DISK FRAGMENT ENERGY ABSORPTION AND CONTAINMENT MEANS
Edward A. Rothman, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 2, 1964, Ser. No. 356,848
3 Claims. (Cl. 74—609)

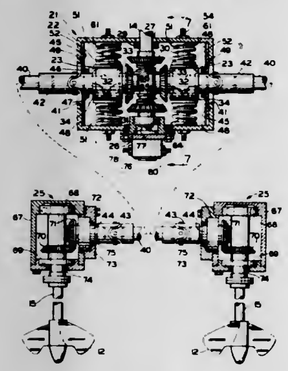
1. In a rotating machine having a rotating member, said member carrying an element adapted to separate therefrom when subjected to a predetermined load, means for restraining and containing said element when it has become disassociated from said rotating member comprising an annular member surrounding and lying in the plane of rotation of said rotating member, a plurality of annular grooves in said annular member di-

mensioned to extend in depth a distance defined by the dimension of said element, said grooves extending in width a distance spanning said element to define a chan-



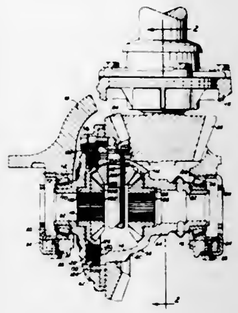
nel to contain said disassociated element when spent upon by removal of the material between said annular grooves by said disassociated element.

3,261,229
PROPULSION SYSTEM FOR A BOAT
Russell A. Thomas, 406 Voeiler Ave., Grove City, Ohio, and Dallas P. Graham, 2566 Wickliffe, Columbus, Ohio
Filed June 27, 1963, Ser. No. 291,086
3 Claims. (Cl. 74—665)



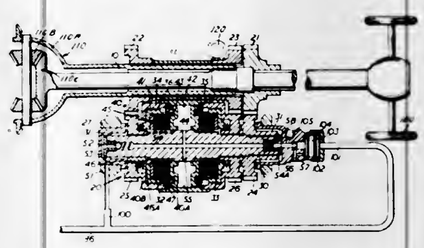
1. A mechanical-drive coupling apparatus comprising an input drive shaft, at least two independent power output shafts, and a coupling apparatus interposed between said input drive shaft and said output shafts for independently connecting each of said output shafts to said input drive shaft, said coupling apparatus including a pair of bevel gears fixed on said input drive shaft in spaced apart relationship, a pair of shaft members rotatably supported normal to said drive shaft and which are each mechanically connected to a respective one of said output shafts and are each provided with a bevel gear adapted to cooperatively intermesh with said first mentioned bevel gears carried by said input drive shaft, each of said shaft members being supported for displacement along the axis of said input drive shaft to bring the respective bevel gear into meshing engagement with the selected drive shaft bevel gear, and means connected with each of said shaft members operative to selectively and independently engage the respective bevel gear with the desired drive shaft gear.

3,261,230
LOCKING DIFFERENTIAL TRANSMISSION
William Edward Rudnicki, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Aug. 22, 1963, Ser. No. 303,786
7 Claims. (Cl. 74—710.5)



1. In a geared differential assembly having a power input shaft and two output shafts, gear elements forming a driving connection between said input shaft and each of said output shafts, a friction clutch assembly comprising a driving member connected to one gear element, a driven member connected to another gear element, a first friction clutch element carried by said driving member, a second friction clutch element carried by said driven member, and spring means for urging said friction clutch elements into clutching engagement, said spring means comprising an annular dished spring element, one periphery of said spring element being anchored and the other being adapted to apply a force to one of said clutch elements, said spring element comprising bi-metallic portions with one portion having a coefficient of thermal expansion that differs from the corresponding coefficient of the other portion whereby the spring force applied by said spring element is changed in response to a temperature build-up due to slipping of the clutch elements under load.

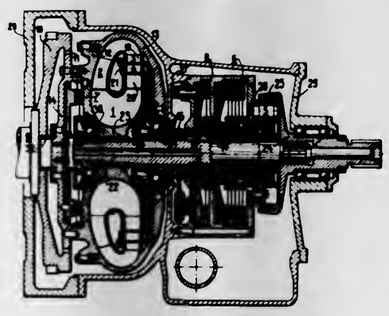
3,261,231
MOTOR VEHICLE TRANSMISSION MECHANISM
Claude Hill, Kenilworth, England, assignor to Harry Ferguson Research Limited, "Abbotswood," Stow-on-the-Wold, England, a British company
Filed Aug. 21, 1962, Ser. No. 218,267
Claims priority, application Great Britain, Aug. 22, 1961, 30,185/61
10 Claims. (Cl. 74—711)



1. A controlled differential gear mechanism in a motor vehicle transmission mechanism of the type stated in combination with control means including a hydraulic clutch device connected with components of the differential gear;

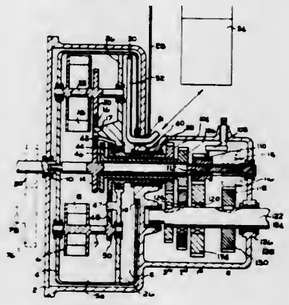
a hydraulic pump having a driving connection with a roadwheel of the vehicle, conduit means connecting the pump and hydraulic device, a valve assembly through which liquid from the pump is supplied to the hydraulic clutch device and is exhausted therefrom, conduit means connecting the pump and valve assembly, alternatively, and a member which is included in said driving connection and is displaceable by the reaction to the pumping action, such displacement causing opening of said valve assembly to supply and closed to exhaust, said member being returnable on cessation of the forward drive from the roadwheel to a position connecting exhaust to the hydraulic clutch device.

3,261,232
POWER TRANSMISSION DEVICE
Karl Gustav Ahlén, Fridhemsgatan 2, Stockholm, Sweden
Continuation of application Ser. No. 741,208, June 9, 1958. This application Apr. 27, 1964, Ser. No. 365,555
3 Claims. (Cl. 74—732)



1. A power transmission and braking device for connecting a driving shaft and a driven shaft, said device comprising a rotationally stationary structure, a hydrodynamic torque converter having a rotatably mounted housing connected to and rotated by said driving shaft, said housing providing a hydraulic circuit having a first section in which the flow of the working liquid is substantially radially outward, a second section in which the flow of said liquid is substantially radially inward and radially inner and outer return bend sections connecting said first and said second sections, said converter comprising a pump member comprised of at least one ring of pump blades carried by said housing and located in said first section of said circuit, a turbine member freely rotatable with respect to said housing and comprising a blade carrying part carrying at least two rings of turbine blades located in said circuit and a shaft part co-axial with said housing for delivering power to said driven shaft, a reaction member freely rotatable with respect to said housing and comprising a hollow shaft part rotatably mounted concentrically around the shaft part of said turbine member and a blade carrying part carrying one or more rings of reaction blades each located in said second section of said circuit and further being located between two rings of turbine blades so that the last ring of turbine blades is located between the outlet of a ring of reaction blades and the inlet of a ring of pump blades, means including gearing connecting the shaft parts of said turbine and reaction members for power transmission therebetween in either direction, said means further including releasable braking means for anchoring an element of said gearing to said stationary structure and said gearing being constructed to impose rotation in opposite directions on said shaft parts when said braking means is engaged, and clutch means located on the power input side of said housing providing a mechanical power transmitting connecting between said driving and driven shafts, said clutch means and said braking means being selectively operable, whereby to permit selective engagement of either one of said means or simultaneous engagement of both.

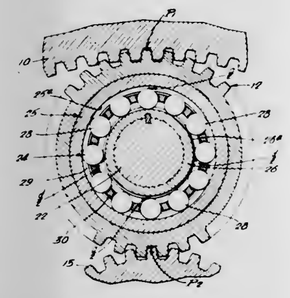
3,261,233
INERTIA FLUID TORQUE TRANSMITTER
Hendrik Cancrinus, Hazendal, Cape Town, Republic of South Africa, assignor to Inpower Works (Proprietary) Limited, a company incorporated of South-West Africa
Filed June 25, 1962, Ser. No. 204,711
Claims priority, application Republic of South Africa, July 3, 1961, R 61/478
20 Claims. (Cl. 74—774)



1. A torque transmitter which includes
(a) a carrier in the form of a drum adapted to contain hydraulic fluid and mounted to rotate about its axis;
(b) means for connecting the carrier to a source of rotary power;
(c) at least two sets of liquid retainer wheels in the drum, each liquid retainer wheel having a plurality of retainers spaced about its axis and being mounted on the carrier to rotate about its own axis which is spaced away from the carrier axis;
(d) for each set of liquid retainer wheels, a sun wheel co-axial with the carrier axis and mounted to rotate about its axis relatively to the carrier;
(e) for each sun wheel an output shaft fast and co-axial with the sun wheel, the several sun wheels and output shafts being coaxial;
(f) drive connecting means connecting each sun wheel with its set of associated retainer wheels for the transmission of torque between the said liquid retainer wheels and the said sun wheel, the drive connecting means and liquid retainer wheels being mounted in dynamic balance about the carrier axis; and
(g) control means to control the disposition of hydraulic fluid in the drum independently for each set of liquid retainer wheels, the fluid being flung out under the action of centrifugal force during rotation of the drum about its axis;

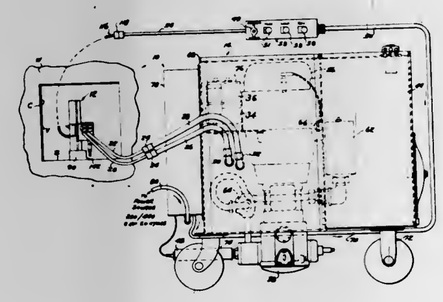
whereby, during rotation of the drum about its axis and of the liquid retainer wheels about their axes relatively to the drum, the retainers of the liquid retainer wheels are adapted to pass through the annular layer of liquid in the drum and to receive liquid into them from a region in the drum on the remote side of the liquid retainer wheel axis relative to the drum axis and to retain liquid in them under the action of centrifugal force and to reject retained liquid on the near side of the liquid retainer wheel axis relative to the drum axis; and whereby the sets of liquid retainer wheels are adapted to generate torque about their axes, the generation of torque by the sets of liquid retainer wheels being controllable for each set independently by means of the control means, by controlling the disposition of the fluid in the drum relatively to the sets of liquid retainer wheels.

3,261,234
TRANSMISSION BEARING
John L. Broschard and Tedric A. Harris, Warminster, Pa., assignors to SKF Industries, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Nov. 6, 1963, Ser. No. 321,887
11 Claims. (Cl. 74—801)



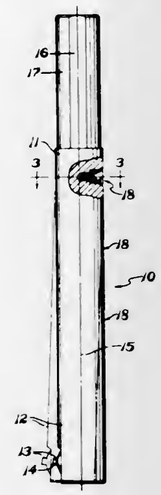
9. A planet gear reduction system comprising a ring gear, a sun gear, a plurality of planet gears, each of said planet gears meshing with said sun and ring gears at least at two circumferentially spaced points, a planet carrier and a bearing assembly supporting each of said planet gears on said carrier including an inner ring fixed to the planet carrier, an outer ring mounted in the planet gear and a plurality of rolling elements in the annular space between the raceways of the rings, the raceway of said inner ring being out of round and disposed relative to said circumferentially spaced points of engagement between said planet gear and said ring and sun gears respectively to provide a maximum clearance between the rolling elements and the raceways at said circumferentially spaced points of engagement between the planet gear and the ring and sun gears.

3,261,235
PORTABLE ROTARY MACHINING APPLIANCE AND APPARATUS
Ferdinand J. Henkel, Birmingham, Mich., assignor to Lamina, Inc., Berkley, Mich., a corporation of Michigan
Filed Dec. 3, 1963, Ser. No. 327,656
10 Claims. (Cl. 77—7)



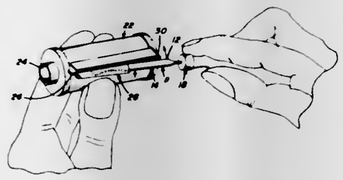
1. A compact portable work-gripping rotary machining appliance, comprising
a supporting frame having a hollow base and an upright with an elongated guideway thereon,
a work-gripping electromagnet within said base having a magnetic gripping face disposed approximately flush with the bottom of said base,
means for selectively energizing said electromagnet into work-gripping condition,
a carriage slidably mounted on said upright in guided engagement with said guideway,
a hydraulic rotary motor on said carriage having a rotary output shaft with its axis parallel to said guideway,
a rotary machining tool holder operatively connected to said output shaft in driven relationship therewith,
feeding mechanism interposed between said carriage and said upright for moving said carriage relati ely to said guideway in tool-holder-feeding motion relatively to said base,
means for supplying hydraulic pressure to said motor, and
spacing elements of non-magnetic material mounted in the bottom of said base and projecting outwardly therefrom in residual magnetism-breaking relationship to said gripping face of said electromagnet.

3,261,236
CUTTING TOOL AND METHOD OF CUTTING
Frank A. Flannery, 1875 Brookshire Road, Akron, Ohio
Filed Mar. 8, 1965, Ser. No. 437,862
10 Claims. (Cl. 77—58)



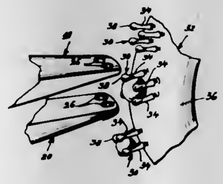
1. A micrometrically adjustable cutting tool which comprises a supporting member having a cutting element mounted in its distal end, said cutting element having a cutting edge projecting transversely beyond the exterior surface of said supporting member, said supporting member having an opening extending into said supporting member and positioned between said cutting element mounted in the distal end of the supporting member and the proximal end of the supporting member, said opening being positioned on the opposite side of the supporting member from the cutting tip of said cutting element, and tapered means inserted small-end first into said opening, the maximum width of said tapered means being greater than the minimum width of said opening whereby as the tapered means is forced into said opening beyond a snug fit position a wedging force is created that tends to bend the supporting member and that causes the distal end of the supporting member to deflect transversely of the normal longitudinal axis of the supporting member when the proximal end of the supporting member is rigidly fixed, said opening being of sufficient depth to allow said tapered means to be forced into said opening to a sufficient depth before bottoming in said opening to effect a desired degree of deflection of the distal end of the supporting member.

3,261,237
FILM MAGAZINE LEADER RETRIEVING METHOD
Harold J. Sentiff, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Sept. 15, 1964, Ser. No. 396,493
4 Claims. (Cl. 81—3)



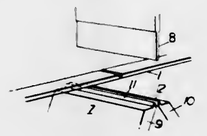
1. The method of removing a film leader from within a film magazine, wherein the magazine has a longitudinally extending slot along one side parallel with the axis of the roll of film within the magazine and defining a film passageway, the width of the film passageway being greater than the width of the film leader, the steps of:
inserting the free end portion of the length of a flat, narrow, dull-edged blade through said film passageway;
engaging one edge of said blade against the adjacent end of said slot;
swinging said blade free end portion inwardly toward the center of the length of the magazine pivoting said one blade edge against said adjacent end of the slot until said free end portion of the blade slips beneath and between a portion of said film leader and the adjacent convolution of film; and
continuing the pivoting of the blade back through and out of said film passageway pulling outwardly on the blade and bringing with the blade a portion of said film leader folded about said blade.

3,261,238
FACET SETTING TOOL
Mack M. Amerling, 1560 Ocean Parkway, Brooklyn, N.Y.
Filed June 15, 1964, Ser. No. 375,120
3 Claims. (Cl. 81—7)



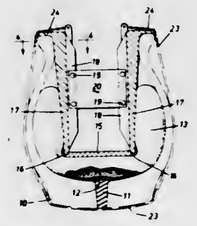
1. Pliers of the character described comprising pivoted jaws of duplicate construction, each jaw having a tapered body coming to a pointed end with a solid flat inner surface and a curved outer surface, said pointed end having a pair of closely spaced holes extending therethrough from top to bottom, the inner ends of the holes being tapered so that said inner ends are larger than the outer ends.

3,261,239
METHOD AND ARRANGEMENT FOR BARING ELECTRIC RIBBON CABLES
Hugo Moons and Paul Maria Pieter De Hous, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed June 10, 1963, Ser. No. 286,719
Claims priority, application Netherlands, June 29, 1962, 280,312
11 Claims. (Cl. 81—9.51)



6. A method for baring electric ribbon cables having a plurality of conductors disposed in a plane within insulating material comprising the steps of:
applying heat to one side of the cable;
forcing the insulating material away from one side of the cable to the opposite side within the confines of the cable to bare a portion of the conductors on said one side;
applying heat to the opposite side of said cable;
forcing the insulating material from around the conductors to said opposite side; and
removing all the insulating material from said opposite side.

3,261,240
APPARATUS FOR TIRE REPAIR
George Herman, 273 Ellerslie Ave., Willowdale, Ontario, Canada, and John J. Schorscher, R.R. 1, Downsview, Ontario, Canada
Filed Aug. 17, 1964, Ser. No. 389,928
Claims priority, application Great Britain, Mar. 18, 1964, 11,466/64
4 Claims. (Cl. 81—15.2)

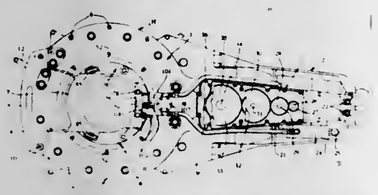


1. Apparatus for applying pressure to a patch adhering to an inner wall of a tire comprising an inflatable bag positioned in said tire and bearing against said patch, a pair of opposed plates, means swivably locating said plates in said tire with their lower ends transmitting pressure against said bag, a flange secured to the upper end of each plate and adapted to extend over the adjacent edge of the wall of said tire and means for limiting the upward movement of said plates on inflation of said bag with the outer surface of each plate being arcuately contoured adjacent said flange to provide substantially point contact with the adjacent edges of said tire wall.

3,261,241
POWER PIPE TONGS

Alfred C. Catland, Alhambra, Calif., assignor, by mesne assignments, to Byron Jackson, Inc., Long Beach, Calif., a corporation of Delaware

Continuation of application Ser. No. 203,872, June 20, 1962. This application Feb. 17, 1965, Ser. No. 438,172
5 Claims. (Cl. 81—57)



1. A power tong for rotating a pipe comprising:

a frame having a central pipe opening and a throat leading to said central pipe opening,

a pair of relatively rotatable rings comprising an outer ring and an inner ring disposed in said pipe opening, each of said rotatable rings having side pipe openings so that a pipe may enter said side pipe opening and said throat to said central pipe opening,

power transmission means for rotatably driving said outer ring in either direction,

pipe gripping means on said inner ring including a plurality of radially movable, angularly spaced die means, jaw means pivotally supporting each of said radially movable die means for swinging movements toward and away from said central pipe opening, and cooperative camming means on said jaw means and on said outer ring for camming said jaw means toward said central pipe opening upon rotation of said outer ring in either direction from an intermediate position with respect to said inner ring,

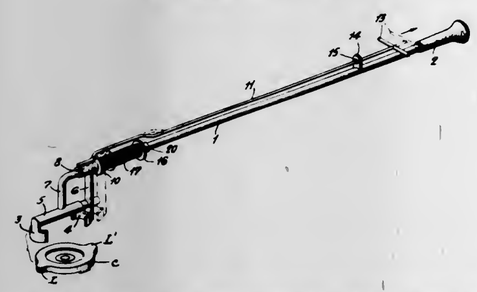
means for moving said jaw means away from said central pipe opening when said outer ring is moved towards said intermediate position with respect to said inner ring, and

inner ring positioning means mounted on said outer ring and engageable with said inner ring for limiting relative rotative movement of said rings when said outer ring is rotated to said intermediate position with respect to said inner ring to position said rings so that said side openings are aligned to allow a pipe to be moved laterally through said side openings.

3,261,242
RADIATOR CAP REMOVING TOOL

Allen D. Peters, Bel Air, Md., assignor of one-half to Shirley T. Peters, Bel Air, Md.

Filed May 5, 1965, Ser. No. 453,329
6 Claims. (Cl. 81—90)

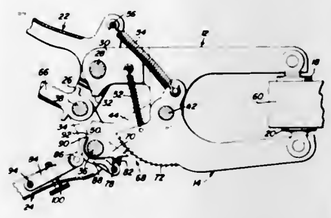


1. A radiator cap removing tool comprising an elongated handle having a hand-grip at one end thereof and a pair of diametrally opposed relatively movable jaws at the opposite end thereof for selectively engaging and disengaging the opposed radial lugs of a radiator cap, a guide member formed integrally with said handle and extending parallel thereto at said last-mentioned end with one of said jaws projecting downwardly from said guide member at the outermost end thereof, a movable arm for supporting a second jaw slidably mounted on said handle to dispose said second jaw on the same level as said one jaw and provided with a second guide member adjacent to said first guide member and arranged for relative reciprocating movement therewith, spring means mounted on said handle for urging said arm and movable jaw affixed thereto towards said one jaw, and an actuator rod extending from said arm and terminating adjacent to said hand-grip for moving said arm against the bias of said spring to separate the jaws from each other.

3,261,243
TOGGLE CLAMP HAVING A LOCK MECHANISM ENGAGEABLE AS AN OVER-CENTER POSITION IS APPROACHED

Wallace D. Ellison, 3116 Glendon Ave., West Los Angeles, Calif.

Filed Sept. 18, 1964, Ser. No. 397,458
7 Claims. (Cl. 81—351)



1. A clamping device comprising, a pair of work engaging jaws, a jaw pivot interconnecting said jaws, a clamp opening spring interconnecting said jaws, a pair of handles having toggle link pins secured thereto, a toggle joint pivotally interconnecting said handles between the link pins, one of said jaws being pivotally connected to one of the handles by the link pin thereon, a rigid link member pivotally connected between the link pin of the other of said handles and the jaw pivot, yieldable link means interconnected between the other of said jaws and said one of the handles for resisting displacement of the toggle joint toward an over-center position between the link pins after the jaws engage a workpiece, clamp regulating lock means mounted on the link member for rigid interconnection thereof to the other of said jaws after engagement of the workpiece and clamp adjusting release means mounted on link member and the other of said handles for holding the lock means disengaged until the toggle joint approaches said over-center position.

3,261,244
SPRING ATTACHMENT FOR PIVOTALLY CONNECTED LEVERS

William Smoyak and Richard Hutchinson, both of 34 Lillian St., Fords, N.J.

Filed Feb. 12, 1964, Ser. No. 344,434
6 Claims. (Cl. 81—417)

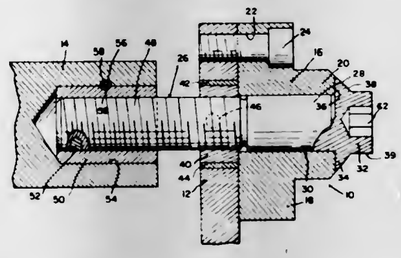
1. In combination with pliers of the type including a pair of crossed levers pivotally connected together intermediate their end portions for relative rotation about an axis extending transversely of said levers, said levers including two pairs of corresponding end portions disposed on opposite sides of said axis, one pair of corresponding end portions defining jaw members and the other pair handle members, and spring means supported from said pliers releasably engageable either with one of said corresponding pairs of end portions or with one of the end portions of each of said pairs of corresponding end portions disposed on opposite sides of said axis.



3,261,245
PRECISION ADJUSTMENT TOOL MOUNTING UNIT

Norman E. Rank, 3062 Middleton Court, Birmingham, Mich., and Walter F. Mott, 23142 Rosedale Court, St. Clair Shores, Mich.

Filed Mar. 16, 1964, Ser. No. 351,973
6 Claims. (Cl. 82—36)



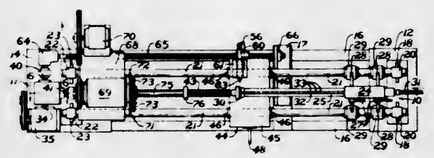
1. A precision adjustment mounting unit for a tool or like holder, comprising a relatively fixed support member, a body having means to mount the same in axially and rotatively fixed relation to said relatively fixed support member, said body having a bore therethrough, an adjustment stem rotatively mounted in said bore and provided with a radially enlarged end formation in rotative and axially abutting engagement wtih an end of said body outwardly of said bore, a bearing and retainer member separate from said body, said retainer member being journaled on said support member and coacting with said stem end formation and said support member in restraining the stem from axial movement in said bore and in providing a rotative bearing for the stem in the support member, said retainer member being fixedly secured to said stem on the end of said body opposite said stem head formation, and being in axially abutting and rotatable engagement with said opposite body end said stem having an axially elongated fine thread formed thereon, and an adapter member surrounding said stem, one of said support and adapter members being threadedly engaged by said stem thread for the axial adjustment of said adapter member upon rotation of said stem.

3,261,246
GASKET CUTTING MACHINE

Mathew Kuts, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed May 25, 1964, Ser. No. 370,007
11 Claims. (Cl. 82—101)

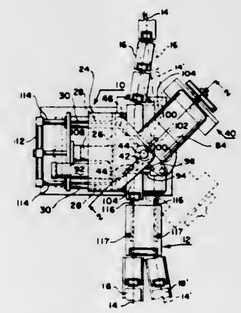
1. A tube cutting machine, comprising spaced end supporting means for supporting an elongated tubular stock having a longitudinal center line, means for releasably clamping one end of the stock, means for rotating said stock, a cutter mounted laterally of the longitudinal center line for transverse movement toward and away from said center line, and means operatively connected to one of said end supporting means and said cutter for incrementally moving said one supporting means and said cutter in a longitudinal direction parallel to said center line in timed relationship to said transverse movement of said cutter whereby said one end supporting means supports the stick closely adjacent the cut made thereon by said cutter.



3,261,247
CONTINUOUS RUNNING BAR SWITCHING AND CUTOFF APPARATUS

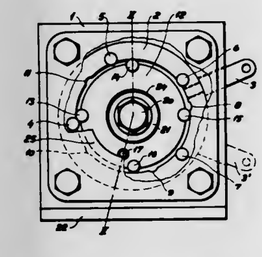
John W. Nargang, Lafayette, and Arthur D. Smith, also known as A. Dean Smith, San Lorenzo, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed June 8, 1964, Ser. No. 373,437
12 Claims. (Cl. 83—106)



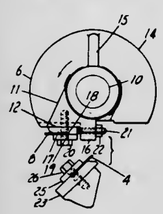
1. An apparatus for selectively switching and moving a continuously advancing rod web or the like through a cutting means so as to orient the renewed leading edge of the rod web from which a selected length of rod is cut during movement of the rod web through said cutting means into a preselected delivery chute, comprising the combination of a frame, a cutting means, rod web guide means for receiving said rod web mounted on said frame, means pivotally mounting said cutting means relative to said rod web guide means, means for effecting reciprocating movement of said guide means relative to the cutting plane of said cutting means, said guide means being adapted upon the movement thereof in either direction to move the rod web and to pass the rod web through said cutting means and effect a separation of a length of rod from the said rod web, rod web confining means associated with said cutting means and a portion of said confining means being movably mounted for adjustment in accordance with the pivotal movement of the cutting means, and a plurality of delivery chutes one of which is adapted to selectively receive a renewed leading edge of the rod web produced by said cutting means.

3,261,248
TUBE AND PIPE SHEARING APPARATUS
Henrik Jespersen, Gadestaevnet 1, Copenhagen Hvidovre, Denmark
Filed Sept. 22, 1965, Ser. No. 489,256
Claims priority, application Denmark, Sept. 26, 1964, 4,747/64
4 Claims. (Cl. 83—186)



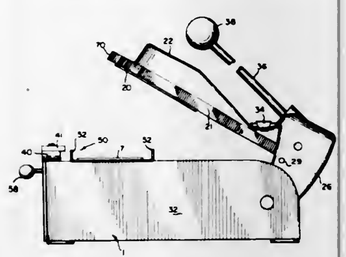
1. A tube and pipe shearing apparatus comprising a fixed and a displaceable circular knife, said knives being coaxially positioned and closely contacting each other, both knives being adapted to tightly enclose a tube or pipe to be sheared, the displaceable knife being so mounted relatively to the fixed knife that it can be displaced relatively thereto along the contacting surfaces of the knives and wherein the displaceable knife is mounted in a guide ring by means of four primary cams projecting from the displaceable knife into a circular space between the guide ring and the displaceable knife, the primary cams being interspaced by an angular distance of 90°, said primary cams cooperating with at least two secondary cams disposed on the guide ring and projecting into said space, the secondary cams being interspaced by an angular distance less than 90°, the guide ring being further provided with notches in the interior cylindrical surface thereof, said notches being positioned diametrically in relation to said secondary cams, the guide ring being adapted to be turned coaxially with the fixed knife.

3,261,249
WEB CUTTING ASSEMBLY WITH ROTATING CUTTING BLADE
Ronald Holt, Battle Creek, Mich., assignor to Battle Creek Packaging Machines, Inc., Battle Creek, Mich.
Filed Oct. 14, 1963, Ser. No. 316,050
11 Claims. (Cl. 83—341)



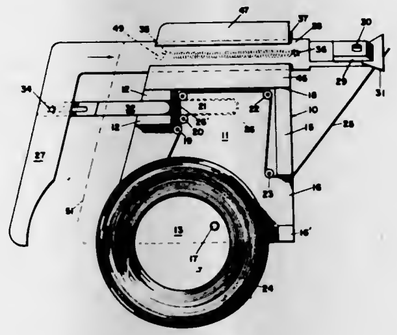
1. A cut-off assembly for cutting traveling webs of synthetic film material comprising,
a rotating carrier having segmental arcuate ribs spaced therealong with a flat abutment surface arranged chordally therebetwen and at a longitudinal angle of the order of one quarter of a degree with respect to the axis of rotation of the carrier,
an abutment projecting from said chordal surface and spaced from the edge of the surface,
a rigid backing strip lapped against said chordal surface and within the cylinder of rotation of the edge of said surface and having an outwardly facing shoulder angled slightly longitudinally relative to the axis of the carrier,
a rotating blade of relatively thin and flexible spring steel lapped upon said backing strip with its inner edge abutting said shoulder and with a straight outer edge projecting beyond the cylinder of rotation of said carrier at an equal distance at each end of the carrier,
a cap plate lapped upon said blade in inwardly spaced relation to the outer edge of the blade,
clamp screws passed freely through said blade and said backing strip and clamping the same to said chordal surface,
adjusting screws engaged through said abutment and bearing adjustably against the inner edge of said backing strip,
a fixed abutment extending longitudinally in spaced relation to said carrier,
a second rigid backing strip lapped against said fixed abutment,
a fixed blade of relatively thin flexible spring steel lapped against said second backing strip,
a second cap plate lapped against said fixed blade,
screws clamping said second cap plate and fixed blade to said fixed abutment with the outer edge of the fixed blade extending parallel to the axis of rotation of said carrier and approximately in the cylinder of rotation of the longitudinally angled edge of said rotating blade whereby said rotating blade first makes a wiping edge to edge contact with said fixed blade at the lowest most angularly advanced end and slips progressively thereover by rotation of said rotating blade,
and means for delivering a web to be cut to between said carrier and said fixed blade.

3,261,250
CUTTING DEVICE WITH ANVIL PRESSER BEING PIVOTALLY ARRANGED AT BOTH ENDS
Samuel T. Parks and Leon E. Levasseur, Holliston, Mass., assignors to Cardiosonics Medical Instruments Corporation, Belmont, Mass., a corporation of Massachusetts
Filed July 7, 1964, Ser. No. 384,020
24 Claims. (Cl. 83—557)



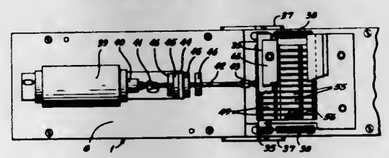
1. A cutting device for cutting segments from a sheet comprising,
means forming a cutting edge,
a platen having a surface against which said edge may be pressed to cut a sheet placed therebetween,
means normally supporting said platen with said surface in spaced relation to said edge,
means spaced from said supporting means for securing one portion of said platen in said relation, and
means for pivoting said platen about said secured portion toward said edge whereby sheets positioned between said edge and surface will be cut therebetween.

3,261,251
TAPING GUN
Colman J. Seman, 1409 Spring Lake Drive, Erie, Pa.
Filed Feb. 15, 1965, Ser. No. 432,758
6 Claims. (Cl. 83—649)



1. A tape dispenser comprising
a frame,
said frame having a handle slide reciprocably mounted therein and extending out two opposite sides of said frame and terminating in a first end and a second end,
a knife on said first end of said handle slide and a handle on said second end of said handle slide,
said handle extending at an angle to said handle slide and along one side of said frame and spaced therefrom,
means to support a roll of tape on said frame,
spaced guide rollers extending laterally from said frame and adapted to support a bight portion of tape from said roll thereon,
a frame clamp block extending laterally from said frame,
a loop plunger supported on said handle and adapted to move between said spaced guide rollers and to engage said bight portion,
a cover plate on said frame,
pivot means swingably supporting said cover plate on said frame,
cover clamp block fixed to said cover plate and adapted to swing toward said clamp block,
a finger engaging handle fixed to said cover plate,
and spring means urging said cover plate away from said frame.

3,261,252
STOP COMBINATION SELECTOR FOR ORGANS
Gilbert Lemieux, La Providence, Quebec, Canada, assignor to Casavant Freres Limitee, St. Hyacinthe, Quebec, Canada
Filed Apr. 5, 1965, Ser. No. 445,578
6 Claims. (Cl. 84—344)



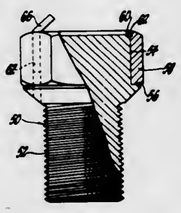
1. A mechanism for selectively axially displacing any one of an assembly of elongated blades disposed side by side and mounted for independent axial movement from a limit position and provided with spring return means urging said blades into said limit position, said blades each having a notch made in a longitudinal edge thereof, said mechanism comprising a yoke member straddling said assembly and pivotally supported at each side thereof, electric power means operable to pivot said yoke member in one direction, spring return means urging pivotal movement of said yoke member into the opposite direction for said yoke member to take a limit position, an assembly of hook members, one for each blade, pivotally mounted on said yoke member, above said blade and each extending in the plane of the associated blade for pivotal movement between a blade notch hooking position and a blade notch releasing position, an abutment member on said yoke member engageable with said hook members in the limit position of said yoke member to maintain said hook members in their hooking position, stationarily mounted electro-magnets each associated with one hook member, each hook member having a portion made of paramagnetic material attracted by the associated electro-magnet upon energization of the latter, so as to maintain said hook member in hooking position, both when said yoke member is in said limit position and when moving away from said limit position under action of said power means, and spring means associated with said hook members urging pivotal movement of said hook members into blade notch releasing position and non-effective against the attraction exerted by said electro-magnets.

3,261,253
PERCUSSION INSTRUMENTS
Solomon P. Ulano, 968 E. Lawn Drive, Teaneck, N.J.
Filed Dec. 17, 1964, Ser. No. 419,042
4 Claims. (Cl. 84—411)



1. A percussion instrument comprising a thin vibratory member, a shock absorbing pad fixed to one side of the thin vibratory member, at least a pair of metal sounding members fixed to the other isde of the thin vibratory member, and means for supporting the thin vibratory member with the metal sounding members depending downward therefrom.

3,261,254
TAMPER-PROOF FASTENER
Robert H. Pinkerton, 507 Woodcrest Drive, Royal Oak, Mich.
Filed Oct. 16, 1963, Ser. No. 316,736
3 Claims. (Cl. 85—9)



1. A tamper-proof fastener, comprising;
a member having an outer cylindrical surface provided near one end thereof and including an annular shoulder provided thereon and means for forming a second annular shoulder in spaced relation thereto,

a hexagonal surfaced collar member including a bore receptive of the surfaced end of said member therewithin and for rotatable engagement and positive location on said member between said shoulders,

a key slot cooperatively formed in the respectively adjacent surfaces of said surfaced end and said collar member and extending through said shoulders and being open at both the top and underside thereof,

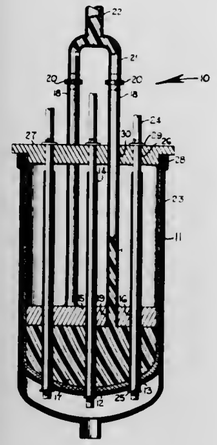
said key slot being aligned with a corner of the hexagon of said collar member and including an abutment shoulder extending transversely of the bore in said collar member,

the key slot in said surfaced end including an opposed abutment shoulder extending transversely of the axis thereof,

a shear resistant key removably receptive in said key slot between said abutment shoulders for locking said members against relative rotation therebetween,

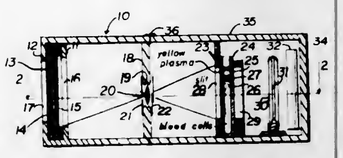
and said key having an end thereof angularly disposed apart from the rest thereof and radially inwardly of said collar.

3,261,255
CASTING APPARATUS FOR SOLID PROPELLANT ROCKET MOTORS
Robert L. Glick and Leonard H. Caveny, Huntsville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed Nov. 16, 1964, Ser. No. 411,448
1 Claim. (Cl. 86—20)



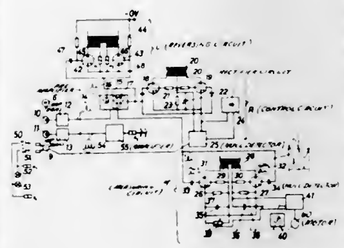
An apparatus for casting a solid propellant mix into a rocket motor case having longitudinally-extending tubes therein comprising a positioning plate having relatively-spaced openings therein to receive the tubes, supply lines connected to said positioning plate to cast the solid propellant mix in the motor case, a concavo-convex header plate integral with said rocket motor case adjacent the head end thereof, said concavo-convex header plate having relatively-spaced openings therein to receive the inner ends of said tubes, a circular header plate having an integral reduced portion thereon that is positioned in the aft end of said rocket motor case, said circular header plate having relatively-spaced openings therein to receive said supply lines, tensioning wires extending through said tubes and said header plates for maintaining the geometrical stability of said tubes, and quick detachable clips connected to the opposite ends of said tensioning wires for maintaining the tension thereof.

3,261,256
SEDIMENTATION RATE TESTER
Arthur R. Morton, Jr., 1242 Madrid Road, Santa Fe, N. Mex.
Filed Sept. 14, 1962, Ser. No. 223,781
1 Claim. (Cl. 88—14)



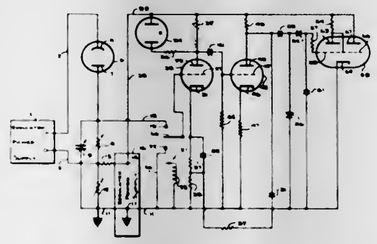
A sedimentation rate determining device which comprises a case, a lamp-house compartment at one end of the case, a photographic-medium holder at the other end of the case, a vertical blood sample tube holder of heat insulation material in the case with a vertical light slit positioned to transmit to the photographic-medium light which has passed through the sample tube, means for successively and at a constant rate moving the photographic-medium with respect to light from the sample tube, means including a lens interposed in a wall between the sample tube and the photographic medium for focusing the light slit sharply as a line on said photographic medium, and means for illuminating the sample tube at time intervals, whereby the photographic-medium when developed will show a substantially continuous line dividing areas of different shades, which line is an accurate delineation of the rate of sedimentation.

3,261,257
RADIATION PYROMETER FOR MEASURING THE COLOR TEMPERATURE
Marcel Charles Pfister, 2 Rue de Pres, Eckbolsheim, near Strasbourg, France
Filed Oct. 10, 1961, Ser. No. 144,157
16 Claims. (Cl. 88—22.5)



1. A radiation pyrometer for measuring the color temperature of a radiating body by determining the ratio of the intensities of the beam at two different wave lengths which comprises optical scanning means to sweep a viewed spot across a visual field including said body with said spot always being smaller than a swept dimension of the body, a pair of optical filters each having a different wave length transmission range, said filters and said scanning means being so arranged that said scanning means directs the beam from the viewed spot alternately through said filters, radiation detecting means and means for directing the beam passing through both of said filters onto said radiation detecting means to produce electrical pulses having a characteristic which varies in proportion to the variation in intensity of the radiation as the viewed spot traverses the visual field which characteristic varies from a minimum to a peak value as said body is traversed and then again to a minimum with the radiation passing through one filter and varies between minimums and a second peak value with the radiation passing through the other filter, and electrical quotient computing means connected to said radiation detecting means for determining the ratio of said peak values to determine the relative intensities of the beams emanating from said filters to indicate the maximum color temperature of said body.

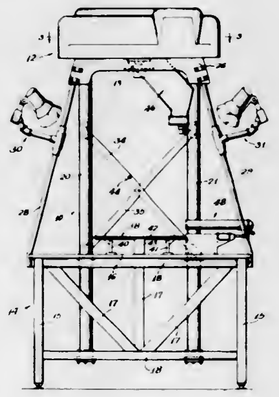
3,261,258
PHOTOMETRIC DEVICE
Paul P. Bey, 5709 Abbott Drive, Washington 21, D.C., and Herbert Rabin, 2935 Kanawha St. NW., Washington 15, D.C.
Continuation of application Ser. No. 96,930, Mar. 20, 1961. This application Nov. 13, 1964, Ser. No. 412,587
10 Claims. (Cl. 88—23)



1. A photometric device in which a first resistive means is to have its resistive value varied in inverse proportion to a light flux to be varied comprising a first series circuit including said first resistive means, a first source of constant voltage and a photosensitive device all connected in series with one another, said photosensitive device being of a type which maintains a constant current in said first circuit with variations in the resistive value of said first resistive means and which varies the current therein as a function of changes in light flux falling on said photosensitive device, a second series circuit including second and third resistive means and a second source of substantially constant voltage all connected in series with one another, one of said second and third resistive means being variable, said first and second circuits being connected together at only one point; a high impedance measuring device connected between a location in each of said circuits remote from said point of connection, one of said variable resistive means of each of said circuits lying between each said location and said point of connection, said locations having the same polarities relative to said point of connection; said sources of voltage and said resistive means being such that the total voltage between said locations may be made equal to zero; and means for adjusting at least said first resistive means to adjust said total voltage to zero in the presence of the light flux to be measured whereby the value of said first resistive means varies in inverse proportion to the light flux to be measured.

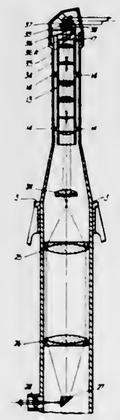
3,261,259
MICROPHOTOGRAPHIC APPARATUS
Alexander L. Baptie, La Crosse, and Lyle G. Miles, West Salem, Wis., assignors to The Microcard Corporation, West Salem, Wis., a corporation of Wisconsin
Filed Nov. 12, 1963, Ser. No. 322,707
11 Claims. (Cl. 88—24)

1. A microphotographic device for exposing a plurality of pages of copy in a predetermined orderly arrangement on a panel of photosensitive film comprising, in combination, frame structure, means for maintaining copy to be photographed in a first plane on said frame structure, camera means for sequentially photographing the pages of copy, first carriage means supporting said camera means for longitudinal movement in a second plane parallel to and spaced from said first plane, second carriage means on said first carriage means supporting said camera means for transverse movement in a plane parallel to said first plane, indexing means for actuating said first carriage means including an advance drive motor for moving the



first carriage means incrementally and a return drive motor, indexing means for actuating said second carriage means in response to predetermined movement of said first carriage means including an advance drive motor for moving the second carriage means incrementally and a return drive motor, and means for moving said film incrementally in said camera means after a panel has been exposed to a predetermined number of pages of copy.

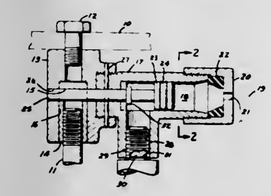
3,261,260
VIBRATION COMPENSATED OPTICAL VIEWING SYSTEM
John Martin Strang, Anniesland, Glasgow, Scotland, assignor to Barr & Stroud Limited, Anniesland, Glasgow, Great Britain, a British company
Filed May 10, 1956, Ser. No. 584,142
8 Claims. (Cl. 88—72)



1. An optical viewing instrument comprising an elongated casing having entrance and viewing ends, supporting means rigidly supporting said casing at a point intermediate said ends, said casing having a bendable

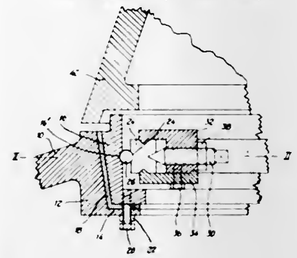
portion between said supporting means and said entrance end which is free and subject to bending, a telescope system having a plurality of optical elements supported within said casing in axially spaced relation including an ocular lens system mounted within said viewing end and an optical element at said entrance end for directing light rays toward said ocular lens system, said optical element including a noninverting correction system of optical elements forming a system of unit magnification mounted within said bendable portion of said casing for receiving image-forming light and transmitting emergent rays along a selected axis to said ocular lens system, said correction system comprising a plurality of axially spaced and aligned lenses, a substantially rigid elongated carrier member within said bendable casing portion supporting all of the optical elements of said correction system in rigid alignment with each other during bending of said bendable casing portion, and mounting means supporting said carrier member and correction system on said bendable casing portion and disposed at a plurality of axially spaced positions for tilting the carrier member and its supported optical elements as a unit relative to the normal axis thereof upon bending of said bendable casing portion to continuously substantially maintain the emergent rays from said correction system against angular movement relative to said selected axis.

3,261,261
SEPARABLE FASTENER ASSEMBLY
Clarence K. Brown, Long Beach, Calif., assignor to Hi-Shear Corporation, Torrance, Calif., a corporation of California
Continuation of application Ser. No. 162,718, Dec. 28, 1961. This application Mar. 9, 1965, Ser. No. 441,407
5 Claims. (Cl. 89—1)



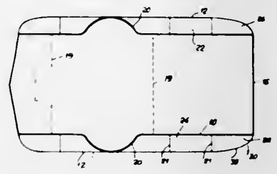
1. Apparatus for joining and accomplishing the separation of a pair of assemblies, comprising: a body having an internal cylinder; a piston slidably fitted in said cylinder; a rod attached to the piston and extending longitudinally therefrom; a port in said body disposed transverse to said cylinder, said rod being adapted to enter said port; attachment means on said body for attachment to one of said assemblies; engagement means on the other assembly adapted to enter said port to be releasably engaged by said rod, a shear pin seated in full bearing contact in and interconnecting the rod and body, and being so disposed and arranged as to hold them against relative axial movement until sheared by sufficient force applied to the piston to accomplish said shearing and cause said axial movement; and explosive means in fluid communication with the cylinder adapted to discharge gas under pressure, on the side of the piston adjacent to the end of the cylinder closer to said assemblies, thereby to push said piston and draw said rod completely free from the engagement means. the length of the cylinder being adequate to provide for sufficient rod movement to free the engagement means; a vented cap enclosing the other end of the cylinder; and a barrier of permanently deformable material, the barrier material being more easily permanently deformed than the material of the cap, said barrier being held in the path of said piston so as to dissipate kinetic energy of the piston in the substantially non-resilient deformation of the material of the barrier by the piston when the explosive means is fired and the cylinder thereafter strikes the barrier.

3,261,262
SUPPORTS OF TURRETS OF ARMORED CARS
Karl Erik Hilfing, Ornskoldsvik, and Bjorn Axel Henning Andersson, Gullanget, Sweden, assignors to Aktiebolaget Hagglund & Soner, Ornskoldsvik, Sweden, a corporation of Sweden
Filed Oct. 20, 1964, Ser. No. 405,198
Claims priority, application Sweden, Oct. 26, 1963, 11,801/63
10 Claims. (Cl. 89—36)



1. In an armored car having a roof and a turret, a turret-supporting rotary bearing ring having a peripheral groove, means connected with said roof and forming a horizontal groove opposed to the first-mentioned groove, balls located in the two grooves, said rotary bearing ring having a peripheral slit, a clamping device carried by said rotary bearing ring, and comprising an upper plate-like member and a lower plate-like member, said members engaging opposite surfaces of said rotary bearing ring, said slit being located in the center of the length of said members, and a wedge-shaped screw carried by said members and having a conical front end movable radially within said slit to vary the peripheral width of said slit and thus vary the diameter of said rotary bearing ring, whereby play of balls in the two grooves may be eliminated.

3,261,263
ARMORED VEHICLE
Karl Erik Hilfing, Ornskoldsvik, and Svante Wikland, Gullanget, Sweden, assignors to Aktiebolaget Hagglund & Soner, Ornskoldsvik, Sweden, a corporation of Sweden
Filed Oct. 20, 1964, Ser. No. 405,226
Claims priority, application Sweden, Oct. 25, 1963, 11,738/63
3 Claims. (Cl. 89—36)



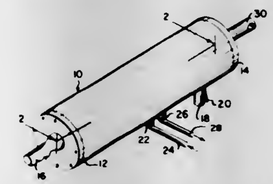
1. An armored vehicle, comprising an inner main armor, an outer forming armor surrounding said main armor and located at a distance from said main armor, said outer forming armor having a substantially smaller wall thickness than that of said inner main armor, said outer forming armor along with said inner main armor constituting a water-tight container, and bulkhead-like transverse walls separating the space between said main armor and said outer armor into a plurality of compartments.

3,261,264
GAS OPERATED FIREARM
Curtis L. Wilson, Box 1094, Sierra Vista, Ariz.
Filed Feb. 10, 1965, Ser. No. 431,746
3 Claims. (Cl. 89—193)



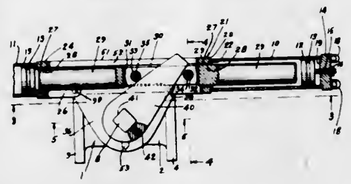
1. In combination with a firearm including a casing, a barrel having a longitudinal bore secured axially in said casing, there being a firing chamber in the breech end of said barrel and a means for feeding cartridges to said firing chamber; a bolt mechanism slidably mounted in said casing, said bolt mechanism having first and second areas therein, there being a series of ports in said barrel and being in communication with each said area whereby when a cartridge is fired from said firing chamber, gas pressure generated thereby will enter said first area to hold said bolt mechanism in a position to obturate said breech end of said barrel and then into said second area to move said breech mechanism to a recycling position.

3,261,265
FLUID MOTOR
Warren C. Welk, 2500 N. 6th St., Burbank, Calif.
Filed July 1, 1964, Ser. No. 379,512
8 Claims. (Cl. 91—313)



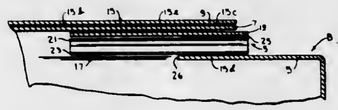
1. A fluid motor, as for driving a load with energy from a source of pressurized fluid, comprising:
a motor body defining first and second ported cylindrical cavities therein;
a first drive piston contained in said first cavity and a second drive piston contained in said second cavity;
means mechanically interconnecting said first and said second drive pistons;
a first valve means cooperating with said first ported cavity to alternately pressurize said first ported cavity from said source and relieve said first ported cavity, positioned in said first ported cavity and including a first control piston for motivating said first valve means;
a second valve means cooperating with said second ported cavity to alternately pressurize said second ported cavity from said source and relieve said second ported cavity; positioned in said second ported cavity and including a second control piston for motivating said second drive means;
means interconnected said first and second valve means in reversed relationship; and
a control valve means for alternately by-passing one of said control pistons in accordance with the movement of said drive pistons whereby to reciprocate said drive pistons and including:
a slider valve means for by-passing said control pistons, a spring means to translate movement of said drive pistons into a force on said slider valve; and lock means to lock said slider valve in two stable positions under control of said drive pistons.

3,261,266
VALVE ACTUATOR
Hyman Ledeen, Pasadena, Howard L. Ledeen, La Canada, and Alexander A. Toben, Van Nuys, Calif., assignors to Ledeen, Inc., El Monte, Calif., a corporation of California
Continuation of application Ser. No. 67,798, Nov. 7, 1960. This application Dec. 31, 1963, Ser. No. 337,703
1 Claim. (Cl. 92—138)



An actuator for a plug valve having a housing and a valve plug, including: a variable width torque lever adapted to be connected to the valve plug; said torque lever being free of any joints or hinges; a pair of opposed axially aligned cylinders; a floating piston reciprocable in each cylinder; a floating bar axially extending between the cylinders and being free of but adapted to engage the floating pistons with its opposite ends; means to admit fluid pressure under the control of an operator to reciprocate the pistons and effect reciprocation of said floating bar; a pair of rollers carried by the floating bar; the variable width torque lever being positioned between said rollers; the rollers being spaced apart a distance greater than the width of the torque lever; the parts being so constructed and arranged that movement of a roller caused by said floating bar occurs prior to contact of the roller with the torque lever to overcome static friction, and the initial torque output is intensified to substantially two times the normal torque output.

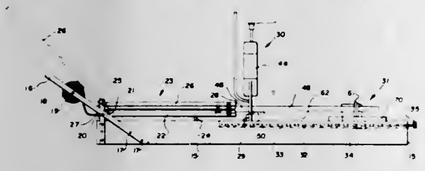
3,261,267
BAGS
Arnold F. Becker, San Pedro, Calif., assignor to Bemis Company, Inc., a corporation of Missouri
Original application Mar. 11, 1963, Ser. No. 264,330. Divided and this application Apr. 23, 1965, Ser. No. 450,433
3 Claims. (Cl. 93—35)



1. In the manufacture of pasted valve bags with valve sleeves, the steps of continuously feeding forward continuous flat tubing of relatively limp flexible material having first and second walls joined at the sides of the tubing, continuously feeding forward a continuous strip of relatively stiff material, combining the tubing and the strip with the strip overlying the first wall of the tubing and adhering the strip and the first wall of the tubing together at valve sleeve length intervals along their length in zones which, lengthwise of the strip and tubing, are narrow relative to the valve sleeve length and leaving unadhered portions of the tubing and the strip at intervals along their length, segmenting the combined tubing and strip at valve sleeve length intervals into individual valve sleeves with said segmenting being effected on lines so located that each sleeve comprises a segment of the tubing and a segment of the strip with the segment of the strip and the segment of the tubing adhered together

only toward one end of the sleeve on one of said narrow zones and the remainder of the segment of the tubing and the segment of the strip, constituting a major portion of their length, being free of one another to the other end of the sleeve, applying each sleeve to one of the end flaps of an opened-up closure for a pasted valve bag with the portion of the other wall of the tubing segment at said one end of the sleeve overlying the end flap and with the sleeve extending inward from said one end flap, and then completing the closure.

3,261,268
PLEATER FOR SHEET MATERIAL AND MEANS FOR TYING AND CUTTING CASINGS
Maynard J. G. Tipper, Oakland, Calif., assignor, by mesne assignments, to Rheem Manufacturing Company, New York, N.Y., a corporation of California
Filed Mar. 27, 1964, Ser. No. 355,502
8 Claims. (Cl. 93—84)



1. Bag forming apparatus adapted to form bags from an elongated sheet of flattened tubular material comprising:

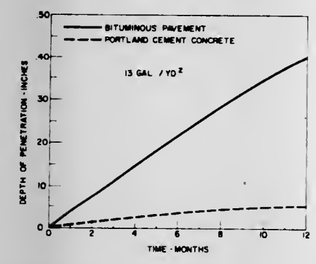
a pleater adapted to receive said sheet therein for movement therethrough in a direction longitudinally of said sheet for forming said sheet in longitudinally extending pleats,

a clipper adapted to receive said pleated sheet therein and to apply clips around said sheet in sealing relation therewith to form seals at points spaced apart longitudinally of said sheet,

a cutter spaced forwardly of said clipper relative to the direction of travel of said sheet a distance substantially equal to the length of each of said bags, and

actuating means associated with said cutter and actuated by said clips for energizing said clipper and for cutting said pleated sheet.

3,261,269
PAVEMENT DRESSING CONDITIONER
Edward W. McGovern, Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Aug. 17, 1964, Ser. No. 390,022
4 Claims. (Cl. 94—23)

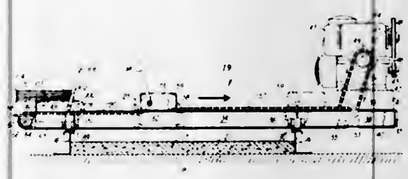


2. A method of sealing and rejuvenating bituminous and concrete surfaces which comprises applying to the surface at a rate of 0.05–0.5 gallon per square yard to composition comprising from 50–60% by weight topped coke oven tar having a float test of 75–220 seconds at 50° C., 20–35% by weight coal tar solvent having a boiling range of 95–250° C. and 15–30% by weight of a mixture of di-, tri- and tetracyclic aromatic compounds and their alkyl homologs containing lower alkyl groups together with 1–10% by weight of phenolic and hydroxy derivatives, said mixture derived from the distillation of coal tar, said mixture having a specific gravity at 25/25° C. of at least 1.08 and an initial boiling point of at least 180° C., a continuous boiling range to at least 300° C., 70–40% of the material remaining as residue at 300° C. with a distillation curve to 300° C. of

Temperature, ° C.:		Distillate
180	max.	1.0
190	max.	2.0
200	max.	3.0
210	max.	4.0
220	max.	5.0
230	max.	6.0
240	max.	10.0
250		2–18
260		5–30
270		15–40
280		20–45
290		25–55
300		30–60

and said distillate to 300° C. having a minimum specific gravity at 25/25° C. of about 1.025, so that said composition will penetrate and seal said surface.

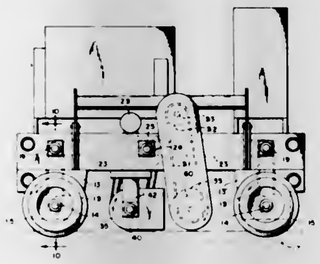
3,261,270
METHOD OF BUILDING A METAL REINFORCED CONCRETE ROADWAY
Allen B. Wilson, 1416 N. State Parkway, Chicago 10, Ill.
Original application Sept. 30, 1958, Ser. No. 764,430, now Patent No. 3,109,350, dated Nov. 5, 1963. Divided and this application Apr. 12, 1962, Ser. No. 195,355
5 Claims. (Cl. 94—24)



1. The method of building a metal reinforced concrete roadway, comprising the steps of providing a slit metal sheet, progressively spreading wet concrete along said roadway, placing said sheet in a position above said roadway and directly above the wet concrete, expanding said sheet into reticulated web form while said sheet is in its said position above said wet concrete, and then displacing the expanded metal sheet downwardly into the fresh concrete while the concrete is still wet and fluid.

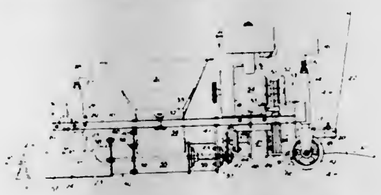
3,261,271
PAVING MACHINE
Louis J. Tomaso, Seattle, Wash., assignor to Northwest Construction, Inc., Seattle, Wash.
Filed Oct. 15, 1963, Ser. No. 316,229
9 Claims. (Cl. 94—45)

1. A paving machine having a main frame structure adapted to span and equipped for travel along prepared road beds of various widths; said main frame structure comprising a medial section mounting telescopically extendable opposite end sections, two pavement finishing rolls supported for axial rotation at their inner ends from said medial section of the main frame and at their outer ends from the corresponding end sections; said rolls together spanning the roadbed with their inner ends overlapped in side by side relationship, means for axially



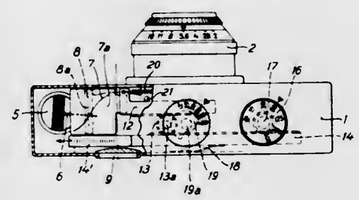
rotating said rolls to effect their finishing treatment of the paving material; means for adjusting the rolls vertically at their outer ends and means for the endwise sliding support of the inner ends of said rolls from the medial section of the main frame structure.

3,261,272
CURB FORMING MACHINE
Charles E. Jennings, Jr., Youngstown, Ohio, assignor to The Renner Company, Youngstown, Ohio, a corporation of Ohio
Continuation of application Ser. No. 56,413, Sept. 6, 1960. This application June 11, 1963, Ser. No. 288,071
1 Claim. (Cl. 94—46)



A curb forming machine for forming a continuous, elongated, flat bottom curbing of plastic material with an elongated reinforcing rod in the center thereof and simultaneously placing said curbing and reinforcing rod on a supporting surface, said curb forming machine including a rectangular frame having a pair of laterally spaced longitudinally extending side rails which have front and rear ends, beam means extending between the front ends of said side rails and secured thereto, a hopper fixedly mounted on said side rails and having an upper portion projecting upwardly therefrom, a compaction housing having front and rear ends below said hopper and having an opening in the top thereof, said hopper having a lower portion communicating with the opening in said compaction housing, support means connecting said front and rear ends of said compaction housing to said rectangular frame, a curb forming housing having a curb forming chamber therein and front and rear ends in axial alignment with said compaction housing and the front end of said forming housing connected to the rear end of said compaction housing, adjustable means suspending said forming housing from said frame so that said forming housing may be adjusted vertically, said forming housing being of generally inverted U-shaped in cross section and open at its bottom, the top and bottom of said forming housing being parallel to but below the top and bottom respectively of said compaction housing, said forming housing having a top portion on its front end sloping upwardly to an upper corner of the rear end of said compaction housing, a drive tube journalled within said compaction housing and having a cylindrical bore therethrough, and a forward end portion of said drive tube projecting forwardly from said compaction housing, an auger formed around and fixed to said drive tube within said compaction housing and terminating in said housing at a location spaced forwardly of said forming housing, journal means on said frame spaced forwardly of said compaction housing and rotatably journalling said forward end portion of said drive tube, power means on said frame, the rear end of said drive tube terminating at the sloping front end of said forming housing, transmission means connected between said power means and the forward end of said drive tube, a front pair of wheels adjustably rotatably mounted on opposite ends of said beam means, a rear pair of wheels rotatably mounted on the rear of said frame, a roller rotatably mounted forward of said drive tube on said beam means between said wheels and having an axis transverse to the axis of said drive tube, the bore through said drive tube being tangent to the top of said roller, said bore being of constant cross sectional diameter, said wheels, frame and compact housing being so constructed and arranged that said drive tube is located at an elevation when used equal to the elevation at which a reinforcing rod is to be placed so that a reinforcing rod extending through said bore in said shaft and over said roller will be supported thereby and be prevented from bending the sloping top portion of said forming housing compacting the plastic material around the rod as the machine forms the continuous curbing.

3,261,273
PHOTOGRAPHIC CAMERA WITH BUILT-IN EXPOSURE METER
Heinrich Broschke, Wetzlar, Germany, assignor to Ernst Leitz G.m.b.H., Wetzlar, Germany
Filed Nov. 12, 1964, Ser. No. 410,482
Claims priority, application Germany, Nov. 16, 1963, L 46,367
3 Claims. (Cl. 95—10)

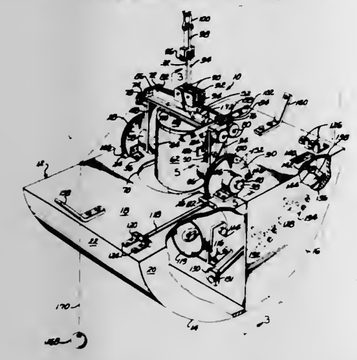


1. In a photoelectric camera for coordinating the amount of exposure necessary with the shutter timing, the structure comprising: a casing having a reference line, an exposure meter supported within said casing, an exposure indicator attached to and automatically actuated by said meter, an adjustable shutter timing member supported by said casing, a follow-up curve slidably positioned within said casing to be adjustable over said exposure indicator, means connecting said shutter timing member and said follow-up curve for corresponding movement as well as for displacement of said member and said curve relative to each other and said reference line, said means comprising a first pinion connected to said shutter timing member, a first rack slidably mounted within said casing meshing with said first pinion, a second pinion adjustably mounted within said casing and meshing with said first rack, a second rack connected to said follow-up curve and being slidably mounted within said casing and meshing with said second pinion, and spring means holding said second rack in terminal position against stop means.

3,261,274
UNDERWATER CAMERA AND RECOVERY APPARATUS

Logan O. Smith, Redondo Beach, Calif., assignor to Edgerton, Germeshausen & Grier, Inc., Bedford, Mass., a corporation of Massachusetts

Filed Sept. 16, 1963, Ser. No. 309,110
8 Claims. (Cl. 95—11)



1. In combination:

means adapted to be lowered to the ocean bottom and including a bucket movable between an open position for engaging said ocean bottom and a closed position for scooping up a sample of said ocean bottom;

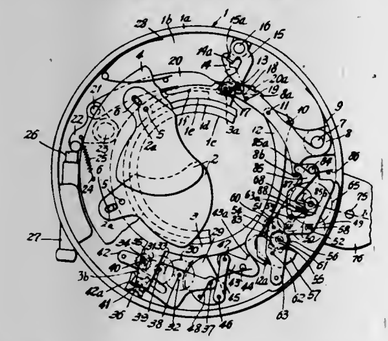
a camera carried by said means;

and means for actuating said camera immediately prior to engagement between said bucket and said ocean bottom to obtain a photograph of said sample, said means including a weight, a line suspending said weight beneath said bucket, and switch means connected to said line and operative upon slackening of said line to actuate said camera.

3,261,275
PHOTOGRAPHIC SHUTTER HAVING TWO ESCAPEMENT MECHANISMS

Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany

Filed Mar. 9, 1964, Ser. No. 350,472
Claims priority, application Germany, Mar. 16, 1963, G 37,294
11 Claims. (Cl. 95—63)

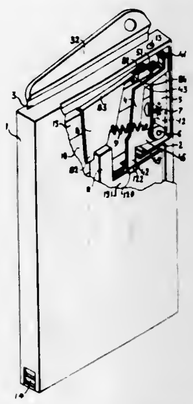


1. A photographic shutter comprising: shutter blades; a driving mechanism connected to said blades to operate them between an open position and a closed position; a short duration exposure escapement mechanism connected to said driving mechanism to control the same; and a long duration exposure escapement mechanism comprising a spring drive and means for manually cocking said spring drive to a predetermined long duration exposure time, a first locking device connected to said driving mechanism to be controlled thereby and connected to said spring drive to retain said spring drive in cocked position and to release said spring drive for operation immediately after said driving mechanism has been released, an additional locking device connected to block said driving mechanism in its position corresponding to the open position of said shutter blades, and an actuating device to release said additional locking device at the end of the operation of said long duration exposure escapement mechanism.

3,261,276
PHOTOGRAPHIC CASSETTE FOR PLATES AND SHEET FILM

Antonín Machán, Prerov, Czechoslovakia, assignor to Meopta, narodni podnik, Prerov, Czechoslovakia

Filed June 26, 1964, Ser. No. 378,226
Claims priority, application Czechoslovakia, July 22, 1963, 4,212
9 Claims. (Cl. 95—66)



1. A cassette arrangement comprising, in combination:

(a) a shell enclosing a spac therein, said shell including a cover member movable toward and away from an operative position in which said cover member closes an aperture in said shell;

(b) positioning means movable toward and away from an operative position for positioning light-sensitive sheet material in said space in a predetermined position for being exposed to light through said aperture;

(c) sensing means for sensing the presence and absence of said sheet material in said predetermined position;

(d) first signaling means operatively connected to said sensing means for generating a first visible signal in response to the sensed absence of said sheet material;

(e) second signaling means responsive to said movement of said positioning means for generating a second visible signal;

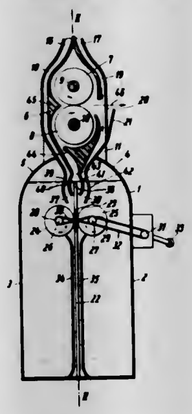
(f) third signaling means responsive to said movement of said cover member for generating a third visible signal; and

(g) a partition dividing said space into two compartments, said first, second, and third signaling means including a plurality of signaling members in one of said compartments, said shell being formed with a window having a line of view into said one compartment, three of said signaling members carrying respective indicia, said indicia when visible through said window constituting said visible signals, said positioning means and said predetermined position being in the other compartment, said cover member having an edge portion extending in the direction of said movement thereof, said edge portion constituting cam means, and a second one of said signaling members being mounted in said one compartment for movements toward and away from an operative position thereof in camming engagement with said cam means when said cover member reciprocally moves toward and away from the operative position thereof, the indicia carried by said second member being in said line of sight when said second member is in the operative position thereof and constituting said third signal.

3,261,277
APPARATUS FOR DEVELOPING COPIES

Walter Limberger, Hamburg-Poppenbuttel, Germany, assignor to Lumoprint Zindler K.G., Hamburg, Germany, a corporation of Germany

Filed Nov. 27, 1963, Ser. No. 326,453
5 Claims. (Cl. 95—89)

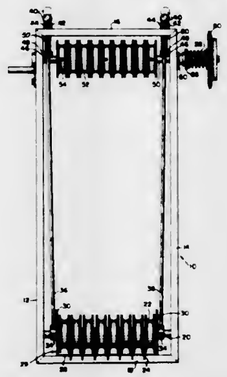


1. An apparatus for diffusion-developing copies by means of a positive layer carrier and a negative layer carrier, comprising a fluid tank having an inlet orifice in its upper range; a pair of transporting and squeezing rollers, journalled in the side walls of the fluid tank immediately above and adjacently to the said inlet orifice; driving means for the said pair of transporting and squeezing rollers; guiding means for guiding the negative and the positive layer carrier to the inlet orifice, said guiding means being equipped with inlet means above the pair of transporting and squeezing rollers and with outlet means under the pair of transporting and squeezing rollers and within the tank; a pair of rollers arranged within the tank under the said outlet means; driving means for driving this pair of rollers in opposite directions; frame means which are substantially permeable to liquid, extending through the pair of rollers and serving at the same time as guide members whereby the layer carriers leaving the outlet means are guided to the pair of rollers; channeling means arranged between the upper end of the said frame and the zone of contact of the transporting and squeezing rollers, and adapted to guide layer carriers coming from the tank to the transporting and squeezing rollers, whereupon the layer carriers after having been pressed together are freed in the direction perpendicular to the direction in which they were introduced through the inlet means.

3,261,278
FILM PROCESSING APPARATUS

John L. Jiruska, Annapolis, Md., assignor to Ram Engineering Corporation, Annapolis, Md., a corporation of Maryland

Filed Dec. 9, 1963, Ser. No. 329,005
11 Claims. (Cl. 95—94)

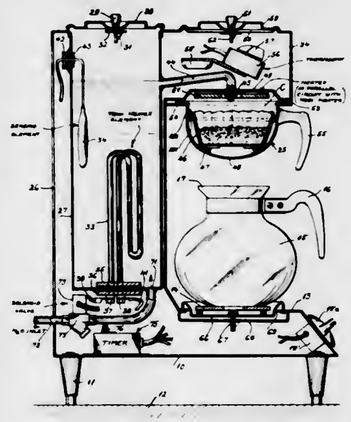


3. In combination with film processing apparatus including tank means, a continuously driven endless sprocket chain and an upwardly open, supporting and guiding means adjacent the upper end of said tank means for at least one of the runs of said sprocket chain, a portable film rack comprising a closed rigid frame having side parts and upper and lower parts, an upper spool shaft rotatably fixed in said side parts and having a projecting end part extending beyond the adjacent side part, a lower spool shaft in said frame, a sprocket wheel carried by the projecting end part of said upper spool shaft, clutch means operatively connecting said sprocket wheel to said shaft, and support means cooperating with said tank means and said frame for supporting the latter in said tank with said sprocket wheel operatively engaged with the supported and guided run of said sprocket chain.

3,261,279
AUTOMATIC "50" COFFEE MAKING MACHINE

Murray Kaplan, 61 Warwick Road, and Louis Kaplan, 2 Wimbleton Lane, both of Great Neck, N.Y.

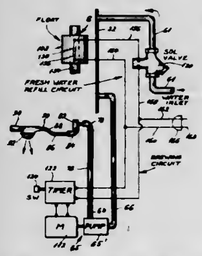
Filed Sept. 3, 1963, Ser. No. 306,102
1 Claim. (Cl. 99—282)



An automatic coffee making machine comprising a base, upright and top overhanging casing parts, a hot plate disposed on the base and adapted to support a

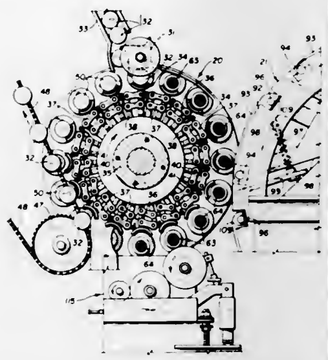
coffee beaker to be filled with coffee, a hot water supply tank within said casing parts and being open at the top thereof, a pipe for supplying cold water to the bottom of the tank, said hot water supply tank having a solenoid-operated valve, a heater element for heating the water in the hot water supply tank, an overflow delivery pipe and spray head extending from the upper portion of the tank, a funnel removably connected to the overhanging end of the top casing part and adapted to contain a paper filter and batch of coffee, said funnel when supported on the overhanging end of the top casing part being vertically aligned with the coffee beaker resting upon the hot plate, said funnel being open at the top, and adjustable timer device connected to the solenoid-operated valve to control the operation thereof, electric switch means on one of the casing parts to start the operation of the timing device whereby a measured amount of fresh water will be delivered to said hot water tank to replace this same amount of hot water delivered through the spray head and over the coffee batch upon the running of the machine, and an independent electric supply means for current to the tank heater element including a heat sensing element within said tank and an adjustable thermostat device to turn on and off electric current for the heating element within the supply tank and thereby maintain a constant supply of hot water within the supply tank, and a radiant heating element disposed upon the underside of the overhanging end of the top casing part surrounding the spray head and over the open top of the funnel to add heat to the water after it has been sprayed upon the coffee batch within the funnel and to add heat to the batch of coffee, said spray head heating element being connected in parallel relationship with the tank heater element and being controlled by the electric supply means thereof.

3,261,280
COFFEE BREWING MACHINE
Murray Kaplan, 61 Warwick Road, and Louis Kaplan, 2 Wimbleton Lane, both of Great Neck, N.Y.
Filed Nov. 26, 1963, Ser. No. 326,102
1 Claim. (Cl. 99—283)



In an automatic coffee brewing apparatus, a tank, a pair of open hollow spaced cylindrical urns in the tank, a removable wire basket in the top of each urn, a paper liner constituting a filter in the basket for holding a charge of ground coffee, opposed handles on the basket, a source of supply of hot water including a stand-up pipe, a spray device adapted selectively to be positioned above the open top of either of said urns, said device including an arm pipe, a spray head at the free end of the arm pipe, a radial handle on the spray head and a pivotal connection between the arm pipe and stand-up pipe, a pipe connecting the pivoted arm pipe and the source of supply of hot water, a pump associated with the last-named pipe for forcing a quantity of hot water into the ground coffee in either urn in order to extract the flavor from the coffee, a manually adjustable timer associated with the pump for determining a selected quantity of water to be pumped into the urn, an outlet pipe in each urn, a faucet connected to the other end of the outlet pipe for withdrawing the brewed coffee from the urn, a glass gauge associated with each urn for indicating the level of the brewed coffee therein, a conduit between the outlet pipe of each urn and its respective glass gauge, a solenoid controlled valve for controlling passage of cold water into the tank, and an automatically actuated float device in the tank for activating the solenoid valve to close the valve when the level of water in the tank rises to a predetermined level and to open the valve when the level of water falls to a predetermined level, said automatically actuated float device including a hollow stem supported upright in the tank, immersed in the water, a hermetically sealed magnetic switch inside said hollow stem and including movable overlapping contacts, a float member movable up and down along said stem and a permanent magnet carried by said float adapted to pull the overlapping contacts away from each other.

3,261,281
CONTINUOUS PRINTER AND TRANSFER UNIT
Ruben J. Hartmeister, Golden, Colo., assignor to Coors Porcelain Company, Golden, Colo., a corporation of Colorado
Filed Jan. 25, 1965, Ser. No. 427,559
15 Claims. (Cl. 101—37)

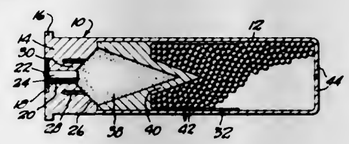


15. An article handling machine comprising
(a) a plurality of holders for receiving articles,
(b) a pocket wheel including a plurality of radially retractable pockets, each pocket when unretracted being axially aligned with a holder,
(c) transfer mechanism including a plurality of push rods each axially aligned with an unretracted pocket and with a holder, and
(d) means moving said push rods across said pockets in one direction to push articles from the pockets to the holders and moving said push rods across retracted pockets in the opposite direction to withdraw articles from the holders.

3,261,282
SHOT SHELL
Grover E. Hendricks, 2241 Lake St., Niles, Mich.
Filed July 31, 1964, Ser. No. 386,633
6 Claims. (Cl. 102—42)

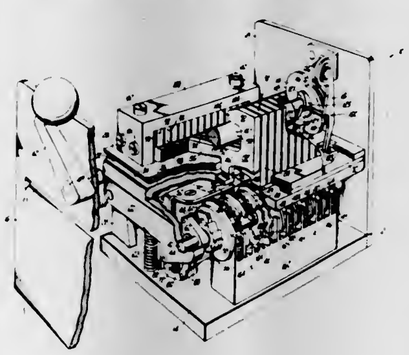
1. A shot shell comprising
a molded synthetic resin cup-shaped shell casing having a tubular part and an end wall with a central aperture mounting a primer cap,
said end wall having a recessed inner surface surrounded by an annular shoulder,

a molded synthetic resin cup-shaped wad snugly slidable in said shell casing and having a tubular part and an end wall,
said wad end wall having an annular portion complementary to and adapted to abut said end wall shoulder and surrounding a recess at its outer face adapted to confront and cooperate with said recessed shell casing end wall to define powder compartment,
a charge of powder confined in said powder compartment,



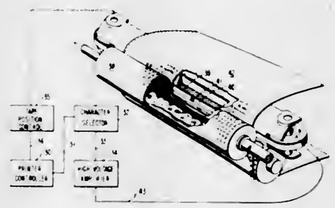
a concentric projection on the inner face of said wad end wall spaced from encircled by and of shorter length than said tubular wad part and including a conical free end portion,
said tubular shell casing part being crimped inwardly at its free end to define a shot retaining chamber, and
shot in said cup-shaped wad and tubular shell casing surrounding said wad inner projection and confined by said inwardly crimped shell casing part.

3,261,283
PRINTER WITH ROTARY PRINT WHEELS
Harold B. Vroom, Simsbury, and Michael S. Juhas, Torrington, Conn., assignors to Veeder-Root Incorporated, New Britain, Conn., a corporation of Connecticut
Filed Aug. 25, 1964, Ser. No. 391,866
15 Claims. (Cl. 101—95)



1. A printer comprising a frame, a counter having a wheel supporting shaft mounted on the frame and a plurality of coaxial counter wheels mounted on the shaft with angularly spaced peripheral printing characters on the periphery thereof adapted for being indexed to axially aligned printing positions by rotation of the counter wheels; a hammer assembly comprising a plurality of individual axially aligned hammers for the print wheels respectively having tailend portions rigidly secured to the frame, head portions with hammer faces cooperable with the respective printing characters in the axially aligned printing positions for printing, and resilient arm portions intermediate the tail and head portions providing for resilient withdrawal of the head portions from unstressed positions spaced from the printing characters in the axially aligned printing positions for storing motive power for independent operation of the hammers for printing, and means for withdrawing the hammers from their unstressed positions for storing motive power for printing.

3,261,284
NON-IMPACT ELECTROSTATIC PRINTER
John J. Lynott, Los Gatos, and Reynold B. Johnson, Palo Alto, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 26, 1962, Ser. No. 182,258
1 Claim. (Cl. 101—114)



Apparatus for printing on a print medium comprising:
a rotatable cylindrical character member containing a plurality of circumferential columns of character forming openings,
toner retaining means in said character forming openings,
means for applying toner to said toner retaining means,
a single electrode in electrostatic relationship with said cylindrical character member extending substantially parallel to the axis of rotation thereof and separated therefrom to allow said print medium to pass therebetween,
shielding means including an aperture for selectively shielding portions of said single electrode disposed between said electrode and said cylindrical character member,
and means for sequentially stepping said aperture of said selective shielding means along said single electrode.

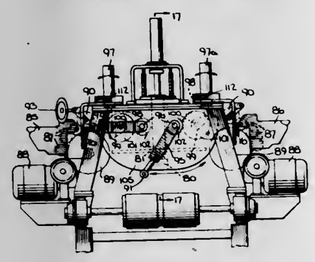
3,261,285
LITHOGRAPHIC PLATE
Jack L. Sorkin, Cleveland Heights, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed Mar. 9, 1962, Ser. No. 178,556
15 Claims. (Cl. 101—149.2)

2. A process of preparing a wipe-on lithographic plate for reception of a light-sensitive material comprising coating a support member from organic solvent with an admixture of a halide selected from the group of methacrylato chromic halide and ethacrylato chromic halide, and an acrylic compound selected from the group consisting of acrylic acid, methacrylic acid, the ammonium, sodium, and potassium salts of said acids, acrylamide, methyl acrylamide, and polymers thereof reactive with such halide, and then heating to remove the solvent and interreact such halide through its methacrylato or ethacrylator group with the acrylic component of the admixture to deposit on the support member a permanently hydrophilic sub-layer.

15. A wipe-on lithographic plate comprising a support member and a permanently hydrophilic barrier layer overlying the support member adapted to receive a light-sensitive coating thereon; said barrier layer comprising the reaction product of a metal ester having the formula, $(RO)_4M$, wherein R is a monovalent hydrocarbon radical selected from the group consisting of phenyl, tolyl, xylyl, and aliphatic radicals of one to eight carbon atoms, and M is a metal selected from the group consisting of titanium and zirconium; a halide selected from the group consisting of methacrylato chromic halide and ethacrylato chromic halide; and an acrylic compound selected from the group consisting of acrylic acid, methacrylic acid, the

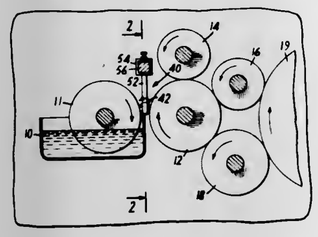
ammonium, sodium, and potassium salts of said acids, acrylamide, and methyl acrylamide said halide being reacted through its methacrylato or ethacrylato group with said acrylic compound.

3,261,286
ARTICLE HANDLING MACHINE
William H. Hunter, Sebring, and Siegfried Garbe, Massillon, Ohio, assignors to Royal China, Inc., Sebring, Ohio, a corporation of Ohio
Filed Apr. 21, 1964, Ser. No. 361,474
6 Claims. (Cl. 101—321)



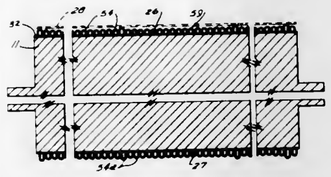
1. An article marking mechanism comprising a reciprocable head, means actuated by an article for initiating the reciprocation of said marking head, an inking roller mounted on each side of said marking head, each inking roller being alternately movable from a position in contact with the marking head to supply ink thereto to a position in contact with an ink reservoir to receive ink therefrom and means for synchronizing the movement of said two rollers so that when one roller is applying ink to the marking head the other roller is in position in contact with said ink reservoir.

3,261,287
LIQUID DISTRIBUTING APPARATUS
George R. Brodle, Narberth, Pa.. assignor to John C. Motter Printing Press Co., York, Pa., a corporation of Delaware
Filed Feb. 3, 1964, Ser. No. 341,874
10 Claims. (Cl. 101—350)



1. Liquid distributing apparatus comprising a reservoir containing the liquid to be distributed, first rotatable roll means having a portion immersed in the liquid in said reservoir for picking up a film of the liquid, second rotatable and longitudinally vibratory roll means spaced laterally from and disposed parallel to said first roll means, a plurality of transfer members having narrow annular surfaces positioned in the space between said first and second roll means and supported solely thereby, said members being in light contact with each other and movable relative to one another and said annular surfaces having equal diameters and being spaced-apart longitudinally with respect to said roll means, and means for vibrating said members conjointly longitudinally across and relative to said roll means.

3,261,288
ANTISMEAR JACKET FOR TRANSFER DRUM
Henry R. Dickerson, 3414 Grace Road, Kalamazoo Township, Kalamazoo County, Mich.
Filed June 8, 1964, Ser. No. 373,430
5 Claims. (Cl. 101—420)



1. In a machine for applying ink indicia to sheet material, said machine including a transfer surface adjacent to which an inked side of said sheet material must be placed before the ink is dry, an apparatus for preventing the smearing of said ink indicia by said surface comprising:
- a plurality of substantially parallel elements supported adjacent said surface for movement toward and away from said surface;
- means for holding said elements in first positions wherein the sides of said elements remote from said surface are, substantially throughout their lengths, substantially equidistant from said surface; and
- means for moving and holding selected ones of said elements away from said surface in second positions where substantial portions of said remote sides of said selected elements are spaced from said surface a substantially uniform distance which is greater than said equal distance.

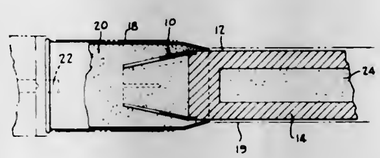
3,261,289
DECORATION OF PLASTIC CONTAINERS
Stanley M. Cash, La Grange Park, and Leonard J. Strafaci, Oak Forest, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 12, 1962, Ser. No. 244,162
4 Claims. (Cl. 101—426)



1. A method of transferring a design from a press blanket to the body of an irregularly shaped non-round tapered container of a surface configuration defined by varying radii without the smearing of minute design details, the improvement comprising: inking a design upon a surface portion of a rubber press blanket mounted upon a rotating cylinder, said press blanket having a Shore durometer hardness within the range of 15 to 40 durometer, and bodily displacing and rotating the tapered surface of the container into contact with the blanket while concurrently rotating the blanket so that surface portions of different radii of said container depress different portions of said blanket in different amounts at the points of contact therebetween so as to effect the transfer of said ink design

upon said container surface portions whereby slippage is precluded and the design is transferred without smearing or fuzziness to the irregular surface portions of the container.

3,261,290
PROJECTILE SKIRT
Alfred F. Mardarello, Hoboken, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed June 3, 1965, Ser. No. 461,208
6 Claims. (Cl. 102—38)

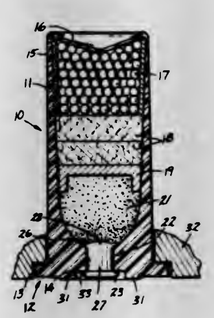


1. The combination of a projectile, a propellant, means for firing the propellant, and a thin walled hollow contoured skirt secured to the rear of said projectile and defining a continuous curvilinear surface with the outer surface of said projectile, said skirt having a restricted opened rearward end and a predetermined pattern of openings through the skirt wall to provide an escape for propellant gases whereby pressure equalization on either side of the skirt wall may be effected.

ERRATUM

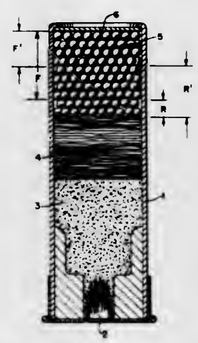
For Class 102—42 see:
Patent No. 3,261,282

3,261,291
CARTRIDGE
William B. Woodring, Stoney Creek, and Charles O. Williams, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Mar. 30, 1964, Ser. No. 355,853
6 Claims. (Cl. 102—42)



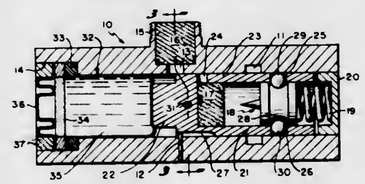
1. A one-piece plastic shotshell in combination with a one-piece metallic primer, the improvement comprising an annular boss projecting from the primer end of the shotshell to provide a bolt engaging face, an annular recess formed in said primer end and dimensioned to provide an annular clearance between the rim of the primer and the boss, said primer defining a closed, hollow rivet and the shotshell including a charge of iron shot surrounded by a protective collar.

3,261,292
SHOT SHELL WITH SHOT HAVING DIFFERENTIAL LUBRICATION
Serge A. Loukomsky, Flippin, Ark.
Filed Sept. 1, 1964, Ser. No. 393,712
6 Claims. (Cl. 102—42)



1. An improved shot shell the shot of which consists of a forward part and a rearward part separated by a plane of division which parts have differential lubrication characterized by the shot of the rearward part having greater lubricity than the shot of the forward part, said rearward part consisting of at least two rows of shot and up to 60% of the total shot.

3,261,293
TIME DELAY FUZE
George Webb, Richmond, Ind., assignor to Avco Corporation, Richmond, Ind., a corporation of Delaware
Filed Nov. 22, 1963, Ser. No. 325,727
6 Claims. (Cl. 102—82)

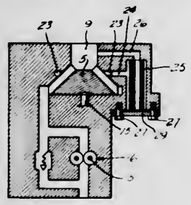


1. A time delay fuze comprising:
- a housing;
- a driven element mounted within said housing;
- an explosive charge within said driven element;
- means including a fluid-permeable element for opposing the displacement of said driven element as a function of time;
- a firing pin within said driven element;
- actuating means consisting of a single spring tending to drive the firing pin into firing position; and
- means for normally locking the firing pin and the driven element against relative displacement;
- the spring being disposed between the firing pin and the housing so that the spring drives both the firing pin and the driven element toward the fluid-permeable element;
- the locking means and the housing being so formed and arranged that after a predetermined displacement of the driven element the locking means is released from the firing pin to permit the latter to be driven by the spring against the explosive charge;
- the housing and driven elements being formed with lead-out channels which do not register to arm the fuze until said displacement is substantially completed.

3,261,294
CONTAMINANT SEPARATING FUEL PUMP

John J. Schofield, Glastonbury, and Francis P. Schierberl, West Hartford, Conn., assignors to Chandler Evans Inc., a corporation of Delaware

Filed Nov. 8, 1963, Ser. No. 322,307
10 Claims. (Cl. 103—5)

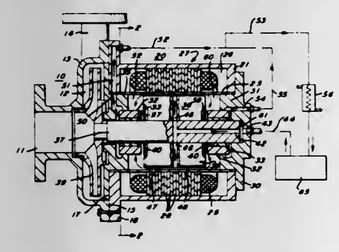


7. In a liquid fuel pumping unit for an aircraft engine comprising a centrifugal boost pump and a positive displacement pump, connected in flow series, between a source of fuel and the engine; means for removing solid particles of contaminants from the pumped fuel, during its flow through said pumping unit, comprising: a hollow, frusto-conical, boost pump impeller having on its conical wall a plurality of helical vanes whose outer ends are in closely-spaced relation to a mating frusto-conical housing enclosing said impeller, whereby said vanes and housing define a plurality of helical channels extending from the inlet to the outlet through which the pumped fuel flows from a central axial inlet to a peripheral circular outlet of said boost pump; driving means connecting said impeller with the engine so that said impeller is rotated at a speed proportional to that of the engine; thereby creating a centrifugal force which acts on the liquid in said channels and forces the denser solid contaminant particles radially outward toward said housing and downwardly along the inner surface of said housing, said solid particles, displacing an equal volume of liquid fuel inwardly toward the axis of rotation of said impeller; an annular trapping groove in said housing, in which said solid particles are trapped and separated from the main stream of pumped fuel; a bypass conduit connecting said trapping groove with the inlet to said boost pump, and a filter in said conduit for removing solid contaminant particles from the fuel flowing through bypass conduit, whereby the fuel returned to said inlet is freed of said solid contaminants, and the percentage of contaminants in the whole stream of pumped fuel is substantially reduced.

3,261,295
MOTOR DRIVEN PUMP

Howard T. White, Upper Moreland Township, Montgomery County, Pa., assignor, by mesne assignments, to Crane Co., New York, N.Y., a corporation of Illinois

Filed June 3, 1964, Ser. No. 372,260
4 Claims. (Cl. 103—87)



1. Axial thrust balancing apparatus for a motor driven unit comprising

a motor stator,

a cylindrical sleeve interiorly of said motor stator,

a motor rotor in said sleeve,

said rotor and said sleeve having a longitudinal clearance space therebetween and defining with said sleeve at least one fixed size orifice,

said motor rotor having an outwardly extending fluid impelling passageway intermediate its ends communicating with said clearance space intermediate its ends,

a shaft on which said motor rotor is carried having a fluid passageway therein communicating with said outwardly extending fluid passageway,

a source of fluid connected to said shaft passageway,

members closing the end of said sleeve through at least one of which said shaft extends,

an end member through which said shaft extends having a portion carried thereby with respect to which one end of said rotor is movable and providing a variable orifice,

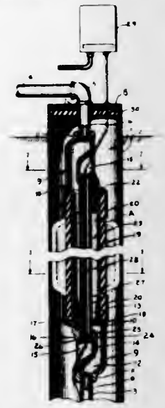
said sleeve and said end member bounding a fluid pressure balancing chamber at one end of said rotor to which fluid input is controlled by said fixed orifice and fluid discharge by said variable orifice,

the pressure in said balancing chamber controlling the positioning of said motor rotor and thereby controlling said variable orifice.

3,261,296
SUBMERSIBLE PUMP CABLE PROTECTION

Anthony V. Weber, St. Louis, Mo., assignor to Weber Industries, Inc., St. Louis, Mo., a corporation of Missouri

Filed Nov. 8, 1965, Ser. No. 506,736
5 Claims. (Cl. 103—87)

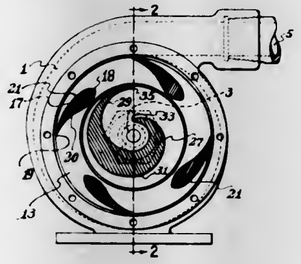


1. For use in a pump system having a casing, pump motor means provided in said casing, a cable for connecting said pump motor means to a source of electrical power exterior of said casing, and means defining a fluid outlet conduit for direction of flow of fluid from said pump motor means for delivery to a point beyond said casing, said fluid outlet conduit comprising spaced apart, axially aligned first and second sections, the combination of a pulsation dampener comprising first and second manifolds respectively engaged to the confronting ends of the first and second sections of said fluid outlet conduit, a resilient sleeve member extending between, and engaged at its ends to, said first and second manifolds and being spaced from the proximate sections of said fluid conduit, said resilient sleeve together with said manifolds defining an expansible pressure chamber, and of a tubular-forming member presented interiorly of said pressure chamber, extending between, and secured at its ends to, said manifold, said cable passing through said tubular-forming member.

3,261,297
PUMP

William H. Daniel, 411 Daniel Bldg., Tulsa, Okla.

Filed May 24, 1965, Ser. No. 458,115
6 Claims. (Cl. 103—103)

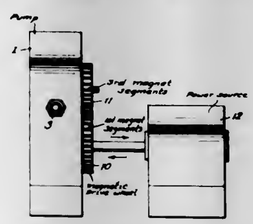


1. A pump comprising a pump casing defining a pump chamber and having an inlet and an outlet, a rotor disposed in the pump chamber and rotatable about an axis, a plurality of vanes in unitary assembly with the rotor, the inlet being disposed inside the path of the vanes and the outlet being disposed outside the path of the vanes, the vanes having airfoil configuration with relatively low pressure sides and relatively high pressure sides, the vanes having their low pressure sides on their radially inner sides and their high pressure sides on their radially outer sides, the camber line of the cross section of the vanes forming a small acute angle of $-5°$ to $+17°$ with a line perpendicular to the bisector of the angle about said axis that is subtended by the vanes at the intersection of said camber line and said bisector, and a fixed volute disposed inside the path of the vanes, the volute presenting to fluid entering the pump chamber from the inlet at least one boundary surface that spirals radially outwardly in the direction of rotation of the rotor, said inlet being offset radially outwardly a substantial distance from said axis.

3,261,298
MAGNETIC PUMP COUPLING

Curtis L. Wilson, Box 1094, Sierra Vista, Ariz.

Filed Nov. 13, 1964, Ser. No. 411,165
3 Claims. (Cl. 103—118)

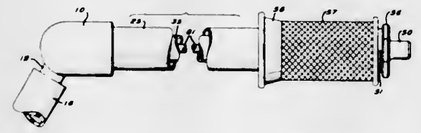


1. Apparatus for transmitting power from a power source to the interior of a fluid-moving pump casing without a mechanical or physical connection comprising; a pump casing, a portion of which is substantially non-magnetic and through which magnetic forces may pass, a plurality of pumping members inside of said casing, magnetic members fixedly secured to said pumping members and rotatable therewith, a plurality of magnetic drive members outside of said casing, said drive members being mounted for rotation in axial alignment and in close proximity with said magnetic members inside of said casing, and means synchronizing rotation of said drive members.

3,261,299
HAND PUMP

Clarence F. Parrott, % Parco Products Co., Pottstown Ave., Pennsburg, Pa.

Filed Apr. 15, 1964, Ser. No. 359,926
4 Claims. (Cl. 103—188)

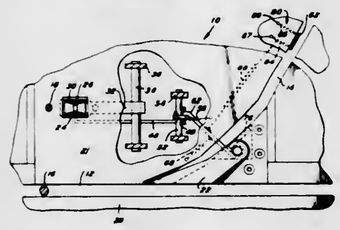


1. A portable hand pump for liquids comprising a fluid inlet section, a fluid delivery section, inner and outer hollow longitudinal axially aligned cylinders telescoping at their inner ends, said cylinders being respectively connected at their outer ends to said sections, the inner end of said outer cylinder having a guide thereon in engagement with said inner cylinder, the inner end of said inner cylinder having a guide plug with outer portions in engagement with the outer cylinder, an inlet valve movable to open position for fluid inlet to one of said cylinders, an outlet valve movable to open position for fluid delivery from the other of said cylinders, and an imperforate tubular member in said inner cylinder in engagement at one end in the fluid delivery section and at the other end in said guide plug, the interior of said tubular member providing a fluid passageway and the space between said tubular member and said inner cylinder being isolated from air and liquid access.

3,261,300
TOW TRUCK SWITCHING SYSTEM

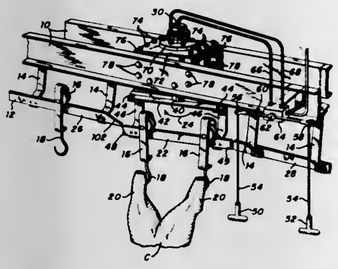
Graham K. Johnson, Easton, Pa., assignor to SI Handling Systems, Inc., Easton, Pa., a corporation of Pennsylvania

Filed Aug. 10, 1964, Ser. No. 388,469
20 Claims. (Cl. 104—88)



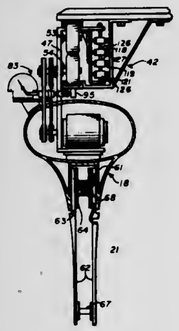
1. In a tow truck switching system comprising a reference surface having a main slot intersected by at least one shunt slot, a switch plate adjacent said intersection, said switch plate being mounted for rotation about an axis generally perpendicular to the reference surface from an inoperative to an operative position, said switch plate in its operative position presenting an abutment surface in the main slot for contact with a tow pin on a tow truck traveling along said main slot to guide the tow pin into said shunt slot, and selectively operable means adjacent said intersection including a member disposed to one side of said main slot, means biasing said member to a normal position wherein at least a portion of said member extends above said reference surface, means mounting said member and its support for movement against the effect of said biasing means into the plane of said reference surface, mechanical means connecting said member to said switch plate for enabling rotation of said switch plate to one of said positions in response to contact of said member with a portion of a tow truck traveling along said main slot.

3,261,301
RAIL TURNING ATTACHMENT
Frederick A. Zaenkert, Cincinnati, Ohio, assignor to The Cincinnati Butchers' Supply Company, Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 16, 1963, Ser. No. 309,169
16 Claims. (Cl. 104—93)



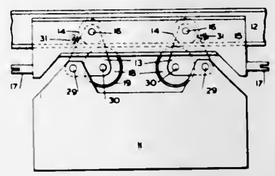
1. Apparatus for handling carcasses undergoing dressing, comprising in combination, an incoming and an outgoing conveyor rail substantially aligned and having ends spaced apart to provide a gap, a movable turning rail normally spanning the gap and having opposite ends, and means supporting the turning rail for bodily rotation to dispose either of its ends in aligned juxtaposition with the spaced ends of the conveyor rails, a pair of trolleys adapted to ride upon the conveyor rails and the intervening turning rail, said trolleys being movable on the rails independently of one another and each including means to grasp and suspend a leg of a single carcass whereby upon rotation of the turning rail the carcass is rotated therewith while suspended from two trolleys carried by the turning rail, and means for imparting partial rotation to the turning rail, to selectively expose the back or the belly of the carcass to an operator stationed to face the turning rail, and means carried by the turning rail supporting means, selectively operable to maintain a predetermined extreme spacing of the pair of trolleys on the turning rail, to spread the suspended legs of the carcass while undergoing dressing.

3,261,302
SPEED CONTROL FOR WATER SKIING FACILITY
Arnold H. Forsman, 347 Ilo Lane, Danville, Calif.
Original application July 25, 1961, Ser. No. 126,661, now Patent No. 3,190,646, dated June 22, 1965. Divided and this application Mar. 24, 1965, Ser. No. 449,357
1 Claim. (Cl. 104—152)



Ski tow means comprising a continuous overhead rail system, a plurality of tow units moveably suspended from said rail system, an energized bus bar insulatedly secured to said rail means, pickup trolley means carried by each tow unit connected to the motor thereof and engaging said bus bar, a speed control resistance coupled to the field circuit of the motor of each tow unit for varying its speed in accordance with the amount of said resistance, a dial plate mounted on each tow unit, a rotatable arm pivotally secured to the dial plate of each unit and coupled to the speed control resistance thereof to vary the resistance in accordance with the position of the arm along an arcuate path thereby traversed on the plate, a spring loaded plunger mounted upon each tow unit and coupled to its arm to normally urge same along said path in a direction corresponding to an increasing speed variation of the corresponding resistance, a stop carried on the dial plate of each unit on the increasing speed side of said arm, and moveable along said arcuate path, a cam follower secured to the distal end of the plunger of each unit relative to the arm thereof, and a cam secured to said rail system and engaged by the cam follower of said tow units, said cam having raised and depressed surface segments for varying the position of said plungers to in turn vary the positions of said arms along said arcuate paths.

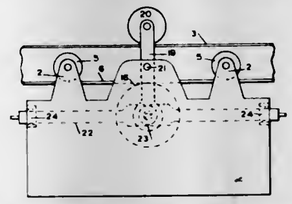
3,261,303
OVERHEAD HAULAGE SYSTEMS
Leonard Summers, Johannesburg, Transvaal, Republic of South Africa, assignor to Anglo-Transvaal Consolidated Investment Company Limited, Johannesburg, Transvaal, Republic of South Africa
Filed July 6, 1965, Ser. No. 469,771
Claims priority, application Republic of South Africa, July 10, 1964, 64/3,274
3 Claims. (Cl. 105—73)



1. A locomotive adapted to be suspended from an overhead track, said locomotive comprising a rigid main frame, a secondary frame, two pairs of free running wheels the members of each pair being coaxial and each wheel mounted on a corresponding stub axle projecting inwardly from the secondary frame, parallel link arms of triangular shape rotatably suspended from each stub axle with one lower corner of each link arm pivotally connected to the main frame, and the other lower free corner of each link arm supporting a drive wheel positioned between the pairs of free running wheels and a drawbar connected to the secondary frame.

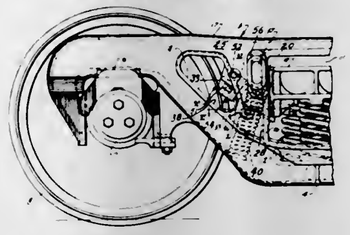
3,261,304
DRIVES FOR OVERHEAD HAULAGE VEHICLES
Herbert V. Henderson, Germiston, Transvaal, Republic of South Africa, assignor to Anglo-Transvaal Consolidated Investment Company Limited, Transvaal, Republic of South Africa
Filed July 6, 1965, Ser. No. 469,797
Claims priority, application Republic of South Africa, July 10, 1964, 64/3,272
3 Claims. (Cl. 105—73)

1. A locomotive adapted to be suspended from an overhead track, said locomotive comprising a rigid frame, two pairs of free running wheels carried by the frame and located towards the longitudinal ends thereof, a driven wheel positioned to engage an opposite surface of said track to that engaged by the running wheels, a pair of swingable links supporting said driven wheel centrally between the free running wheels and a further wheel located to engage an opposite surface of the track to that engageable by the driven wheel, said swingeable links



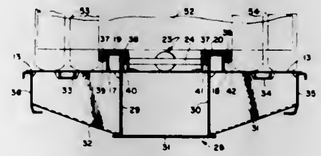
positioned one on each side of the plane of rotation of the driven wheel and pivotally secured to the frame at a point on a line joining the axes of the wheels on the links, and a bifurcated draw-bar longitudinally movable with respect to the frame and also connected to the links at distances from the pivot points of the links.

3,261,305
SNUBBED RAILWAY CAR TRUCK
James A. Shafer, East Cleveland, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 2, 1961, Ser. No. 149,585
9 Claims. (Cl. 105—197)



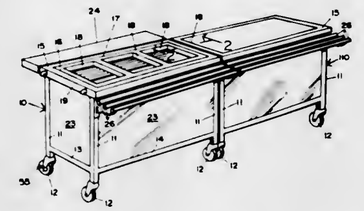
5. The side frame of claim 4 wherein: said greater clearance is at least 40 percent of the spacing of said walls.

3,261,306
CUSHION RACK ARRANGEMENT
Jack E. Gutridge, Dyer, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Aug. 12, 1964, Ser. No. 389,009
3 Claims. (Cl. 105—368)



1. A railway car particularly adapted for transporting lading in modular units including highway trailers, containers and the like comprising, transversely spaced side sills, a center sill of box-like construction including a pair of spaced side web portions extending longitudinally between a pair of spaced truck assemblies, a bottom cover plate joining said spaced side web portions along lower marginal edges to hold the same in spaced relationship and resist tensile loading, a top cover plate joining said spaced side web portions at upper marginal edges, said top cover plate extending transversely beyond each of said side web portions thereby defining a longitudinally extending transversely projecting flange portion along each side of said center sill adapted to transmit loads received thereon to said vertical side web portions, flooring means disposed between said side sills and said center sill at a level below said projecting flange portions of said top cover plate, movable support means in overlying relation to at least a portion of said top cover plate, said movable support means including transversely spaced first and second load receiving members extending longitudinally of the car and being slidably mounted on said marginal flanges of said cover plate of said center sill, said movable support means each comprising a substantially U-shaped section embracing said respective flanges and including a substantially horizontal load receiving surface overlying and extending substantially continuously the length of said top cover plate of said car and adapted for engaging the underside of containers between end sill portions thereof, and means interconnecting said movable support means to said car to cushion the longitudinal movement of said movable support means as it moves relative to said car in response to impacts applied thereto.

3,261,307
LOCKING DEVICE FOR SERVING TABLES
Goodwin Salkoff, Coral Gables, Fla., assignor to Atlas Metal Industries, Inc., Hialeah, Fla.
Filed Feb. 8, 1965, Ser. No. 431,082
2 Claims. (Cl. 108—64)

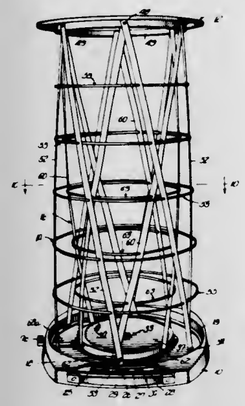


1. In a plurality of serving tables each having a table top, an end wall at opposite ends of said table top and a pair of aligned bores at each end wall, the combination comprising a lock pin mounted in each of said bores of one of said end walls and extending outwardly of said end wall to be received by said bores of the other of said end walls of a further serving table, and lock pins each having a cone shaped end portion and a transversely disposed bore, a plurality of guide blocks secured to the other of said end walls, said guide blocks having bores extending therethrough, a supporting block slidably positioned along said other of said end walls, a plurality of locking pins secured at one end to said supporting block and slidably positioned in said bores in said guide blocks, said locking pins having end portions positioned within the circumference of said bores in said other of said end walls and received by said bores in said lock pins when a plurality of serving tables are locked together, spring means yieldingly maintaining said locking pin end portions in said position and handle means for sliding said locking pin end portions out of said bores in said lock pins whereby said serving tables are released from each other.

3,261,308
COLLAPSIBLE STAND
Oleg Szymber, Chicago, Ill., assignor to Sawyer's Inc., Portland, Oreg., a corporation of Oregon
Filed Nov. 16, 1964, Ser. No. 411,436
27 Claims. (Cl. 108—145)

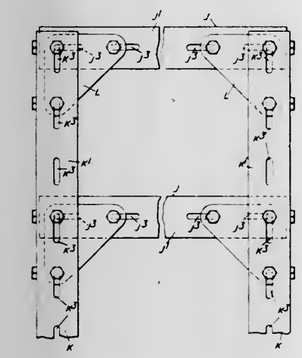
1. A collapsible stand comprising, a base, a separate support member, a plurality of flexible bands having their opposite ends secured to the base and support member,

respectively, thereby to support said member in vertical spaced relation from said base, each of said bands being



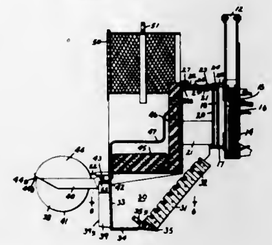
arranged and adapted to assume spiral form thereby to allow said member to be collapsed to a position adjacent said base.

3,261,309
FRAMEWORK STRUCTURES
James Edward Kinnear, La Vista, Bel Royal, Jersey, Channel Islands, assignor to Handy Angle Limited, Middlesex, England, a company of Great Britain
Original application Jan. 5, 1953, Ser. No. 329,493. Divided and this application May 6, 1963, Ser. No. 278,154
6 Claims. (Cl. 108—156)



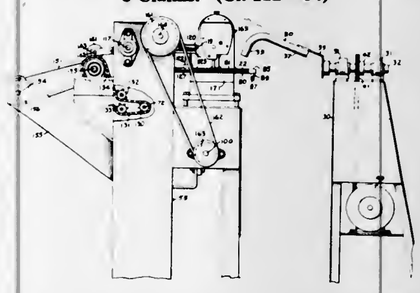
1. A framework structure built up from perforated elements bolted together, and including a shelf member consisting of a rectangular sheet having at each edge a turned-down flange provided at each end with two aligned slots, an angle strip at each corner of the shelf member disposed with its length at right angles to the shelf surface, said angle strip having an L-shaped cross-section and comprising two webs, each of which extends across one of said flanges and lies in a plane parallel thereto with a portion of each web registering with an end portion of the shelf flange to which it is parallel, each web being provided with a row of slots which extends longitudinally therealong, a generally triangular anchor plate sandwiched between each shelf flange and the angle strip portion registering therewith, each anchor plate having three bolt holes spaced at the corners of a right-angled triangle and registering with slots in at least one of said angle strip web and shelf member flange, and three bolts passing respectively through the three bolt holes in each anchor plate and also through the slots registering therewith for bolting together the shelf member, the angle strips and the anchor plate.

3,261,310
PLANTER FOR SEEDLING TREES
Jack L. Cronk, 5600 Hill Road, and James L. Thurmond, c/o Idaho Tractor Co., 2124 Sunrise Rim, both of Boise, Idaho
Filed Feb. 28, 1964, Ser. No. 348,095
3 Claims. (Cl. 111—3)



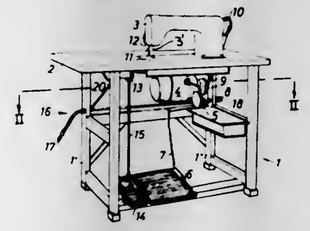
1. A planter for seedling trees, comprising:
a mobile framework adapted to be drawn behind a tractor;
a downwardly and rearwardly directed edge on said framework formed by two solid plates leading smoothly rearward to a pair of transversely spaced upright wall sections, said plates and said wall sections extending downwardly from said framework below the normal ground surface encountered below said framework;
a generally rectangular blade fixed to the lower end of said edge having an upper surface protruding forwardly and downwardly therefrom at an angle perpendicular to said edge, the width of said blade being approximately the distance across said parallel wall sections;
and a pair of transversely spaced packing wheels mounted in side by side locations on said framework immediately rearward of said wall sections and adjacent each side thereof, said wheels being mounted for ground contact slightly below the ground surface elevation.

3,261,311
FRINGE-FORMING MACHINE
Ollie R. Caylor, McDonald, Tenn., and James M. Feighery, Dalton, Ga., assignors to Tex Del Corporation, Dalton, Ga., a corporation of Georgia
Filed Mar. 17, 1964, Ser. No. 352,451
6 Claims. (Cl. 112—64)



1. A fringe forming machine comprising a pair of widely spaced elongated endless flexible elements having remote parallel runs moving in the same direction, a curved goose-neck tube having a discharge end projecting inwardly of one end of said flexible elements and having its other end mounted for rotation on an axis parallel to the plane of said flexible elements and to which latter end yarn is supplied for movement from said discharge end as said tube is rotated on said axis to wind the yarn transversely around both of said flexible elements, the curving of said tube providing for relatively free unrestrictive movement of yarn therethrough whereby the winding of the yarn takes place without appreciable stretching of the yarn around said flexible elements, said remote runs moving continuously to move successive turns of yarn away from the point at which the winding operation takes place, and means for stitching together the portions of the yarn above and below said flexible elements along a line between and parallel to said flexible elements.

3,261,312
VALVE SYSTEM FOR CONTROLLING A PRESSURE FLUID TO A THREAD CUTTER
Günter Myska, Bielefeld, Germany, assignor to Dürkoppwerke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany
Filed Mar. 10, 1964, Ser. No. 350,702
Claims priority, application Germany, Mar. 14, 1963, D 26,486
3 Claims. (Cl. 112—252)

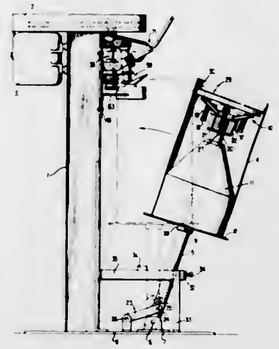


1. In an industrial sewing machine provided with a pneumatically operable thread cutter, in combination, a frame, a tube for pneumatic fluid supported on said frame, said tube being provided with a male termination on one side of said frame and with a complementary female termination on the opposite side of said frame, said male termination being receivable in a complementary outlet of a fluid-supply line whereby a group of such machines may be serially connected to said line with the male termination of a subsequent machine matingly received in the female termination of an immediately preceding one, self-closing valve means in said female termination adapted to be held open by a male termination inserted therein, said tube being further provided with a discharge port intermediate its terminations, and conduit means leading from said discharge port to said thread cutter.

3,261,313
METHOD OF UNITING POLYETHYLENE TEREPHTHALATE APPAREL STAYS TO FABRICS
William MacLeod Champion, Circleville, Ohio, and Sidney Commons Sanders, Bereldange, Luxembourg, assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 16, 1965, Ser. No. 440,285
3 Claims. (Cl. 112—265)

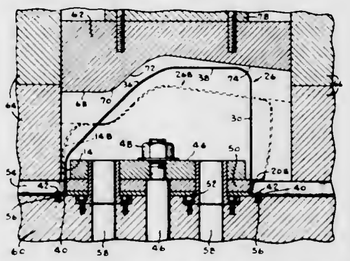
2. In a method of making a stiffened fabric, comprising, ascertaining the birefringence of biaxially oriented, heat-set polyethylene terephthalate film having a thickness from about 8 to 15 mils, and uniting stays made from said film to said fabric by stitches, utilizing the polyethylene terephthalate film which has been ascertained to have a birefringence of under about 0.058.

3,261,314
APPARATUS FOR ASSEMBLING CLOSURES
Andrew H. Campbell, 40 Bauer Terrace, Elizabeth, N.J., and James T. Kane, 572 1st St., Westfield, N.J.
Filed Nov. 4, 1963, Ser. No. 321,068
16 Claims. (Cl. 113—19)



1. In an apparatus for assembling a closure into the end of a container shell, the combination of a frame having a base, a mandrel pivotally mounted on said base for carrying a container shell, means on said mandrel for positioning a closure within one end of said container shell, a female crimping roll assembly journalled on said frame for cooperation with said one end of the container shell carried by said mandrel, a male crimping roll assembly pivotally and axially slidably mounted on said frame for radial and axial movement with respect to said female crimping roll assembly and engageable with said female crimping roll assembly, and means operatively connected to said male crimping roll assembly for moving said male crimping roll assembly simultaneously axially and radially to selectively engage and disengage said male crimping roll assembly with said female crimping roll assembly.

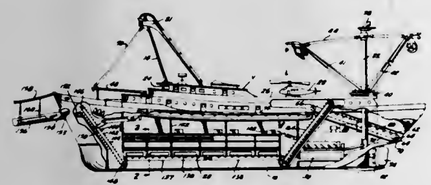
3,261,315
METHOD OF PRODUCING SHELLS OF COMPLEX CONFIGURATION
William Felten, 2218 S. 14th St., Sheboygan, Wis.
Filed Sept. 17, 1963, Ser. No. 309,447
9 Claims. (Cl. 113—120)



1. The method of manufacturing a steel shell having an opening which is defined by the edge of one side wall of the shell and by an inwardly bent flange which is integral with the other three side walls of the shell, comprising the steps of,
drawing a blanked shape to a form having an opening generally of equal size to the opening of the shell to be produced by this method, and having a front wall substantially shorter than the back wall, said front and back walls being integral with a bottom wall and two side walls to define a drawn shell having substantially greater depth at its back than at its front end,

securing said drawn shell in a die, applying hydraulic pressure to the inside of said drawn shell, applying external pressure to the bottom wall of said drawn shell by means of a punch having a slanted surface to thereby press said end and side walls downwardly against said die and in a direction away from said front wall, and to thereby cause said back and side walls of said drawn shell to bulge outwardly and cause part of said walls to be pressed against said die and to be bent to form the flanges on the three sides of said drawn shell, and permitting the front wall and part of the bottom wall at the front end of said drawn shell to bulge a predetermined amount upwardly yet limiting the lateral bulging of the front wall of said drawn shell to thereby prevent the formation of a flange at the front of said drawn shell, and relieving the internal pressure and removing the punch to thereby permit the removal of the formed shell from said die.

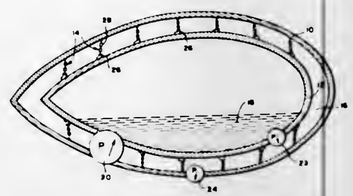
3,261,316
FISHING VESSEL
Mario J. Puretic, 901 E. 27th St., Long Beach, Calif. 90806
Filed June 10, 1964, Ser. No. 374,006
10 Claims. (Cl. 114—.5)



1. In a fishing vessel, the combination of:
loading means for removing fish from a net that is disposed adjacent said vessel;
a fish-receiving deck, said deck being formed with openings;
fish-distributing conveyor means that receive fish from said loading means and moves said fish along said fish-receiving deck;
fish-freezing means accessible from said fish-receiving deck by means of said openings and having downwardly and inwardly inclined lower walls;
adjustable guide plates on said deck to deflect said fish into said openings;
a refrigerated storage compartment below said freezing means that receives frozen fish from said freezing means under the influence of gravity, said storage compartment having downwardly and inwardly inclined lower walls;
power-operated fish-unloading conveyor means that receive fish from said storage compartment under the influence of gravity;
and upwardly inclined conveyor belts that receive fish from said fish-unloading conveyor means and move said fish upwardly out of the confines of said vessel.

3,261,317
METHOD AND VESSEL FOR DEEP DIVING
Dominique Gignoux, Washington, D.C., assignor to Cosmic, Inc., Washington, D.C., a corporation of Delaware
Filed July 27, 1964, Ser. No. 385,256
6 Claims. (Cl. 114—16)

1. A deep diving vessel, comprising:
(A) an outer metal hull;
(B) an inner glass hull defining a space therebetween; and
(C) connecting means for suspending said inner glass hull within said outer metal hull in spaced relationship, said connecting means including a plurality of



chains having one end attached to said outer metal hull and the other end thereof attached to said inner glass hull.

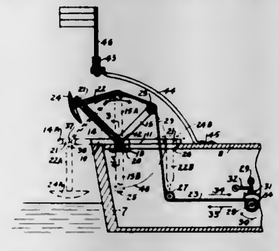
3,261,318
HYDRODYNAMIC VEHICLE
Burton A. Jones, 419 Lighthouse Drive, and George D. Lewis, 619 Riverside Road, both of North Palm Beach, Fla.
Filed Dec. 7, 1964. Ser. No. 416,243
9 Claims. (Cl. 114—16)



9. In a hydrodynamic vehicle:
(A) a body comprising
(1) an elongated shaft-like member having a forward end and a rear end,
(2) and a narrow block secured to the forward end of the shaft-like member, and extending lengthwise thereof;
(B) a pair of axles carried by said block and extending laterally from opposite sides thereof on a common transverse axis;
(C) elongated hydrofoils tiltably supported by said axles with the hydrofoils extending lengthwise of their respective axles and opposite one another;
(D) handles on said hydrofoils, extending upwardly from the top surfaces thereof at locations adjacent to said block;
(E) a tow line connector fixed with respect to said block;
(F) and means on the rear of said shaft-like member providing a foot rest at each side of the shaft-like member.

3,261,319
BOAT ANCHORS AND MEANS FOR MANIPULATING SAME
Robert Ellis, Solana Beach, Calif., assignor to Robert E. Peterson, Downey, Calif.
Filed Sept. 17, 1964, Ser. No. 397,192
14 Claims. (Cl. 114—210)

1. A boat anchor with means for manipulating same at a distance from the bow of the boat, a deck on the bow of the boat, an anchor having a shank, an anchor rope, one end of said rope being attached to the upstanding end of said shank, a shaft, bearings for said shaft, the said shaft being located transversely on said deck, an anchor arm, one end of said anchor arm being attached to said shaft while the other end thereof extends longitudinally forward partly over the tip of the bow of said boat when said anchor arm is swung into its maximum forward position, an elongated hole in the extended end of said anchor arm, the said elongated hole being adapted to receive the anchor rope and shank up



to the fluke of said anchor, an aperture through said deck, said aperture being in register with said elongated hole in said anchor arm when said arm is swung rearward in an arc of 180 degrees, with means for pulling said rope through said aperture from underneath said deck so that the shank of said anchor will project vertically down through said aperture in said deck with the edge of the fluke of said anchor flush onto the upper surface of said deck, and means for manipulating said anchor rope.

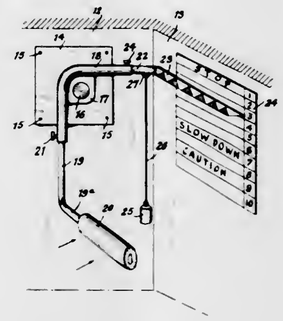
3,261,320
MARINE FENDER
Frank O. Leonard, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Apr. 30, 1965, Ser. No. 452,139
6 Claims. (Cl. 114—219)



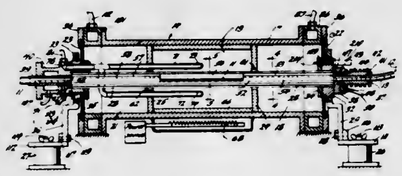
6. A resilient cushioning member for use in a bumper assembly of the type used to cushion the impact of a collision between a vehicle and another object comprising:
(A) A body member of elastomeric material having:
(1) A first pair of opposite parallel side walls;
(2) A second pair of longer opposite parallel side walls integrally connected to the first pair of side walls to form a body of rectangular cross section;
(3) A center wall integrally connected to the mid point of the second pair of walls;
(a) Said center wall dividing the interior of the hollow body into two continuous longitudinal parallel openings; and
(b) Both pairs of side walls and the center wall fully enclosing the parallel openings except at the ends of the body member thereof.

3,261,321
PARKING DEVICE
Otto Mandl, 1419 Eva Court, Baldwin, Long Island, N.Y.
Filed Feb. 1, 1965, Ser. No. 431,243
20 Claims. (Cl. 116—28)

1. A car position indicator, for indicating the position of a car relative to an obstruction in its path of movement, comprising, in combination, a plate constructed for securement to an upright surface parallel to the direction of car movement; a pivot extending substantially horizontally outwardly from said plate; a lever including a pair of rigidly interrelated, mutually perpendicular arm means, one arm means being a normally upright arm means pivotal on said pivot and the other arm means being a normally horizontal arm means extending from the lower end of said normally upright arm means substantially parallel to said pivot and laterally into the path of movement of the car for contact by an end portion of the latter to swing said lever about said pivot; a first indicator element fixed to said upright arm means for movement therewith; and a second indicator element fixed relative to said pivot; said first and second indicator elements conjointly providing a continual visual indication of the position of the car, engaged with said horizontal arm means, relative to such obstruction.

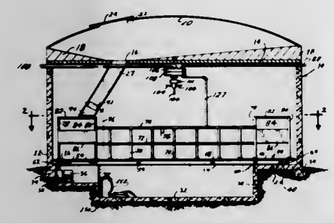


3,261,322
ARTICLE COATING APPARATUS HAVING VIBRATORY FEED
Byron G. Becker, and Wilhelm E. A. Schmidt, Winston-Salem, N.C., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed June 28, 1962, Ser. No. 206,057
17 Claims. (Cl. 118—47)



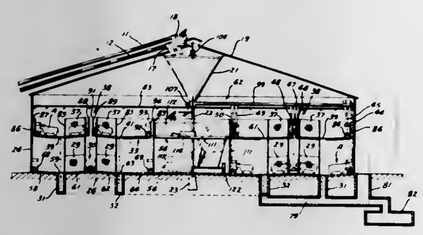
1. Apparatus for treating cylinder-like articles comprising
a treating chamber,
an article carrier member having a longitudinally extending pathway thereon which extends into the treating chamber, and
means for intermittently imparting components of force to the carrier member which are transverse and longitudinal to the pathway, which pathway imparts the force components to the articles to rotate the articles about their major axes within the pathway and to transport the articles along the pathway.

3,261,323
MILKING PARLOR
Page M. Steelhammer, Rte. 1, Box 281, Centralia, Wash.
Filed Jan. 9, 1963, Ser. No. 250,286
4 Claims. (Cl. 119—14.04)



1. A milking parlor, said parlor comprising a central working area for the opeartor, a platform on which a cow stands while being milked, said platform being positioned above the working area, said platform surrounding the central working area, means to move the platform around the working area, a rotating head, said rotating head comprising a stationary member and a movable member, a groove in the face of one of the members and which face faces the other member, an inlet connection in one of the members and which connection connects with the groove, an outlet connection in the other one of the members and which connection connects with the groove, said inlet connection connecting with a source of pulsating pneumatic pressure, a first passageway in the stationary member and a second passageway in the movable member, said first and second passageways being aligned, a first tubular member passing through said passageways, one end of said first tubular member connecting with a milk line, the other end of said first tubular member connecting with a second tubular member, means to unite the first and second tubular member so that one member may rotate with respect to the other member, and said second tubular member connects with the milk line of a milking machine.

3,261,324
LIVESTOCK RAISING BUILDING
William J. Conover, Rhodes, Iowa
Filed Dec. 10, 1964, Ser. No. 417,335
10 Claims. (Cl. 119—16)



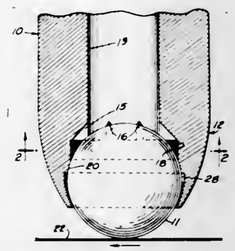
1. A farm animal feeding building comprising:
an upstanding wall forming a substantially circular enclosure and covered by a roof;
a ground floor having at least a pair of concentric rows of stalls for holding livestock therein, and a single feeding area intermediate said rows of stalls for supplying feed to both rows of stalls;
a second floor spaced above said ground floor, having a pair of spaced concentric rows of stalls, said second floor stalls having feeding areas at adjacent ends thereof; and
feed dispensing means mounted within said enclosure, below said roof and above said second floor, said means including means for transmitting feed selectively to said second floor feeding areas and through said space between the second floor rows of stalls to said first floor feeding area.

3,261,325
ROLLED ERASER AND HOLDER
Kwong Li Lou, % Civil Air Transport Inspection Dept., Tainan Air Field, Tainan, Taiwan, China
Filed Feb. 15, 1965, Ser. No. 432,727
16 Claims. (Cl. 120—36)



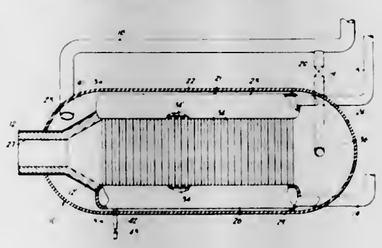
1. An eraser device for operating rolled strip erasers, comprising:
an eraser holder having first and second members connected by linking means;
clip means for locking the first and second members in a closed position;
an eraser body of generally helical configuration disposed within the eraser holder;
an eraser strip outlet tube formed in the second member and having a curved guide member thereon, said tube receiving a strip of eraser material from the helical eraser body;
means for urging the eraser body towards the outlet tube; and
means for selectively clamping the eraser body strip within the outlet tube.

3,261,326
WRITING INSTRUMENT
Robert G. Ryan, Janesville, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Continuation of application Ser. No. 101,554, Apr. 7, 1961. This application Feb. 7, 1964, Ser. No. 344,164
5 Claims. (Cl. 120—42.4)



3. A writing instrument comprising a unitary structure forming a socket for reception of a writing ball and a feed channel for supplying ink from a reservoir to said ball, a narrow annular shoulder of uniform width disposed rearwardly of the equator of said ball providing a controlled clearance between said shoulder and said ball, a lip disposed forwardly of the equator of said ball for retaining said ball in said socket, a rear seat surface rearwardly of said annular shoulder and comprising a plurality of land surfaces spaced mutually apart by radial fissures, an annular cavity surrounding said ball forwardly of said annular shoulder throughout a band of substantial width spanning the equator of said ball, and a second annular cavity disposed rearwardly of said annular shoulder in communication with said feed channel through the fissures separating the rear seat land surfaces.

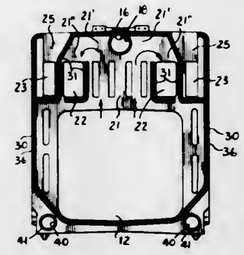
3,261,327
HEAT EXCHANGERS
Roland D. Baker, Alexandria, Va., and John W. Bishop, 920 Andover Drive, Alexandria, Va.; said Baker assignor to said Bishop
Filed Nov. 24, 1964, Ser. No. 413,554
7 Claims. (Cl. 122—32)



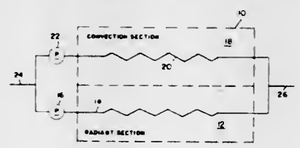
1. In a heat exchanger, a pressure containment casing, a convection unit mounted within and spaced from the walls of said casing, said unit having upper and lower drums, said unit having a pair of inner baffle walls coupled with said drums in defining a first inner pass and a pair of outer walls coupled with said drums in defining, in combination with said inner walls, a second outer pass, tubes crossing both passes and coupled with said drums, means at one end of the casing admitting a heating medium to flow through said first inner pass and then through said second outer pass in delivering heat to vaporize a liquid in said tubes, said unit having means confining the heating medium to said passes throughout the major part of the length of said casing to thereby reduce temperature of the heating medium prior to said heating medium coming into contact with said casing, means at the other end of the casing placing the first pass in communication with the second pass, a discharge duct for said heating medium at the first end of the casing, and bypass means at the second named end of the casing placing said last named means in communication with said discharge duct.

3,261,328
BOILER CONSTRUCTION
Johannes G. Mueller, Michigan City, Ind., assignor to Weil-McLain Company, Inc., Michigan City, Ind., a corporation of Indiana
Filed Apr. 29, 1964, Ser. No. 363,382
5 Claims. (Cl. 122—225)

1. In a multiple pass boiler adapted to be erected so as to define a sealed firebox, the combination which comprises, fully enclosed uptakes disposed laterally and extending from the firebox vertically adjacent the side walls of the boiler for receiving shares of the flue gas produced in the firebox, the uptakes being regular in cross section and extending uninterruptedly from the firebox to the top of the boiler, horizontal passages disposed centrally above said firebox inwardly from the uptakes, means connecting said horizontal passages to said uptakes, vertical outlet passages provided centrally at the top of the boiler above the firebox for receiving flue gas from the horizontal passages and uptakes, a vertical outlet mounted centrally at the top of the boiler and connected to the outlet passages, and means including turn-around passages for connecting the horizontal passages to the outlet passages so that the flue gas flow is divided into two paths causing substantially equal shares of flue gas to flow through the uptakes.



3,261,329
METHOD AND APPARATUS FOR HEATING WATER IN TUBING WITHOUT SCALING
James G. Withers, Jr., Dearborn, Mich., assignor to Calumet & Hecla, Inc., Allen Park, Mich., a corporation of Michigan
Filed Sept. 20, 1965, Ser. No. 493,607
6 Claims. (Cl. 122—379)

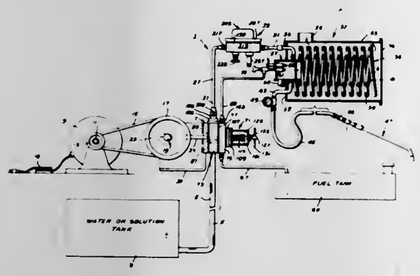


1. Apparatus of the character described comprising a first heat exchange passage for scale forming liquid to be heated, said first passage being formed of a metal subject to severe corrosion-erosion effects at a flow velocity in excess of 10 feet per second, means for forcing a first flow of the liquid through said first passage at a velocity of less than 10 feet per second, means for heating the liquid in said first passage to a temperature less than sufficient to produce substantial deposit of scale at the stated flow velocity, a second heat exchange passage in parallel with said first passage and formed of a metal characterized by high resistance to the corrosion-erosion effects of high velocity liquid flow, means for forcing a second flow of the same liquid through said second passage at a velocity of more than 15 feet per second, means for heating the liquid in said second passage to a higher temperature sufficient to cause precipitation of scale-forming solids, and means for subsequently mixing the heated liquid from both passages to form a heated liquid whose temperature is intermediate that of the liquids attained in said passages.

3,261,330
INTERLOCKED WATER AND FUEL SYSTEM FOR STEAM CLEANERS AND THE LIKE
Perry Arant, San Gabriel, Calif., assignor to Clayton Manufacturing Company, El Monte, Los Angeles, Calif., a corporation of California
Filed Nov. 7, 1962, Ser. No. 236,014
17 Claims. (Cl. 122—448)

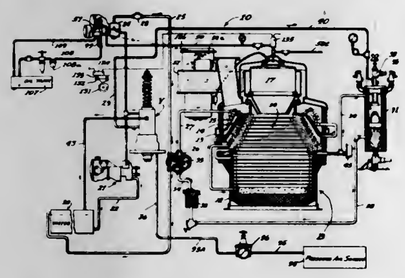
1. A liquid heating system, comprising: a heating coil for heating liquid while flowing therethrough; burner means arranged to heat the liquid in said heating coil; and means including a liquid and fuel pump assembly

for simultaneously pumping liquid to said heating coil and for pumping fuel to said burner, said pump including means for pumping said fuel that is actuated in re-



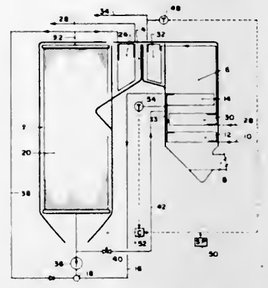
sponse to impulses created in the pumping of said liquid whereby in the absence of liquid to be pumped, no fuel will be pumped to the burner.

3,261,331
STEAM GENERATOR SYSTEM
George M. Egart, 202 N. Merrill, Park Ridge, Ill.
Filed Oct. 11, 1963, Ser. No. 315,587
16 Claims. (Cl. 122—448)



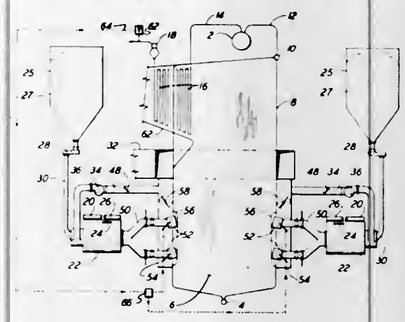
2. In a steam generating system having a boiler with a burner for burning fluid fuel and a liquid supply line for supplying water to the boiler, means for pumping said water at a constant rate through said supply line, a servo unit actuated by the flow rate of the feed water at a particular point in said supply line to vary the supply of fuel in direct proportion to the variations in the flow rate of the feed water at said point in said supply line, and means responsive to the output steam pressure of the boiler to bypass said water from said supply line before it reaches said point for varying the flow rate of feed water at said point, said last-mentioned means comprising a valve member having a spring normally urging said valve member toward said closed position and means associated with the valve member and responsive to steam pressure for imparting movement to the valve member in an opening direction, piston and cylinder means associated with said valve member for applying resilient force to the valve member in the same direction as said spring, a source of air under pressure, means including a variably settable pressure reducing valve for applying pressure air to said piston and cylinder means, said valve member being formed to gradually increase the effective area of the valve opening as the valve member is moved in an opening direction, and in the final portion of the opening stroke of the valve member, being arranged to rapidly increase the effective valve opening.

3,261,332
VAPOR GENERATOR VAPOR TEMPERATURE CONTROL
Wolfram G. Schuetzenduebel, Avon, and Richard D. Hottenstine and William H. Clayton, Jr., Windsor, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed June 4, 1964, Ser. No. 372,556
14 Claims. (Cl. 122—479)



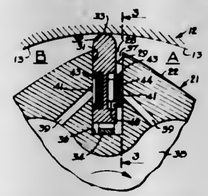
1. A supercritical pressure vapor generator having a first circuit, a second circuit, fluid passing through each circuit, a combustion zone for the burning of fuel therein, means for conveying combustion gases from said combustion zone; means effective to transfer heat from said combustion gases to said first circuit, including a section of said first circuit located in the flow path of said combustion gases; means effective to transfer heat from said combustion gases to said second circuit; means for transferring heat to the fluid entering said section of said first circuit from a portion of said first circuit downstream, with respect to the fluid flow, of said section of said first circuit whereby the effectiveness of said section for heat absorption is reduced, thereby increasing the relative heat absorption of said first circuit; means for determining the relative heat absorption of the fluids flowing through said first and second circuits; and means for regulating said heat transferred to said section of said first circuit from the downstream portion of said first circuit in response to said last-named means.

3,261,333
STEAM GENERATOR
James Jonakin, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,575
8 Claims. (Cl. 122—479)



1. A method of burning coal and generating steam in an apparatus having a first zone, a second zone, and nozzles for varying the location of said second zone, wherein the temperature of the steam may be controlled comprising: burning coal in a first zone; separating slag formed during such combustion from the gaseous effluent; draining the slag from said first zone; conveying the effluent from said first zone to a second zone and directing the effluent into said second zone through nozzles which are directionally adjustable; passing water in heat exchange relationship with said first and second zones thereby generating steam; subsequently passing the steam thus generated in heat exchange relationship with the effluent from said second zone at a preselected location downstream of said second zone; sensing this temperature of the steam thus heated; and regulating the direction of introduction of the effluent from said first zone into said second zone in response to said sensed temperature whereby the steam temperature may be regulated at a predetermined value.

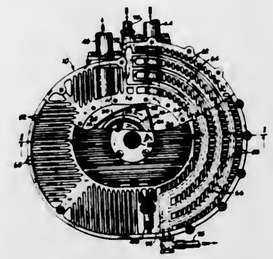
3,261,334
LUBRICATING SEALING STRUCTURE FOR ROTARY MECHANISMS
Hanns-Dieter Paschke, Neckarsulm, Wurttemberg, Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Lindau (Bodensee), Germany, both corporations
Filed Dec. 5, 1963, Ser. No. 328,420
Claims priority, application Germany, Dec. 11, 1962, N 22,466
9 Claims. (Cl. 123—8)



1. A rotary-piston internal combustion engine, comprising in combination an outer body having a pair of end plates interconnected by a peripheral wall to form a cavity therein having a longitudinal axis, a multi-apexed inner body disposed within said outer body for rotation relative thereto, said inner body being rotatable about an axis displaced from said outer body axis but parallel thereto to form between said inner and outer bodies a plurality of working chambers which vary in volume upon relative rotation between said inner and outer bodies, each apex of said inner body having a longitudinally extending groove, each of said grooves having disposed therein at least one longitudinally extending seal strip sweeping the inner surface of said peripheral wall in sealing relation thereto and capable of reciprocal radial motion, said inner body having an internal lubricant cavity and lubricant passage means from said lubricant cavity having an orifice in at least one wall of each of said grooves for delivery of lubricant thereto, and a dam element separate from its associated seal strip and covering each of said orifices and movable with said seal for distribution of lubricant from its associated orifice and occluding said orifice against free lubricant flow therethrough and against back-pressure from said working chambers, regardless of the associated seal strip orientation.

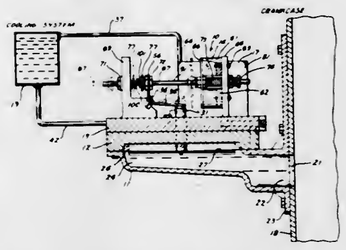
3,261,335
OUTER BODY CONSTRUCTION FOR ROTARY COMBUSTION ENGINES
Hans-Georg Zimmermann, Heilbronn, Germany, assignor to NSU Motorenwerke Aktiengesellschaft Neckarsulm, and Wankel G.m.b.H., Landau (Bodensee), Germany
Filed Oct. 21, 1964, Ser. No. 405,346
Claims priority, application Germany, Nov. 22, 1963, N 24,053
7 Claims. (Cl. 123—8)

1. An outer body construction for a rotary combustion engine having a liquid cooled rotor and wherein the engine working cycles always take place adjacent the same region of the outer body so that the outer body has a relatively cold region and a relatively hot region, a first plurality of spaced cooling fins projecting from the outer periphery of said outer body in the relatively hot region thereof with said spaced cooling fins forming cooling air passages therebetween, a second plurality of spaced cooling fins projecting from the outer periphery of said outer body in the relatively cold region thereof, and liquid cooler means disposed adjacent to the rela-



tively cold region of said outer body for cooling the liquid coolant for the rotor, said liquid cooler and said second plurality of cooling fins cooperating to form a plurality of air cooling passages passing through said liquid cooler so that cooling air passing over said outer body will remove heat from both said relatively hot and said relatively cold regions of said outer body and said liquid cooler means in the relatively cold region of said outer body.

3,261,336
SAFETY DEVICE FOR INTERNAL COMBUSTION ENGINE
Frank J. St. Lucas, Arthur F. Sholl, and Adolph W. Gebhardt, all of Omaha, Nebr.; said Sholl and said Gebhardt assignors to said St. Lucas
Filed Sept. 21, 1964, Ser. No. 397,838
9 Claims. (Cl. 123—41.15)



9. In an internal combustion engine having a crankcase, a supply of water for cooling the engine, and a device for stopping the engine, a safety apparatus selectively responsive to a predetermined pressure in the crankcase and to a predetermined loss of water, for actuating the device to stop the engine, said safety apparatus comprising in combination:

valve means including a housing and a reciprocable stem a portion of which is exposed beyond said housing, said valve operable in one position to actuate the device;

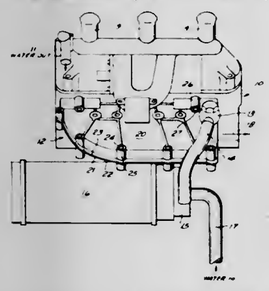
valve placement means including a plate secured to said stem and operable to place said valve means in said one position, said valve placement means including a pivotally mounted lever, a magnet mounted on said housing, a shie'd normally held against said magnet by the magnetic force thereof, a spring compressed against said shield and tending to force said shield away from said magnet, a rod secured to said

shield and slidably connected to said valve placement means for effecting movement thereon in response to movement of said rod away from said magnet, and a projection secured to said rod and engaging said lever, said projection engageable with said plate to move said valve means to said one position, and further wherein said plate is spaced slightly from said projection such that movement of said rod is under power of said spring upon engagement thereby with said plate;

first motor means operably connected to said lever and responsive to a predetermined crankcase pressure to place said valve means in said one position via said valve placement means; and

second motor means operably connected to said lever and responsive to a predetermined loss of water to move said valve placement means to place said valve means in said one position.

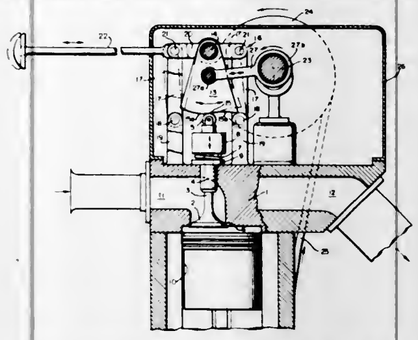
3,261,337
WATER-COOLED INTERNAL COMBUSTION ENGINE
Hans Müller, Im Rosental 19, Andernach, Germany
Filed Apr. 16, 1964, Ser. No. 360,393
Claims priority, application Germany, Apr. 19, 1963, H 48,881
6 Claims. (Cl. 123—41.31)



1. In an internal combustion engine for watercraft, in combination, a cylinder housing having cooling jacket means; an exhaust duct detachably secured to said housing and consisting of light metal and comprising a pair of shells having superimposed mating faces respectively provided with mirror-symmetrical open grooves therein, said shells being bonded together whereby said mirror-symmetrical grooves together form internal cooling channels which are in communication with said jacket means; and pump means arranged to feed water into said internal cooling channels so that the exhaust duct is cooled before such water enters said jacket means.

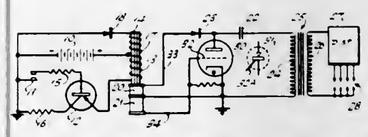
3,261,338
VALVE TIMING MECHANISM
Anatoly A. Arutunoff and H. Bryon Crow, both of Bartlesville, Okla., assignors to Automobile Racing Club of Oklahoma, Inc., Cherokee, Okla., a corporation of Oklahoma
Filed July 13, 1964, Ser. No. 382,199
5 Claims. (Cl. 123—90)

1. A valve timing mechanism for internal combustion engines including a series of valves respectively provided with projecting valve tappets; said timing mechanism comprising a series of cam elements rotatably suspended for independent oscillating movement on a common overhead supporting shaft, said shaft being carried by a pivotally mounted parallelogram frame, said cam elements being positioned on said shaft to present their respective lobes in sliding contact with said valve tappets, an eccentric crankshaft parallel with and laterally spaced from said supporting shaft, connecting rods between respective cam elements and said crankshaft, drive means for said crankshaft operatively connected with the drive shaft of said engine, and means for laterally adjusting the position of said supporting shaft for varying the spacing of the



axis of said supporting shaft with respect to those of said crankshaft and valves, to thereby vary the timing and extent of oscillating movement of said cam elements with respect to said valve tappets and, in turn, the timing of the operation of said valves.

3,261,339
MAGNETOSTRICTIVE TRANSFORMER
Halsey P. Quinn, Morris Plains, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed Mar. 11, 1963, Ser. No. 264,216
10 Claims. (Cl. 123—148)



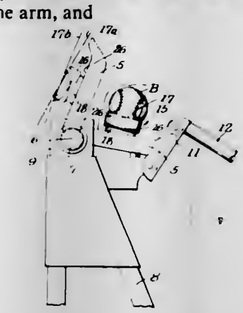
1. An ignition circuit for internal combustion engines comprising; an input circuit including a source of direct current, a pair of breaker contacts, and circuit means for generating a series of current pulses; a transformer which includes a winding on a magnetostrictive core and a pair of piezoelectric crystals mechanically coupled to a portion of said core, said winding having its terminals connected to said input circuit for receiving said current pulses; an output circuit including a storage capacitor connected in series with a primary winding of an output transformer and a rectifier; said output circuit connected across one of said crystals for charging the capacitor during a charging interval; and a discharge device connected across said capacitor and said primary winding for discharging the capacitor through the primary winding during a discharge interval, said discharge device coupled to the other crystal for initiating the discharge.

3,261,340
BALL-PITCHING MACHINE WITH TRAJECTORY-CONTROLLING MEANS
Roy C. Laird, P.O. Box 75, Palmdale, Calif.
Filed Sept. 24, 1964, Ser. No. 398,843
4 Claims. (Cl. 124—7)

1. In a ball-pitching machine having a ball-pitching arm mounted on an energy-storing member and provided with means to hold said arm while energy is stored in the mentioned member and to release the arm to swing under force of the energy stored in said member, the improvements that comprise:

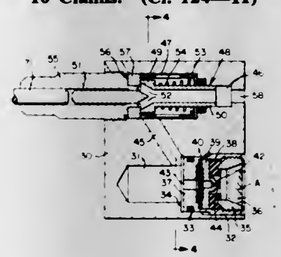
(a) a ball-holding device on said arm and having a ball-supporting rim,

(b) means engaged with the arm and the ball-holding device to adjust the rim of the latter at various angles relative to the arm, and



(c) said means comprising a wedge shim member interposed between the device and arm, and means to resiliently bias the device into angle-accommodating engagement with the shim member.

3,261,341
GAS-POWERED GUN
Rudolf Merz, Rochester, N.Y., assignor to Crosman Arms Company, Inc., Fairport, N.Y., a corporation of New York
Filed Oct. 28, 1964, Ser. No. 407,038
10 Claims. (Cl. 124—11)



1. A gas-powered gun, comprising

(a) a frame having therein a recess for removably housing a capped cartridge containing gas under pressure,

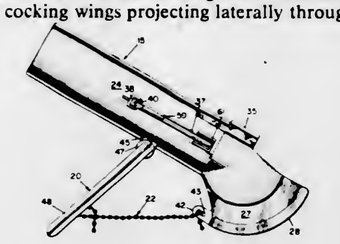
(b) a movable piercing point mounted in said frame,

(c) means for removably mounting a gas cartridge in said recess with its capped end confronting said point, said means including manually adjustable means for shifting said capped end into puncturing engagement with said point, and

(d) pressure-responsive means operative upon release of gas from said cartridge automatically to shift said point deeper into the capped end of said cartridge, independently of the adjustment of said mounting means.

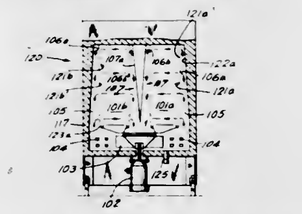
3,261,342
TOY MORTAR
David R. Harper, George W. Lescher, and George W. Dunbar, Nashville, Tenn., assignors to Kusan, Inc., Nashville, Tenn., a corporation of Kentucky
Filed May 20, 1964, Ser. No. 368,900
14 Claims. (Cl. 124—29)

9. A toy firearm for firing a projectile comprising, in combination, an open barrel terminating in a transversely disposed reinforcing bulkhead defining the other end of the barrel; a slot formed in said bulkhead; a transversely disposed, circular reinforcing rib intermediate the length of the barrel to support a projectile in position to be struck and ejected from the barrel; a slot formed in each side of said barrel and extending longitudinally from said rib toward said bulkhead; a plunger slidably mounted in said bulkhead slot and terminating at its forward end in a pair of cocking wings projecting laterally through and



slidable in said side slots; and a spring mounted on said plunger against said wings and acting against said bulkhead to move said plunger against a projectile seated on said rib.

3,261,343
APPARATUS FOR HEATING FOOD
Bengt Gunnar Julius Tibell, Bandhagen, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Feb. 21, 1964, Ser. No. 346,502
14 Claims. (Cl. 126—21)



1. Apparatus for heating to a definite elevated temperature food held in receptacles of substantially the same size comprising:

(a) a casing having opposing side walls and top and bottom end walls defining an upright heating space,

(b) structure for openly stacking a plurality of the receptacles one above another in vertically spaced relation in the heating space, said stacking structure comprising vertically spaced apertured shelves disposed one above another for supporting the receptacles in the stack,

(c) the opposing side walls having vertically spaced slots and respectively defining an air inlet side and an air outlet side of the heating space,

(d) a circuit for circulation of air including the heating space and conduit structure having one end communicating with the air inlet side of the heating space and the opposite end communicating with the air outlet side thereof,

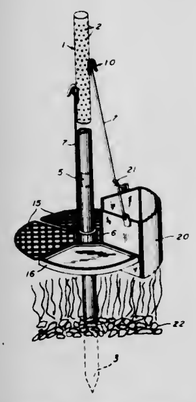
(e) means in the conduit structure for heating air flowing to the air inlet side of the heating space,

(f) means in the conduit structure for forcibly circulating the air at a sufficiently high velocity for the heated air flowing to the air inlet side to be divided at the slots therein to produce a plurality of air streams which flow contiguous to and in physical contact with one another and horizontally one above another from the air inlet side to the air outlet side of the heating space and discharge through the slots in the air outlet side exteriorly of the heating space,

(g) the conduit structure comprising the slotted air inlet side of the heating space to provide a vertically extending air delivery channel with successive zones thereof in the direction of air flow having increasingly smaller cross-sectional areas, and

(h) distributing means embodied in the air delivery channel which includes distributing at the air inlet side a plurality of the slots having a total cross-sectional area within a range from about forty-five to seventy percent of the maximum cross-sectional area of the air delivery channel for distributing the heated air and introducing each distributed part of the heated air into the slots at the air inlet side at an inlet pressure to cause all of the air streams to flow substantially at the same speed across the heating space from the air inlet side to the opposite air outlet side, whereby the air streams collectively will form a continuously moving body of air in the heating space which envelops all sides of the receptacles in the stack with successive portions thereof passing only once from the air inlet side to the air outlet side to rapidly heat all of the food in the receptacles in the stack uniformly and for the food in all of the receptacles to reach the definite elevated temperature at substantially the same time.

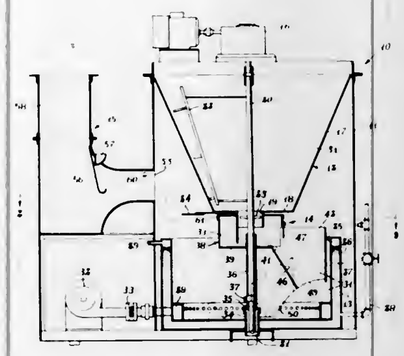
3,261,344
PORTABLE BARBECUE AND CAMP COOKER
John D. Petrie, 3641 9th St. SW., Calgary, Alberta, Canada
Filed Oct. 19, 1964, Ser. No. 404,762
Claims priority, application Canada, Oct. 25, 1963, 887,618
6 Claims. (Cl. 126—30)



1. A portable cooking stand comprising, an upstanding supporting post, a collar slidably and rotatably mounted on said supporting post, means attached to said collar and adjustably engageable with the upper portion of said post whereby to adjustably support said collar in a position below said means, at least one bearing member on said collar, and a cooking element supportable by said bearing member.

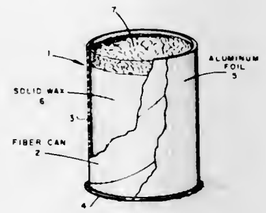
3,261,345
AUTOMATIC SMOKE GENERATOR
Harold K. Tuck, Beloit, Wis., assignor to United Industries, Inc., Chicago, Ill., a corporation of Illinois
Filed June 11, 1964, Ser. No. 374,421
6 Claims. (Cl. 126—59.5)

1. An automatic smoke generator comprising, a fire pot having an annular burning area, a supply hopper positioned above said fire pot and said annular burning area being adapted to be filled with burnable material, an opening in said supply hopper for permitting flow of said material therethrough, an intermediate rotary hopper adapted to receive material from said supply hopper, distributor hopper means in communication with said intermediate rotary hopper, drive means adapted to rotate said intermediate and said distributor hoppers about a central axis, vane means on said supply hopper projecting into said intermediate rotary hopper, said vane means serving to eject material into said distributor hopper on each rotation



thereof, and means associated with the lower edges of said distributor hopper to control the release of material therefrom into said annular burning area, said last named means being positioned within said fire pot and maintaining a uniform depth of burnable material about said axis in said annular burning area to minimize flame-ups and promote cool smoking.

3,261,346
SOLID FUELED HEATER
Mathis T. Waddell, John M. Powers, Rhoderick K. Saunders, and Robert L. Paulsel, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed Nov. 19, 1964, Ser. No. 412,553
8 Claims. (Cl. 126—59.5)



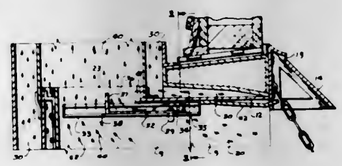
1. A solid fueled heater which comprises:
a container consisting of a lower end and a body of combustible material, the outside of said material covered with a flame-proof and water-resistant substance;
a wax having a melting point above about 140° F. and a fire point above about 525° F. which substantially fills said container; and
a wax-impregnated, heat-insulating, non-combustible cap which is in said container contiguous with said wax and conforms in shape to said lower end of said container.

3,261,347
CHEMICAL HEATING BLANKET
Louis M. Sherman, 732 Wesley Ave., Ocean City, N.J. 08226
Filed May 27, 1965, Ser. No. 459,480
9 Claims. (Cl. 126—263)



1. A chemical beating blanket comprising a pliable, absorbent layer impregnated with a mixture of an exothermic compound selected from the group consisting of a peraminoethylene, triethylaluminum, triisobutylaluminum, diethylzinc and dibutylzinc and a diluent selected from the group consisting of neutral oil and fluorocarbon, said layer having a surface film impervious to said mixture.

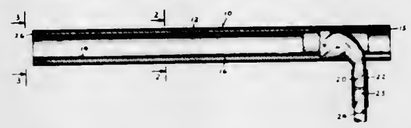
3,261,348
FIREPLACE DAMPER CONSTRUCTION
John V. Northwood, Lee's Summit, Mo., assignor to Sadie Miriam Northwood, Lee's Summit, Mo.
Original application Oct. 17, 1962, Ser. No. 231,062, now Patent No. 3,190,281, dated June 22, 1965. Divided and this application June 7, 1965, Ser. No. 461,670
5 Claims. (Cl. 126—288)



1. In a fireplace construction having a forwardly open firebox with a top wall and having a front and a rear portion, a draft opening extending upwardly through said firebox adjacent said top wall at said rear portion for carrying off hot gasses from said firebox:
(a) an adjustable damper plate in said firebox, guide means in said firebox for adjustably supporting said damper plate across said firebox draft opening,
(b) said guide means supporting said damper plate spaced downwardly from said firebox top wall forming therewith an air passageway having one end communicating with said firebox at said forward portion and the other end opening at said rear portion into said draft opening,
(c) whereby relatively cool air is drawn into said firebox through said passageway and into said draft opening due to the adjacent movement of hot gases through said opening for cooling said firebox top wall.

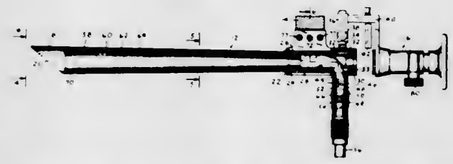
3,261,349
ENDOSCOPE
Frederick J. Wallace, New York, N.Y., assignor to American Cystoscope Makers, Inc., Pelham Manor, N.Y., a corporation of New York
Filed Aug. 29, 1963, Ser. No. 305,304
9 Claims. (Cl. 128—6)

1. In an endoscopic instrument for the examination of internal orifices the improvement comprising first and second rigid concentric tubes defining an annular space between them, a plurality of optic fibers disposed in said annular space, said fibers and said tubes being rigidly adhered together along substantially the entire length of said instrument, the proximal ends of said optic fibers extending adjacent the proximal ends of said tubes being



adapted for coupling to a light source and the distal ends of said optic fibers being adapted to illuminate the internal orifice.

3,261,350
ENDOSCOPE
Frederick J. Wallace, New York, N.Y., assignor to American Cystoscope Makers, Inc., Pelham Manor, N.Y., a corporation of New York
Filed Sept. 16, 1963, Ser. No. 308,954
3 Claims. (Cl. 128—6)



1. In an endoscopic instrument for examining interior portions of the thorax comprising a cylindrical endoscopic sheath and telescopic inspection means, the improvement comprising a rigid light carrier conforming to the internal shape of the endoscopic sheath and further comprising an outer tube. an inner tube defining an elongated cavity therewith, said outer and inner tubes being mounted in and extending from adjacent the proximal end to adjacent the distal end of said sheath and a plurality of optic fibers disposed within said cavity and extending about and along substantially the entire length of said tubes, said optic fibers being bonded together and substantially rigid from end-to-end thereof, the proximal end portions of said optic fibers being formed into a rigid rod and adapted for connection to an external light source, whereby the portions of the thorax may be brilliantly illuminated thereby aiding diagnosis and treatment.

3,261,351
ENDOSCOPE
Frederick J. Wallace, New York, N.Y., assignor to American Cystoscope Makers, Inc., Pelham Manor, N.Y., a corporation of New York
Filed Oct. 10, 1963, Ser. No. 315,197
2 Claims. (Cl. 128—6)



1. An endoscope for use in examining and treating an internal body orifice comprising first and second tubular sheaths; said first tubular sheath extending from adjacent the proximal end of said endoscope to adjacent

the proximal end of said second tubular sheath and said second tubular sheath extending from adjacent the distal end of said first tubular sheath to adjacent the distal end of said instrument; a first mounting member connecting the distal end of said first sheath to the proximal end of said second sheath with said sheaths forming an acute angle; first and second telescope systems disposed within said first and second sheaths, a plurality of light-conducting fibers extending along and between said first and second telescope systems and said first and second sheaths from adjacent the proximal end of said first sheath to adjacent the distal end of said second sheath and arranged to transmit light from the proximal end of said first sheath to the distal end of said second sheath for illuminating the internal orifice; means forming an irrigation channel within said first and second sheaths and adapted to conduct irrigation fluids therethrough; and a telescopic eyepiece connected to the proximal end of said first sheath and adapted for visualizing the internal orifice.

3,261,352
HERNIA TRUSS
Harry D. Naum, 2744 Bedford Ave., Brooklyn, N.Y.
Filed Nov. 20, 1963, Ser. No. 324,997
4 Claims. (Cl. 128—95)



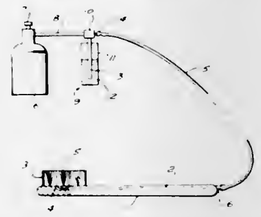
1. A hernia truss comprising a supporting member adapted to be positioned at the groin of a wearer, a split metal belt-like member having its ends mutually separated, said metal belt-like member being adapted to be positioned and held at the waist area of a wearer and firmly carrying said supporting member at an end area thereof, the said supporting member consisting of a relatively thin piece of concavo-convex springy material simulating in form the palm of a human hand and carrying downwardly projecting and mutually spaced finger-like members approximating in width and length the fingers of an adult human hand, which finger-like members are flexible at least in directions transversely of said supporting member, and pad-means of soft and yielding material carried by the supporting member at its concave face.

3,261,353
VAGINAL DEVICES
Thomas H. Johnson, 111 E. 71st St., New York, N.Y.
Filed May 13, 1963, Ser. No. 279,784
3 Claims. (Cl. 128—127)



1. A conception control device comprising
(a) a semi-cylindrical cuff member, having
(b) a front, and
(c) a rear end,
(d) said front end being formed into a conically shaped enclosure portion, and
(e) said rear end being open so that an open trough is provided which extends from said conically shaped enclosure portion to said open rear end;
(f) the cuff member being further provided with
(g) a flexible handle means extending across the open rear end so that easy removal of the device from the vagina may be effected,
(h) said semi-cylindrical cuff member further comprising
(i) an inner surface layer of sheet rubber impermeable material having
(j) an outer surface layer of foam plastic sheet material,
(k) said outer surface layer being impregnated with
(l) a spermatocidal material, whereby
(m) when the device is inserted into the vagina with the conical shape enclosure portion first,
(n) the open trough faces the posterior wall of the vagina and
(o) the outer impregnated surface layer engages the anterior and side walls of the vagina so that
(p) said outer spermatocidal layer prevents any sperm escaping the inner surface area and entering the area around the cervix.

3,261,354
TOOTH CLEANING TOOL
Harry Shpuntoff, 40—49 74th St., Jackson Heights 73, N.Y.
Filed Apr. 4, 1963, Ser. No. 274,372
7 Claims. (Cl. 128—173)

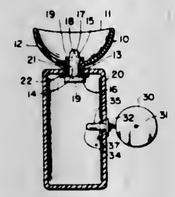


1. In a tooth cleaning tool, in combination, an elongated handle formed with a conduit therein; a dam member of yieldably resilient material mounted on a longitudinal end portion of said handle and defining an elongated cavity open in a direction transverse of the direction of elongation thereof, said conduit having an orifice in said cavity; a plurality of bristles mounted in said cavity on said handle in longitudinally spaced relationship and extending therefrom in said transverse direction; and pressure means for discharging a mixture of a liquid and a gas through said orifice in said transverse direction.

3,261,355
AERATED EYE CUP WITH AIR STORAGE VESSEL
Henry Burbig, 1519 Metropolitan Ave., Bronx 62, N.Y.
Filed Mar. 11, 1964, Ser. No. 350,979
2 Claims. (Cl. 128—249)

1. An eye bathing device of the type supplying air agitation to the bathing liquid, the improved construction comprising in combination,
an eye cup, an air pressure supplying means and an air pressure vessel between the eye cup and the pressure supplying means,
means connecting said air pressure supplying means to the pressure vessel comprising a first one way valve constructed and arranged to feed air into said air pressure vessel but not out of said vessel,

means connecting said air pressure vessel to said eye cup comprising a second one way valve constructed and arranged to feed air to an internal portion of said eye cup but not into said pressure vessel,



the capacity of said first one way valve to feed air per unit of time being greater than the capacity of said second one way valve whereby pressure may be stored in said pressure vessel.

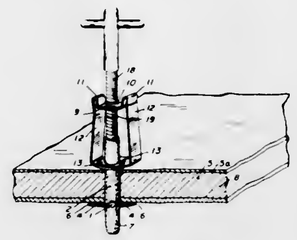
3,261,356
SUCTION AND ILLUMINATION DEVICE
Frederick J. Wallace, New York, N.Y., assignor to American Cystoscope Makers, Inc., Pelham Manor, N.Y., a corporation of New York
Filed Oct. 21, 1963, Ser. No. 317,749
3 Claims. (Cl. 128—276)



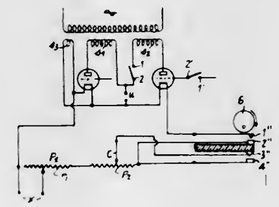
1. A suction and illumination device for removing fluids from a surgical wound while simultaneously illuminating the wound, comprising an outer tube, an inner tube disposed within said outer tube and defining an elongated annular chamber therewith, a plurality of elongated light-conducting fibers disposed within said annular chamber and extending from the distal end of said tubes to a point outside said outer tube, means for connecting the proximal ends of said fibers to a source of illumination, means for connecting said inner tube to a source of suction, and means on the distal end of said inner tube for preventing blocking of the same by mucosa.

3,261,357
EXTRACTOR FOR PERITONEAL ENTRY DEVICE
Martin Roberts, Pacoima, and Stuart M. White, La Canada, Calif., assignors to Don Baxter Inc., Glendale, Calif., a corporation of Nevada
Filed Aug. 26, 1963, Ser. No. 304,497
7 Claims. (Cl. 128—348)

1. In combination:
a. A medical device having an outer tube and an inner tube longitudinally slideable within the outer tube; and
b. an extractor removably attached to the medical device for longitudinally sliding the inner tube relative to the outer tube, said extractor comprising
(1) a top plunger guide member having a guide hole,
(2) a movable plunger member fitted within the guide hole in said top plunger guide member, said plunger adapted when urged by manual force to push the inner tube further into the outer tube of said medical device,
(3) a side member connected to each side of said top plunger guide member and extending downwardly therefrom, and
(4) a laterally movable spring biased clamping jaw extending inwardly and connected to each of said side members at a location spaced from the top plunger guide member, each clamping jaw having an opening through which the medical device extends, said jaws having gripping means surrounding the outer tube against rotary and axial movement as said plunger pushes the inner tube further into the outer tube.

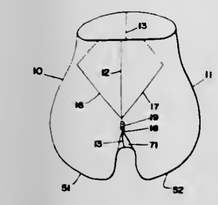


3,261,358
SOURCE OF CURRENT FOR APPLICATION TO A PATIENT FOR OBTAINING A THERAPEUTIC EFFECT
Pierre Denis Bernard, 1 Rue Albert Sorel, Paris, France
Filed Oct. 28, 1963, Ser. No. 319,489
Claims priority, application France, Mar. 20, 1959, 39,226, Patent 1,219,027; Jan. 28, 1960, 40,104, Patent 77,046
8 Claims. (Cl. 128—423)



1. A source of current for application to a patient for obtaining a therapeutic effect, said source comprising an alternating current energizing circuit, an output circuit for connection to said patient, a plurality of rectifier means, cyclically operative switching means, circuit means connecting said energizing circuit to said output circuit through said rectifier means, said switching means being connected to said circuit means to produce alternately a full-wave rectified current and a half-wave rectified current in said output circuit, a circuit element for reducing current flow in said output circuit, said switching means comprising contact means connected to said circuit element for continuously maintaining the intensity of said half-wave current at a reduced value with respect to the intensity of said full-wave current throughout the entire period of production of said half-wave current and the initial and terminal periods of production of said full-wave current, and manually operable means for adjusting the relative intensities of said full-wave and half-wave currents with respect to each other whereby a uniformity of response of the patient to both currents is obtained.

3,261,359
GARMENT
Barbara V. Gould, 2193 S. Overlook Road, Cleveland Heights 6, Ohio
Filed Mar. 17, 1964, Ser. No. 352,535
3 Claims. (Cl. 128—526)



1. In a figure-controlling garment comprising paneling of elastic material extending around one hip portion of the garment from the front to the back of the garment and around the other hip portion of the garment from the front to the back of the garment, the paneling being joined together in front and back, a legpiece of elastic material associated with the paneling on each side of the garment, each legpiece comprising a looped band extending within the lower hip portion of its associated paneling, the paneling and legpieces being cojoined and respectively positioned and formed to comprise means for yieldingly bearing tension, when the garment is worn, along a reverse spiral path extending along the front of the paneling transversely and downwardly to the rear portion of each legpiece, thence around the legpiece to the front thereof and thence transversely and upwardly along the back of the paneling, the legpieces extending under the buttocks of the wearer to provide free hinging action of the legpieces with respect to the paneling to minimize additional tension over the buttocks and riding-up of the garment incident to bending of the wearer's legs toward the trunk, as in alternate sitting and standing, the improvement of combining as part of the above recited garment a skirt portion at the rear side of the paneling, said skirt portion having a low center point, cooperating releasable fastening means at the low center point of said skirt portion and at the lower center of the front paneling whereby said skirt portion may be drawn over the crotch area between the legs of a wearer and fastened to form a releasable closure.

3,261,360
INTERLOCK HOSPITAL CHART HOLDER
Richard J. Frank, 1372 39th Ave. NE., St. Petersburg, Fla.
Filed Feb. 27, 1964, Ser. No. 347,755
1 Claim. (Cl. 129—35)

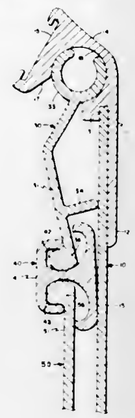
In a chart holder of the type used in hospitals to identify, secure and protect patient records,

(a) A back element comprising a flat chart supporting section approximately the same size as said records and having integral therewith at its top and extending the full width thereof a name card holder, the lower surface between said card holder and chart supporting section comprising a hollow longitudinal cylindrical hinge recess, and

(b) A clamping front element having its upper part in pivotal relationship within said cylindrical hinge recess, a pin fitted inside of said upper part, concentric with said cylindrical hinge recess and extending beyond the full width of said back element, and a clamp bar integral with said front element and parallel to said hinge recess, projecting from the rear surface of said front element and proportioned to press against said back element, an enlarged end bead along the lower edge of said front element, and

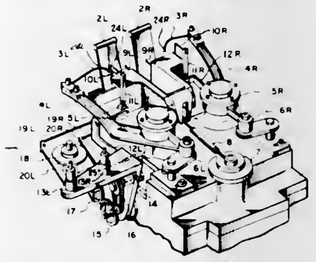
(c) A coil spring fitted around said pin and abutting against said clamping front element to press said clamp bar against said back element, and

(d) A hinge body proportioned to pivotally engage at its upper portion said end bead and having a lower recess parallel thereto, and



(e) A front element having an enlarged end bead along the upper edge thereof, proportioned to fit within said lower recess and in pivoted engagement therewith and extending below to provide a flat cover sheet proportioned substantially to cover the said flat chart supporting section.

3,261,361
ATTACHMENT FOR NEEDLE LOOM
Angus L. Power, Medfield, Mass., assignor to United Elastic Corporation, Easthampton, Mass., a corporation of Massachusetts
Filed June 29, 1964, Ser. No. 378,778
1 Claim. (Cl. 139—118)



In a needle loom for weaving a plurality of webs including weaving zones for each web, reciprocating needles and reeds in predetermined synchronism, the improvement which comprises,

(a) a member on one side of each weaving zone, said member being capable of limited vertical movement and lateral movement and comprising an arm carrying a pointed thread engaging element positioned so that in its lower position of vertical movement it engages a weft thread as the needles move inwardly through the weaving zone to hold the thread in the form of a loop,

(b) means underneath the weaving zones of the loom driven in synchronism with the loom drive for raising the pointed thread engaging element as the needle approaches its outer most point and the reeds begin to move in to beat the weft up, whereby the weft thread loop held by the pointed member is beaten up with the pick, the means for vertical movement of the pointed member comprising eccentrics bearing on the arms carrying the pointed element and being driven to lower the elements to thread engaging position as the needles begin their inward travel, and

(c) means driven in synchronism with the loom drive but at a much slower rate than the drive means for the needles, said means comprising a single cam, dual cam followers and rods driven thereby beneath the web to move the pointed members gradually in and out, whereby a predetermined pattern of loop length is produced.

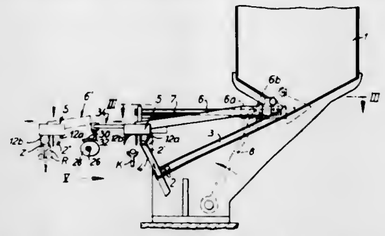
3,261,362
HURDLE TYPE STRAW SHAKER FOR COMBINE HARVESTERS
Reinhold Claas, 64 August Claas Strasse, Harsewinkel, Westphalia, Germany
Filed June 27, 1963, Ser. No. 290,976
Claims priority, application Germany, Jan. 9, 1963, C 28,865
1 Claim. (Cl. 130—26)



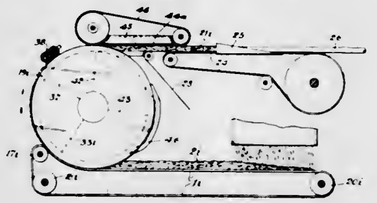
In a combine harvester including a housing having a pair of side walls extending in the direction of movement of the combine harvester, in combination, cleaning means extending between said side walls; a hurdle type straw shaker arranged above said cleaning means and comprising a plurality of shake members arranged side by side between said side walls and each including a collecting tray and covering means for and extending over the whole area of, the respective collecting tray, said covering means having openings through which grain separated from straw fed over said covering means can drop onto the respective subjacent collecting tray in order to be fed to said cleaning means, each of said collecting trays having a rear end at a higher elevation than a front end thereof and each of said collecting trays having a pair of spaced side walls, the spacing between the side walls of each tray tapering from said rear towards said front end and the side walls of each tray closer to the respective side wall of said housing extending at a greater angle to a longitudinal plane of symmetry to said housing than the other side wall of each tray, so that, even when said combine harvester tilts during its travel in a direction transverse to its movement, a substantially even distribution of the grain over the width of said cleaning means is obtained.

3,261,363
CIGAR MAKING MACHINES IN GENERAL, AND MORE PARTICULARLY AN APPARATUS FOR APPLYING WRAPPERS TO CIGAR FILLERS
Walter Pallach, Hamburg-Bergedorf, and Willi Thiele, Geesthacht-Tesperhude, Germany, assignors to Hauni Werke Koerber & Co. K.G., Hamburg-Bergedorf, Germany
Filed Mar. 9, 1965, Ser. No. 438,252
Claims priority, application Germany, June 1, 1960, H 39,579
13 Claims. (Cl. 131—36)

1. In a cigar making machine, in combination, a source of double length cigar fillers; a first and a second source of cigar wrappers, said last named sources being spaced from said first named source; a rolling mold arranged to apply pairs of wrappers to consecutive fillers, said rolling mold being spaced from each of said sources; first and second transfer means for respectively conveying consecutive wrappers from said first and second sources to said rolling mold; a gripper arrangement including carriage means carrying gripper means reciprocably between said first named source and said rolling mold so as to deliver a double length filler while moving toward said mold and to withdraw a wrapped filler while moving away from said mold; and means for operating said gripper arrangement.



3,261,364
METHOD AND APPARATUS FOR PRODUCING A CONTINUOUS TOBACCO ROD
Kurt Körber, Am Pfingstberg 10, Hamburg-Bergedorf, Germany, and Willy Richter, Hamburg-Bergedorf, Germany; said Richter assignor to said Körber
Filed Dec. 28, 1959, Ser. No. 862,386
Claims priority, application Germany, Dec. 30, 1958, H 35,248; Jan. 22, 1959, H 35,430; Feb. 5, 1959, H 35,563
26 Claims. (Cl. 131—84)

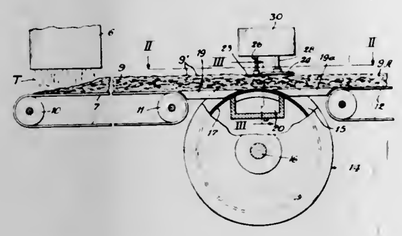


12. An apparatus for producing a continuous tobacco rod, comprising a tobacco distributor arranged to deliver at least such quantities of tobacco as are required to form the intended tobacco rod; first conveyor means arranged to receive tobacco from said distributor and to form a continuous tobacco stream; a rotary wheel having a circumferential groove into which the tobacco stream is transferred by said first conveyor means; trimming means adjacent to said circumferential groove and operative upon the tobacco stream to remove tobacco therefrom; and second conveyor means arranged to return tobacco removed by said trimming means to said first conveyor means.

3,261,365
CONTINUOUS CIGARETTE ROD MAKING MACHINES
Kürt Körber, Pfingstberg 10, Hamburg-Bergedorf, Germany
Filed Feb. 1, 1960, Ser. No. 5,836
Claims priority, application Germany, Feb. 2, 1959, H 35,519
4 Claims. (Cl. 131—84)

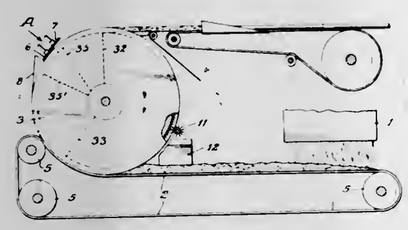
1. In a cigarette rod making machine, in combination, a first conveyor defining a first elongated tobacco-receiving channel which is open at one side thereof; distributor means for showering tobacco through the open side of said channel at such a rate that tobacco entering said

channel forms a stream which contains tobacco in excess of that required in the cigarette rod; a rod forming conveyor defining a second elongated tobacco-receiving channel which is spaced from and which is substantially aligned with and located substantially at the same elevation as said first channel; transfer means for transferring the stream from said first channel toward said second channel along a substantially straight path which constitutes an extension of the path of tobacco in said first channel and for continuously guiding the tobacco stream from the point where the stream leaves said first channel to the point where the stream enters said second channel, said transfer means defining an elongated tobacco-receiving groove open at one side so that one surface of the tobacco stream



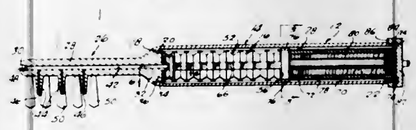
is exposed during travel in said groove and said transfer means comprising a suction conveying device arranged to create a pressure differential across the path of the tobacco stream in said groove so that the stream is compressed in a zone along its path from the first to the rod forming conveyor and said transfer means further comprising at least one endless travelling wall member which is adjacent to said groove; and a trimming device adjacent to the open side of said groove for removing excess tobacco while the stream is subjected to compression by said suction conveying device so that the channel of the rod forming conveyor receives an equalized stream containing only such quantities of tobacco as are necessary in the cigarette rod.

3,261,366
APPARATUS FOR PRODUCING A TOBACCO ROD
Willy Richter, Hamburg-Bergedorf, and Werner Ringe, Geesthacht, Germany, assignors to Hauni Werke Körber & Co. K.G., Hamburg-Bergedorf, Germany
Filed May 28, 1964, Ser. No. 371,888
Claims priority, application Germany, Jan. 22, 1959, H 35,431; Feb. 4, 1959, H 35,544; Apr. 20, 1959, H 36,158
14 Claims. (Cl. 131—84)



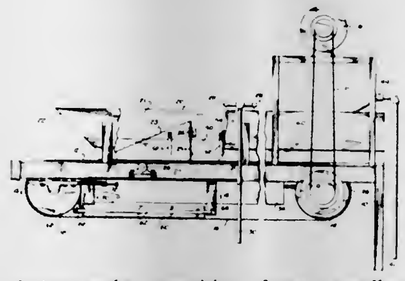
1. In an apparatus for producing a tobacco rod, in combination, a conveyor defining an elongated groove arranged to receive a travelling stream containing tobacco in excess of that required in the tobacco rod whereby the particles of surplus tobacco extend from said groove; and a trimming device comprising first shearing and gripping means located in a plane adjacent to a portion of said groove, and second shearing means having a cutting edge extending across said portion of the groove, one of said means overlapping the other thereof and said first shearing and gripping means having tobacco engaging faces arranged to advance in the direction of travel of the stream so as to advance particles of excess tobacco against said cutting edge whereby such particles are severed from the stream and the tobacco remaining in said groove forms a trimmed tobacco rod, at least some of said tobacco engaging faces being inclined with reference to the direction of the travel of the tobacco stream while the corresponding portion of said first shearing means moves along said portion of said groove.

3,261,367
CARTRIDGE-LOADED PRESSURE FEED TOOTHBRUSHES
John J. Pickering, 102 Barrett Ave., North Providence, R.I.
Filed Sept. 13, 1963, Ser. No. 308,750
4 Claims. (Cl. 132—84)



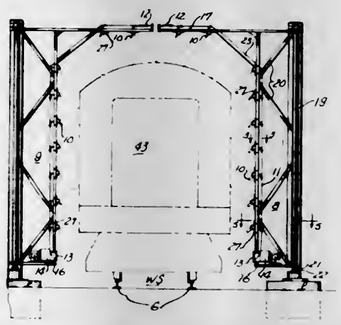
1. A cartridge-loaded pressure operated toothbrush comprising a tubular handle having forward and rear ends, a brush head on the forward end of the handle and having an axial rearwardly tapered nipple on its rear end, said brush head having a longitudinal bore extending therethrough, means closing the forward end of the bore, bristle means on a side of the brush head, means providing for discharge of toothpaste from said bore to the bristle means, an endwise collapsible toothpaste containing cartridge positioned within the handle behind the brush head, said cartridge having a closed rear end, a rigid forward end wall closing the forward end of the cartridge, said forward end wall being formed with an axial tapered socket, a relatively thin frangible rear end wall closing the rear end of the socket, said brush head being threaded on the handle and adapted to be threaded rearwardly on the handle to push the brush head nipple into the cartridge socket and break an opening in the frangible rear wall of the socket so as to provide communication between the interior of the cartridge and the brush head bore, and forward pressure exerting means comprising a member working endwise in the handle at the rear end thereof and engaged with the rear end of the cartridge for collapsing the cartridge forwardly and discharging toothpaste therefrom to the brush head bore as the brush head is threaded rearwardly on the handle, said pressure exerting means comprising a piston assembly sliding in the bore of the handle behind the cartridge, said piston assembly comprising a piston engaged with the rear end of the cartridge and sliding in the handle bore, opposed guide grooves in the handle bore, guide lugs on the piston sliding in the grooves, a reduced diameter piston rod fixed to the piston and extending rearwardly therefrom, an externally threaded head fixed on the rear end of the piston rod and concentrically spaced from the sidewall of the handle, an internally threaded tube passing through the rear end of the handle into the space between the handle sidewall and the threaded head and threaded on the threaded head, an end wall closing the rear end of the tube and abutting the rear end of the handle, said tube end wall having a forwardly extending annular flange turning on the exterior surface of the handle, said flange having an internal annular rib, and the handle having an external annular groove in which said rib is confined.

3,261,368
STONE WASHER
William E. Owens and John R. Owens, both of Dixie Freeway at Smith St., P.O. Box 508, New Smyrna Beach, Fla.
Filed Feb. 17, 1964, Ser. No. 345,374
5 Claims. (Cl. 134—104)



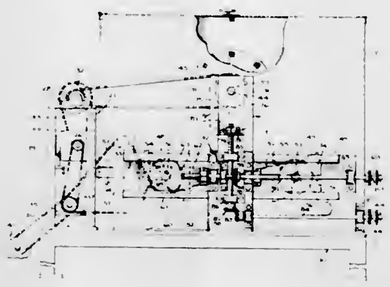
1. A stone washer comprising a frame, an endless open mesh conveyor belt having an upper reach, a lower reach, a stone receiving end and a stone discharging end mounted on said frame, grid and distributing means adjacent the stone receiving end of said belt for distributing stone evenly across said belt, first nozzle means mounted above said belt for spraying the stone with washing water as the stone is being moved by said belt, and second nozzle means adjacent the discharge end of said belt and directed downwardly and obliquely across said belt at an angle against the direction of movement of said belt for spraying and tumbling the stones on the belt immediately before the stones leave the discharging end of said belt.

3,261,369
VEHICLE CLEANING APPARATUS
Francis G. Thiele, Western Springs, Ill., assignor to Ross and White Company, Wheeling, Ill., a corporation of Illinois
Filed July 13, 1964, Ser. No. 382,211
6 Claims. (Cl. 134—123)



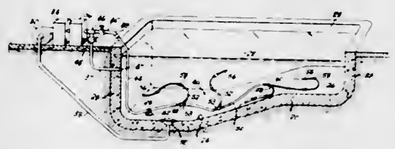
1. Vehicle-washing equipment comprising, a supporting column fixed on a pier, an L-shaped frame structured for mounting one leg thereof in vertical position on the supporting column for swinging horizontally into and out of functioning position, a plurality of spray nozzle units reciprocably attached to the frame in spaced relationship along both legs of the frame and respectively connected to pressured fluid source, a cable extending longitudinally along both legs of the frame and attached to each spray nozzle unit, normally retracted-yielding-means connecting one end of the cable to the adjacent end of the frame, and a motor-driven reciprocable element mounted adjacent the other end of the frame and connected to the other end of the cable for controlled operation with the normally-retracted retracting-means to cause the cable to effect the simultaneous reciprocation of the plurality of spray nozzle units.

3,261,370
ETCHING MACHINES
John F. Lear, Easton, Pa., assignor to Industrial Gravure Co., Easton, Pa., a corporation of Pennsylvania
Filed Sept. 14, 1964, Ser. No. 396,116
17 Claims. (Cl. 134—147)



17. In an improved etching machine providing for perpendicular adjustment of a horizontally disposed work supporting means relative to coplanar reciprocably disposed etchant applying means the combination comprising, a substantially enclosed tank provided with front, rear, side and top walls, coplanar horizontally disposed reciprocable means for projecting etchant fluid in a generally convergent direction toward the surface of the work supporting means and means for controlling the reciprocation of said horizontally disposed fluid projecting means relative to the travel of said work holding means.

3,261,371
SWIMMING POOL CLEANING SYSTEM
James B. Vernon, 1147 W. Rowland Ave., West Covina, Calif.
Filed June 29, 1964, Ser. No. 378,909
6 Claims. (Cl. 134—168)



1. An automatic cleaning system for a swimming pool having a filter, a power-driven pump, and pipe means for circulation of water from the pool through the pump and filter with return to the pool, said system comprising in combination

a thin-wall flexible main tube anchored at one end with a predominant portion of its length extending along the pool floor,

at least one thin-wall flexible branch tube branching at a small acute angle from said portion of the main tube with essentially its entire length extending along the pool floor, the vertex of the acute angle being directed toward the anchored end of the main tube,

axially directed first nozzle means at the free ends of the branch tube and of the main tube,

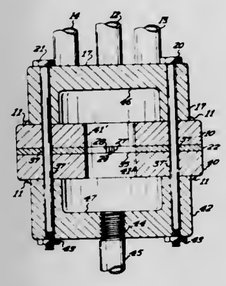
second nozzle means opening outward from the main tube intermediate its length and directed longitudinally thereof and away from the anchored end,

and conduit means for supplying water under pressure from the pump to the interior of the main tube to cause water jet emission from said first and second nozzle means, reaction thrust from such jet emission exerting longitudinal forces on the tubes to cause all said tubes to move sinuously in an effectively random manner over the pool floor.

3,261,372
FLUID CONTROL ELEMENT

Robert V. Burton, Minneapolis, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed May 6, 1963, Ser. No. 278,081
1 Claim. (Cl. 137—81.5)



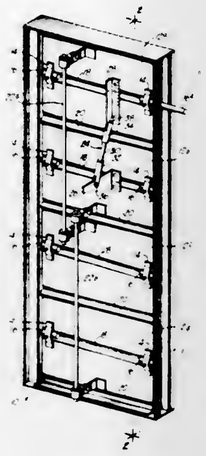
A fluid control element, including: a primary fluid inlet supplied with a fluid to be controlled; fluid outlet means including two outlet channels; secondary fluid inlet means adjacent said primary fluid inlet and having a pair of openings directed across said primary fluid inlet to apply a control signal to said element to direct said fluid in said outlet means between said two outlet channels; said inlet, said outlet means, and said pair of openings having a uniform height; and an intermediate chamber separating said pair of openings and said outlet means; said intermediate chamber having a cross-sectional area in a plane perpendicular to said primary fluid flow that is substantially larger in height and width than said inlet and said outlet means; said intermediate chamber having a front side adjacent to said primary inlet and parallel to said plane, a back side adjacent to said outlet channels and spaced from said front side, a top member transversely spaced from said inlet and said outlet means and connecting said front side to said back side, a bottom member transversely spaced from said inlet and said outlet means and connecting said front side to said back side, a first end member transversely spaced from said inlet and said outlet means and connecting said front side to said back side, and a second end member transversely spaced from said inlet and said outlet means and located opposite said first end member, said second end member connecting said front side to said back side; said intermediate chamber having in addition an outlet for venting excess fluid therefrom; said intermediate chamber absorbing fluid forces between said inlet and said outlet means to thereby isolate fluid forces in said outlet means.

3,261,373
DAMPER BLADE LINKAGE

Wayne F. Ridenour, Chicago, Ill., assignor, by mesne assignments, to Ventfabrics Incorporated, Chicago, Ill., a corporation of Illinois

Filed Aug. 1, 1963, Ser. No. 299,365
3 Claims. (Cl. 137—601)

2. An opposed damper linkage assembly for operatively connecting adjacent pivotally mounted damper blades comprising a high bracket secured to one blade, a low bracket secured to the adjacent blade, and a linkage rod interconnecting the two brackets, said high bracket having a mark for locating the bracket on the damper blade upon which it is mounted, said high bracket also having an outwardly extending arm having marks thereon corresponding to distance between blade center, said low bracket having marks corresponding to distance between



blade centers for locating the bracket relative to the axis of the damper blade upon which it is mounted, and said linkage rod being pivotally connected to the end of the low bracket adjacent the high bracket and to the outwardly extending arm of the high bracket at the mark corresponding to the distance between blade centers.

3,261,374
METHOD AND MEANS FOR SEALING LEAKING PIPES

Arthur N. Anderson, Plandome Manor, Constantine P. Xenis, Douglaston, and Philip A. Philippidis, Astoria, N.Y., assignors to Consolidated Edison Company of New York, Inc., New York, N.Y., a corporation of New York

Filed May 17, 1963, Ser. No. 281,313
12 Claims. (Cl. 138—97)

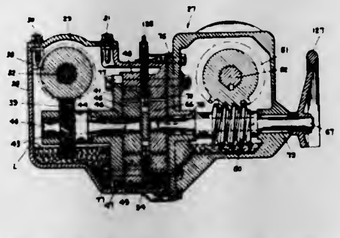


4. A method for internally lining underground pipes and the like of extensive length, said method comprising the steps of inserting into such pipe a length of plastic tubing of a type which, upon application of heat thereto, expands diametrically to a degree such that it presses firmly against the inside surface of the pipe and continues to so press against the pipe after again cooling, thereafter heating said tubing along a limited portion of its length so that only said limited portion expands diametrically to press against and be anchored to said pipe and so that only said limited portion of said tubing undergoes corresponding longitudinal contractions, the longitudinal movement of said tubing which accompanies said longitudinal contraction being thus largely limited to the unexpanded portions thereof, and then successively so heating adjacent limited length portions of said tubing to cause diametrical expansion thereof, whereby the resulting longitudinal contraction along the length of said tubing is largely limited to its unexpanded regions.

3,261,375
HYDRAULIC LET-OFF

Ronald Berry, Hopedale, Mass., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine

Filed Apr. 23, 1964, Ser. No. 362,124
11 Claims. (Cl. 139—110)



1. In a let-off for a loom, a housing, a driving means including a first rotor in one portion of said housing, a circumferential enclosure encompassing said first rotor and in spaced relation therewith to define a chamber between said enclosure and said rotor, a plurality of vanes extending from said rotor, spring means to engage each of said vanes with said enclosure, fluid passages in said rotor to coact with said springs to urge each of said vanes into engagement with said enclosure, means controllable from the warp tension of the loom for varying the relative positions of said enclosure and said first rotor, means for effecting continuous rotation of said first rotor, a driven means including a second rotor in another portion of said housing, said second rotor being mounted in opposed relation to said first rotor, a further circumferential enclosure encompassing said second rotor and in spaced relation thereto to define a further chamber therebetween, a plurality of vanes extending from said second rotor, spring means, and fluid passages in said second rotor to coact with said spring means to engage said vanes with said further enclosure, means interposing said first and second rotors having openings communicating with said fluid passages in said first and second rotors, and means connected to said second rotor and adapted to let off yarn from the loom yarn beam.

ERRATUM

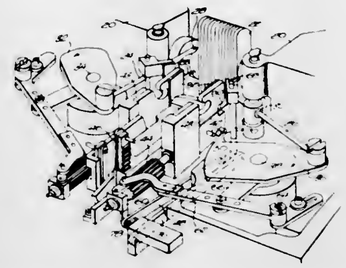
For Class 139—118 see:
Patent No. 3,261,361

3,261,376
APPARATUS FOR KNITTING SELVAGES ON NARROW WEBS

Elmer H. Johnson, Sharon, Mass., assignor to John D. Riordan, Hopkinton, Mass., and Gertrude C. Libby, Stoughton, Mass., trustees of the Libby Family trusts

Filed July 9, 1965, Ser. No. 470,750
6 Claims. (Cl. 139—124)

1. In combination with a narrow-web loom having warp-forming means, a weft-laying finger and means for operating said finger to project successive loops of weft yarn across the warp from the near side to the far side thereof, a rigid open hook mounted at said far side of the warp to receive the end of each said loop of weft yarn and to knit each received loop through the previously received loop, means for alternately advancing said hook to a position to take a weft loop from said finger and retracting said hook to a position for casting off the previously received loop, means for rotating said hook back and forth through 180-degree turns in timed relation to the movements of said finger, and a knock-over element

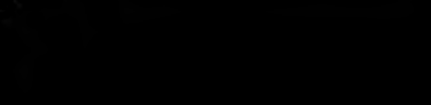


laterally spaced from the path of motion of said hook and in a position to be passed by said hook shortly before the hook reaches its fully retracted position.

3,261,377
THREAD FEED CONTROL FOR SHUTTLES

Stephen Balut, Wilkes Barre, Pa., assignor of one-third to Ralph Balut, Dallas, Pa., and one-third to Raymond R. Balut, Shavertown, Pa.

Filed Mar. 22, 1963, Ser. No. 267,115
1 Claim. (Cl. 139—213)



In combination with a shuttle having a longitudinally extending bobbin chamber and a bobbin carrying thread or yarn mounted therein; a generally flat and relatively thin rectangular strip of flexible material disposed lengthwise in the bobbin chamber; a lengthwise section of said strip being removably attached to one of the side walls of the bobbin chamber and in off-set relationship with respect to the longitudinal center-line of the latter; the remainder of the width of said strip being unattached and capable of flexing movement toward and away from the bobbin; a coextensive flexible and resilient pad secured to that portion of said strip which overlies the lengthwise section which is removably attached to the side wall of the bobbin chamber; the unattached portion of said strip being in contact with said coextensive flexible and resilient pad and projecting therebeyond into the bobbin chamber; a series of juxtaposed and overlapping flexible loops carried by the immediately aforementioned projecting edge of said strip; the side members of said loops being in substantial parallelism with each other and substantially at right-angles with respect to the axis of the bobbin; said flexible loops extending into contact with the thread or yarn on said bobbin.

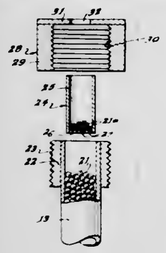
3,261,378
METHOD AND APPARATUS FOR VIBRATORY COMPACTION

James E. Ayer, Joliet, and Frederick E. Soppet, Calumet Park, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 8, 1964, Ser. No. 358,389
10 Claims. (Cl. 141—12)

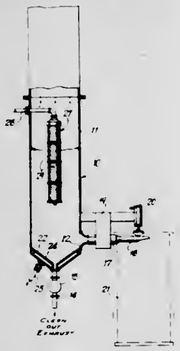
1. A method of making a uniform close-packed dispersion of masses of different diameters within a container, comprising subjecting masses of a predetermined diameter to axial vibration within the container until a

close-packed uniform configuration is attained, and thereafter introducing masses of smaller diameter while holding the configuration last previously attained in position by



pressure and subjecting it to combined axial and radial vibration until a uniform, close-packed configuration is attained.

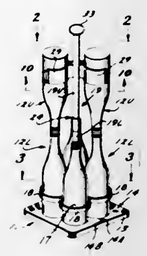
3,261,379
APPARATUS FOR PACKAGING DRY DIVIDED SOLID MATERIALS
Ivar H. Stockel, Needham, Mass., and Oliver R. Titchenal, Rumford, R.I., assignors to St. Regis Paper Company, New York, N.Y., a corporation of New York
Filed May 1, 1959, Ser. No. 810,465
12 Claims. (Cl. 141—83)



1. A packaging apparatus comprising in combination, a bin for containing material to be packaged and being provided with material discharge means, weighing means including a seat movably mounted thereon for supporting a bag in material receiving position relatively to said discharge means, means operative when said weighing means records a predetermined bag weight to close said discharge means, and control means operative to position said seat in a first position to support the bag to receive material from said discharge means and then to shift said seat to a second position to support said bag to receive additional material from said discharge means, said shifting movement assuring full opening of said bag, said material entering said bag while in said first position being of insufficient weight to cause said weighing means to record said predetermined bag weight upon said shifting of said seat from said first to said second position.

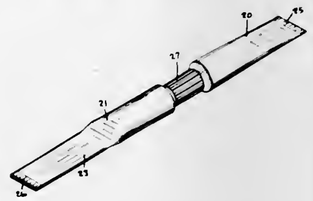
3,261,380
BOTTLE DRAINING APPARATUS
Leendert Holleman, 5276 Linden Ave., Long Beach 5, Calif.
Filed Apr. 20, 1964, Ser. No. 360,929
14 Claims. (Cl. 141—106)

1. Bottle draining apparatus comprising: an underlying tray member adapted to support at least one open-topped narrow-necked bottle in upstanding relationship thereon; and an upstanding post member carried by said tray member and extending to a substantial height thereabove, said upstanding post member having a lower portion closely adjacent to said underlying tray member and provided with at least one bottle receiving and positioning constraint means cooperable to receive a corresponding enlarged bottom portion of a corresponding lower upwardly open narrow-necked bottle in erect relationship with the bottom thereof resting on said tray member and with the open top thereof being upwardly directed, said upstanding post member having an upper portion pro-



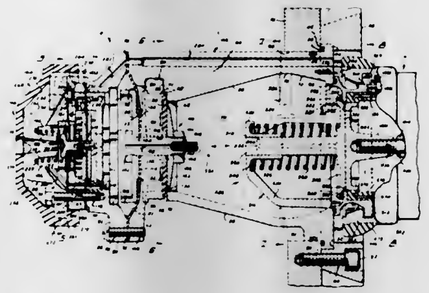
vided with at least one bottle receiving and holding clamp means adapted to receive, engage, and hold the corresponding enlarged bottom portion of a corresponding upper narrow-necked open-topped bottle in inverted relationship positioned directly over and in vertical alignment with said lower upwardly open narrow-necked bottle received and held by said lower bottle receiving and holding constraint means in erect relationship whereby to provide for the emptying of the contents of the upper inverted bottle into the corresponding erect lower bottle under the action of gravity.

3,261,381
TWO-PART CONTAINER FOR ADHESIVES AND THE LIKE
Robert Lee Roach, West Chester, Pa., assignor to West Chester Chemical Company, Inc., Borough of West Chester, Pa., a corporation of Pennsylvania
Filed Mar. 26, 1963, Ser. No. 268,202
6 Claims. (Cl. 141—114)



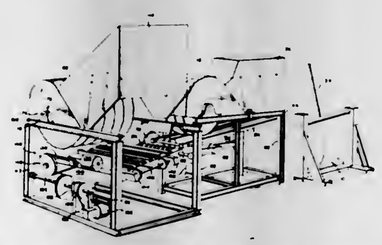
1. A two part container assembly for mixing two separate viscous adhesive ingredients with one another which comprises a first collapsible container substantially filled with a first viscous adhesive ingredient, said first container having a discharge opening at one end, a second collapsible container of a size greater than said first container and being partly filled only with a predetermined amount of a second viscous adhesive ingredient with which the first ingredient is to be mixed prior to application, said second container having a discharge opening at one end, said second container having a flattened portion, said flattened portion having expandible walls defining an area equal to at least the interior area of said first container and which will aid in the mixing of the first and second ingredients therein, and means for connecting the two discharge ends of the respective containers in axial alignment with one another whereby the contents of the first container is forced into the second container by collapsing the walls of the first container and thereby expanding the walls of the flattened portion of the second container.

3,261,382
TANK FILLING VALVE
Harold W. Ensign, Fullerton, Calif., assignor to Donald G. Griswold, Newport Beach, Calif.
Filed May 16, 1963, Ser. No. 281,005
26 Claims. (Cl. 141—207)



1. A filling valve designed to be connected with the inlet opening of a tank, comprising: a housing, said housing including therein an inlet chamber and an outlet chamber; flow control means separating said inlet chamber from said outlet chamber, and movable between an open and a closed position, said flow control means being movable to its open position solely by fluid pressure in said inlet chamber; operating means connected to said flow control means, and operable by pressure from said inlet chamber to move said flow control means into its closed position against the fluid pressure in said inlet chamber; and control means, including a fluid pressure operated pilot valve, connected with said operating means, and operable by pressure fluid from said outlet chamber to render said operating means effective or ineffective to move said flow control means into its closed position depending upon the differential in said inlet and outlet chamber pressures.

3,261,383
ICE CUTTING MACHINE
Charles W. Coblentz, Alexandria, Va., assignor to Mutual Ice Company, Alexandria, Va., a corporation of Virginia
Filed Jan. 18, 1965, Ser. No. 426,118
7 Claims. (Cl. 143—38)



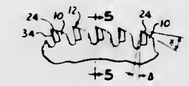
7. In an ice cutting machine of the type employing a first series of longitudinal cutting saws and a second series of transverse cutting saws for sectioning ice the combination of:

(A) an inclined bed, including an ice block feeding mechanism, supported in front of said first series of cutting saws;

(B) a pivoted feeding cradle supported intermediate said first series and said second series of cutting saws, said cradle being pivotable from a point beneath said second series of saws to a point above second series of saws so as to feed sections of longitudinally cut ice for transverse cutting; and

(C) separate endless chain drive feeding mechanisms supported in said inclined bed and in said cradle, the chain drive in said cradle being timed to advance ice towards said second series of transverse cutting saws in increments as wide as the sections of longitudinally cut ice.

3,261,384
CIRCULAR SAW
George A. Henderson, 1807 N. California Ave., Chicago, Ill.
Filed May 19, 1965, Ser. No. 457,120
5 Claims. (Cl. 143—133)

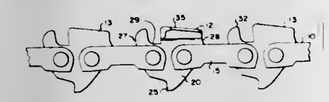


1. A circular saw comprising a tempered flat disc-like saw body having opposite sides perpendicular to the axis of rotation of the body, circumferentially spaced tooth backing elements on the periphery of the saw body and projecting radially outwardly therefrom, each backing element having a generally L-shaped seat formed by circumferential and outwardly presented tooth-supporting surfaces, a carbide tooth having surfaces that define generally an L-shape and with said tooth abutting said surfaces on a backing element and with said abuting surfaces of the tooth and backing element being substantially perpendicular to said opposite sides of the saw body and being secured together by a bonding film interposed therebetween, the saw tooth having its entire opposite side faces lying laterally outwardly respectively of said opposite sides of said saw body, the saw tooth also having its front face presented toward the adjacent forward backing element, the front face having two surfaces that intersect respectively the side faces of the tooth to form cutting edges lying entirely axially outwardly of said opposite sides of the saw body and which cutting edges define opposed surfaces of revolution forming the kerf of the saw, said two surfaces forming a V that opens toward the adjacent forward backing element and with the included angle of the V being an obtuse angle and providing equal and opposite acute shear face angles at each side of each tooth which substantially equalize the oppositely directed forces parallel to said axis of rotation and which are imposed as shear forces on said bonding film during operation of the saw, one side only of each tooth having a rearwardly extending flange that abuts the adjacent side face of the associated backing element to constitute a means for locating the apex of said V substantially at the mid-plane of the saw body during assembly of the tooth therewith.

3,261,385
SAW CHAIN AND CUTTER LINK
William J. Cooper, 935 Como Lake Ave., New Westminster, British Columbia, Canada
Filed Mar. 9, 1965, Ser. No. 444,891
8 Claims. (Cl. 143—135)

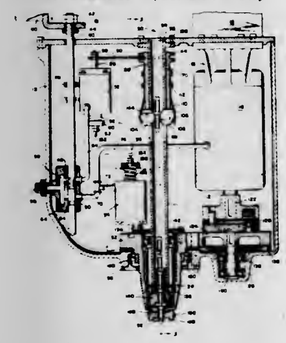
1. A saw chain cuttter link comprising a flat body adapted to fit into and form part of a saw chain, and a cutter on and projecting from an edge of said body, said cutter comprising a shank inclined generally outwardly and laterally from the plane of the body, a toe formed on an outer edge of said shank and extending inwardly

therefrom over the body generally normal to the body plane, said toe having a transverse cutting edge on a forward edge thereof extending from a free side edge of the toe towards the shank, said toe having an inner generally transverse surface inclined from said free side edge towards the body and extending to the shank, said shank having an inner surface extending from said inner toe surface towards the body and the plane of the latter, said shank being offset laterally relative to the body and joined thereto by a connector having an outer surface



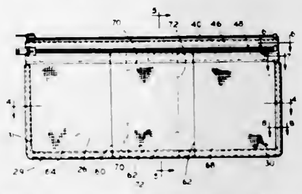
extending inwardly from the outer surface of the shank to a first side of the body, said outer surface being substantially perpendicular to the plane of the body adjacent the line of intersection of the said connector outer surface and the first side of the body, and said connector having an inner surface substantially continuously curved from the inner surface of the shank to the opposite side of the body, the line of intersection between the connector inner surface and shank inner surface being laterally offset from the plane of the body beyond the said first side of the body.

3,261,386
CONTINUOUS SCREW STRIP TOOL
Paul P. Ruminsky, Amherst, Ohio, assignor of one-half to Herbert C. Brauchla, Fremont, Ohio
Filed Sept. 10, 1964, Ser. No. 395,388
7 Claims. (Cl. 144—32)



1. A continuous screw strip tool comprising:
(A) a housing;
(B) a screw strip spindle with axial bore having a screw strip feeding end and a driving end and extending through said housing;
(C) a rotatable barrel mounted in said housing about the driving end of said spindle;
(D) a driving means supported in said housing and engaging said rotatable barrel;
(E) screw guide means mounted within said rotatable barrel in co-axial alignment with said spindle so as to axially support a screw strip of threaded screws in end to end relationship within said spindle and barrel;
(F) an axially reciprocable screw strip advance sleeve supported about said spindle and including at its driving end a pair of pivoted threaded cams radially extensible through the sides of said spindle so as to engage and lock upon threads of said screw strips upon axial advancement of said locking sleeve;
(G) trigger means engaging said advance sleeve and said driving means, respectively, for axial advancement then rotary driving of said screw strip upon reciprocation of said housing; and
(H) lock means connected to said trigger means and engaging said rotary driving means except upon downward thrust of said housing.

3,261,387
CHANGE BAG
Kenneth A. Cass, Dryden, N.Y.
(Star Route, Pitcher, N.Y.)
Filed Apr. 9, 1964, Ser. No. 358,436
3 Claims. (Cl. 150—37)



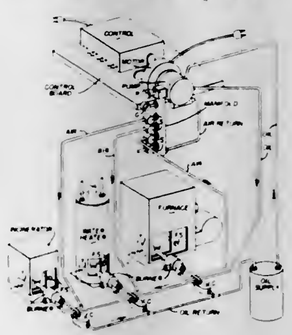
1. A change bag comprising four substantially rectangular sections of flexible sheet material of equal length superimposed over one another the outer of said sections being of less width than the inner two sections, said sections being bound together along one side edge and their end edges, to provide a center compartment between the two inside center sections, and two side compartments between an inside section and an outside section of lesser depth than said center compartment, a slide fastener having side tapes secured to the two center sections adjacent the other unbound side edges thereof, said slide fastener being of a length corresponding to the length of said center sections to form a closure therefor, said outside sections being of less width than said inside center sections by an amount substantially that of the width of the side tapes of a slide fastener, and a side slide fastener having side tapes and of a length corresponding to the length of the rectangular sections for each of the two side compartments, each of said last named slide fasteners having one of its side tapes secured to a center section adjacent the said other unbound side edge thereof, and the other of its side tapes secured to one of the outside sections adjacent the unbound side edge thereof whereby the side compartment slide fasteners lie in planes at right angles to the plane of the center section slide fastener.

3,261,388
PNEUMATIC TIRE
Frederick J. Kovac, Akron, and Grover W. Rye, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Continuation of application Ser. No. 155,902, Nov. 30, 1961. This application Aug. 2, 1965, Ser. No. 477,665
5 Claims. (Cl. 152—330)



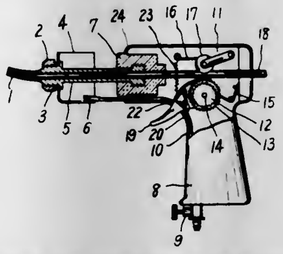
1. A pneumatic tire comprising a carcass terminating in spaced bead portions, a tread secured to said carcass, and a ply embedded in said tire radially outwardly of said carcass, said ply comprising a synthetic filamentary polymeric material having a dye incorporated in the polymer, said dye being of a color contrasting with the color of the remaining portion of the tire both adjacent said ply and radially outwardly thereof.

3,261,389
OIL BURNER EQUIPMENT
Milan Momchilovich, Akron, and Wallace F. Rhodes, Munroe Falls, Ohio, assignors to The Falls Stamping and Welding Company, Cuyahoga Falls, Ohio, a corporation of Ohio
Continuation of application Ser. No. 236,481, Nov. 9, 1962. This application June 23, 1965, Ser. No. 473,885
1 Claim. (Cl. 158—4)



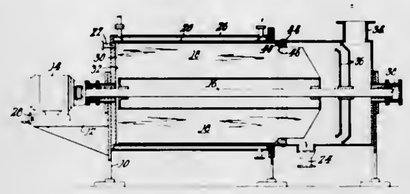
In combination, (1) at least two of the following units of different types of equipment each of said units having a different firing rate, namely, a furnace, an incinerator, a clothes drier and a water heater, and (2) an oil burner system which includes a burner in each of said two units, each burner containing one nozzle and each independently operable, which system includes an air compressor and means for feeding the nozzles with compressed air therefrom and close to each nozzle a device which (a) provides a supply of oil at all times adequate for burner requirements, and (b) is operable by virtue of vacuum produced by air flowing through the nozzle to cause oil to flow through the device into the nozzle, and a flame sensor in association with each burner and in operative relation with flame therein which prevents the supply of air to that burner in the event of flame failure.

3,261,390
WELDING IRON
Tetsuo Saito, Nerima-ku, Tokyo, and Tokugoro Mizukami and Masazumi Otake, Hitachi, Japan, assignors to Hitachi Wire & Cable Limited, Chiyoda-ku, Tokyo, Japan, a corporation of Japan
Filed Dec. 3, 1964, Ser. No. 415,732
2 Claims. (Cl. 158—26)



1. A welding iron comprising a main housing portion and a hollow cylinder connected to said main housing portion by heat-insulating means, said hollow cylinder being adapted to guide a weld rod therethrough, a half cup-shaped cover at the exit of said hollow cylinder and connected thereto, a burner within said cover positioned at the underside of said hollow cylinder for supplying heat within said cover from the lower external side of said hollow cylinder.

3,261,391
THIN-FILM PROCESSING APPARATUS
Arne R. Gudheim, N. Main St., Petersham, Mass.
Filed May 20, 1964, Ser. No. 368,891
7 Claims. (Cl. 159—6)

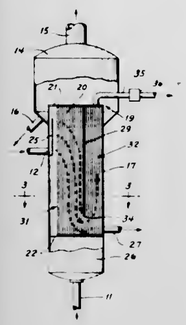


1. Apparatus of the class described comprising a horizontal chamber of generally cylindrical conformation, said chamber being substantially fully enclosed, a temperature control jacket about the chamber exteriorly thereof, a coaxial horizontal rotor in the chamber, means to rotate the rotor, generally radial vanes on the rotor extending outwardly in close association with the interior wall of the chamber leaving a small space between the tips of the vanes and said interior wall, a material inlet and a concentrate outlet in said chamber, a dam arranged on the wall of the chamber interiorly thereof, said dam extending annularly about the chamber and inwardly toward the rotor for a distance greater than the space between the tips of the vanes and the chamber wall, a corresponding reduced portion on each of said vanes to accommodate said dam, there being a gap between the adjacent edges of the vanes and the dam and means to axially adjust the rotor to vary the gap between the dam and the adjacent edges of the vanes at the reduced portions thereof.

3,261,392
EVAPORATION SYSTEM AND METHOD
Harold E. Jacoby, % Jacoby Process Equipment Company, Inc., 97 Shepherd Lane, Roslyn Heights, Long Island, N.Y.
Filed Oct. 16, 1963, Ser. No. 316,703
8 Claims. (Cl. 159—27)

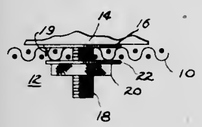
1. In an evaporator having an elongated casing having a heating space therewithin, a plurality of spaced parallel tubes disposed longitudinally in the casing, first and second headers connected to the opposite ends of the tubes adjacent the respective first and second ends of the casing, means including an inlet port in the casing to introduce a heating fluid into said casing adjacent a first end thereof, means to introduce liquor to be evaporated into one of said headers, and means to exhaust concentrated liquor and vapor from the other of said headers, the improvement which comprises a gas exhaust vent in a part of the casing remote from the heating fluid inlet port therein, on a side thereof opposite said inlet port, and substantially spaced from the second end of the casing, a baffle extending from one side of the casing to the other and from the first end of the casing to terminate at a free end substantially beyond the gas exhaust vent and spaced from the other, second end of the casing, the baffle substantially dividing the heating space in the casing into a first heating space portion in direct communication with the inlet port and a second heating space portion in direct communication with the gas vent, each of

said two portions of the heating space containing some of said tubes, said two spaces being connected only at the ends thereof adjacent the second end of the casing by a passage between the free end of the baffle and the second end of the casing, whereby heating fluid upon entering the inlet port travels through the casing between and around the tubes in the first portion of the heating



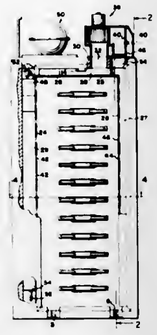
space, then through the passage beyond the free end of the baffle, and then into the second portion of the heating space to the gas exhaust vent, a sub-header connected only to the first ends of the tubes within the second portion of the heating space, and a separate conduit connected to said sub-header for introducing a liquid to be heated into the tubes within the second portion of the heating space.

3,261,393
APPARATUS AND METHOD FOR PATCHING SCREENS
John B. Templeton, Hinsdale, Ill., assignor to Templeton, Kenly & Company, Broadview, Ill., a corporation of Illinois
Filed May 17, 1963, Ser. No. 281,227
2 Claims. (Cl. 160—237)



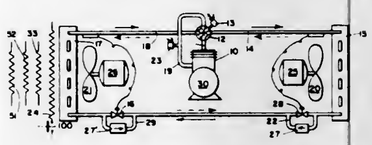
1. A patch for repairing a hole in a window screen comprising first and second spaced-apart engaging members for engaging portions of the opposite sides of said screen at locations adjacent said hole, both of said engaging members having the form of flat disks, said first engaging member having a pointed lock struck therefrom for engaging a portion of said screen to prevent said patch from rotating relative to said screen, a threaded shaft integral with said first engaging member and extending outwardly from one side of said first engaging member through said hole, said second engaging member having an aperture for receiving said threaded shaft, a nut threadably mounted on said shaft on the opposite side of said second engaging member from said screen, for holding said patch in position relative to said screen, and an ornamental member mounted on the opposite side of said first engaging member from said screen and completely covering said opposite side.

3,261,394
REFRIGERATION SYSTEM INCLUDING MEANS FOR RECONSTITUTING AND PRESERVING FROZEN FOODS AND THE LIKE
Lawrence H. Foster, Scarsdale, and Harold E. Bush, Hudson, N.Y., assignors to Foster Refrigerator Corp., Hudson, N.Y., a corporation of New York
Filed Apr. 16, 1963, Ser. No. 273,452
11 Claims. (Cl. 165—12)



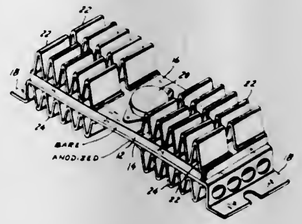
2. In apparatus of the character described for reconstituting frozen foods and maintaining the desired conditions of quality, the combination of, cabinet means providing a reconstituting space, means to move portions of food to and from said space and to support the portions of food individually while within said space, radiant heating means which is adapted to subject the portions of food to pulses of heat while said portions are within said space, said heating means comprising a plurality of horizontally disposed heater elements, said means to move portions of food including a plurality of spaced support means which are adapted to support said portions of food and to move them horizontally to and from the spaces between said heater elements, and control means for controlling said heating means.

3,261,395
REFRIGERATION SYSTEM CONTROL
Theodore G. Foster, North Syracuse, and David N. Shaw, Liverpool, N.Y., assignors to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Jan. 8, 1964, Ser. No. 336,395
4 Claims. (Cl. 165—29)



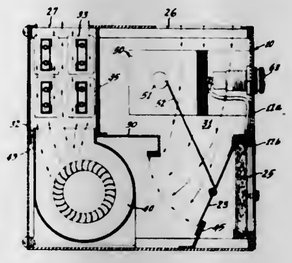
1. In a reverse cycle refrigeration system having a compressor, an outdoor coil, expansion means, and an indoor coil interconnected to form a closed refrigeration circuit adapted upon actuation of said compressor to cool, fan means for bringing air into heat exchange relation with said indoor coil, and reversing means interposed in said refrigeration circuit between said compressor and said indoor and outdoor coils effective when actuated to reverse the flow of refrigerant through said indoor coil, expansion means and outdoor coil to heat, the combination of a drive motor for said compressor; first switching means between said drive motor and a source of electrical energy effective when actuated to complete an energizing circuit to said drive motor; means for reducing input of electrical energy to said drive motor including resistance means disposed downstream of said indoor coil, and second switching means for serially connecting said resistance means between said drive motor and said source of electrical energy; and control means for actuating said second switching means in response to operation of said system only on the heating cycle.

3,261,396
HEAT DISSIPATOR FOR ELECTRONIC CIRCUITRY
Edmund G. Trunk, East Meadow, N.Y., assignor to The Staver Company Incorporated, Bay Shore, N.Y., a corporation of New York
Filed Nov. 13, 1963, Ser. No. 323,369
12 Claims. (Cl. 165—80)



1. A heat dissipator for a transistor, said dissipator comprising a plurality of metal portions, one of said metal portions having a bare transistor mounting area, another metal part acting as support means for supporting said dissipator on a chassis on which it is to be used, said latter portion being made of aluminum and being anodized to provide electrical insulation between the transistor to be used and a chassis on which it is to be mounted, and metal fins secured to the anodized portion of the dissipator.

3,261,397
COMBINED COOLING AND HEATING APPARATUS
Arthur Donald Hay, Princeton, N.J., assignor to McLean Engineering Laboratories, a company of New Jersey
Filed Dec. 24, 1963, Ser. No. 333,095
8 Claims. (Cl. 165—122)



1. A combined heating and cooling apparatus comprising a rectangularly shaped housing having an opening in one side thereof to provide an intake for outside air into said housing, and a pair of openings in another wall portion of said housing for delivery of air to and return of air from a space to be conditioned, a shelf within said housing extending partially across said housing for dividing said housing into two compartments having an opening therebetween oppositely disposed to the air return one of said pair of openings, a pivoted damper movable between the intake opening in said housing and the opening between said compartments for alternately closing one or the other thereof, said shelf providing an opening therein oppositely disposed to the air delivery one of the pair of openings, a heater assembly positioned between said last openings, a wall member on one side of said heater assembly and extending between said last openings, means for moving said damper between alternate positions, and means within said housing for circulating air through said housing and over said heater assembly and out through the delivery one of said openings.

3,261,398
APPARATUS FOR PRODUCING UNDERWATER OIL FIELDS
John A. Haeber, Houston, Tex., assignor to Shell Oil Company, New York, N.Y. a corporation of Delaware
Filed Sept. 12, 1963, Ser. No. 308,531
16 Claims. (Cl. 166—.5)



1. Apparatus for producing underwater wells having wellheads positioned below the surface of a body of water, said apparatus comprising:

a large-diameter elongated cylinder vertically positioned with its lower end closed in a fluid-tight manner and sunk in and anchored to the ocean floor and its upper end below the surface of the body of water, said cylinder having port means through the wall thereof at a point near but above the ocean floor,

an underwater production wellhead assembly positioned near the ocean floor and having a production flowline,

first fluid flow conduit means interconnecting said production flowline of said underwater wellhead assembly with the port means in said elongated cylinder into which production fluid can be delivered,

pump means operatively mounted on said cylinder for pumping production fluid therefrom, said pump means having discharge port means extending from said cylinder near the top thereof,

a floating vessel including tank means, said vessel being positioned on the surface of the body of water in the vicinity of said vertical cylinder, and

second fluid flow conduit means internconnecting the discharge port means of said pump means with said tank means of said vessel.

3,261,399
PROCESS UTILIZING THE COMBINATION OF MISCIBLE AND THICKENED FLOODS IN PETROLEUM RECOVERY
Claude P. Coppel, Woburn, Mass., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Filed June 19, 1963, Ser. No. 289,090
5 Claims. (Cl. 166—9)

1. The process for recovering fluid hydrocarbons from subterranean formations having drilled therein at least one each of a production well and an injection well consisting essentially of

(a) injecting into the subterranean formation at least one slug of an emulsion,

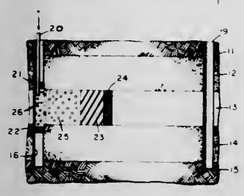
(b) injecting into said formation at least one slug of a thickened flood material differing from said emulsion in character,

at least a portion of said material being incrementally diminished in viscosity from about that of the emulsion at the leading edge of the material to about that of a drive material at the interface between the thickened flood material and a drive fluid,

(c) injecting a drive fluid into the formation to displace hydrocarbons toward said production well, and

(d) recovering oil from said formation.

3,261,400
SELECTIVE PLUGGING METHOD
Elliott B. Elfrink, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed May 14, 1963, Ser. No. 280,377
19 Claims. (Cl. 166—30)



1. A method for creating a barrier of reduced permeability in a formation comprising the steps of:

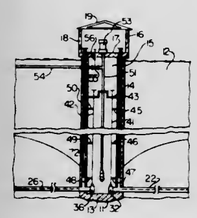
(a) passing a fluid including an agent convertible by reaction substantially exclusively with a subsequently introduced activating fluid to a plugging material a given distance in a formation,

(b) following said agent with a miscible fluid slug, said miscible fluid displacing said agent substantially in its entirety through the formation without converting said agent to a plugging material and

(c) following said miscible fluid with an immiscible fluid for converting said agent to a plugging material upon contact,

said miscible fluid slug being initially present in only such amount as to be substantially dissipated in the formation upon the agent traveling the given distance in the formation permitting the immiscible fluid to contact the agent to produce the plugging material thereby forming a barrier of reduced permeability in the formation.

3,261,401
WATER PRODUCTION
William V. Karr, 2270 Bryden Road, Bexley 9, Ohio
Filed Nov. 20, 1963, Ser. No. 324,983
12 Claims. (Cl. 166—50)



12. In a water supply system comprising

a caisson positioned in an aquifer;

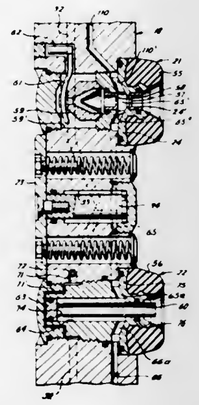
a plurality of perforated tubes extending substantially radially outward through the wall of said caisson; and

a plurality of vertical tubes wherein each of said vertical tubes is connected with one of said horizontal tubes;

the improvement which comprises

a plurality of pumps wherein one of said pumps is positioned in each of said plurality of vertical tubes for drawing water from said aquifer via one of said horizontal tubes.

3,261,402
FORMATION TESTING APPARATUS
Frank R. Whitten, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 384,024, July 13, 1964. This application Sept. 13, 1965, Ser. No. 492,975
13 Claims. (Cl. 166—63)



1. A fluid-testing tool comprising: a body adapted to be lowered through a well bore extending through earth formations; longitudinally spaced sample-admitting means on one side of said body and including sealing means about each of said sample-admitting means adapted to be urged into sealing engagement with a well bore; means in said tool for placing said sealing means into sealing engagement with a well bore, one of said sample-admitting means including flow-sampling means mounted for transverse movement through said sealing means into earth formations when said sealing means are in sealing engagement with a well bore; and hydraulic means for urging said sampling means into earth formations, the other of said sample-admitting means being normally closed to fluid flow from the well bore and including selectively operable perforating means for selectively opening said other sample-admitting means through said sealing means.

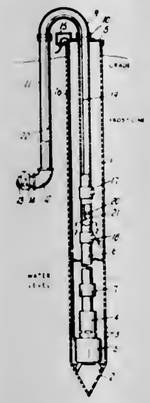
3,261,403
ANTI-FREEZE SIPHON FOR OVER THE TOP PUMP DELIVERY
JC Newman, 2215 E. Main St., Kalamazoo, Mich.
Filed Apr. 8, 1963, Ser. No. 271,396
11 Claims. (Cl. 166—67)

11. In a well having a casing and a drop pipe with a submerged pump at the bottom of the drop pipe,

means forming a delivery passage connected to the top of said drop pipe and extending above the frost line and downwardly to below the frost line,

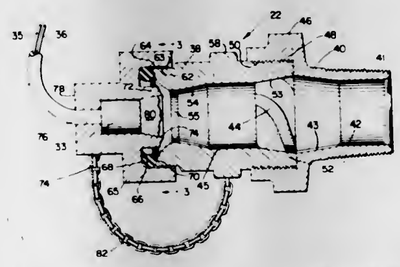
valve means in said drop pipe located below the frost line and adapted to drain the upper portion of said drop pipe and said delivery passage and admit air thereto when said pump is stopped,

and means forming a siphon passage extending from said delivery passage at a point below the frost line to



an elevated point and then downwardly to a point in said drop pipe below the frost line and below the end of the siphon passage in the delivery passage.

3,261,404
FIRE PROTECTION SYSTEM AND NOZZLE-VALVE ASSEMBLY THEREFOR
Philip H. Merdinyan, East Greenwich, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Continuation of application Ser. No. 296,767, July 22, 1963. This application June 9, 1965, Ser. No. 469,023
16 Claims. (Cl. 169—19)



2. For a fire protection system a nozzle-valve assembly comprising:

(I) a nozzle member having:

(A) a generally cylindrical body with:

(1) an inlet opening at one end thereof,

(2) a discharge opening at the other end thereof,

(B) a flow passage which:

(1) extends through said body,

(2) extends between said inlet and discharge openings,

(C) a seating portion which:

(1) is on said body adjacent said discharge opening,

(2) surrounds said flow passage,

(II) a valve member which:

(A) is movable along a path between valve-closed and valve-open positions,

(B) extends across said nozzle member passage and sealingly engages said nozzle member seating portion in the valve-closed position,

(C) is removed from said nozzle member passage and out of engagement with said nozzle member seating portion in the valve-open position,

(III) means which:

(A) are associated with both said nozzle member and said valve member,

(B) provide adjustment of said valve member along said path to vary the force exerted by said valve member on said seating portion,

(C) include means which are rupturable by a predetermined force exerted on said valve member along said path of movement,

for holding said valve member in the valve-closed position,

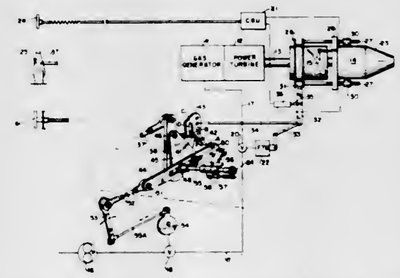
(IV) an explosive member which:

(A) in the valve-closed position is located on the side of said valve member remote from the valve-open position of said member,

(B) when exploded exerts said predetermined force on said valve member and therethrough on said rupturable means,

(V) means connected to said explosive member for conducting energy to said explosive member to explode said explosive member.

3,261,405
AIRCRAFT POWER CONTROL APPARATUS
Clarence Henry Andrews, Jr., Hagerstown, Md., assignor to Fairchild Hiller Corporation, Hagerstown, Md., a corporation of Maryland
Filed Feb. 9, 1965, Ser. No. 431,347
11 Claims. (Cl. 170—135.74)

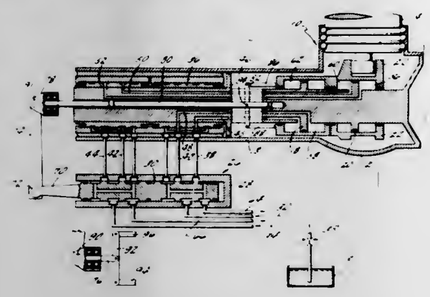


1. Control apparatus for a turbo-prop aircraft engine having a power turbine and variable pitch propeller driven by said power turbine comprising in combination fuel control means for varying the fuel input to said engine, a governor for sensing the speed of said propeller, blade pitch control means responsive to the speed sensed by said governor for varying the pitch of said propeller blades to obtain the desired propeller speed, and means operatively connecting said blade pitch and fuel control means for synchronously actuating both such means, said actuating means reducing thrust developed by said propeller in a forward power position by decreasing blade pitch while increasing the setting of said fuel control means to maintain a relatively high power turbine speed when said actuating means is retarded from such forward power position.

3,261,406
ATTITUDE CONTROL SYSTEM FOR AN AERONAUTICAL PROPELLER
Robert B. Goodman, Hartford, and Richard L. Fischer, Suffield, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed May 16, 1963, Ser. No. 280,902
6 Claims. (Cl. 170—160.14)

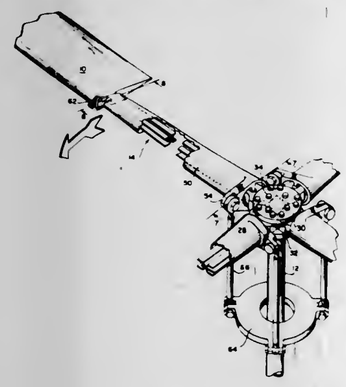
1. For an aeronautical propeller having variable pitch blades adapted to propel aircraft, an autopilot mounted on said aircraft for automatically controlling the attitude of said aircraft, control means for varying the pitch of said blades of said propeller so as to keep the r.p.m. of

the propeller at a preselected constant value, transducer means responsive to an electrical signal from said autopilot for producing a mechanical output signal proportional to said electrical signal, hydraulically actuated



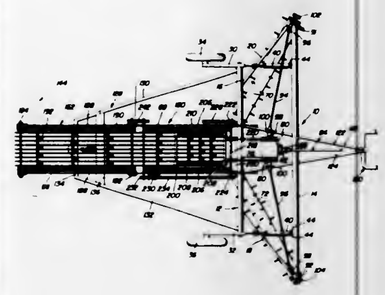
means controlled by said transducer means and connected to said pitch control means for biasing the same for further varying the pitch of the propeller blades as a function of said mechanical output signal.

3,261,407
HELICOPTER ROTOR SYSTEM
Irven H. Culver, Sunland, Thomas F. Hanson, Newhall, and Lance G. Look, Granada Hills, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Aug. 5, 1964, Ser. No. 387,568
6 Claims. (Cl. 170—160.25)



1. A helicopter rotor system comprising: a rotor mast; a rotor hub on said mast; a plurality of rotor blades spaced apart from said mast; means for effecting forward sweep of each of the blades; a flexure member extending radially from the hub and forming the chief structural component of each of the blades, said member carrying the blade centrifugal force, blade flapping and in-plane bending moments, and blade shear loads to the hub and said member being torsionally soft to provide for blade pitch change; said member further having a variable, flapping and in-plane elastic stiffnesses; a torque tube pivotally connected to the hub and enveloping the portion of said flexure member between the blade and the mast; a coupling member attached to the blade and to the torque tube for flexible joinder thereof; a swashplate universally mounted on said mast; and a pitch control link pivotally connected to each torque tube and to said swashplate for changing pitch of the blades.

3,261,408
STONE PICKER
Lawrence J. Simonar, Bernard J. Simonar, and Norbert A. Simonar, all of Rte. 1, Sturgeon Bay, Wis.
Filed May 4, 1964, Ser. No. 364,729
8 Claims. (Cl. 171—63)



1. A stone picking machine comprising a main frame, transversely extending stone digging means supported from the front of said frame and including means adapted to dig stones for the ground over which said machine travels and including means adapted to rearwardly discharge dug stones from the center of said transverse digging means, said machine also including stone pickup means disposed rearwardly of the point of discharge of stones for said stone digging means adapted to pick up dug stones discharged from said digging means, said stones pickup means including stone elevating means defining a plurality of inclined elongated generally parallel guides supported from said frame against substantial movement longitudinally thereof and adapted to support dug stones thereon and including stone conveying means projecting upwardly between pairs of adjacent guides and supported from transversely extending brace members mounted from said frame for movement upwardly along said stone elevating means beneath said guides and supportingly engaging said guides from beneath, said guides being adapted to slidingly support dug stones for movement therealong and said conveying means being adapted to engage the larger stones supported on said guides and to move said stones upwardly along said stone elevating means while dirt and smaller particles of stone fall between said guides.

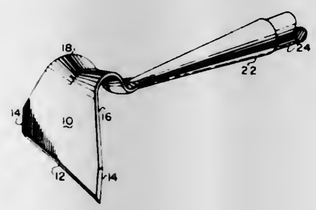
3,261,409
EARTH WORKING MACHINE WITH DEPTH CONTROL
Harry A. Lowther, Wayne, and Walter R. Peterson, Plainfield, Ill., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Mar. 2, 1964, Ser. No. 348,648
16 Claims. (Cl. 172—326)



1. An earth working machine comprising a propelling vehicle; a drawn mobile frame for mounting earth working implements thereon; coupling means mounted on said vehicle for operative connection to said frame; an

elongated lever link means pivotally mounted intermediate its ends to said frame about a horizontal axis transverse to said frame with said lever link means having one end projecting forwardly of said frame; connecting means for pivotally attaching the said one end of said lever link means to said coupling means for swinging movement about a horizontal axis; an upwardly extending lift bar pivotally mounted at the bottom end thereof to said frame for a swinging movement fore and aft of said frame about a horizontal axis; extensible and retractable power means having one end pivotally mounted about a horizontal axis to said lift bar adjacent the top end thereof and with the other end of said power means pivotally mounted to the other end of said lever link means; first stop means on said frame engageable with the said other end of said lever link means for limiting downward swinging movement thereof with said lever link means being adapted for upward swinging movement of its said other end upon retraction of said power means; second stop means on said frame engageable with said lift bar for limiting forward swinging movement thereof at a forward position with said lift bar being adapted for swinging rearward movement to a rear position angularly spaced from said forward position upon extension of said power means; and an elongated third stop means connecting the top end of said lift bar to said vehicle for limiting swinging movement of said lift bar to its said rear position.

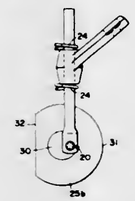
3,261,410
VINE HOE
Forrest W. Osborn, P.O. Box 401, Friona, Tex.
Filed Feb. 13, 1964, Ser. No. 344,619
1 Claim. (Cl. 172—371)



A hoe specially adapted for cutting running, vine-like weeds comprising:

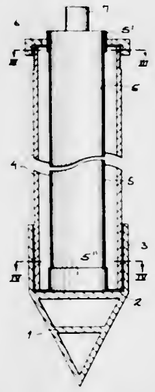
(a) a thin imperforate plate of metal having a portion forming
(b) a flat blade,
(c) the front edge of the blade being straight,
(d) the front edge beveled to form a cutting edge,
(e) the sides of the plate at the blade portion extending for a short distance at right angles to the front edge and tapered linearly inward to the rear of the front edge,
(f) a portion of the plate behind the blade curved upward in the form of a gooseneck,
(g) the taper of the plate beginning at the blade portion being linear and continuing to the top of the gooseneck,
(h) the gooseneck portion angled back on both sides from a median line so that the gooseneck portion is V-shaped in cross section, and
(j) a tapered socket attached to the plate at the top of the gooseneck portion forming means for attaching a long wooden handle to the plate, and
(k) the tapering sides and socket forming a relatively smooth contour, free from abrupt shoulders and notches on which weeds may be caught.

3,261,411
DISK SCRAPER
Charles H. Youngberg, Moline, and Willard E. Peterson, Jr., Colona, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Dec. 29, 1964, Ser. No. 421,874
8 Claims. (Cl. 172—559)



8. In a disk harrow having a frame and a rotatable disk, a disk scraper blade, means mounting said disk scraper on said frame for rockable movement, said disk scraper blade comprising a hollow conical member having a chordal portion removed, the center of gravity of the disk scraper blade being disposed between said mounting means and the chord edge of the blade.

3,261,412
POINT AND DRIVING ASSEMBLY FOR MAKING EARTH HOLES
Adalbert Löb, Zafon Talpiot, Maon Akademaim, Zriff 26/a, Jerusalem, Israel
Filed Sept. 5, 1963, Ser. No. 306,906
3 Claims. (Cl. 175—22)

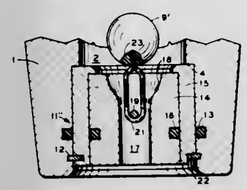


1. A percussively drivable well-point assembly comprising a conically pointed penetrating member having a generally vertical axis and formed with an abutment surface transversely to said axis and axially spaced from the tip of said member, said member being provided with an axially upwardly extending annular flange surrounding said abutment surface and forming a socket; an axially extending elongated main tubular member resting against said surface and removably receivable in said socket and having an outer diameter less than the outer diameter of said flange while being axially withdrawable therefrom below ground level; and an elongated driving ram removably extending through the interior of said tubular member and abutting said surface while protruding upwardly beyond said tubular member for engagement by a driver to percussively force said pointed member into the ground.

3,261,413
SHEAR RELIEF CHECK VALVE FOR FLUSHING PASSAGEWAYS OF EARTH PENETRATING TOOLS

William A. Kistler, Jr., Houston, Tex., assignor to Hughes Tool Company, Houston, Tex., a corporation of Delaware

Original application Nov. 1, 1962, Ser. No. 234,664, now Patent No. 3,213,949, dated Oct. 26, 1965. Divided and this application Feb. 11, 1965, Ser. No. 431,799
6 Claims. (Cl. 175—317)



1. In an earth penetrating or similar tool having a number of flushing fluid passageways therethrough with an entry end for receiving flushing fluid delivered through communicating passages in the tool and an exit end for discharging such fluid from the tool, each such passageway having an axial or flow dimension and a dimension transverse such flow dimension, each such passageway being thus adapted to receive flushing fluid and deliver a forward flow thereof externally of the tool under the influence of a positive pressure gradient, and also to supply reverse flow into such tool under a negative pressure gradient, the part of such passageway above and adjacent its exit end being defined by the inner wall of a passageway subassembly consisting of at least one member in the form of a nozzle boss or other integral fluid delivery portion of said tool having one of said passageways therethrough, a shear relief check valve comprising,

(A) a core or nozzle in said passageway and slidable from the exit end thereof and disposed in sealing relationship with said inner wall of the passageway subassembly at the outer periphery of the core, said core having a central opening therethrough with entry and exit ends respectively adjacent the corresponding ends of the passageway, said entry end being smaller than the transverse section of the tool passageway and being shaped to provide a seat for a movable obturating member or ball,

(B) a movable obturating member or ball disposed above the entry end of said core opening and adapted to seat therein in sealing relationship therewith, said movable member cooperating with said core to block the forward flow of flushing fluid therethrough under positive pressure gradients, such being the blocking position of the movable member, and being movable from said core opening toward the entry end of said tool passageway to a non-blocking position under the influence of negative pressure gradients to permit the reverse flow of flushing fluids,

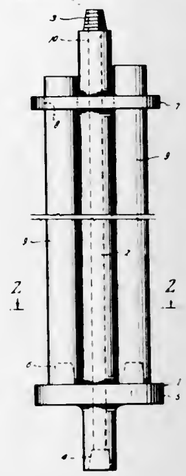
(C) a shear pin extending transversely into said inner wall of the passageway subassembly and across said core opening in supporting contact with said core and underlying at least a portion of the core lying between its entry end and its exit end, said shear pin thus supporting said core against expulsion from the exit end of the passageway at all positive pressure gradients below a predetermined critical value and being shearable at pressures above said critical value to permit the expulsion of said core and the flow of flushing fluid through said passageway, and

(D) retainer means in the form of a wire link attached to said obturating member and extending through said core opening and around said shear pin, the lower part of said link contacting the shear pin when the obturating means is spaced above said seat to define said non-blocking position and being spaced from the shear pin in the blocking position of the obturating member.

3,261,414
DRILL COLLAR

Elvin G. Boice, Houston, Tex., assignor to Reed Roller Bit Company, Houston, Tex., a corporation of Texas

Filed May 12, 1965, Ser. No. 469,358
5 Claims. (Cl. 175—320)

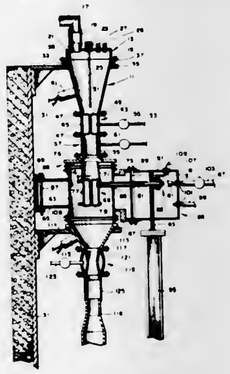


5. A drill collar comprising,
a central tubular member,
a plurality of elongate members spaced radially from said central member, and
means to secure said elongate members to said central member,
each of said elongate members being of comparable weight to said central member.

3,261,415
DRY SOLIDS FEEDER

George A. Hood, Van Nuys, and John J. Vrolyk, Granada Hills, Calif., assignors to North American Aviation, Inc.

Filed Apr. 2, 1964, Ser. No. 356,889
3 Claims. (Cl. 177—68)

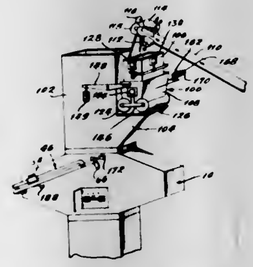


1. A device for feeding materials comprising:
a feed hopper having a valve affixed to the bottom outlet thereof,
a first housing fixedly secured below said feed hopper,
a weigh hopper disposed in said housing, said hopper having a valve at the bottom thereof,
a distribution hopper disposed below said first housing,
a second housing fixedly secured horizontally adjacent said first housing,
flexible means separating said first housing from said feed hopper, said second housing and said distribution hopper,
means for supporting said weigh hopper extending from said first to said second housing and being rigidly affixed to said second housing,
means for vibrating said feed and distribution hoppers,
means for admitting an inert gas to said second housing,
means connected to said hopper support means for weighing an increment of material,
and means for opening and closing said valves responsive to said weighing means.

3,261,416
WEIGHER-CONTROLLED FEED DISPENSING DEVICE PROVIDING PREDETERMINED FEEDING SCHEDULE

Howard G. Stults, Hettick, Ill.

Filed Feb. 14, 1964, Ser. No. 344,926
15 Claims. (Cl. 177—114)



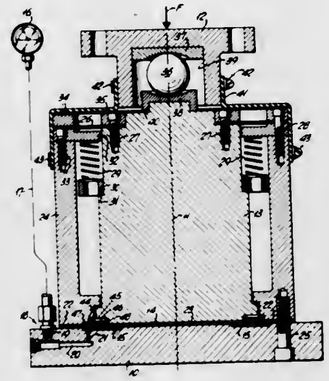
1. A feed weigher device for livestock and the like comprising a housing having an inlet feed chute thereto and an outlet feed chute therefrom, means positioned in said housing for receiving and accumulating predetermined quantities of feed, said means including weighing means, said receiving and accumulating means including a pair of rotatable members having blade portions which cooperate in different positions thereof to define a chamber in the housing in which the feed from the inlet accumulates, and means for releasing said feed accumulating means to discharge the predetermined quantities of feed into the outlet chute.

3,261,417
HYDRAULIC LOAD CELL WITH IMPROVED BRIDGE-RING CONSTRUCTION

David E. Golding, East Orange, N.J., assignor to Marcan Products Corporation, Greenwich, Conn., a corporation of New York

Continuation of abandoned application Ser. No. 309,775, Sept. 18, 1963. This application Apr. 14, 1965, Ser. No. 449,687
3 Claims. (Cl. 177—208)

1. A hydraulic load cell, comprising a base including a circumferentially continuous upstanding wall with an upper peripheral seating surface and having a cavity for holding hydraulic fluid within said wall, diaphram means seated on said surface, hydraulic fluid filling the volume of said cavity beneath said diaphragm means, an outer ring member overstanding said wall and means securing said wall and ring and diaphragm to each other, said outer ring member having a circumferentially continuous lip offset from said diaphragm means and extending radially inwardly over a part of said cavity, a piston member on the inner part of said diaphragm means and in clearance relation with said outer ring member, said piston member having a circumferentially continuous lip offset from said diaphragm means and extending radially outwardly over part of said cavity and into adjacency with said outer-ring lip, and an annular bridge-ring member having a flat underside seated on said diaphragm means beneath

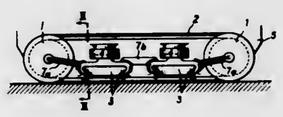


both said lips, said bridge-ring member including at a radially outward location first circumferentially extending upwardly projecting ridge means integral with the body of said ring member in contact with the lower surface of said first lip, and at a radially inward location second circumferentially extending upwardly projecting ridge means integral with the body of said ring member in contact with the lower surface of said second lip, and said bridge-ring member including said ridge means being formed with a plurality of angularly space radial slots defining the ring as a succession of interconnected segments.

3,261,418
AIR CUSHION TRACK ARRANGEMENT FOR VEHICLE

Jean Henri Bertin, Neuilly-sur-Seine, France, assignor to Societe Bertin & Cie, Paris, France, a company of France

Filed Mar. 10, 1964, Ser. No. 350,900
Claims priority, application France, Apr. 14, 1960, 824,368; June 6, 1963, 937,275
10 Claims. (Cl. 180—7)



1. In a combined air-cushion and endless track vehicle, a fluid-cushion borne body, radially deformable terminal rollers of elastic material carried by said body and having a selected deformation capacity, at least one endless, flexible, ground-engaging track having an inner side engaged by and passing over said terminal rollers and an outer side

for bearing against the ground along a lower run of said track, a source of pressure fluid on said body, means fed with pressure fluid from said source for forming a vertically deformable fluid cushion sustaining said body and active on the inner side of said lower run of the endless track and means providing a continuous fluid connection between said cushion forming means and said terminal rollers, so that the deformation capacity of said fluid cushion is substantially equal to the selected deformation capacity of said terminal rollers.

3,261,419
SYSTEM FOR CONTROLLING ALTITUDE AND PITCH IN A GROUND EFFECT VEHICLE
Toivo Juhani Kaario, Linnavuori, Finland
Filed Nov. 29, 1962, Ser. No. 240,985
Claims priority, application Finland, Sept 4, 1959, 1,404/59, Patent 33,611
1 Claim. (Cl. 180—7)



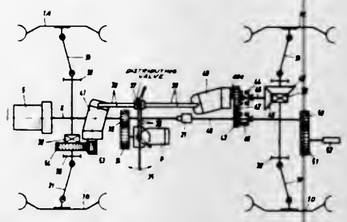
In a ground effect vehicle having a single load bearing wing, a mechanical system for controlling the altitude and pitch attitude of the vehicle, said system comprising as a first principal component a tunnel on the front and lateral middle part of the wing, said tunnel forming with the operating surface over which the vehicle passes a more or less closed chamber, the said tunnel being composed of a forward open intake, a passage leading from the tunnel beneath the front part of the said wing, a rearwardly open exhaust port in the rear end of the said tunnel, a blower means mounted on the vehicle for impelling a stream of air rearwardly through the tunnel from the forward open intake thereof, a first flap cooperating with the exhaust port and operated by the controls of a pilot, said first flap being operable adjustably to close the said exhaust port, and, as a second principal component of the system, a second adjustable flap adapted to be operated by the controls of a pilot and located on the trailing end of the said wing, said second flap regulating the backward directed convergence of the channel formed of the bottom and rear part of the said wing and operating surface.

3,261,420
GROUND EFFECT MACHINE
Philip S. Schmidt, Palo Alto, Calif., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed Nov. 9, 1964, Ser. No. 409,713
6 Claims. (Cl. 180—7)



1. A vehicle adapted to support itself above a surface by fluid pressure, comprising
a body of open bottom form,
said body having a perimetral skirt portion terminating in a lower marginal edge,
means for pumping fluid into the region circumscribed by said marginal edge to form a pressure-fluid support cushion for said vehicle between the latter and said surface and whereby fluid squeezes out from under said vehicle marginal edge at high velocity,
and fluid flow reaction means disposed in the path of fluid squeezing out from under said vehicle,
said reaction means comprising airfoil-sectioned members held by support means below and alongside opposite sides of said vehicle and operable in response to flow of fluid therearound to provide a vehicle lift effect transmitted to said vehicle through said support means.

3,261,421
HYDRAULIC DRIVE FOR VEHICLES SELECTIVELY CONNECTABLE TO THE WHEELS AND POWER TAKE-OFF
Franz Forster, Glattbach, and Otmar Kaup, Aschaffenburg, Germany, assignors to Guldner-Motoren-Werke Aschaffenburg, branch of Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft Wiesbaden, Aschaffenburg, Germany
Filed June 28, 1961, Ser. No. 120,252
Claims priority, application Germany, July 1, 1960, G 29,967; Aug. 6, 1960, G 30,242
1 Claim. (Cl. 180—53)

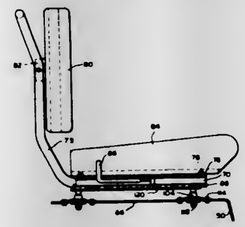


A four-wheel drive vehicle comprising:
(a) a vehicle chassis having first and second axles each provided with a pair of respective wheels;
(b) two hydraulic motors each operatively connected with a respective one of said axles for driving the wheels thereof;
(c) an internal-combustion engine on said chassis having an output shaft;
(d) a variable-capacity hydraulic pump operatively connected to said shaft;
(e) conduit means for connecting said pump with said motors for transmitting fluid displaced by said pump to said motors;
(f) a power-take-off shaft on said chassis;
(g) first clutch means operatively connecting said power-take-off shaft to said output shaft for operating said power-take-off shaft at a speed determined directly by the speed of said output shaft;
(h) second clutch means for operatively connecting one of said hydraulic motors with said power-take-off shaft for driving same at a speed determined by said one of said hydraulic motors;
(i) third clutch means interposed between said one of said hydraulic motors and the respective one of said axles for selectively coupling and decoupling said one of said hydraulic motors with respect to said one of said axles; and
(j) control means between said pump and said motors for selectively connecting each of said motors and both of said motors to said pump for individual and joint operation selectively of said motors.

3,261,422
SEAT SUSPENSION FOR A MATERIAL HANDLING TRUCK
Lester K. Jensen, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Nov. 6, 1961, Ser. No. 150,254
6 Claims. (Cl. 180—69)

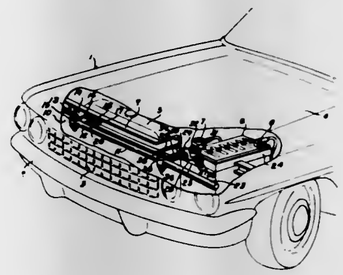
1. In an industrial truck having a material handling device located forwardly thereof, an operator's station located rearwardly of the material handling device and a motive power generating compartment located beneath

a portion of the operator's station, a resiliently mounted seat construction comprising an upper cover plate disposed above and overlying at least a portion of said compartment, pivot means supporting the cover plate from transversely spaced side portions of said compartment so that said cover plate is pivotable forwardly from a position overlying said compartment to expose said compartment, a plurality of openings in the cover plate, operator's seat means located in vertically spaced relation from said cover plate, means supporting said seat means from said cover plate including deformable resilient means operatively connected at all times to said cover plate and



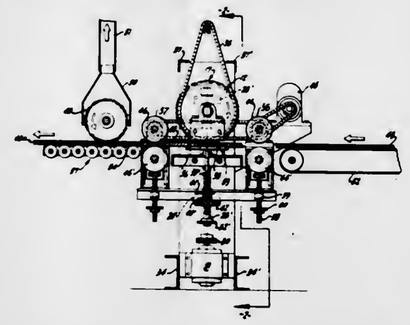
said operator's seat means irrespective of the pivoted position of said cover plate and seat means and said vertical spacing therebetween varying as a function of the load upon said seat means causing varying deformation of said resilient means, one of said supporting means being mounted in each said opening such that a portion thereof extends above said cover plate and a portion thereof extends below said cover plate, and load equalizing means extending between and connected to certain ones of said seat support means, said equalizing means being spaced vertically from and intermediate the cover plate and seat means.

3,261,423
APPARATUS FOR FORESTALLING FLOW OF CURRENT TO THE ELECTRICAL SYSTEMS OF A MOTOR VEHICLE IN CASE OF A HEAD-ON COLLISION
Joseph Dudley Scioloro, 14620 Rath St., La Puente, Calif.
Filed Aug. 26, 1964, Ser. No. 392,155
6 Claims. (Cl. 180—83)



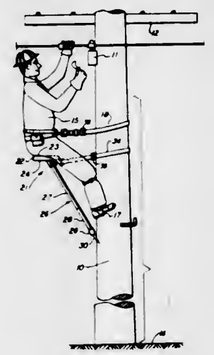
1. In a motor vehicle having a battery provided with terminals connected with electrical equipment of the vehicle, an apparatus for forestalling flow of electric current from the battery in case of a head-on collision of the motor vehicle, said apparatus including
means carried by the motor vehicle and responsive to collision for breaking off one of the terminals of the battery.

3,261,424
CELLULOSIC FIBROUS SHEET HAVING FISSURES WHICH ARE FREE OF NONFIBROUS AND DISINTEGRATED FIBROUS MATERIAL
Donald R. Bauer, John D. Cassidy, and Howard W. Hance, St. Helens, and Clarence R. Mullen, Portland, Oreg., assignors to Kaiser Gypsum Company, Inc., Oakland, Calif., a corporation of Washington
Original application Jan. 29, 1962, Ser. No. 169,489, now Patent No. 3,181,279, dated May 4, 1965. Divided and this application Apr. 29, 1963, Ser. No. 283,651
1 Claim. (Cl. 181—33)



Decorative fissured cellulosic fibrous sheet having a surface interrupted by fissures extending inwardly into said sheet, said fissures being free of nonfibrous and disintegrated fibrous material, and the surfaces of said fissures being comprised of cut fiber ends and adapted to retain their contours under the influence of humidity.

3,261,425
BODY REST FOR WORKERS IN ELEVATED POSITIONS
William Harder, 831 S. Friends Ave., Whittier, Calif.
Filed May 7, 1964, Ser. No. 365,699
4 Claims. (Cl. 182—187)

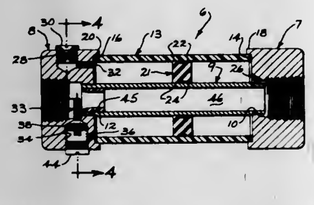


1. Climber's support apparatus for use on vertical poles comprising a seat, a seat surface on said seat being adapted to support a climber in a seated position, a shaft member extending at an angle and rigidly fixed to the seat, a pole-engaging means at the free end of said shaft, a flexible support means of adjustable length having selectively releasable fasteners at the ends thereof, means adjacent to the juncture of the seat and shaft being adapted to cooperate with said fasteners, said flexible support means encircling the pole and supporting the seat in a position horizontally spaced from the pole and the seat being swingable about the juncture of the pole-engaging means and pole when supporting the climber.

3,261,426
AIRLINE LUBRICATOR

Walter F. Kuhlman, 99 Corwin St., Norwalk, Ohio

Filed Aug. 9, 1963, Ser. No. 301,097
9 Claims. (Cl. 184—55)

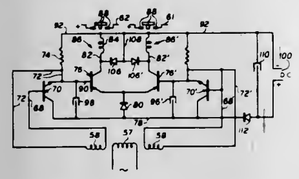


1. An airline lubricator comprising: an inlet cap having an axially extending opening therein, an outlet cap having an axially extending opening therein, said caps being spaced axially apart, an axially extending inner tube connecting said spaced apart caps, and having a central passage communicating with the opening in said inlet cap and with the opening in said outlet cap, an outer tube sealed between said inlet and outlet caps, said outer tube concentric with said inner tube, an annular piston sealingly positioned between said inner and outer tubes, the opening in said inlet cap being in communication with the annular space between said tubes on the side of said piston adjacent said inlet cap, and the opening in said outlet cap being in communication with the annular space between said tubes on the opposite side of said piston, and means for filling the annular space on the opposite side of said piston with oil, whereby air flowing through the opening in said inlet cap, through the passage of said inner tube and from the central opening in said outlet cap applies a differential pressure across said piston which forces oil into the opening of said outlet cap for mixture with the air flowing therefrom.

3,261,427
DETECTOR FOR FERROMAGNETIC MATERIAL IN AN ELEVATOR WELL AND AN ELEVATOR CONTROL SYSTEM OPERATED THEREBY

Robert Morris, Bayside, Long Island, N.Y., assignor to Staley Elevator Company, Inc., Long Island, N.Y., a corporation of New York

Filed July 24, 1963, Ser. No. 297,339
6 Claims. (Cl. 187—29)

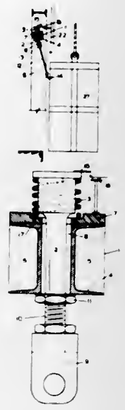


1. A detector system for magnetic material including
(a) a first circuit,
(b) means producing an alternating current in the first circuit,
(c) a coil in said first circuit in a magnetic field which is distorted by presence of magnetic material to reduce the flow of current in said first circuit,
(d) a first transistor in the first circuit normally biased to be non-conducting when current in the first circuit is below a given value,
(e) a capacitor connected across the first transistor in parallel with said transistor,
(f) a second circuit connected with a source of power, part of the second circuit being connected in parallel with the first transistor and the capacitor,
(g) a second transistor in the second circuit, at least a portion of the second transistor being in the part of the second circuit that is connected in parallel with the transistor of the first circuit,
(h) a power relay for a circuit that is to be controlled, said relay having an actuating coil in the second circuit,
(i) and means in the second circuit biasing the second transistor in an off condition when the first transistor is conducting, the capacitor being of sufficient capacity to avoid fully charging on any half cycle of the time that the first transistor is conducting as the result of flow of alternating current in the first circuit, and the capacitor having a potential, when charged more fully during a plurality of cycles when the first transistor is not conducting, to overcome the means in the second circuit biasing the second transistor in an off condition whereby the second circuit becomes conducting and energizes the power relay when the first transistor becomes non-conducting as the result of decrease in the alternating current in the first circuit, characterized by the coil in the first circuit being a secondary coil of a transformer, and the means for producing an alternating current in the first circuit being a primary coil of the transformer that produces the magnetic field in which the secondary coil is located, and characterized by the primary and secondary coils being located on an elevator car that travels up and down in a shaftway, vanes of ferromagnetic material at spaced locations along the shaftway in position to pass between the primary and secondary coils as the elevator car travels past the vanes, a motor for the elevator car, and an electric circuit for the motor controlled by said power relay.

3,261,428
MINE CONVEYANCE LOCATING MECHANISM

Mervyn J. McIntosh, Stilfontein, Transvaal, Republic of South Africa, assignor to Anglo-Transvaal Consolidated Investment Company Limited, Johannesburg, Transvaal, Republic of South Africa

Filed Aug. 31, 1964, Ser. No. 393,104
Claims priority, application Republic of South Africa, Sept. 6, 1963, Ser. No. 63/4,049
4 Claims. (Cl. 187—35)

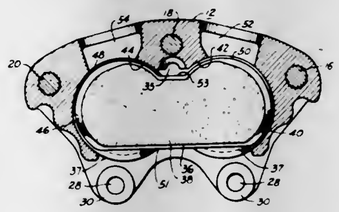


1. A mine shaft conveyance locating device in combination with a conveyance having a path of movement, a winding mechanism for said conveyance including a safety circuit and switch therefor, said locating device including an electrical means controlling said switch including a slack rope prevention device, and comprising a kep hook positioned in said path of said conveyance, a movable anchor pin from which the kep hook is suspended, a supporting frame for the pin and means supporting the pin normally out of contact therewith, an electrical switch actuator carried by the pin and an electrical switch in the path of the actuator and in circuit with said electrical means which, when energised will prevent more than a predetermined rotation of the conveyance winding mechanism.

3,261,429
BRAKE

Richard T. Burnett and John L. Turak, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Aug. 12, 1964, Ser. No. 389,041
5 Claims. (Cl. 188—73)

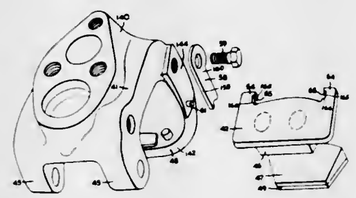


1. In a disc brake: a rotor having friction surfaces thereon, a housing extending opposite one of said friction surfaces, a friction member slidably carried by said housing and located opposite said one friction surface, said friction member having a first pair of circumferentially spaced end anchoring surfaces thereon and a second pair of circumferentially spaced anchoring surfaces intermediate the ends thereof, said housing having a first set of circumferentially spaced anchoring surfaces located adjacent a respective one of said pair of end surfaces of said friction member for engagement thereby, said housing further having a second set of anchoring surfaces located adjacent a respective one of and between said second pair of anchoring surfaces on said friction member for engagement thereby, means for engaging said friction member with said rotor, said friction surfaces being arranged relative to each other that upon braking during rotor rotation in one direction, one of said first pair and one of said second pair of anchoring surfaces on said friction member will anchor on one of said first set and on one of said second set of anchoring surfaces of said housing, respectively, and upon braking during rotor rotation in the opposite direction, the other of said first pair and the other of said second pair of anchoring surfaces of said friction member will anchor on the other of said first set and the other of said second set of anchoring surfaces of said housing, respectively, said one of said first set and said other of said second set of anchoring surfaces on said housing being arcuate shaped of the same radius and center, said other of said first set and said one of said second set of anchoring surfaces on said housing being arcuate shaped of the same radius and center, said one of said first pair and said other of said second pair of anchoring surfaces on said friction member being arcuate shaped of the same radius and center, said other of said first pair and said one of said second pair of anchoring surfaces on said friction member being arcuate shaped of the same radius and center, the radius of the anchoring surfaces on said friction member being less than the radius of their respective anchoring surfaces on said housing.

3,261,430
SPOT TYPE DISC BRAKES

Alexander John Wilson, Sutton Coldfield, Stewart Kevern Hambling, Tamworth, and Anthony William Harrison, Selly Oak, Birmingham, England, assignors to Girling Limited, Birmingham, England, a British company

Continuation of abandoned application Ser. No. 294,282, July 11, 1963. This application July 1, 1965, Ser. No. 473,550
6 Claims. (Cl. 188—73)



1. A disc brake comprising a rotatable disc, a caliper straddling a portion of the outer periphery of said disc and movable axially relative to said disc, friction pad assemblies for engagement with opposite faces of said disc housed in opposed limbs of said caliper and of which one is axially movable relative to the caliper, actuating means carried by the caliper for urging said axially movable friction pad assembly into engagement with one face of said disc, said other friction pad assembly being actuated indirectly and urged into engagement with the opposite face of the disc by the reaction on the caliper of the actuating means for said axially movable friction pad, retaining means for at least said axially movable pad assembly positioned at each end of said caliper outside the periphery of said disc, said retaining means including first and second angularly related abutment faces, lug means at each end of at least said axially movable pad assembly extending outside the periphery of the disc and having first and second angularly related faces complementary to the respective abutment faces of said retaining means, the first of said faces on said retaining means and on said lug means being constructed and arranged to cooperate with each other to take a major part of the circumferential component of drag at the end of the caliper with which any part on the disc first comes into alignment, and the second of said faces being constructed and arranged to cooperate with each other to take a major part of the radial component of drag at the opposite end of the caliper, and means for effecting detachment of said lug means from said retaining means, said detachment means being constructed and arranged to permit at least said axially movable friction pad assembly to be removed from the caliper in a circumferential direction relative to the disc.

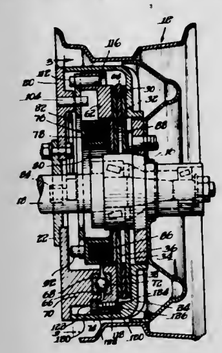
3,261,431
ELECTROMAGNETIC FRICTION UNIT

Osborn A. Kershner and Emil H. Hahn, both of St. Joseph, Mich., assignors, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Berrien, Mich., a corporation of Michigan

Filed June 4, 1964, Ser. No. 372,543
11 Claims. (Cl. 188—138)

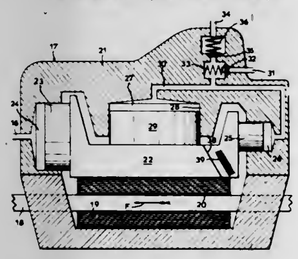
1. A friction unit comprising first and second relatively rotatable and relatively axially shiftable and engageable means, one of said means comprising a magnetic rotatable member, third means adjacent said first and second means and shiftable relative to and for relatively urging said first and second means into engagement with each other, and rotative means operably connected with said third

means and releasably magnetically and slippingly coupleable with said rotatable member for shifting said third



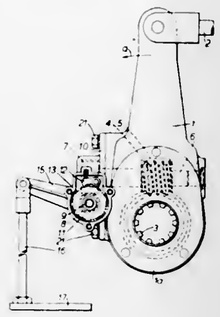
means and energizing said unit when coupled with said rotatable member, said rotative means comprising an electromagnet.

3,261,432
DISC BRAKE APPARATUS
Henri André Yves Tournier, Beauchamp, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed July 13, 1964, Ser. No. 382,147
Claims priority, application France, July 18, 1963, 941,849, Patent 1,370,811
1 Claim. (Cl. 188—140)



A disc brake apparatus for vehicles comprising a rotary disc, a frame, a device mounted on said frame and carrying a friction lining and movable tangentially of the disc, means operable by the user to move said device tangentially of the disc against a fluid cushion carried by said frame, a pressure chamber in said frame applying pressure to the device in a direction normal to said friction lining surface, and a communicating conduit between said cushion and said chamber so that an increase in pressure in the cushion due to tangential movement of said device by operation of said means by the user and by said disc moving said device in a direction tangentially of said disc will cause the pressure in said chamber to vary and thereby vary the pressure of said lining on said disc, the said chamber and said cushion being connected to an overpressure chamber, associated with a master-cylinder actuated by the user, and connected to the over-pressure chamber through a non-return valve opening to permit fluid flow from the overpressure chamber, said valve being mounted in a slide operable to place said cushion and said pressure chamber in communication with said overpressure chamber when the pressure in said cushion and said chamber reaches a predetermined high pressure compared with the pressure in the overpressure chamber to permit each friction lining to be released from said disc to free the disc.

3,261,433
SLACK ADJUSTERS FOR VEHICLE BRAKES
Wilbur M. Page, Lincoln, England, assignor to Clayton Dewandre Company Limited, Lincoln, England
Filed May 4, 1964, Ser. No. 364,700
4 Claims. (Cl. 188—196)

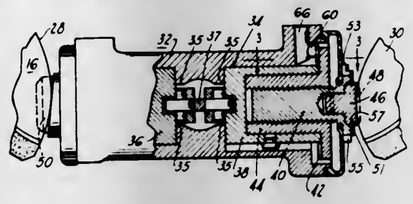


1. In combination with a rotatably mounted vehicle brake cam shaft, a vehicle brake slack adjuster comprising a lever mounted for free rotation about the axis of said cam shaft and having a housing portion peripherally surrounding a section of said cam shaft, a brake actuating member operatively connected to said first lever for rocking said lever about the axis of said cam shaft, a first shaft journalled in said housing portion for rotation about an axis extending at right angles to the rotational axis of said cam shaft, a first worm rigid with said first shaft, a first worm wheel rigid with said section of said cam shaft and constantly meshing with said first worm in said housing portion, said first shaft having an end-extending beyond said housing portion, a housing section rigid with said housing portion and receiving said end of said first shaft, a second shaft journalled in said housing section for rotation about an axis extending at right angles to the rotational axis of said first shaft, a second worm rigid with said second shaft in said housing section, a second worm wheel constantly meshing with said second worm in said housing section and being fixed to said first shaft, one end of said second shaft extending beyond said housing section, a casing formed separately of said housing portion and said housing section and receiving said one end of said second shaft, a ratchet wheel fixed on said second shaft in said casing, a pawl pivotally mounted in said casing, means resiliently biasing said pawl into operative engagement with said ratchet wheel, and means for restraining said casing against movement with said lever, said pawl cooperating with said ratchet to provide a clutch for imparting unidirectional rotation to said first worm through the drive connection of said second worm and second worm wheel when a predetermined degree of movement of said lever is exceeded.

3,261,434
BRAKE ADJUSTER
William E. Brucker, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Indiana
Filed June 22, 1964, Ser. No. 376,732
5 Claims. (Cl. 188—196)

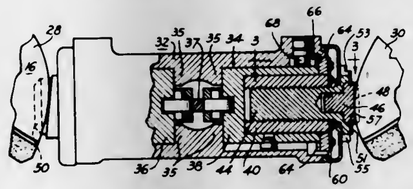
1. In a brake: a housing member, a bore in said housing member, a plunger assembly mounted in said bore for slidable movement relative to said housing member in a brake applying direction and a return direction, said plunger assembly comprising a non-rotatable threaded member and a rotatable member threadedly secured to said non-rotatable member and having teeth thereon,

pawl means, said pawl means being operatively connected to said housing member for pivotal movement into engagement with said teeth, resilient means urging said pawl means into engagement with said teeth, said pawl means being arranged relative to said teeth to effect a rotational force on said rotatable member upon return movement of said plunger assembly, the operative connection of said pawl means to said housing including resilient means separate from said first named resilient means urging said pawl means into a normal operating



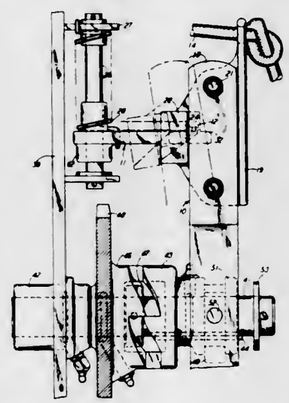
position relative to said housing, whereby upon normal return movement of said plunger assembly said pawl means will maintain its normal operating position relative to said housing while being pivoted by said rotatable member and thereby imparting a rotational force on said rotatable member and upon return movement of said plunger assembly caused by "kickback," said pawl means will be shifted from its normal operating position relative to said housing against the force of said second named resilient means.

3,261,435
BRAKE ADJUSTER
Eugene F. Beatty, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed July 8, 1964, Ser. No. 381,268
4 Claims. (Cl. 188—196)



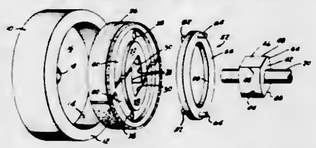
1. In a brake: a housing member, a bore in said housing member, a plunger assembly mounted in said bore for slidable movement relative to said housing member in a brake applying direction and for return movement, said plunger assembly comprising a non-rotatable threaded member and a rotatable member threadedly secured to said non-rotatable member, a ratchet element having teeth thereon, a pawl element, one of said elements being operatively connected to said rotatable member for rotation therewith, the other of said elements being operatively connected to said housing member, resilient means urging said pawl element into engagement with said ratchet element, said elements being arranged relative to each other to effect a rotational force on said rotatable member upon normal return movement of said plunger assembly when said plunger assembly has moved in a brake applying direction beyond a predetermined distance, the operative connection between one of said elements and its respective member including resilient means separate from said first named resilient means urging said one element into a normal operating position relative to its respective member, whereby upon return of said plunger assembly, caused by "kickback," said second maned resilient means will be overcome effecting movement of said one element from its normal position relative to its respective member while said pawl element is engaged with said ratchet element.

3,261,436
REMOTE CONTROL LATCH MECHANISM FOR CLUTCH
Aaron M. Schaible, Rockford, Ill., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Filed Feb. 8, 1965, Ser. No. 431,051
7 Claims. (Cl. 192—22)



5. A shiftable mechanism positionable in a locked position and an unlocked position, comprising a locking dog, a member movably mounted for movement toward and away from said locking dog for locking and unlocking with the latter, a spring engaged with said locking dog to have the latter rotatably and laterally movably mounted and spring loaded, said member having a locking shoulder for locking engagement with said locking dog and being arranged with means for laterally moving said locking dog against its spring upon movement of said member toward said locking dog, said locking shoulder and said locking dog being arranged for unlocking under the influence of said spring and in response to further movement of said member, a clutch operatively associated with said member for engagement and disengagement respectively corresponding to said locking and unlocking, and a spring connected to said member for urging the latter away from said locking dog.

3,261,437
OVERRUNNING CLUTCH
Carl H. Kramm, 5747 E. Coon Lake Road, Howell, Mich.
Filed July 27, 1964, Ser. No. 385,307
5 Claims. (Cl. 192—41)



1. An overrunning clutch assembly comprising, in combination,

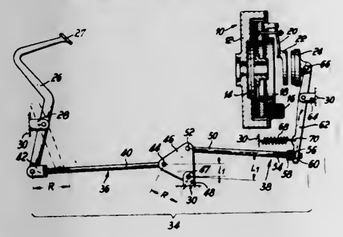
(a) a rotatable drive member adapted to rotate about a given axis,

(b) a drum having an integral cylindrical surface,

(c) means rotatably supporting said drum for rotation about said given axis,

(d) a noncylindrical cam mounted upon said drive member for rotation therewith and axially aligned with said drum cylindrical surface,
(e) a pair of radially movable friction elements interposed between said cam and said drum cylindrical surface, said elements being related in diametrical opposition with respect to each other and said cam, cylindrical segment surfaces defined on said elements adapted to selectively, frictionally engage said drum cylindrical surface,
(f) a cam surface defined on each of said elements engaged by said cam whereby relative rotational movement between said cam and said elements radially translates said elements,
(g) a cylindrical ring supported concentrically to said given axis and having an outer surface,
(h) a plurality of arcuate friction-producing segments engaging said cylindrical ring outer surface and having a complementary concave, cylindrical surface defined thereon,
(i) an annular spring biasing said segments into engagement with said ring, and
(j) means interconnecting said segments to said elements for rotation therewith.

3,261,438
VARIABLE RATIO CLUTCH RELEASE LEVER MECHANISM
Richard Binder, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed May 27, 1964, Ser. No. 370,440
Claims priority, application Germany, June 1, 1963, F 39,898
9 Claims. (Cl. 192—99)



1. In a clutch arrangement, in combination:
(a) a clutch movable between an engaged and a released position;
(b) clutch pedal means movable between an inoperative and an operative position;
(c) clutch release linkage means moving said clutch from the engaged to the released position when said pedal means moves from the inoperative to the operative position, said linkage means including
(1) a lever member mounted for movement about a fixed pivot axis between an operative and an inoperative position,
(2) two pivot means on said lever member having respective axes,
(3) first rod means connecting said pedal means and one of said pivot means for joint movement of said lever member and of said pedal means between the operative and inoperative positions thereof,
(4) second rod means connecting said clutch and the other pivot means for joint movement of said lever member and of said clutch from the operative position of the lever member and the released position of said clutch to the inoperative position of the lever member and the engaged position of the clutch, and vice versa,
(5) said rod means including respective rod members having respective first portions attached to the associated pivot means, second portions hingedly secured to said pedal means and said clutch respectively, and respective axes connecting said first and second portions thereof and spaced from said pivot axis during said movement of the lever member,
(6) the spacing of the axis of said first rod member from said pivot axis in the inoperative position of said lever member being substantially smaller than the spacing of the axis of said second rod member from said pivot axis, and
(7) the spacing of the axis of said first rod member from said pivot axis in the operative position of said lever member being substantially greater than the spacing of the axis of said second rod member from said pivot axis; and
(d) yieldably resilient means permanently urging said lever member to move from said operative toward said inoperative position thereof.

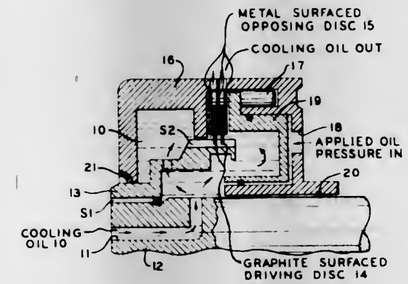
3,261,439
PRESTRESSED CLUTCH DISK
Richard Binder, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed May 14, 1964, Ser. No. 367,464
Claims priority, application Germany, May 18, 1963, F 39,781
3 Claims. (Cl. 192—107)



1. A clutch disk assembly comprising, in combination:
(a) disk means having an axis, a hub portion adjacent said axis, and a flange portion spaced from said axis;
(b) a plurality of pairs of resilient, axially superposed, corrugated sheet members,
(1) each member of said pairs having an inner face axially opposite the inner face of the other member of the pair and an outer face,
(2) the corrugations of each member including a plurality of circumferentially alternating, radially extending ridge and groove portions in said inner faces, said ridge portions of each pair abuttingly engaging each other, and the groove portions spacedly facing each other,
(3) each sheet member having a lug portion radially offset from said faces toward said axis;
(c) fastening means fastening said lug portions to said flange portions in such a manner that said inner and outer faces are radially outwardly spaced from said flange portion and said pairs of resilient sheet members are circumferentially spaced from each other;
(d) tensioning means for preventing relative axial movement of said groove portions of the members of each pair away from each other beyond a position in which said abuttingly engaged ridge portions transmit to each other resilient axial stresses of a magnitude sufficient to deform said members,

(1) each tensioning means including a tension member having two axially spaced portions, one of said portions being fixedly fastened to a groove portion of one of the members of said pair, and the other portion including abutment means engageable with the groove portion of the other member for preventing said axial movement; and
(e) two annular friction facings, each facing being axially fastened to one member of each of said pairs.

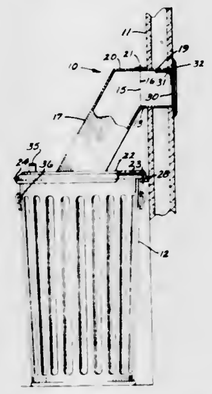
3,261,440
BRAKE AND CLUTCH ASSEMBLY
Glenn R. Graham, Hovelty, Arthur C. Echler, North Royalton, and Jacob Nitz, Bedford, Ohio, assignors to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed July 6, 1964, Ser. No. 380,201
4 Claims. (Cl. 192—113)



1. A friction assembly adaptable for low wear, comparable dynamic and static coefficient of friction values, absence of char, weld seizure, and scoring, and relatively cool operation, said assembly being of the type having means for selectively changing spacing between a friction facing material and an opposing surface material from a complete disengagement position to an engaged position, said assembly being the combination of:
a cooling oil,
said opposing surface material exposed to said cooling oil, and
said friction facing material with said friction facing material having an interconnecting porosity and permeability and comprising more than 50% by weight elemental carbon exposed to said cooling oil.

3,261,441
RUBBISH DISPOSAL ARRANGEMENT
Gail V. Mullens, 742 W. 129th St., Gardena, Calif.
Filed Dec. 4, 1964, Ser. No. 415,929
4 Claims. (Cl. 193—33)

1. In combination with a wall having an opening and a container adapted to receive a quantity of rubbish,
a rubbish disposal arrangement comprising a first horizontal chute member secured to said wall
having an entrance opening at said wall, and extending through said opening to a point exteriorly of said wall,
a second chute member inclined downwardly from said first chute member toward said container,
said second chute member communicating with said first chute member
and being adapted to transmit rubbish from said chute members to said container,
a hinge interconnecting said first and second chute members,
and a lid,
said lid having an opening,
said second chute member being secured to said lid at said opening, whereby said lid is movable with said second chute member,
said lid having a depending flange adapted to circumscribe the upper edge of said container with the inner surface of said flange adjacent the exterior surface of said upper edge,



whereby said lid defines a closure for said container,
said hinge being transverse of said chute members, and falling in a vertical plane no closer to an intersection with said lid than a point tangent to the inner surface of said flange at a location immediately below the longitudinal axes of said chute members.

3,261,442
CAP TURNOVER DEVICE
Douglas E. Beck, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed June 26, 1964, Ser. No. 378,325
6 Claims. (Cl. 193—43)



1. An apparatus for inverting closure caps of the type having a top panel and a depending peripheral skirt which are improperly positioned, comprising an elongate chute with a passageway of generally rectangular cross section for receiving at one end thereof a line of caps which are in a common plane with the top forming panels in random relation, the passageway being of a size to permit the caps to move freely from one end of the chute to the other end thereof, said chute having oppositely disposed, longitudinally extending guide slots which are disposed rela-

tive to the longitudinal axis of the chute to invert caps which are tilted about a diametrical axis as they advance in the chute, a cap position sensing wheel mounted for free rotation on a shaft which extends transversely of the chute and which is resiliently supported adjacent the entrance end of the chute so as to allow the wheel to move in a path towards and from the chute, said wheel having radially extending, spaced pins on the periphery thereof which normally extend into the chute and move in the path of the caps, said wheel being located on one side of the longitudinal axis of the chute so that the pins will project into the open side of a properly positioned cap and not interfere with the advancing movement of the cap in the passageway and the top panel of an improperly positioned cap will be engaged by the pins and the cap tilted about a diametrical axis into said guide slots.

3,261,443
PRICE, CREDIT, AND CHANGE SENSING APPARATUS FOR COIN-RESPONSIVE EQUIPMENT

Herman G. Jensen, Chicago, Joseph E. Wright, Jr., Wheaton, and John F. Shragal, River Grove, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware

Filed Jan. 6, 1964, Ser. No. 335,714
45 Claims. (Cl. 194—80)

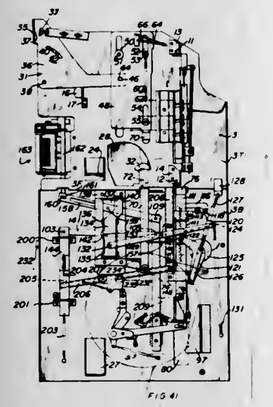


FIG 41

20. Variable price selector mechanism for use in coin responsive vending equipment, which comprises:

a movable price sensing lever, the degree of movement of which from a given rest position may be correlated to a signaled price;

stop means for impeding the movement of the price sensing lever to indicate a price value,

the stop means being vertically displaceable relative to the price sensing lever such that the signaled price may be varied by repositioning the stop means relative to the price sensing lever; and

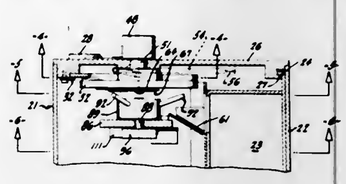
means for horizontally positioning the stop means in the path of movement of the price sensing lever so as to impede the movement thereof.

3,261,444
COIN METERING APPARATUS

Frank A. Barsocchini, Kentfield, Calif., assignor to Service Distributors, Inc., San Francisco, Calif.

Filed May 11, 1964, Ser. No. 366,295
14 Claims. (Cl. 194—84)

1. In a coin metering device, a shaft, means forming a coin-receiving first slot, a manually rotatable turntable formed with a second slot, means mounting said turntable for rotation concentric with said shaft between a first position with said slots substantially vertically aligned and a second position, a rotor on said shaft, means mounting said rotor for rotation concentric with said shaft, at least one coin-engaging point on said rotor positioned below said turntable and arranged to fit ahead of a coin held in said second slot in the direction of movement of said turntable from first to second positions and to be engaged by a coin turned with said turntable to turn said rotor, a cam rotatable with said shaft, said cam having

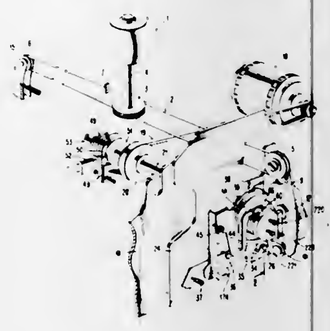


at least one projection, a switch, a switch arm actuating said switch and projecting into the path of rotation of said projection, whereby upon rotation of said turntable with a coin in said second slot from first to second position, said projection closes said switch, a timer motor controlled by said switch, said timer motor located remote from said shaft and mechanically independent of rotation of said shaft, and means for discharging a coin from said second slot in second position of said turntable.

3,261,445
TAPE CONTROLLED TYPEWRITER

John E. Hickerson, Lexington, Ky., assignor to International Business Machines Corporation, Armonk, N.Y., a corporation of New York

Continuation of application Ser. No. 179,906, Mar. 15, 1962. This application July 1, 1965, Ser. No. 470,333
13 Claims. (Cl. 197—20)



1. A mechanism operable in response to the sensing of holes in a punched record for effecting operation of a typewriter to print characters corresponding to the combinations of holes sensed comprising, in combination:

a print head having characters formed on its surface,

a plurality of members movable either singly or in combination for effecting operation of said print head to move characters selectively into printing position,

a control element cooperating with each of said members and shiftable between inactive and active positions,

a set of slides, one for each of said control elements, movable from a home position to an operating position,

means actuated on movement of said slides to operating positions for shifting said control elements from inactive to active positions,

a plurality of control members cooperating with said slides at different points corresponding to different characters,

elements for sensing holes in said record,

means operating on the sensing of holes representative of any character for moving the one of said control members at the corresponding character position into an operative position for controlling said slides, each of said control members acting when in an operative position to hold one or more of said slides,

means operating after movement of one of said control members to its operative position for moving all of said slides not held thereby to their operating positions,

means operating after said slides have been moved for engaging said control elements in active positions with said movable print head operating members to actuate the latter,

said last-named means comprising:

a bar movable longitudinally in a plane including said print head operating members,

means mounting said control elements on said bar for movement between inactive and active positions relative to said print head operating members, and

said means for engaging said control elements with said movable print head operating members comprising a cam operable to effect a reciprocation of said bar,

a continuously driven power shaft,

means including a magnetic clutch which operates when energized to drive said cam from said power shaft for effecting a single reciprocation of said bar, and

means for energizing said clutch after said slides have been moved to their operating positions.

3,261,446
INKED RIBBON FOR TYPEWRITERS AND OTHER BUSINESS MACHINES

Robert J. Sperry, Box 224, Manomet, Mass., and Nelson B. Vanderhoof, Jr., 25 Madison Road, Waltham, Mass.

Filed Aug. 17, 1965, Ser. No. 480,403
6 Claims. (Cl. 197—172)
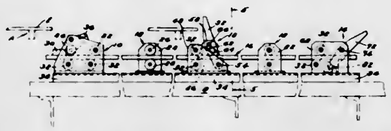


1. An improved typewriter ribbon comprising a length of ribbon fabric having a protective coating of a urethane compound appiled at one side of the ribbon to provide a reinforced type receiving surface, portions of the coating material at the said type receiving surface being relatively heavily impregnated therein, other portions of the coating material being relatively lightly impregnated through the ribbon fabric to the opposite side thereof to overlie constituent fabric yarns in the form of thin outer films, a typewriter ribbon ink applied to the ribbon fabric yarns over the said thin outer films of protective coating material to provide an inking surface, said ink consisting of a greasy mineral oil and carbon black mass in which is contained a fatty acid, said fabric yarns having absorbed therein in varying degree quantities of said ink which have permeated through the said thin outer urethane films into the fabric yarns to provide a reservoir of ink, said reservoir of ink being retentively held by said films of coating material whereby a slow release of ink from the yarns is accomplished when the ribbon fabric is pressed against a writing surface by a type face.

3,261,447
ARTICLE SPACER MECHANISM FOR CONVEYORS

Raymond A. Muirhead, Detroit, Mich., assignor to Taylor & Gaskin, Inc., Detroit, Mich., a corporation of Michigan

Filed Apr. 9, 1964, Ser. No. 358,454
7 Claims. (Cl. 198—34)

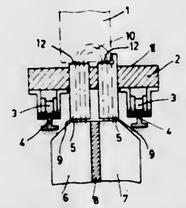


1. Apparatus for uniformly spacing apart articles moving along a conveyor line comprising, in combination: a stop member mounted for movement between an article stop position and an article release position; a release mechanism positioned downstream of said stop member a predetermined distance including a part adapted to be movably contacted by an approaching article in said line; an actuating member extending between and operably coupled to said release mechanism and said stop member responsive to movement of said release mechanism part to shift said stop member to article release position; and reset mechanism disposed intermediate said stop member and said release mechanism having a part adapted to be movably contacted by an approaching article in said line and coupled to said actuating member, with said actuating member additionally responsive to movement of said reset mechanism part to shift said stop member to its article stop position.

3,261,448
MAGNETIC CARRIERS FOR INDUCTION-HEATING OVENS

Heinz Koesling, Notzingen, Germany, assignor to North American Philips Company Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 14, 1964, Ser. No. 417,947
Claims priority, application Germany, Dec. 13, 1963, P 33,188
3 Claims. (Cl. 198—41)



1. Apparatus for the transport of workpieces in induction-heating ovens comprising a transport belt having a plurality of carriers, at least one pair of inserts of soft magnetic material for each said carrier and discrete magnetized pole pieces fixedly arranged with respect to said carriers along the underside of said belt, whereby said inserts are alternatively magnetized and de-magnetized when the transport belt is operative.

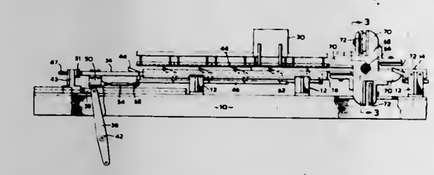
3,261,449
BRUSH ASSEMBLY MACHINE

Donald S. Mackay, Belleisle Creek, New Brunswick, and Allan M. Hallworth, Lancaster, New Brunswick, Canada, assignors to T. S. Simms & Co. Limited, New Brunswick, Canada

Filed June 19, 1964, Ser. No. 376,328
3 Claims. (Cl. 198—107)

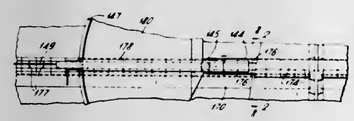
1. In a brush assembly machine for nailing brush ferrules having bristles fixed therein to handles, means for moving brush units consisting of brush ferrules having

bristles fixed and handles received therein through said machine, said moving means including a first horizontal rail consisting of two parallel members spaced from one another as to define a longitudinally extending channelway, a second horizontal rail of like construction aligned with said first rail, a transfer mechanism positioned between opposed ends of said rails for transferring brush units from the first rail to the second, pusher bar mechanisms associated with each of said rails and adapted to reciprocate longitudinally thereof, and means for reciprocating said pusher bar mechanisms, said pusher bar mechanisms each including a number of pairs of dog elements, and means for raising and lowering said pairs of dog elements from a first position in which the upper ends of the



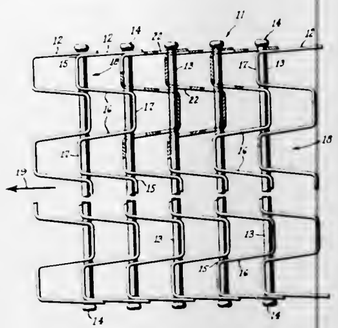
dog elements project above said rails for engagement with brush units lying thereon to a second position in which the said upper ends of the dog elements are positioned below the top surface of said rails and out of contact with said ferrules, said means for raising and lowering said pairs of dog elements consisting of rod means pivotally connected to the lower ends of the dog elements as to interconnect the said lower ends, a solenoid device carried by the pusher bar mechanism, linkage means connecting said solenoid device with said rod means whereby the actuation of said solenoid device causes said dog elements to be raised or lowered, and spring means for urging said dog elements in a direction opposite to the direction in which they are moved by actuation of the solenoid device.

3,261,450
DEVICES FOR SUPPORTING CONVEYOR BANDS
Alan Keith McCombie and Frank Heybourn, London, England, assignors to The Molins Organisation Limited
Filed Oct. 29, 1963, Ser. No. 319,834
Claims priority, application Great Britain, May 23, 1963, 20,645/63
5 Claims. (Cl. 198—139)



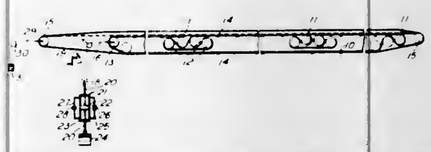
1. In apparatus comprising a conveyor band for cigarettes and whose operative length is increased or decreased according to the quantity of cigarettes contained in a reservoir, in which said band is located to support said quantity, and having a slide carrying a roller around which the band turns to provide an upper cigarette supporting run and a lower return run, the slide being movable to and fro to alter the operative length of the band, means for supporting the supporting run of the band, against the weight of the cigarettes, consisting of slidable supports and a fixed rail on each side of the band, on which the supports can slide toward and away from the conveyor, and means for moving the supports inwards into a position where they move beneath the edges of the band to support it, and outwards from said position and clear of the band, as the slide moves to and fro to alter the operative length of the band.

3,261,451
FLAT WIRE CONVEYOR BELT HAVING TAPERED PIN SLOTS
Gerald C. Roinestad, Winchester, Va., assignor to Ashworth Bros. Inc., Fall River, Mass., a corporation of Massachusetts
Filed June 29, 1964, Ser. No. 378,810
6 Claims. (Cl. 198—193)



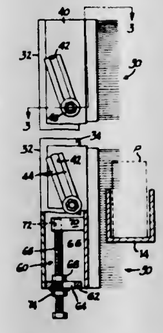
1. A flat wire conveyor belt comprising a plurality of continuous transverse tractive links of flat wire, each of said links providing a plurality of laterally spaced tractive wire members extending in the general direction of normal straight belt travel, each of said members having substantially parallel top and bottom edges with a pair of longitudinally spaced slots extending laterally through the sides of said members, said slots having a long dimension extending in the normal direction of belt travel, a plurality of pivotal tractive cross pins extending through said slots to interconnect said links, said cross pins being slidable along said slots to permit the collapse of either edge of the belt during travel around lateral curves edgewise of the belt, the slots in at least those of said members adjacent the marginal edges of the belt which are subjected to repeated flexing during operation of the belt having nonparallel top and bottom sides which diverge from the ends toward the middle of the respective members to minimize fatigue failure of said members at said slots.

3,261,452
TENSIONING MEANS FOR A BELT CONVEYOR
Charles Thomson, Esher, England, assignor to Solar Thomson Engineering Company Limited, Cobham, Surrey, England
Filed Jan. 4, 1965, Ser. No. 423,159
Claims priority, application Great Britain, Jan. 10, 1964, 1,242/64
7 Claims. (Cl. 198—208)



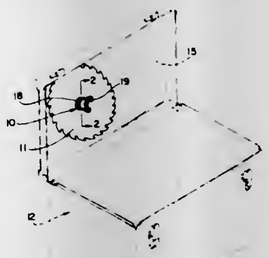
1. A conveyor comprising an endless conveyor member, an endless flexible driving member in frictional driving engagement with the endless conveyor member over a substantial part of the length of the driving member, rollers around which the driving member passes, biassing means connected to at least one of said rollers urging said roller in a direction to tension the driving member and dashpot means connected to said roller and opposing movement thereof in the direction opposite to the first said direction.

3,261,453
HELICAL STORAGE UNIT
Gene Hirs, 6865 Meadowlake Road, Birmingham, Mich.
Filed Sept. 11, 1964, Ser. No. 395,806
5 Claims. (Cl. 198—212)



1. In a helical storage unit having a vertically disposed helical parts carrying chute, and rotary brush means rotatable about the axis of said chute in brushing engagement with parts carried in said chute for moving the parts along said chute; the improvement wherein said brush means comprises a vertically extending brush support member mounted for rotation about the axis of said chute, an elongate brush assembly having a length greater than the axial extent of said chute, an elongate web member fixed to said brush assembly and slidably engaging said brush support member, means for vertically adjusting said web member upon said brush support member, and means for positioning said web member radially of said axis in accordance with the adjusted vertical position of said web member relative to said brush support member to thereby adjust said brush assembly radially of the axis of said chute.

3,261,454
SAW BLADE HOLDER FOR KIT BOX
Donald E. Elson, Baltimore, and Claudius C. Elmore, Jr., Timonium, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Sept. 1, 1964, Ser. No. 393,519
1 Claim. (Cl. 206—16)



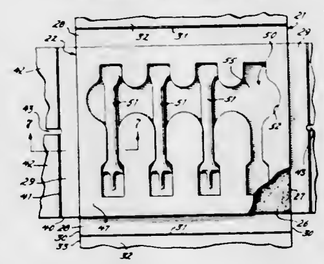
In a kit box, a saw blade holder, comprising: a shouldered screw having its head portion secured to an inner surface of the box and its threaded portion extending therefrom; a resilient bushing fitted on the threaded portion of said screw; a saw blade positioned on said bushing; a wing nut engaging the threads of said screw axially compressing said bushing against said shoulder and radially enlarging said bushing thereby frictionally securing the saw blade in place on said bushing and preventing any substantial rubbing or scraping of the blade against the inner surface of the box.

3,261,455
MULTILAYER DISPENSER FOR PILLS
Robert Gayle and Paul Thomason, Roanoke, Va., assignors to Creative Packaging, Incorporated, Indianapolis, Ind., a corporation of Indiana
Filed July 17, 1964, Ser. No. 383,432
9 Claims. (Cl. 206—42)



9. A circular pill dispenser comprising a plurality of congruent circular layers with each of said layers defining a plurality of bores adapted for containing pills, said layers being rotatably stacked between a cover and bottom, each pair of adjacent layers being coupled together for simultaneous rotary movement through a two-position clutch means, said two-position clutch means comprising a projection on one layer engaged with an arcuate element having two recessed portions for receiving said clutch means projection, said bores in the layers of each said pair being offset on the first clutch position and aligned in the second clutch position, each succeeding two-position clutch means being dimensioned to require increased energy for advancement from its first position to its second position whereby the bores of each layer are successively aligned with the bores of preceding layers on repeated advancement of the top layer relative to the bottom layer.

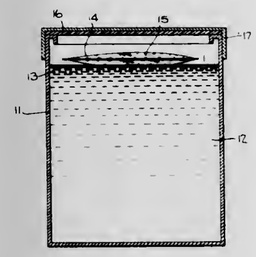
3,261,456
MAILABLE PACKAGE AND METHOD OF MANUFACTURE
George C. Sparks, 101 Rorer St., Erdenheim, Pa.
Filed July 21, 1964, Ser. No. 384,189
7 Claims. (Cl. 206—46)



1. A mailable container comprising a one-piece cover sheet cut and folded to define a back wall, end walls upstanding from opposite ends of said back wall, inturned tabs on the upper edges of said end walls, side walls up-

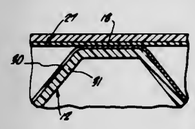
standing from opposite sides of said back wall, top parts extending inwardly from said side walls over said tabs, holding flaps extending from the inner edges of said top parts beneath said tabs for holding engagement therewith, and an insert body arranged conformably within said cover sheet, said body comprising a resiliently compressible pad having an opening on one pad face, and a skin on at least said one pad face having an opening conforming to said pad opening, said pad and skin openings combining to define a recess with the bounding edge of said skin opening releasably retaining a yieldable article in said pad opening.

3,261,457
INK PACKAGE
Philip F. Harmon, Seaford, Long Island, N.Y., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 24, 1964, Ser. No. 354,405
5 Claims. (Cl. 206—47)



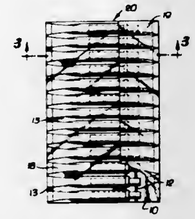
1. A printing ink package comprising a wide-mouth sealable container having a determined quantity of a relatively viscous varnish pigment printing ink mixture in one portion thereof, a disposable diaphragm isolating said mixture, a pre-measured quantity of drier in a flexible disposable packet in the other portion thereof and a means for sealing said wide-mouth sealable container said drier being adapted in quantity and quality to cooperate with said determined quantity of varnish pigment mixture to form upon mixing therewith an operable printing ink.

3,261,458
CONTAINER
Howard A. Nibecker, Laguna Beach, Calif., assignor to Laguna Scientific Industries, Santa Ana, Calif., a corporation of California
Continuation of application Ser. No. 362,110, Apr. 23, 1964. This application Feb. 19, 1965, Ser. No. 437,627
4 Claims. (Cl. 206—47)



1. An article of manufacture comprising
(a) a flexible laminate membrane consisting of a first lamina of flexible plastic material having the properties of form retention and moldability and a second lamina of flexible polyvinylfluoride,
(b) the laminate being molded to form a central first receptacle and an annular second receptacle separated from the central receptacle by a first annular intervening wall and bounded on the outside circumference by a second annular outer wall,
(c) a body of first material in the first receptacle,
(d) a body of a second and different material in the second receptacle, the membrane being deformable by depression of the first receptacle to distend the first annular wall so as to merge the first and second receptacles and enable the first and second materials to be mixed, and
(e) at least one of the materials including a component selected from the class consisting of amines and amides, the vapors of which are able to penetrate the first but not the second of the lamina.

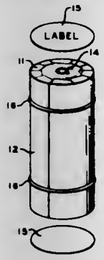
3,261,459
ARTICLE STRIP CARRIER
Charles C. Anderson, Altadena, Ronald S. Narozny, Panorama City, and Thomas F. Brown, Anaheim, Calif., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 23, 1965, Ser. No. 442,112
1 Claim. (Cl. 206—56)



A strip carrier for housing and carrying a plurality of similar and elongated components, comprising a continuous base plate of flexible sheet material of a width substantially greater than the length of components being carried, a continuous housing strip of flexible sheet material having a series of corrugations extending traversely of the housing strip and secured to a major portion of said base plate at one end and each side of the corrugations to define a first series of pockets open at one end for receiving a portion of the components carried, a continuous cover strip of flexible sheet material having a series of corrugations extending traversely of the cover strip and secured to the remaining portion of said base plate at one end and a portion of each side of the last-said corrugations to define a second series of pockets with the open end thereof overlapping the open end of said first series of pockets to define a plurality of closed chambers, crease means extending longitudinally of said base plate for folding the second series of pockets downwardly and out of overlapping relation with said first pockets to provide access to said first series of pockets, and a series of perforations in parallel spaced relationship from said crease means and extending longitudinally of said base plate in alignment with the open end of said first series of pockets to facilitate removal of the cover strip and associated base plate to expose a portion of the components carried in the said first series of pockets.

3,261,460
FIRE PROTECTION FOR PAPER ROLLS
John C. Davis, Western Springs, Ill., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,505
5 Claims. (Cl. 206—59)

1. A fireproof, water-repelling package comprising a cylindrical core; a sheet of paper wound on said core to form a roll of paper; a belly wrapper wound once around said roll of paper, said belly wrapper comprising a layer of paper bonded to a layer of metal foil, the width of said layer of metal foil being at least equal to the height of said roll of paper, the width of said layer of paper being greater than the width of said layer of metal foil, the layer of paper extending beyond the layer of metal foil on both sides thereof to form a bare paper margin on each side, each paper margin being folded over the respective end of said roll of paper, said metal foil layer being on the surface of said paper



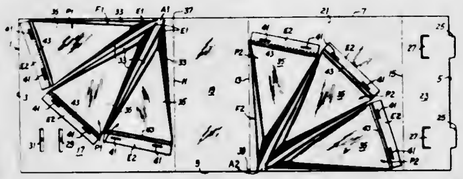
layer opposite from said roll of paper, whereby said metal foil layer provides protection for said roll of paper against fire, a first end cap being bonded to the folded paper margin at one end of said roll and a second end cap being bonded to the folded paper margin at the other end of said roll.

3,261,461
PACKAGE
Robert M. Fontana, Chicago, Ill., assignor, by mesne assignments, to Packaging Frontiers, Inc., Waltham, Mass., a corporation of Delaware
Filed June 26, 1961, Ser. No. 119,621
3 Claims. (Cl. 206—65)

1. A package containing a plurality of elongated generally tetrahedral-shaped containers, each container having a first seam at one end and a second seam at the other end, the first seam being rotated at least 45° from the second seam, said package comprising a walled carton having a pair of adjacent walls meeting at an angle along a line of intersection, and a layer of said containers disposed within said carton with their first seams adjacent said line of intersection of said pair of adjacent walls of said carton and said containers having side walls lying in planes which intersect one another substantially at said line of intersection of said walls.

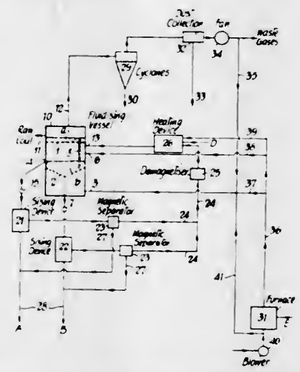
3,261,462
PACKET OF TETRAHEDRON-SHAPED PACKAGES
Henry A. Perry, Somerville, Mass., assignor to Packaging Frontiers, Inc., Waltham, Mass., a corporation of Delaware
Filed July 5, 1963, Ser. No. 292,993
3 Claims. (Cl. 206—65)

1. A packet of tetrahedron-shaped packages, each package comprising a length of tubing having transverse end seals generally at right angles to one another, said packet comprising a folder constituted by an elongate generally rectangular blank of carton material, the transverse dimension of the folder corresponding generally to the length of the packages, said folder being folded on lines extending transversely thereof to have a rectangular bottom panel having a width corresponding to the width of the package end seals and a length greater than the package length, side panels converging upward from the sides of the bottom panel to a peak, said side panels having a height greater than the package length, and means detachably securing together the tops of said side panels, said folder being open at both ends, and two fans of tetrahedron-shaped packages in the folder, and each fan comprising a plurality of said packages with one end of each package in the fan at the apex of the fan and the other end of the packages in the fan constituting the outer edge of the fan, each fan having the same number of packages therein, each fan having its outer sides at right angles to one another, one of said fans having its apex extending transversely across the bottom panel adjacent one open end of the folder with one side of this



fan overlying the bottom panel and its other side extending upward to the peak of the folder at said one open end of the folder, and the other of said fans having its apex extending transversely across the bottom panel adjacent the other open end of the folder with one side of this fan overlying the bottom panel and its other side extending upward to the peak of the folder at said other open end of the folder, whereby the fans are oppositely disposed in nested relation, one fan lying against one side panel and the said packages therein being removably secured to this one side panel, and the other fan lying against the other side panel and the said packages therein being removably secured to said other side panel.

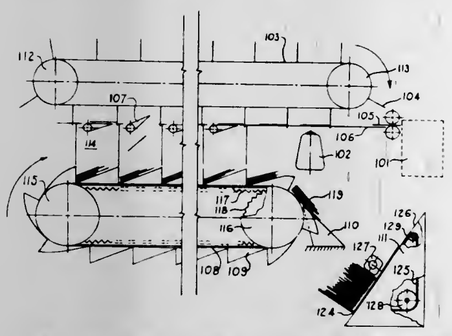
3,261,463
DRYING AND SEPARATION OF PARTICULATE SOLIDS OF DIFFERENT SPECIFIC GRAVITIES
Geoffrey Frank Eveson and George Thomas Richards, Sheffield, England, assignors to Head, Wrightson & Company Limited
Filed Feb. 7, 1962, Ser. No. 171,741
26 Claims. (Cl. 209—11)



7. Apparatus for drying and cleaning impure small particulate material having components relatively of high-density and low-density, comprising a fluidising vessel, at least one perforate support in said vessel for a fluidised bed of discrete solid particles, means for feeding said discrete solid particles to said vessel and on to said support, means for supplying heated gaseous medium to said vessel under conditions operative to form and maintain said fluidised bed, means for feeding a particulate material to be treated to said vessel and delivering it in non-fluidised

condition to said fluidised bed for separation of said material into its said components, means for discharging the separated products from said fluidising vessel, means for freeing said separated products from such of said discrete solid particles as are discharged with them from said fluidised bed, means to convey the discharged said separated products to said freeing means, means for heating a supply of the discrete solid particles separately from said bed, and means operative continuously to feed the thus heated supply to said bed in quantity substantially to replace the discrete solid particles that are discharged with said separated products from said bed.

3,261,464
APPARATUS AND METHOD FOR SORTING FLAT ARTICLES
Maurice M. Levy, 208 Clemow Ave., Ottawa, Ontario, Canada
Continuation of application Ser. No. 87,887, Feb. 8, 1961. This application June 26, 1964, Ser. No. 384,570
7 Claims. (Cl. 209—72)

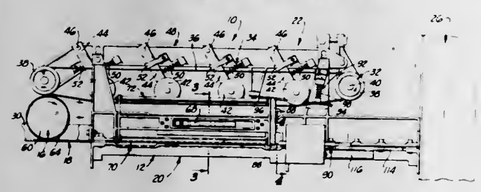


4. A method of arranging a body of flat articles in desired order, each said article bearing a code designation, said method comprising:

(i) feeding said articles into a sorter to deliver said articles individually to selected accumulators in accordance with said code designations to form in each said accumulator a batch of said articles,

(ii) then moving said accumulators sequentially to a stacker and then sequentially transferring each said batch to said stacker as its associated accumulator comes into register with said stacker to form in said stacker a stack of said articles arranged in sequence of batches and to empty said accumulators for a second sort.

3,261,465
APPARATUS FOR DETECTING IMPROPERLY LIDDED CANS
Belmont L. Haller, Long Beach, and Karl A. Schirmer, Riverside, Calif., assignors to Hunt Foods and Industries, Inc., Fullerton, Calif., a corporation of Delaware
Filed Aug. 19, 1963, Ser. No. 302,832
11 Claims. (Cl. 209—88)



2. In an apparatus for detecting and rejecting improperly lidded cans in a series of cans each of which includes a cylindrical can body provided at one end with a lid having a rim projecting radially outwardly beyond the can body, the combination of:

(a) track means along which the cans are rollable in sequence;

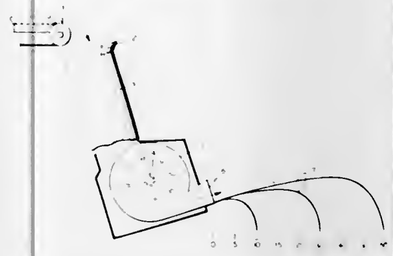
(b) said track means including a stationary track rollably engageable by the body of each can in an annular zone adjacent the lid thereon;

(c) means for guiding cans along said track means in sequence with the body of each can in rolling engagement with said track in an annular zone adjacent the lid thereon;

(d) movable detector means paralleling said track, laterally outwardly of said track means, and engageable and displaceable by the lid rim of an improperly lidded can; and

(e) means actuable by said detector means for removing from said track means any cans the lid rims of which engage and displace said detector means.

3,261,466
COTTONSEED CLEANER AND FRACTIONATOR
Leo Leonhard Holzenthal, New Orleans, and Edward A. Gastrock, Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture
Filed June 25, 1963, Ser. No. 290,565
4 Claims. (Cl. 209—120)



1. A cleaner-fractionator apparatus for individualizing unopened cottonseed containing occluded foreign matter and for accelerating in a stepwise manner and projecting individualized cottonseed into substantially still air, which apparatus comprises:

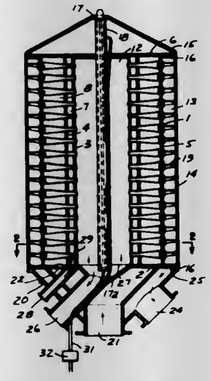
(a) a plurality of spiked rotary units in substantially vertical array;

(b) integral communicating casing elements having top inlet openings and bottom outlet openings and enclosing severally the said rotary units, said casing elements being defined by parallel lateral walls and respective front and rear walls contoured to the shape of the enclosed rotary units, each casing element being provided with a bottom outlet communicating with the top inlet of the below adjacent casing element, the inlet opening of the topmost casing element being located, relative to the direction of rotation of the respective enclosed rotary unit, to take in unopened cottonseed, the outlet opening of the lowermost casing element being located, relative to the direction of the respective enclosed rotary unit, to project individualized and accelerated cottonseed in an essentially horizontal direction;

(c) means for individually rotatably supporting the respective spiked rotary units in said casing elements; and

(d) drive means for rotating each spiked rotary unit at a peripheral speed greater than the peripheral speed of the preceding above adjacent unit and in a direction counter the rotation of the adjacent rotary unit.

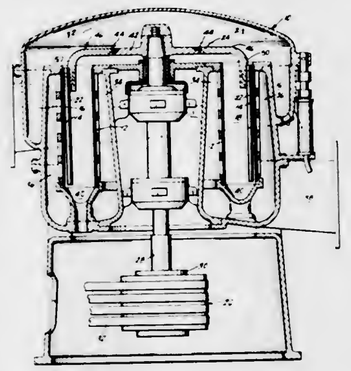
3,261,467
MULTIPLE CYCLONE ASSEMBLY
Nils Anders Lennart Wikdahl, 6 Burevagen, Djursholm, Sweden
Filed Sept. 13, 1961, Ser. No. 137,809
Claims priority, application Sweden, Sept. 22, 1960, 9,041/60
17 Claims. (Cl. 209—211)



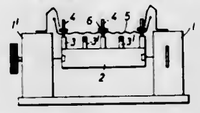
1. A multiple cyclone assembly for separating material suspended in a fluid suspension, said assembly comprising a plurality of cyclones having a discharge opening at each end and disposed in several layers in stacked arrangement, one discharge end of each of the cyclones in each of said layers facing the center axis of the stack, several nested tubular members of circular cross section disposed in radially spaced coaxial relationship, upper and lower end walls closing said tubular members at each end, said members and said end walls defining several closed annular chambers, said cyclones being supported and located by said tubular members, each of said cyclones having an inlet opening communicating with one of said chambers for supplying a flow of suspension to the cyclones, the other discharge end of each of said cyclones extending through the outermost one of said tubular members, and an axially displaceable casing of circular cross section encompassing the outermost one of said tubular members spaced apart therefrom and forming together with portions of said end walls a further closed annular chamber, said other discharge end of the cyclones discharging into said further chamber, said casing being mounted detached from said tubular members and said end wall portions whereby said casing is axially displaceable with respect thereto, displacement of said casing in reference to said tubular members and end walls rendering the cyclones supported by said members accessible for assembly, disassembly and servicing.

3,261,468
SCREEN CLEANING DEVICE
George M. Dick, Sherbrooke, Quebec, Canada, assignor to Bird Machine Company, South Walpole, Mass., a corporation of Massachusetts
Filed May 17, 1963, Ser. No. 281,297
7 Claims. (Cl. 209—243)

1. In a screening device for fibrous pulp having a generally cylindrical screen, and means for conducting a stream of pulp across a face of said screen, an improved screen cleaning device comprising at least one elongated foil, means for supporting said foil adjacent one end only for movement in a circular path about the axis of the screen and across a face thereof and spaced from said face, the clearance between the foil and the adjacent screen face varying from the supported end to the free end of the foil at rest, the extent of said variation at rest being substantially equal to the extent of bending of said foil under the influence of centrifugal force under operating conditions, so that under operating conditions, the clearance between said foil and said screen is substantially uniform, and means for rotating said foil about said axis to clean said screen.



3,261,469
VIBRATING SCREEN WITH COUPLING MEANS
Albert Wehner, Weberstrasse 31, Monheim (Rhine), Germany
Filed Mar. 27, 1963, Ser. No. 268,411
Claims priority, application Germany, Mar. 28, 1962, W 31,933
3 Claims. (Cl. 209—325)



1. A screening assembly comprising:

a first set of transversely spaced supporting grate bars;

a second set of transversely spaced supporting grate bars, the grate bars of said second set being interdigitated between the grate bars of said first set, and the grate bars of said first and second sets being movable relative to one another through arcuate paths in parallel vertical planes;

extended surface mesh screen means supported in superimposed relation on the grate bars of said first and second sets;

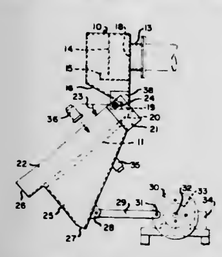
said grate bars including first and second sets of respective cross members affixed thereto, entraining members depending from the under surface of said mesh screen means, each of said entraining members containing a vertically extending slot, the vertical length of said slot being greater than the cross-sectional dimension of said cross members, said cross members of at least one of said sets of grate bars being slidingly entrained in respective ones of the slots of said entraining members; and

means for imparting relative rotational movement to the grate bars of said first and second sets.

3,261,470
SCREENING APPARATUS
Herman J. Daniels, Rte. 2, Box 203, Bluefield, W. Va.
Filed May 31, 1963, Ser. No. 284,473
8 Claims. (Cl. 210—106)

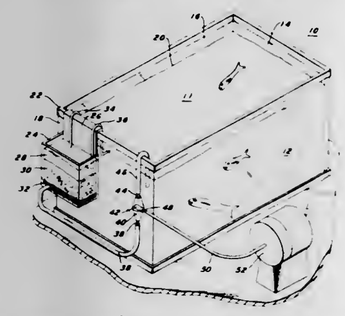
1. Apparatus for separating liquid from slurry fines, comprising flow feeding means directing the flow of slurry to a downwardly sloped planar screen having one end pivotally connected to the flow feeding means, the slope

angle of which is variable, motor means to rapidly vary the said slope angle to discharge fines accumulated on said screen, motor activating means, said motor means



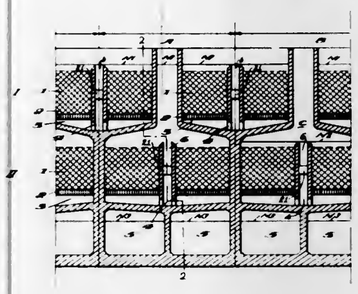
being activated by said motor activating means thereby causing said slope angle to rapidly vary through a multiplicity of angles and return to initial slope angle permitting fines to build up again on said screen.

3,261,471
AQUARIUM FILTER SYSTEM
Abby Halpert, Brooklyn, N.Y., assignor to Halvin Products Company, Inc., Brooklyn, N.Y., a corporation of New York
Filed May 23, 1962, Ser. No. 197,008
1 Claim. (Cl. 210—169)



An aquarium filtration and aeration system for use with a tank of water. a filter to be mounted on said tank with at least a portion of said filter being below the level of the water in said tank, said filter including inlet and outlet means, first conduit means for connection between the water in said tank and the inlet means of said filter, said first conduit being a siphon and having a central portion for extension above the level of the water in said tank, a second conduit means for connection between said filter outlet means and the water in said tank, said second conduit including a central portion for extension above the level of the water in said tank, a transparent axially vertically disposed connector device in said second conduit for connecting said second conduit to air pressure supply means, said connector device being positioned in said second conduit between said second conduit central portion and said filter, whereby said connector device is adapted to be located outside of said tank, said connector device defining a chamber therein and a top and bottom end, said device being formed of opposed substantially frusto-conical sections and having an inlet at the bottom and an outlet at the top end. said inlet and outlet being axially aligned and in direct communication with said chamber, said chamber being radially enlarged with respect to said inlet and outlet, a porous air stone rigidly supported by and within said chamber, the volume of said stone being substantially less than one-half the volume of said chamber, said air stone having a blind cavity extending from a surface thereof, said device having an opening in a vertical wall thereof in line with said cavity, a third conduit extending through said opening and extending partially into said cavity, the end portion of said third conduit partially extending into said cavity being spaced from the blind end of said cavity, said third conduit being smaller in cross section than each of said inlet and outlet, and said third conduit being adapted to be connected to said air pressure means, whereby pressurized air may be introduced into the air stone cavity and pass therethrough into the chamber for removal through said outlet.

3,261,472
WATERWORKS FILTER
August Schneider, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany
Filed Nov. 27, 1964, Ser. No. 414,278
Claims priority, application Germany, Aug. 4, 1961, C 24,799
1 Claim. (Cl. 210—274)

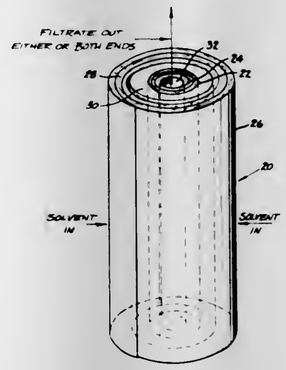


An open water works filter comprising a plurality of lower filters arranged side by side, each lower filter comprising a filter bed, a bottom wall and side walls that extend a substantial distance above the filter bed, a plurality of upper filters arranged side by side above said lower filters, each upper filter comprising a filter bed, a bottom wall and side walls that are spaced apart from each other and from said lower filters permitting a person to enter from above and move downwardly between said upper filters to said lower filters, said upper filters being substantially wholly supported by said side walls of said lower filters, means for supplying water to be filtered to the top of each of said filter beds, a collecting basin for purified water below said lower filter beds, means for withdrawing purified water from below each of said filter beds and delivering it to said collecting basin, means for forcing flushing water and air upwardly through each of said filter beds and means for collecting and discharging wash water that overflows each of said filter beds.

3,261,473
GLASS FIBER CARTRIDGE FILTERS FOR DRY-CLEANING SOLVENT FILTRATION
Raymond G. Riede, Martinsville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Feb. 12, 1964, Ser. No. 344,377
2 Claims. (Cl. 210—282)

2. A porous filter tube, particularly adapted for filtering drycleaning solvent, comprising
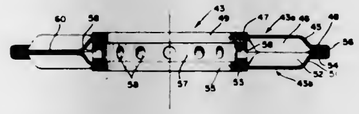
(a) an inner tubular member comprising a plurality of convolutions of mineral fiber mat, said mat having a density of between about 2 and about 10 pounds per cubic foot, and said fiber having diameters between 0.00001 and 0.00040 inch; said fibers being bonded at their intersections with between 6 and 30% by weight of said fibers of thermosetting resin, the intersection of said fibers defining filter pores having diameters in the range between about 5 and about 100 microns, decreasing in size in the direction of the proposed liquid flow;



(b) a spaced outer tubular member having characteristics within the ranges defined above in (a);

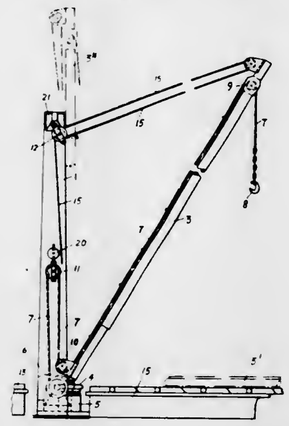
(c) solid particulate conditioner for said solvent, filling the space between the inner and outer tubular members; and means for retaining said conditioner in said space.

3,261,474
CORRUGATED FILTER ELEMENT
George F. Parker, Cleveland Heights, and George E. Slater, Willoughby, Ohio, assignors, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware
Filed May 7, 1962, Ser. No. 192,654
1 Claim. (Cl. 210—487)



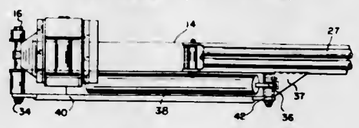
A filter element comprising two similar annular filter members each having flat annular inner and outer peripheral regions lying in different parallel planes, each of said members being an annulus formed from a single length of sheet filter material having a plurality of lateral pleats that provides a multiplicity of side by side radial corrugations that extend between said inner and outer peripheral regions, said members being coextensively superimposed in the assembly with said outer regions in contact and said inner regions axially spaced and with the inwardly open sides of the adjacent corrugations of the respective members facing each other to enclose and define internal radial fluid passageways extending between said regions that are open at their inner ends and are closed at their outer ends by the contacting outer regions of said members, axially rigid means extending around and spacing the inner peripheral regions of said members, said axially rigid means being formed with fluid passage openings aligned with the open ends of said radial passageways, and means securing said contacting outer regions of the members tightly together.

3,261,475
HOISTING EQUIPMENT FOR SHIPS
Friedrich Laudan, 19 Eppendorfer Marktplatz, Hamburg, Germany, and Günther Laudan, 1 Hoffmannstieg, Hamburg-Rahlstedt, Germany
Filed Mar. 31, 1965, Ser. No. 444,334
Claims priority, appplication Germany, Apr. 9, 1964, L 47,543
2 Claims. (Cl. 212—3)



1. Hoisting equipment for ships comprising a derrick mast having vertically spaced upper and lower transverse bar means, at least one slewable jib mounted at one of its ends on a rotatable supporting head arranged in spaced relationship to said mast, block means suspended from said upper transverse bar means in spaced relationship to said mast, a guy rope associated with said block means and staying said jib, a return pulley suspended from said lower transverse bar means, a guide pulley attached to the lower end of said jib generally vertically below said return pulley and said block means, and a sheave-hole in the upper end of said jib, a winch associated with said jib, a load rope running from said winch over said return pulley, said guide pulley, the upper side of said jib, through said sheave-hole and having hook means secured to its free end, the spacing of said block means and said return pulley from said derrick mast being equal to the spacing of said supporting head from said derrick mast, and the latter spacing being such as to permit slewing of said jib through approximately 360 degrees.

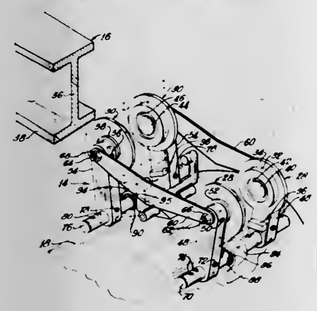
3,261,476
VERTICALLY SWINGING BOOM HAVING ASYMMETRICAL ACTUATION
Paul D. Gernhardt, Overland Park, Kans., and Curtis W. Verrell, Fairview Park, Ohio, assignors to The Ohio Brass Company, Mansfield, Ohio, a corporation of Ohio
Filed Jan. 6, 1965, Ser. No. 423,808
8 Claims. (Cl. 212—35)



1. In a derrick comprising a support, a boom pivotally mounted on the support, a reciprocal motor unit extending between the support and boom for swinging the boom in a generally vertical plane, said motor unit being offset laterally from the lengthwise axis of the boom, and

means extending between the boom and the support for resisting offset loading applied by the motor unit to the pivotal connection of said boom to said support.

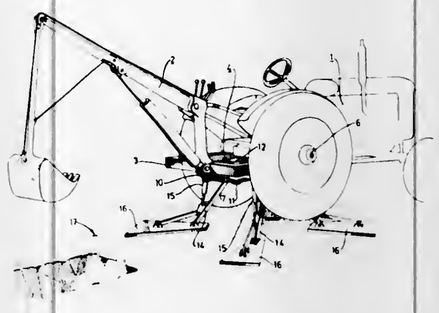
3,261,477
SUPPORT FOR HOISTS OR THE LIKE
Edgar R. Powell, 4833 Elmhurst, Royal Oak, Mich.
Filed Aug. 12, 1964, Ser. No. 389,143
10 Claims. (Cl. 212—134)



1. In combination with a hoist including a housing, a power drum rotatably mounted in said housing, means for effecting rotation of said drum, a cable on said drum and extending downwardly tangentially therefrom, said cable being wound onto said drum when rotated in one direction and unwound from said drum when rotated in the other direction, a trolley for supporting said hoist from a flanged beam having a horizontal flange and a web, said trolley comprising two pair of wheels adapted to ride on the horizontal flange of the beam with the wheels of each pair lying on opposite sides of the web, an axle for each of said wheels, a pair of supporting links connected to the axles of each of said pairs of wheels, each pair of supporting links extending downwardly and toward the opposite pair in a converging direction, spacer bars spacing apart the upper ends of said pairs of supporting links on each side of the web by a predetermined distance, a pivot shaft connecting lower end portions of each of said pair of supporting links, two bearing blocks affixed to said hoist housing through which extend intermediate portions of said pivot shafts between the respective supporting links, said bearing blocks being spaced apart a distance less than the distance between the pairs of wheels, and torsion bushings between said bearing blocks and said pivot shafts to yieldably support said shafts, said bushings being incapable of rotating with respect to either said shafts or said bearing blocks, a safety link comprising a generally C-shaped rod, the free ends of which extend over the horizontal flange of the beam and are closer together than the width of the flange and farther apart than the thickness of the web, a pair of cylinders affixed to said rod and spaced along a horizontal portion thereof, one of said bearing blocks having a pin passage therethrough, and a pivot pin extending through said pin passage and through said cylinders to connect said safety link to the associated bearing block.

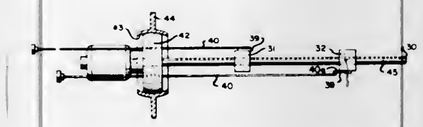
3,261,478
JACKING DEVICE FOR VEHICLES
John Teodor Sonerud, Hudiksvall, Sweden, assignor to Svenska Hymas Aktiebolag, Hudiksvall, Sweden, a corporation of Sweden
Filed Mar. 10, 1964, Ser. No. 350,902
5 Claims. (Cl. 212—145)

1. In combination with a vehicle having wheels for locomotion, a mechanism for raising the vehicle above a surface supporting the vehicle and for turning the vehicle about an upright axis when the vehicle is in a raised position, comprising; a turntable rotatably mounting the vehicle for rotation of the vehicle about said upright axis, a plurality of feet mounted on said turntable, means for individually extending each of the feet to a first set of positions in contact with the support surface and for individually retracting each of the feet to a second set



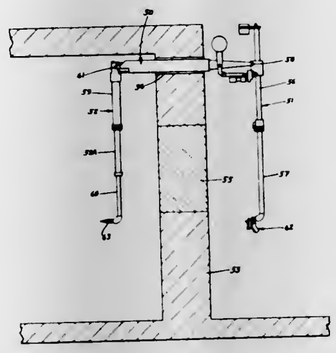
of positions out of contact with the support surface, whereby when the feet are in the first set of positions the vehicle is wholly supported by the feet, with said wheels being out of contact with the support surface, said vehicle including said wheels being rotatable on said turntable about said upright axis, and when the feet are in the second set of positions the vehicle is wholly supported by the wheels to be freely movable on the support surface.

3,261,479
MANIPULATING DEVICES
Samuel W. Baker, New York, N.Y., and Edward M. Citron, 315 Frick Bldg., Pittsburgh, Pa.; said Baker assignor to said Citron
Filed Dec. 26, 1962, Ser. No. 247,187
1 Claim. (Cl. 214—1)



In combination, a wall, a shaft journaled through said wall for universal movement about a point centrally of the journal in said wall, means acting on one end of said shaft for rotation thereof, right and left hand intersecting threads on the other end of said shaft, a pair of cooperating nuts having right and left hand threads respectively conforming with the right and left hand threads on said shaft and mounted on said shaft, cooperating object engaging means on said nuts, and means for holding said nuts against rotation while the shaft rotates whereby the nuts move toward each other on rotation of the shaft in one direction and away from each other on rotation of the shaft in the opposite direction, said nuts being made up of two segments which may be selectively engaged and disengaged from the screw, each nut including a cam shaft, extending transversely thereof and carrying spaced cam members operatively engaged respectively with the segments of the associated nut, and control rods operatively connected to the respective cam shafts to rock said shafts whereby the two segments of each nut may be selectively engaged with and disengaged from said shaft.

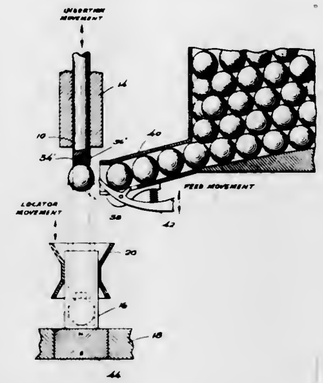
3,261,480
COMPACT MASTER-SLAVE MANIPULATOR
Lester W. Haaker, Demetrius G. Jelatis, and Carleton E. Jennrich, Red Wing, Minn., assignors to Central Research Laboratories, Inc., Red Wing, Minn., a corporation of Minnesota
Filed Nov. 26, 1963, Ser. No. 325,921
8 Claims. (Cl. 214—1)



1. A compact master-slave remote-control manipulator adapted for full range operation with minimum head space requirements in the slave compartment, said manipulator comprising a horizontal support, a master arm pivotally connected to one end of said support and a slave arm pivotally connected to the other end of said support, handle means at the lower end of said master arm and grasping means at the lower end of said slave arm moveable in response to manipulations of said handle means; said master arm including a relatively stationary portion fixed relative to movement along its longitudinal axis and an elongated moveable portion rotatable relative to said stationary portion of the master arm and moveable longitudinally relative thereto; said slave arm including a relatively stationary portion comprising an outer tube fixed relative to movement along its longitudinal axis, an intermediate tube telescoped within said outer tube, said intermediate tube being rotatable relative to said outer tube and moveable longitudinally relative thereto, and an inner tube telescoped within said intermediate tube, said inner tube being rotatable with the intermediate tube and moveable longitudinally relative thereto; the relatively moveable portions of said slave arm being extensible and retractable in response to like movement of the relatively moveable portion of the master arm, the combined movement of the moveable portions of the slave arm being equal in extent to the movement of the moveable portion of the master arm.

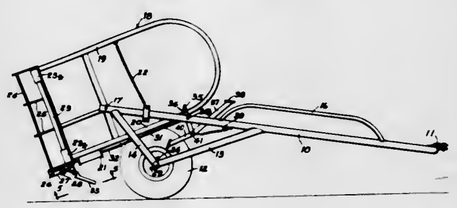
3,261,481
MAGNETIC FEED AND POSITIONING MEANS FOR AUTOMATIC ASSEMBLY MECHANISM
Martin J. Laverty, Jericho, Long Island, N.Y., assignor to Murray Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed May 6, 1964, Ser. No. 365,377
3 Claims. (Cl. 214—1)

1. In an apparatus for inserting a magnetic pole piece into a non-magnetic tube, the improvement comprising; a longitudinal transport member having a free end for insertion into said non-magnetic tube located axially relative to the longitudinal axis of said member, said transport member being movably mounted to travel forward and return to its home position along its longitudinal axis, a pair of magnets adjacent each other at the free end, the south and north poles of a face of one magnet being adjacently opposed to the north and south poles respectively of a face of the other magnet, the opposed faces of said magnets being disposed along the axis of said longitudinal member, means located near the free end of said transport member for delivering a magnetic



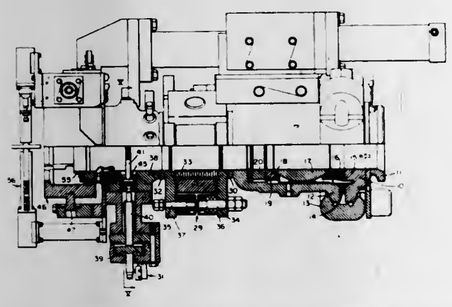
pole piece to said free end, and means at the free end of said transport member for mechanically centering and guiding said pole piece into its correct position when it it delivered to said free end so that said pole piece can be inserted easily into the non-magnetic tube by said transport member.

3,261,482
STACKING APPARATUS FOR HAY BALES
George R. Tate, Rice, Wash.
Filed June 24, 1963, Ser. No. 289,857
10 Claims. (Cl. 214—6)



1. A stacking apparatus for bales of hay ejected from a baling machine, comprising:
- a mobile frame adapted to be drawn by attachment to a baling machine;
- receiving platform means on said frame for the reception of bales;
- a collecting bin pivotally mounted on said frame for motion about a horizontal axis, said bin being moveable from an inclined position to a vertical position;
- gate means at the lower end of the bin pivotally carried thereby for motion between a first position at which said gate means supports bales in the bin and a second position at which said gate means releases the bales for downwardly directed motion;
- latch means on said gate means and bin biased to a normally engaged position adapted, when engaged, to maintain said gate means in said first position relative to said bin;
- and biasing means connected between said bin and said gate means for normally urging said gate means to said first position.

3,261,483
ADAPTER VALVE
Peter T. Calabretta, Port Chester, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 24, 1963, Ser. No. 283,125
3 Claims. (Cl. 214—18)



2. An adapter valve assembly for remotely servicing a nuclear reactor tube containing a liquid under pressure, the assembly consisting of:

a. means for attaching the adapter valve assembly to the nuclear reactor tube and additional means for attaching the assembly to a refueling machine,

b. a rotatable ball valve in said assembly said valve comprising:

(1) a housing having a passageway therethrough,

(2) a ball valve mounted therein,

(3) means for rotating the ball valve,

(4) a pair of valve seats within the housing consisting respectively of a fixed sealing ring and a movable sealing ring mounted on a pin for limited movement axially of the housing,

(5) a wedge extendable perpendicularly across the passageway in the housing and having a passageway therethrough alineable with the passageway through the housing,

(6) said wedge being engageable with the movable sealing ring to move said ring axially of the passageway into intimate sealing contact with the ball valve,

(7) means for raising and lowering the wedge, and

(8) means including Geneva gearing inter-connecting the ball valve and wedge whereby the wedge is first raised to unload the valve seats and thereafter the valve is rotated, thereby avoiding wiping action between the valve and valve seats during opening and closing of the valve; and

c. a bellows sealed flexible section in said adapter valve assembly to accommodate minor misalinement of the adapter valve assembly and the nuclear reactor tube.

3. An adapter valve assembly as set forth in claim 2 having in combination therewith pneumatically operable means for blocking passage of objects through said assembly.

3,261,484
STRUCTURE FOR HANDLING FOOD
Sture Ingemar Nilsson, Alingsas, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden
Filed Feb. 21, 1964, Ser. No. 346,548
2 Claims. (Cl. 214—38)

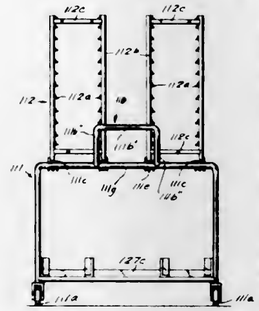
1. The combination with apparatus of the class described for keeping food held in receptacles, the apparatus comprising a casing having an outer shell including a front vertical wall and a pair of side-by-side vertically extending interior spaces, each of the interior spaces being defined by opposing side walls, a back wall, and top and bottom walls and having an access opening at the front vertical wall of the outer shell, and closure means for the access openings movable between closed and open positions, each space having a first surface at the vicinity of the bottom wall thereof, of

structure for handling food comprising first and second means for stacking a plurality of receptacles one above another in vertically spaced relation, each of the first and second stacking means comprising a vertically extending frame, a plurality of shelves, and means on the frame for carrying the shelves one above another in vertically spaced relation and upon which the receptacles are adapted to be supported,

a first guideway at the first surface of each of the spaces for supporting a different one of the frames and on which the frame supported thereby is movable,

a movable rectangular-shaped wheeled cart, the cart having substantially parallel sides extending lengthwise of the cart and ends transverse to the sides and bridging the latter,

a pair of second guideways in side-by-side relation on the cart for supporting the frames at substantially the same vertical height as the first guide-



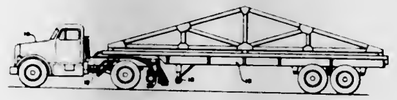
ways, the frames being movable transversely of the cart on the second guideways, each of the second guideways being normal to the sides of the cart and extending from a first side to the opposite second side thereof whereby, when the cart is wheeled to a frame transfer position at the front vertical wall of the outer shell with the closure means open to afford access to the interior spaces, one end of each of the second guideways at the first side of the cart is closely adjacent to and in alignment with a different one of the first guideways and the first and second guideways of each aligned pair of guideways are at approximately the same vertical height to enable the frames to be manually moved horizontally and transferred from each of the second guideways onto the first guideway in alignment therewith and in one of the spaces and from the spaces onto the second guideways,

a pair of spaced guide blocks fixed to the front of the outer shell below the closure means, the guide blocks projecting forward from the front of the outer shell at the same height, at least the outer exposed surfaces of the guide blocks being formed of resilient material,

the inner walls of the guide blocks which face one another being vertical and diverging from regions at the front wall to their outer ends removed from the front wall,

the wheeled cart having bumper means extending lengthwise thereof at the first side thereof, the bumper means being spaced from the first side of the cart and in transverse section being in a vertical plane which is substantially parallel to the front vertical wall when the cart is in its frame transfer position at the front wall of the outer shell, and the bumper means being horizontally disposed on the cart at the same height as the blocks and with the extreme outer ends thereof spaced apart substantially the same distance as the inner walls of the blocks at the regions thereof at the front wall.

3,261,485
LOAD HANDLING DEVICE MOUNTED ON A VEHICLE WITH A FIFTH WHEEL
Philip R. Anderson, Easton, Md., assignor to Advanced Fork-Lift Corp., Chestertown, Md., a corporation of Maryland
Filed Sept. 11, 1963, Ser. No. 308,118
6 Claims. (Cl. 214—141)



1. In combination with the tractor of a tractor-trailer unit, said tractor having a fifth wheel engageable by a trailer and having rear wheels and frame members extending horizontally and forwardly of said wheels, a loading and unloading device comprising hoist arm means pivoted at one end on said frame members at a point forward of said rear wheels, said hoist arm means being contiguous to said frame members and being positioned beneath said fifth wheel in an inoperative storage position, power actuating means to raise and lower said hoist arm means in an arcuate path from and towards said storage position, extension arm means slidably mounted on said hoist arm means, power actuating means to move said extension arm means inwardly and outwardly in relation to said hoist arm means, fork lift means pivotally mounted near the outward end of said extension arm means, and means to maintain said fork lift means substantially horizontal as said hoist arm means is moved arcuately upwardly or downwardly.

3,261,486
CONTAINER DUMPING MECHANISM
Leslie D. Oliver, 2515 Encinal Ave., Alameda, Calif.
Filed June 24, 1963, Ser. No. 290,019
1 Claim. (Cl. 214—315)

An apparatus for discharging the contents of containers into a collection receptacle comprising, in combination:

(a) a movable frame formed by spaced apart upright arch members of inverted U-shaped configuration which are connected by a plurality of horizontal frame members, said frame forming a passage normal to said arch members along which said collection receptacle may be moved into said frame,

(b) a movable carriage extending between said arch members of said frame and having first rollers at each end which ride against said arch members whereby said carriage may be traveled up one side of said frame and partially across the top thereof in a direction transverse to said passage,

(c) means on said carriage for engaging said containers thereon,

(d) a track extending along each of said arch members along the upper portion of the path of said carriage thereon,

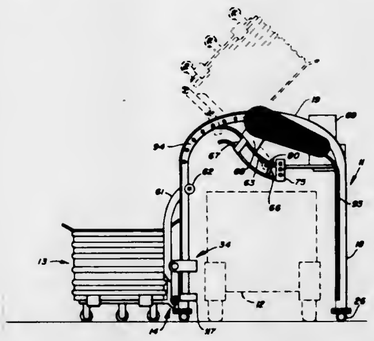
(e) a pair of lift chains, each being connected to said carriage and being carried in said track on a separate one of said arch members of said frame,

(f) a pair of drive gears, one being mounted adjacent each of said arch members and having the adjacent one of said chains engaged thereon,

(g) a motor mounted on said frame and operatively coupled to each of said drive gears,

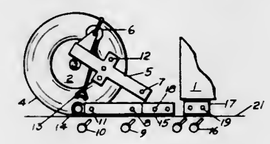
(h) a pair of second rollers, each being mounted at a separate end of said carriage in spaced apart relationship to said first roller thereat, and

(i) a curvilinear rod secured to each of said arch members for guiding said second rollers along a path which deviates from that of said first rollers as said carriage travels across the top of said frame whereby



said carriage is caused to pivot about said first rollers, thereby at least partially inverting said containers at the top of said frame, said second rollers being mounted on arms which project upwardly from said ends of said carriage, said second rollers being positioned to ride against the inside of the associated arch member during the initial portion of the upward travel of said carriage, and wherein said curvilinear rods are connected to the inside of said arch members in position to intercept said second rollers prior to the final portion of said travel of said carriage, said rods having a curvature which carries said second rollers downwardly during said final portion of said travel.
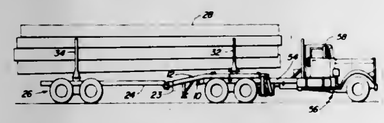
3,261,487
TRANSPORTING DEVICE AND ACCESSORY ELEMENTS
Elmer H. Talbert, R.D. 1, Georgetown, Del.
Filed June 22, 1964, Ser. No. 376,925
3 Claims. (Cl. 214—390)



1. A transporter unit for elevating and transporting a load supporting body unit of the type having a frame member secured thereto; comprising a pair of arms detachably projecting outwardly from the bottom portion of said frame member with the outer ends of said arms being connected by a cross member, an axle having a pair of wheels rotatably mounted thereon, a frame mounted on said axle and including a pair of spaced-apart elements, means for detachably connecting said elements adjacent

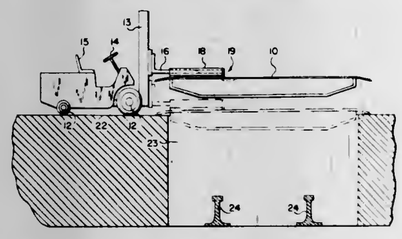
one end thereof to said arms respectively, a cable associated with said frame, said cable being provided at the free end thereof with means for connecting it to said cross member, pulling means mounted on said frame for shortening said cable to bring said arms into substantial alignment with said elements and raise said body unit, and means for connecting said arms with said elements at points between said first-named means and said second-named means.

3,261,488
LOG-TRUCK LOADING DEVICE
Frederick F. Van Raden, Portland, Oreg., assignor to Peerless Trailer & Truck Service, Inc., Portland, Oreg., a corporation of Oregon
Filed Mar. 16, 1964, Ser. No. 352,078
18 Claims. (Cl. 214—515)



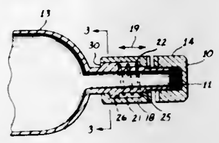
1. A log-truck loading device comprising in combination:
(a) a loading frame including a pair of transversely retractable front legs and a retractable rear leg for supporting said frame generally horizontally above the ground surface,
(b) a tractor vehicle, including a cab and a bed for supporting said frame extending rearwardly from said cab at a lower elevation than at least the front portion of said frame,
(c) said front legs being spaced relatively widely apart on opposite sides of said frame so that said bed can be backed between said front legs and into a predetermined frame-supporting position beneath said frame,
(d) and extensible lift means positioned on said bed for lifting the front end of said frame and pivoting the same on said rear leg when said bed is in its said predetermined position, so that said front legs can be retracted and said frame can be subsequently lowered onto said bed by said lift means.

3,261,489
APPARATUS AND METHOD FOR MOVING PLATE STRUCTURES
Ray P. Miles, 8575 N. Melody Lane, Northfield, Ohio
Filed Mar. 23, 1964, Ser. No. 353,914
3 Claims. (Cl. 214—620)



1. Apparatus for moving a plate structure having a pair of spaced slots with a lift truck having a pair of spaced forks from one location to another location comprising a hollow member surrounding each fork and having one end adjacent to the lift truck, and a hook for each hollow member fixedly secured to the other end of the respective hollow member and projecting into the respective slot in the plate structure.

3,261,490
SAFETY CLOSURE
Richard Thomas McDonald, 709 N. Beaver, Flagstaff, Ariz., and Clarence J. Gonsalves, 842 Verano Drive, Glendora, Calif.
Filed Dec. 23, 1964, Ser. No. 420,742
9 Claims. (Cl. 215—9)



1. A safety closure, for use in connection with a container, comprising:
(a) a threaded cap for engaging threads on a container neck,
(b) a first plurality of locking teeth, integral with said cap,
(c) a barrel member, non-rotatable relative to said container, mountable on the neck of a container and movable toward and away from said container when mounted on said neck,
(d) a second plurality of locking teeth, integral with said barrel member, engageable with said first plurality of locking teeth when said cap is mounted on said neck and when said barrel is moved away from said container,
(e) yieldable means for urging said barrel member away from said container and into engagement with said cap to thereby engage said first and second plurality of locking teeth and prevent rotation of said cap relative to said container.

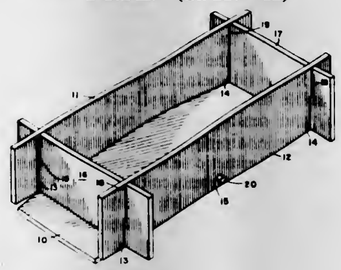
3,261,491
FILLERS FOR VACUUM BOTTLES
Carl Bramming, Palm Desert, Calif., assignor to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Sept. 30, 1963, Ser. No. 312,768
4 Claims. (Cl. 215—13)



1. For a vacuum bottle,
a generally bottle-shaped vacuum insulated filler comprising inner and outer shells with an evacuated space therebetween,
each of said shells having a bottom wall formed with a substantially central seat portion,

said seat portion on said outer shell providing a cup-shaped recess which is concave upwardly, said seat portion on said inner shell providing a cup-shaped recess which is concave downwardly and is opposite said recess in said outer shell,
and a single one piece generally button-shaped supporting member snugly received between said seat portions on said inner and outer shells for spacing and aligning said shells,
said supporting member being symmetrical about its horizontal mid-plane and having curved convex projections on both its upper and lower sides,
said projections being snugly received in said recesses in said outer and inner shells,
each of said projections having radial grooves affording communication between the central and edge portions of said supporting member to conduct air and silvering solution during the manufacture of said filler, said supporting member being reversible in position during the manufacture of said filler.

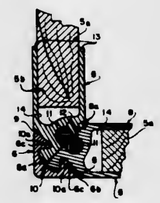
3,261,492
WOODEN BOX CONSTRUCTION
Charles J. Johnson, Lewiston, Idaho, assignor to Potlatch Forests, Inc., Lewiston, Idaho, a corporation of Delaware
Filed May 15, 1964, Ser. No. 367,713
1 Claim. (Cl. 217—12)



A collapsible box comprising two side wall panels, having slots extending up from their bottom edges about half the width thereof;
two end wall panels having slots extending down from their top edges about half the width thereof;
a bottom wall panel on which said end wall panels rest and providing a bottom for the space between said side and end wall panels, with the side wall panels extending down into the slots of the end walls and the end wall panels extending up into the slots of the side walls;
the bottom wall panel being extended up between the side wall panels; and
locking means carried by the side wall panels at points spaced from the end wall panels and frictionally engaged against the lower surface of said bottom wall panel, and the bottom wall panel is resilient and is bowed upward between the side wall panels and the locking means is a bar that extends through the side wall panels.

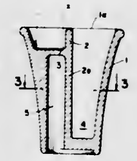
3,261,493
STRUCTURAL JOINT FOR A CARGO CONTAINER
Donald G. Smith, Marietta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Apr. 18, 1963, Ser. No. 273,985
3 Claims. (Cl. 217—65)

1. A structural joint for connecting panels in angular relation comprising in combination:
a pair of adjacent edgings having confronting edge mitered mating surfaces;
a first groove formed in each of said edges, said first groove located in and extending longitudinally the length of said mitered surface;
a resilient seal mounted in the first groove of each panel and extending the distance of said first groove, a portion of said seal extending out of said first groove and above the mitered surface;
the cross-sectional shapes and area relationships of said first groove and said seal are interrelated for retention of said seal in said first groove against free removal;



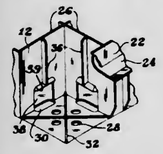
a second groove formed in each of said edges, said second groove located in the edging side opposite the mitered surface and extending the length of said mitered surface;
said edgings assembled together with said mitered surfaces of adjacent panels in mating juxtaposition;
and, a lock means slidably mounted over the assembled edgings, said lock means slidably engageable in both said second grooves for locking the panels together with said seals in the first grooves in cooperating contact to effect a fluid-tight seal.

3,261,494
INDIVIDUAL COMMUNION SERVICE GLASSES
Willie A. Walker, Jr., 1613 Renmark Road, Richmond, Va.
Filed Apr. 27, 1965, Ser. No. 451,215
2 Claims. (Cl. 220—20)



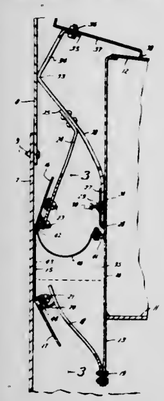
1. An individual communion service glass having an open circular top and a fixed partition dividing it into two compartments, namely, a lower compartment to contain the liquid element, and an upper compartment to contain the solid element, said upper compartment lying wholly within the circular outline of the top of the glass, at least a portion of said partition comprising a vertical wall with its top edge substantially flush with the upper edge of the glass, and extending straight down from said upper edge to the bottom of the glass, the width of said lower compartment, at every point between the top and the bottom, being no greater than at the top, said glass having a vertically disposed, elongated hollow space between said partition wall and the side wall of the glass extending from a point immediately beneath said upper compartment to the bottom of the glass, said space being open at its lower end.

3,261,495
CASE FOR BEVERAGE BOTTLES AND THE LIKE
Robert L. Beesley and Rudolph H. Matthias, Saginaw, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Jan. 6, 1964, Ser. No. 335,883
9 Claims. (Cl. 220—21)



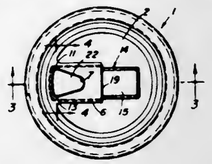
1. A compartmented case for beverage bottles and the like comprising a bottom wall surrounded by opposite side walls and opposite end walls, partitions extending between said side and end walls dividing the inner confines of said case into a plurality of compartments each of which is adapted to contain one bottle, said side and end walls and partitions comprising a rigid plastic material, at least two of said compartments including a rigid wedge intermediate the height of and extending laterally into its respective compartment from one of said partitions, each said wedge having a width at least one-third the width of a side of its respective compartment.

3,261,496
FLOATING ROOF TANK SEAL
William E. Joor II, Houston, Tex., assignor to Wyatt Industries Inc., Houston, Tex., a corporation of Texas
Filed Nov. 21, 1962, Ser. No. 239,140
7 Claims. (Cl. 220—26)



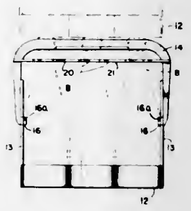
5. In a floating roof tank having a clearance space between the roof side wall and the tank wall, roof seal means in said space comprising flexible, imperforate sheeting sealingly traversing said space between said walls substantially below the top of said roof and movable vertically along said tank wall, a circumferential series of support straps projecting outwardly and upwardly from said roof wall above said seal means and each having a bowed part near its upper extremity, means depending from mid portions of said straps below said bowed portions and secured to and supporting the tank wall engaging portions of said seal means, means biasing said seal means against said tank wall, and weather seal means carried on the upper extremities of said straps above said bowed portions and above said roof side wall and traversing said space, said straps projecting above said tank wall in the upper positions of said roof and being of sufficient rigidity to support at least the outer parts of said weather seal means and said roof seal means, said straps being inclined inwardly above and below said bowed portions so as to slide along the tank wall and override discontinuities therein during ascent of said roof and said bowed portions being engageable by the upper edge of the tank wall during descent of said roof to flex said straps inwardly and thereby confine said straps within said tank wall.

3,261,497
CAN
Benjamin B. Lipske, Downers Grove, Ill., assignor to National Can Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,465
10 Claims. (Cl. 220—47)



1. A container wall member comprising a sheet of material perforated to form an opening and a slot remote from said opening, a tab projecting through said slot and cooperating with the sheet adjacent to the slot to form a hinge for said tab, one part of the tab being adjacent to one side of the sheet and another part of the tab being adjacent to the other side of the sheet with said one part of the tab being disposed across said opening and accessible thereat for application of manual pressure thereto, and sealing means cooperating with said tab and sheet for retaining the tab across said opening and for forming a hermetic seal across said opening and said slot, said sealing means being bonded to said one part and said sheet, said sealing means being sufficiently frangible to be ruptured upon application of manual force to said accessible part of the tab so that after rupture the tab may swing about said hinge.

3,261,498
BOTTLE CARRIER
Gerald Erickson, Huntington, N.Y., assignor to Iop Bottling Devices, Inc., a corporation of New York
Filed May 4, 1964, Ser. No. 364,574
10 Claims. (Cl. 220—104)



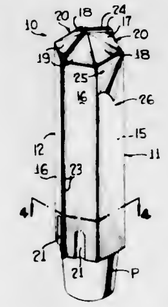
1. A bottle carrier comprising a tray having a plurality of bottle-receiving areas each accommodating the base of a bottle thereon, a handle for carrying the tray, bottle-retaining means for each bottle-receiving area of the tray partially surrounding a portion of the bottle to retain it in the carrier and prevent accidental displacement thereof, each bottle-retaining means being of resilient material to permit the bottle to be forced into partially surrounding relation with the bottle-retaining means in filling the carrier and forced out of said relation to remove a bottle from the carrier, common support means for said bottle-retaining means positioning each a substantial distance above the respective bottle-receiving area, and means individually connecting each bottle-retaining means with the common support means for movement from a horizontal position to an upstanding position so that any one of the bottle-retaining means can be raised separately or all raised simultaneously to facilitate filling of the bottle carrier from above.

3,261,499
SHELF-RELEASE VENDING APPARATUS
Francis C. Du Grenier, North Conway, N.H., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed Oct. 12, 1964, Ser. No. 403,150
11 Claims. (Cl. 221—18)



1. A magazine storage element comprising:
a frame member;
a plurality of shaft members, each being horizontally disposed one above the other on the frame member and each being journaled in the frame member for rotation about a longitudinal axis;
locking means on each shaft member;
a plurality of shelf members, one for each shaft member, disposed one above the other in a column, each shelf member being fixed to a corresponding one of the shaft members, whereby each shelf member is pivotable with its corresponding shaft member;
an operating member, vertically slidable on the frame member for movement between a first position and a second position;
a plurality of latch members, one for each shelf member, each latch member being rotatably mounted on the frame member between a first rotational latching position and a second rotational releasing position, and each latch member being slidably mounted on the frame member between a first linear position and a second linear position;
a plurality of actuating means on the operating member, one for each latch member, said actuating means each being adapted to impart linear movement to a corresponding latch member from its first to its second linear position only when the said corresponding latch member is disposed in its second rotational position;
means on the operating member for imparting linear movement to the bottommost latch member from its first to its second linear position whenever the bottommost latch member is disposed in its first rotational position;
a plurality of projecting means, one on each of the latch members, each said projecting means being adapted to engage the corresponding actuating means on the operating member and being simultaneously adapted to engage the next-above latch member so as thereby to render the next-above latch member slidable with the operating member only when the corresponding latch member is disposed in its second rotational position;
a plurality of shelf-retaining means, one on each of the latch members, each said shelf-retaining means being engageable with the locking means on the corresponding one of the shaft members only when the corresponding latch member is in its first linear position;
biasing means normally urging each latch member toward its second rotational position and toward its first linear position; and
means for reciprocally sliding the operating member between its first and second positions;
whereby each of the shelf members may be pivoted to article-dispensing position in ascending succession.

3,261,500
DISPOSABLE FOAM PLASTIC CUP DISPENSER
Thomas P. McGlynn, Short Hills, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 15, 1964, Ser. No. 359,851
6 Claims. (Cl. 221—63)



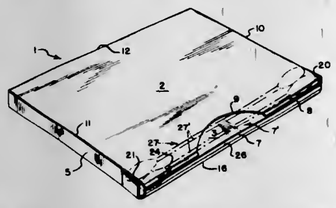
1. A disposable cup dispenser comprising first and second substantially identical general semi-cylindrical body portions, said body portions being formed from a single integral sheet of molded plastic material, a longitudinal fold line joining said body portions, each of said body portions including upper and lower end portions, said upper end portion of each body portion defining a partial closure, each partial closure being defined by a single-thickness wall, each partial closure having a generally transverse edge portion, each body portion having a generally longitudinal edge portion, said generally semi-cylindrical body portions being folded into opposed face-to-face relationship about said longitudinal fold line with the transverse and longitudinal edge portions being in intimate contact to define a cup-receiving chamber, means securing said edge portions together, and means at said lower end portions for releasably retaining cups in said cup-retaining chamber.

3,261,501
DISPENSING CONTAINER HAVING A CLOSURE FLAP
Eugene Capuclo, Apartado 1087, Caracas, Venezuela
Filed June 12, 1964, Ser. No. 374,663
12 Claims. (Cl. 221—305)

1. A dispenser comprising:
(a) a bottom wall;
(b) a top wall overlying said bottom wall in spaced relationship and having a dispensing edge;
(c) side walls and an end wall extending in substantially perpendicular relationship to said top and bottom walls to define a dispensing opening below said

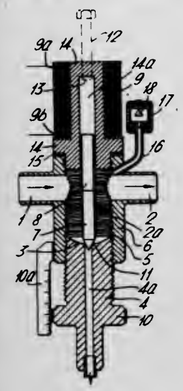
dispensing edge with said side walls overlying said bottom wall and being free from said bottom wall inwardly of said dispensing opening; and

(d) a closure flap pivotally connected to said bottom



wall along a hinge line extending parallel to said dispensing edge, said closure flap being curved outwardly of said hinge line in an upward direction to normally close said dispensing opening.

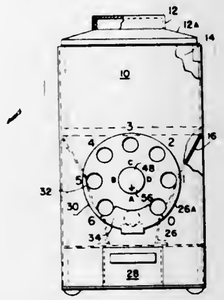
3,261,502
LIQUID INJECTION TRAP WITH MAGNETIC VALVE
André Joachim Françoise Guillermic, Colombes, Seine, France, assignor to The British Petroleum Company Limited, London, England, a corporation of England
Filed Nov. 6, 1964, Ser. No. 409,490
Claims priority, application France, Nov. 12, 1963, 953,442
23 Claims. (Cl. 222—1)



1. A trap including valve means for supplying discrete amounts of liquid to a desired system, comprising: a first body having a hollow passage along its longitudinal axis; a second body spaced from said first body, said second body having an outlet passage along its longitudinal axis in substantial alignment with the axial passage of said first body; said first and second bodies separated by a recess in co-axial alignment with their longitudinal axes; entry and overflow passages opening to said recess at a common level; said recess being adjustable along said longitudinal axes of said first and second bodies; said recess and said level of said entry and overflow passages defining a liquid-containing chamber of predetermined volume; a rod member normally extending through said recess, one end of said rod member adapted to normally seal the internal end of the outlet passage in said second body, the other end of said rod member being slidably received in the axial passage of said first body, at least a portion of said rod member formed of magnetisable material; and magnetising means positioned exterior to said first body, said magnetising means adapted to control the movement of said magnetisable rod member into and out of sealing engagement with said outlet passage whereby discrete amounts of liquid may be emitted from said liquid containing chamber through said outlet passage to said desired system.

14. A system for supplying discrete amounts of liquid to a desired system, comprising: a plurality of traps, each of said traps including valve means comprising a first body having a hollow passage along its longitudinal axis, a second body spaced from said first body, said second body having an outlet passage along its longitudinal axis in substantial alignment with the axial passage of said first body, said first and second bodies separated by a recess in co-axial alignment with their longitudinal axes, entry and overflow passages opening to said recess at a common level, said recess being adjustable along said longitudinal axes of said first and second bodies, said recess and said level of said entry and overflow passages defining a liquid-containing chamber of predetermined volume, a rod member normally extending through said recess, one end of said rod member adapted to normally seal the internal end of the outlet passage in said second body, the other end of said rod member being slidably received in the axial passage of said first body, at least a portion of said rod member formed of magnetisable material, and magnetising means positioned exterior to said first body adapted to control the movement of said magnetisable rod member into and out of sealing engagement with said outlet passage; intermittently acting pump means for filling each of said traps with liquid; pressure regulator means; and means for automatically actuating said magnetising means of each of said traps in timed sequence with said pump means whereby said valve means inject liquid to said desired system outside their respective filling periods.

3,261,503
ADJUSTABLE DIAL DISPENSER
Irwin B. Cassidy, 219 Linden Ave., Westfield, N.J.
Filed July 24, 1964, Ser. No. 384,944
4 Claims. (Cl. 222—42)



1. A metering dispenser for loose material comprising a hollow walled chamber, said chamber having an opening in the lower wall thereof, a rotatable dispensing drum located adjacent the chamber and normally closing said opening, said dispensing drum being provided with a series of peak portions between which are recesses which are capable of receiving unit amounts of loose material, means to rotate said dispensing drum to transfer a predetermined number of unit amounts of loose material through the opening and to discharge the material from the chamber, means to predetermine the number of unit amounts to be dispensed, the walls of the chamber closely fitting the peaks of the drum to prevent flow of loose materials except when said drum is turned, said dispensing drum including a plurality of sections, and means to selectively engage one or more of the sections whereby incremental units of different volumes of loose material may be discharged at the rotation of the dispensing drum.

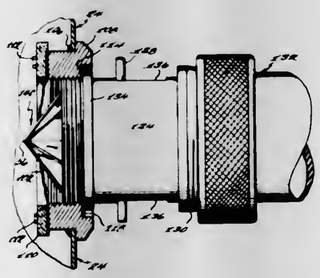
3,261,504
DISPENSING CLOSURE
George Sabaka, R.D. 3, Hanover, Pa.
Filed Apr. 13, 1965, Ser. No. 447,696
9 Claims. (Cl. 222—83)



2. A rotatable dispensing closure for a receptacle comprising a base element having a central aperture, a large dispensing slot, and a plurality of smaller dispensing openings, a pocket stamped out of the base element and being closed at one end and open at the opposite end, a cutting bar between the slot and the open end of said pocket, a plastic top rotatably secured in said central aperture in said base by a downwardly extending knob, a depression in the body of said plastic top, finger nubs on the upper side of said plastic top, the cutting edge of said cutting bar adapted to sever the depression strip from the plastic top, and said severed strip of said plastic top permanently retained in said pocket.

3,261,505
BULK CONTAINER WITH TAPPING ADAPTER
George F. Swenck, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed May 21, 1965, Ser. No. 457,721
10 Claims. (Cl. 222—83)

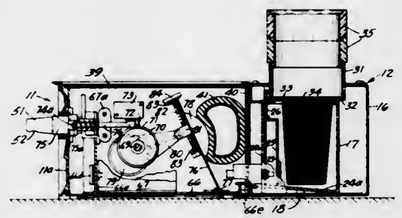




4. Apparatus for tapping a container having a discharge aperture and a rupturable sealing membrane across said aperture comprising: an open-ended tubular member having coupling means at one end for releasably connecting to the container to be emptied; a membrane-puncturing element of lesser cross-sectional area than the bore of said tubular member carried within said tubular member, said element being movable between a membrane-puncturing poistion near said one end and a position remote from said one end but still entirely within said tubular member; and actuating means for moving said puncturing element between said positions, said actuating means being disposed outside said tubular member and laterally thereof and cooperating with said puncturing element through the wall of said tubular member.

10. In combination with a container for pourable material: means defining an interiorly threaded outlet aperture; a threaded imperforate plug within said aperture; a rupturable membrane; a clamping ring releasably secured to said aperture-defining means and clamping said membrane across said aperture inwardly of said plug, the inner end of said plug abutting substantially the entire outer surface of said membrane to prevent rupture thereof by the contents of said container; and stop means for preventing inward movement of said plug beyond its abutting position with said membrane.

3,261,506
BEVERAGE DISPENSER
Dean B. Chenoweth, Neil M. Clark, and Logan W. Johnson, Minneapolis, Minn., assignors to Gold Bond Stamp Company, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 7, 1964, Ser. No. 402,189
12 Claims. (Cl. 222—134)



1. Beverage dispensing apparatus,

comprising a supply unit having a supporting structure, a pair of reservoirs on the structure and having outlets, each of the reservoirs having means supporting a supply bottle in inverted position and in flow communication with the respective reservoir,

a dispensing unit separate from and adapted to be disposed remotely from said supply unit and having a frame, a pair of supply conduits each connected to the outlet of a respective reservoir of the supply unit, a pump having a pair of elongate liquid chambers each having an inlet connected to a respective conduit to be supplied from a respective reservoir thereby, said chambers each having an outlet, said pump having means drawing liquid into said chambers from said conduits and also forcing the liquid out through said outlets, and said dispensing unit also including nozzle means having flow communication with said outlets and receiving liquid forced from said chambers.

3,261,507
METHOD AND MEANS FOR TREATING AND HANDLING COFFEE BEVERAGE
Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed July 1, 1963, Ser. No. 291,618
19 Claims. (Cl. 222—146)

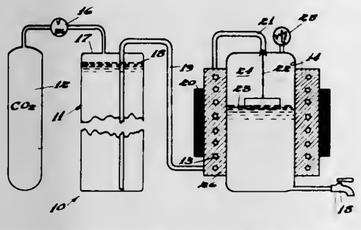
10. Apparatus for handling and readying a beverage for consumption from a supply of highly carbonated beverage, comprising:

(a) a storage tank for storing the supply of carbonated beverage at room temperature;

(b) means for applying a substantially constant pressure of carbon dioxide gas to said storage tank;

(c) means disposed remotely from, in non-heat transfer relation to, and fluidly communicating with said

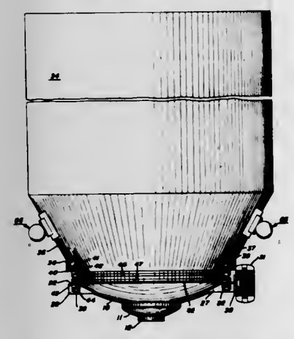
storage tank and receptive of a portion of the supply of carbonated beverage, said communicating means being operative to heat said portion to a dispensing



temperature and to cause said portion to break up as as temporary foam; and

(d) a dispensing valve connected to said communicating means.

3,261,508
VIBRATORY BIN ACTIVATOR
Eugene A. Wahl, 294 Forest Ave., Glen Ridge, N.J.
Filed Jan. 24, 1964, Ser. No. 340,018
17 Claims. (Cl. 222—199)



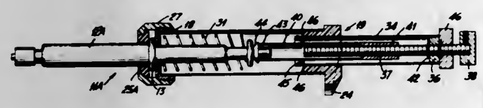
1. Apparatus for promoting the flow of material from a storage hopper having a discharge opening formed in the bottom thereof, said apparatus comprising,

(a) a material-receiving member having a bottom wall defined by a plurality of concave surfaces terminating in a central outlet opening,

(b) means vibrationally suspending the material-receiving member from the hopper and in spaced position to the hopper wall, and

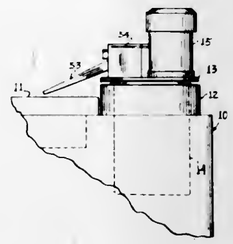
(c) means for vibrating the material-receiving member.

3,261,509
VARIABLE CAPACITY DISPENSING DEVICE
Jerome M. Shevell, New Rochelle, N.Y., assignor to Clay-Adams, Inc., New York, N.Y., a corporation of New York
Filed Feb. 5, 1965, Ser. No. 430,520
10 Claims. (Cl. 222—309)



4. In combination with a dispensing device including a cylinder, a piston reciprocably mounted in the cylinder and spring means about said piston for biasing said piston outwardly of the cylinder, and elongated tubular means for reciprocating said piston relative to said cylinder, said reciprocating means including an elongated, rotatable member disposed coaxially therein, means for abutting said piston and cooperative means on said abutting means and said rotatable member for imparting longitudinal movement to said abutting means to selected positions thereof in response to rotational movement of said rotatable member whereby to limit the movement of the piston outwardly of said cylinder.

3,261,510
APPARATUS FOR DISPENSING ABRASIVE COMPOUND UPON THE SURFACE OF A ROTATABLE LAP PLATE OF A LAPPING MACHINE
Lawrence O. Day and Joseph Dobrick, Chicago, and Arthur Kay, Evanston, Ill., assignors to Spitfire Tool & Machine Co., Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 27, 1965, Ser. No. 428,453
7 Claims. (Cl. 222—318)



1. An apparatus for dispensing an abrasive compound upon a rotatable lap plate of a lapping machine comprising

(a) a supply tank containing the abrasive compound to be dispensed,

(b) a motor carried by said tank and having a shaft depending into said tank,

(c) impeller means carried by said shaft at the inner end thereof,

(d) valve means carried by said tank and including opposite diverging passages having a common outlet opening providing a valve seat,

(e) a valve head for said opening including a shaft movable transversely of the valve means,

(f) an electromagnetic element having an armature connected to said valve shaft to move said valve head into and from closing position with respect to said opening,

(g) a conduit connected with said impeller means and one of said passages,

(h) a second conduit connected with the other of said passages and said tank to allow excess abrasive compound to return to said tank from said passages when said valve head is in open position with respect to said opening and to allow free circulation of the abrasive compound through said conduits from and into said tank when said valve head is in closed position with respect to said opening.

3,261,511
CONVEYING MECHANISMS
Anders Birger Andersson, Gullakra, Staffanstorp, Sweden, assignor to Nils Albert Bernerup, Nordana, Sweden, estate owner
Filed Dec. 1, 1964, Ser. No. 415,087
4 Claims. (Cl. 222—357)

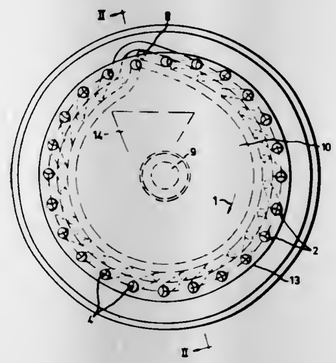
1. A mechanism for supplying seeds or similar material to a point of delivery in a drill coulter comprising

a wall having a guide means thereon and a shaft connected to said wall,

a rotatable disk rotatable about said shaft and adjacent to and substantially parallel to said wall,

said wall being stationary in operation but adjustably mounted for rotation about said shaft for positioning said guide means,

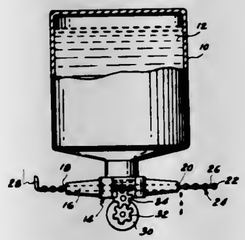
a plurality of crank means between said guide means and said disk each having one end contacting said



guide means for guiding the movement of said end and the other end formed as a shaft rotatably mounted in and passing through said disk,

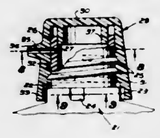
and a cup attached to said end formed as a shaft on each of said crank means and attached thereto so as to rotate with the shaft formation on each of said crank means.

3,261,512
DISPENSER UTILIZING MOVABLE BEAD CHAIN
Alfred A. Neuwald, New York, N.Y., and William F. Donovan, Clifton, N.J., assignors to The Fragrance Process Company, Inc., New York, N.Y.
Filed July 22, 1964, Ser. No. 384,400
4 Claims. (Cl. 222—365)



1. A combination container stopper and liquid dispensing device comprising a stopper housing having a central hollow portion adapted to communicate with the interior of a container and a liquid passageway defined through said housing which is opened at each end and communicates intermediate its length with the central hollow portion, a rigid beaded chain extending through said passageway and out through at least one end thereof, said chain having a finger engaging means at the end extending out through said end of said passageway and being movable to cause liquid between successive beads to be moved along the passageway and out one end thereof as said chain is moved out this end.

3,261,513
YIELDABLE CONTAINER WITH DISPENSING CLOSURE
James G. Moran, 122 N. Rose St., Burbank, Calif.
Filed July 3, 1964, Ser. No. 380,138
8 Claims. (Cl. 222—519)



1. A container and dispensing closure, comprising:

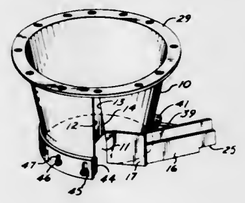
(a) a container member including an externally screwthreaded neck portion having a radially directed side duct;

(b) a closure member including a closed end, an internally screwthreaded skirt for screwthreaded connection with said neck, and a discharge duct having a radially outwardly directed entrance end in said skirt movable into and out of registry with said side duct on relative rotation of said container member and closure member;

(c) at least one of said members being formed of yieldable material;

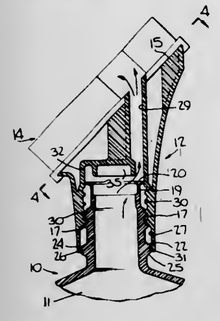
(d) one of said members having a raised rim of uniform height and width surrounding the end of its duct confronting the other of said members to cause said yieldable member to yield and maintain a pressure and sealing contact with the other of said members in the region of said raised rim.

3,261,514
FEED HOPPER FOR TABLE FEEDER
Kenneth M. Haley and Richard L. Reed, Silver Bay, Minn., assignors to Reserve Mining Company, Silver Bay, Minn., a corporation of Minnesota
Filed June 29, 1964, Ser. No. 378,610
8 Claims. (Cl. 222—410)



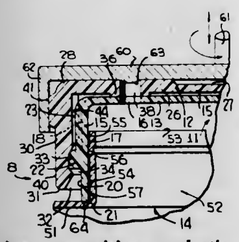
2. A feed hopper having a generally vertical axis and adapted to deliver material to an underlying conveyor, said feed hopper comprising a curved, enclosing wall generally spiral in configuration, a portion of said wall being generally conelike and diverging upwardly, another portion of said wall diverging downwardly and radially outwardly relative to said first mentioned portion and generally parallel to said axis with said first and second mentioned portions having circumferentially oppositely directed, radially spaced wall edges, said edges being spaced apart radially with respect to the axis of the hopper to define an exit opening in said spiral hopper wall effective to guide said material from the bottom of the hopper in a direction at right angles to a radius passing through said axis.

3,261,515
DISPENSER HAVING A HEAD AND A PLUG DEPENDING THEREFROM
Warren J. Luedtke, Racine, Wis., assignor to S. C. Johnson & Son, Inc., Racine, Wis.
Filed July 7, 1964, Ser. No. 380,782
8 Claims. (Cl. 222—520)



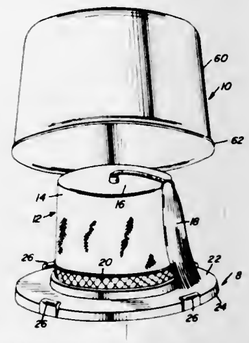
1. A dispenser of the class described comprising, container means defining a fluid reservoir formed with a discharge neck member, a head member threadedly engaging the outer surface of said neck member and moveable relatively thereto, a plug integral with said head member and in telescopic relation to said neck member between first and second positions respectively to seal and unseal said neck member, passageway means in said head member disposed lateral of said plug establishing fluid flow communication between said neck member and the exterior of said head member when said plug is in said second position, a sealing element cooperating with one of said members to seal the thread area against the flow of fluid thereto, and a grooved detent means extending outwardly from said neck member and locking means comprising a rib on said head member, said detent and locking means cooperating releasably to lock said members against relative movement when said members are in said second position.

3,261,516
PLASTIC CLOSURE
Richard C. Allen, Glen Ellyn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 2, 1964, Ser. No. 348,419
6 Claims. (Cl. 222—548)



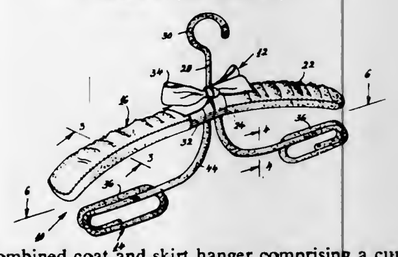
4. A container comprising a plastic container body including a neck, a first plastic cap having an end panel and a peripheral skirt, a second plastic cap having an end panel and a peripheral skirt, said peripheral skirts being in telescopic relationship to each other and to said neck, means spacing said first cap skirt and neck to define a circumferential void therebetween, said first cap and body being spin-welded together by a quantity of fused material from both said skirt and body with a portion of said quantity of fused material being located in said void, said caps including registrable dispensing opening means, and means for limiting the rotation of said caps relative to each other between a position at which said dispensing opening means are out of registration and another position at which said dispensing opening means are in registration.

3,261,517
FEZ BLOCKING AND STORING DEVICE
Augustus Eugene Irvin, 2 Hillcrest, Mount Vernon, Ill.
Filed Jan. 13, 1965, Ser. No. 425,255
3 Claims. (Cl. 223—25)



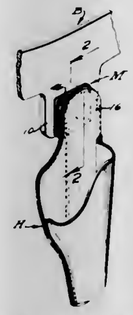
1. A portable shape holding, storing and carrying container for a fez comprising: a circular base plate having a depending annular marginal flange and upstanding circumferentially spaced marginal keepers providing cover holddown catches, said plate being provided at its center with a marginally stepped riser, said riser being circular in plan and the marginal steps thereon being selectively usable and adapted to fit telescopingly into the banded portion of fezes of different sizes, a plurality of inverted L-shaped strap members spaced apart circumferentially, the lower ends of the long limbs being selectively and separably connected with either of the aforementioned steps and rising perpendicularly from the level of the step selected, the short limbs being horizontally disposed and turned in toward each other, the free ends being slotted and overlapped and means separably and adjustably bolting said free end together.

3,261,518
COMBINATION COAT AND SKIRT HANGER
Olga G. Everett, % Charette Products Corp., 6 E. 32nd St., New York, N.Y.
Filed Sept. 9, 1964, Ser. No. 395,216
1 Claim. (Cl. 223—91)



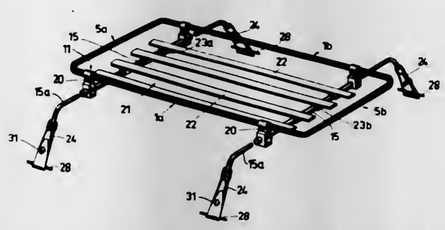
A combined coat and skirt hanger comprising a curved body portion of elongated looped wire for supporting a coat, a cover of padding for said body portion, a substantially inverted V-shaped elongated body portion of curved round wires, a cover of velvet for said V-shaped body portion, an upstanding hook secured to and connecting said body portions, a cover of velvet for said hook, and spring velvet covered clips of coil formation on the free ends of said V-shaped body portion, said clips being in line with the ends of the curved body portion, the coils of said clips adapted to grip the top end of a skirt for supporting said skirt in suspended condition.

3,261,519
ROTARY HOLSTER MOUNTING
Merl L. Horne, 307 N. J, Lompoc, Calif.
Filed June 11, 1965, Ser. No. 463,108
5 Claims. (Cl. 224—2)



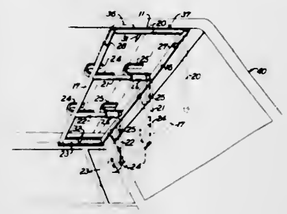
1. In combination, a holster, a stub shaft fixed to and extending laterally from the holster, a support, guide means fixed to the support, said guide means being rotatably traversed by the stub shaft, said guide means being formed with angled guide slot means through which the stub shaft slides, a lateral detent finger fixed on the stub shaft, detent means on said guide means comprising detent slot means in which the detent finger is normally engaged, and spring means urging the detent finger into the detent slot means.

3,261,520
VEHICLE LUGGAGE RACK
Bror Adolf Andersson, Toarpsdal, Boras, Sweden
Filed Feb. 28, 1964, Ser. No. 348,171
5 Claims. (Cl. 224—42.1)



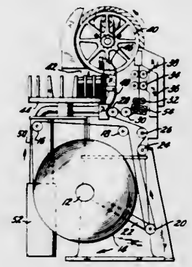
1. A dismountable car top carrier for attachment to a vehicle roof having a drip rail, comprising cross-bars, having bent ends, brackets detachably secured to the bent ends of said cross-bars to engage the drip rail for attaching the top carrier to said vehicle roof, a framing having long sides and short sides and means supporting said framing on said cross-bars in such a way that said cross-bars at the assembling or dismounting of the top carrier are guided in the longitudinal direction of the top carrier for connecting and disconnecting respectively to the ends of the long-sides of the framing, and longitudinal bars, spaced resilient clips carried by said longitudinal bars adapted to engage at least two of said cross-bars for securing said longitudinal bars to said cross bars and to hold said cross-bars and said framing in their mounted positions and to prevent them from moving in the longitudinal direction of said top-carrier.

3,261,521
GUN RACK
William R. Meccico and Larry K. Shurtleff, both of Star Route, Soda Springs, Idaho
Filed Apr. 23, 1965, Ser. No. 450,593
6 Claims. (Cl. 224—42.44)



2. In combination with a motor vehicle including a cab, a rack for rifles which comprises a pair of horizontal supports firmly attached to opposite sides of said cab and adjacent to the roof thereof, a framework, hinge means hingedly connecting said framework to said supports, said framework including a pair of parallel bars, one of said bars extending between said hinge means, said bars connected by at least two parallel struts extending normally from said bars, gun clips secured to said struts adapted to support at least two rifles in a generally horizontal position athwart said vehicle, said gun clips including generally U-shaped strap means adapted to surround releasably the stocks of rifles supported in said rack, said framework selectively swingable about said hinge means from a position in a generally horizontal plane to a position in a generally vertically disposed plane, and locking means cooperating with said supports and said framework adapted to lock selectively said framework in its horizontal plane.

3,261,522
APPARATUS FOR MAKING BUSINESS MACHINE CARDS WITH ROUND CORNERS
Frederick G. Auer, West Caldwell, and Richard E. Houghton, Rahway, N.J., assignors to Champlain Company, Inc., Roseland, N.J., a corporation of New York
Filed Apr. 24, 1964, Ser. No. 362,290
19 Claims. (Cl. 225—1)

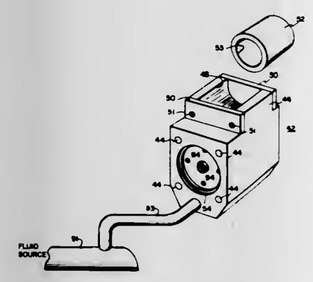


1. In the manufacture of round cornered business machine cards from a continuous strip of paper, the method which includes making an arcuate cut at each edge, severing the endmost card by a cross-cut between the arcuate cuts, moving the endmost card away from the next succeeding card to ensure its separation, the severed card then having rounded corners at one end and points at its other end, and arcuately cutting the points from the card to form rounded corners.

3,261,523
TRANSPORT DEVICE

Carl C. Roecks and Klaus K. Stange, both of Phoenix, Ariz., assignors to General Electric Company, a corporation of New York

Filed May 4, 1964, Ser. No. 364,437
13 Claims. (Cl. 226—179)

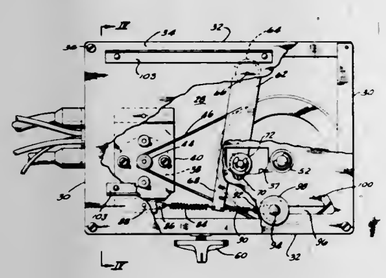


1. A transport system for imparting motion to an elongated storage medium comprising, a driving member and means operable to maintain said storage medium in frictional engagement with said driving member, said means comprising a roller capable of rotary movement and displacement in a radial direction for frictionally engaging said storage medium with said driving member, a fluid chamber, and control means for applying fluid under pressure to said fluid chamber, said fluid under pressure effecting said displacement and providing a fluid bearing for said roller during said rotary movement.

3,261,524
MESSAGE REPEATER

Donald E. Heinisch, Jackson, Mich., assignor, by mesne assignments, to Audio-Sell Incorporated, Ann Arbor, Mich., a corporation of Michigan

Filed Apr. 9, 1964, Ser. No. 358,455
4 Claims. (Cl. 226—190)

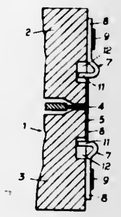


4. In a message repeater which employs magnetic tape, a housing having a cover plate provided with an opening, a driving capstan mounted on said cover plate adjacent said opening so that said capstan projects upwardly from said plate, a transducer head on said housing adjacent said capstan, a pinch roll for pressing the tape against the capstan, a support arm for said pinch roll disposed adjacent the underside of said plate and pivotally secured at one end thereto, said arm having a pair of transversely spaced laterally offset portions at the opposite end thereof disposed on opposite sides of said plate with one of said portions projecting through said opening, shaft means rotatably supporting said pinch roll and projecting upwardly from said one arm end portion at a position such that on pivotal movement of said arm said pinch roll is movable along a circular arc which is substantially parallel to said cover plate and intersects said capstan, first spring means secured to said plate and to the other end portion of said arm urging said arm in a direction such that said pinch roll is urged away from said capstan, an actuating lever for said arm, guide slot means in said plate supporting said lever for movement along a predetermined path, second spring means connected to and extending between said lever and said other end portion of said arm urging said arm in a direction opposite to the direction in which the arm is urged by said first spring means, said slot means extending generally in said opposite direction and being of a length such that said lever is movable therein in said opposite direction to a position in which said second spring means resiliently urges said pinch roll into a pinching position with respect to said capstan, said first spring means being operable on release of said lever to move said arm in a direction so as to move said pinch roll away from said capstan, said slot means having a transversely extending dead end extension adjacent said lever position into which said lever is movable and in which said lever is retained by the force of said second spring means to thereby releasably lock said pinch roll in said pinching position thereof, a tape cartridge comprised of a substantially rectangular casing having an endless tape mounted therein and a opening in one side, guide means on said cover plate guidably supporting said casing for sliding movement toward and away from said capstan, said casing opening being of a size such that said pinch roll can pass therethrough, said shaft means supporting said pinch roll and extending through said casing opening for engagement with a portion of said casing at one side of said opening on movement of said pinch roll toward said capstan for sliding said casing toward said capstan concurrently with movement of said pinch roll toward said capstan, said pinch roll in the pinching position thereof pinching said tape between the pinch roll and the capstan and said casing portion being clamped between the capstan and the pinch roll shaft means.

3,261,525
TAPE GUIDE FOR VIDEO DRUM

Herman Kasper Adriaan de Lange, Klosternenburg, Austria, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 16, 1964, Ser. No. 375,607
Claims priority, application Austria, June 19, 1963, A 4,911
3 Claims. (Cl. 226—199)

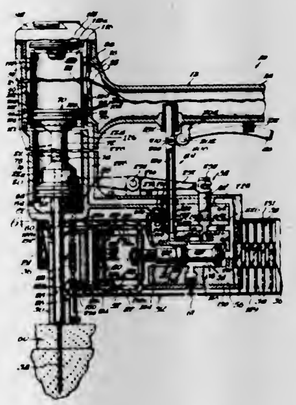


1. Apparatus in which a cylindrical drum is provided having a path over which a record carrier, which is helically wound on the outer surface of said drum is passed, the improvement comprising a plurality of stud means protruding from said drum surface along at least one side of said path, a plurality of recesses in said drum surface along at least said one side of said path for laterally guiding said studs, said recesses extending transversely of the said path and having a portion thereof in said path, said stud means having a shank portion remote from said path and a hook portion adjacent said path, said hook portion of each stud terminating in one of said recesses, and means connected with said drum surface engaging the shank portion of said studs for movably securing each of said studs on said drum surface.

3,261,526
FASTENER DRIVING APPARATUS

Edward J. Novak, Franklin Park, Ill., assignor to Fastener Corporation, Franklin Park, Ill., a corporation of Illinois

Filed Mar. 27, 1964, Ser. No. 355,384
34 Claims. (Cl. 227—1)

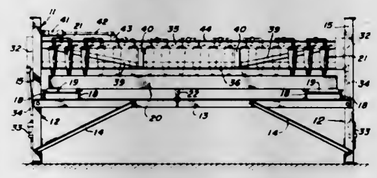


1. In a tool for driving fasteners supplied from a carrier strip, said tool including a drive track and a driver slidable therein; feed sprocket means having a plurality of fastener receiving grooves spaced around the periphery thereof, each groove receiving a successive fastener in the carrier strip upon rotation of said sprocket means to positively move said fasteners toward said track; and means for separating the fasteners moved into a position adjacent said drive track from the carrier strip and feeding said fastener into said drive track in timed sequence with the rotation of said sprocket means and movement of said driver.

3,261,527
APPARATUS FOR FIRING A PLURALITY OF FASTENING TOOLS

Olle P. Sterner, Park Ridge, Ill., assignor to Signode Corporation, a corporation of Delaware

Filed Oct. 7, 1964, Ser. No. 402,284
9 Claims. (Cl. 227—7)

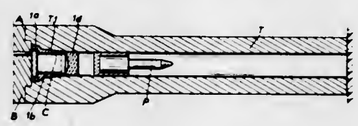


1. An apparatus for controlling the firing of a plurality of fastening guns including a support member supporting said guns in spaced relationship to a workpiece, means for moving said support member to position said guns in engagement with the workpiece, means to operate said guns and lost motion means held by said support member and being operable after said guns are in engagement with said workpiece to actuate said gun operating means.

3,261,528
CARTRIDGE CARRIER

Joseph Barbier de Courteix, Loire, France, assignor to Societe Civile d'Etude de Procedes de Scellement, Loire, France, a French body corporate

Filed Oct. 19, 1964, Ser. No. 404,768
Claims priority, application France, Nov. 6, 1963, 8,804
5 Claims. (Cl. 227—9)

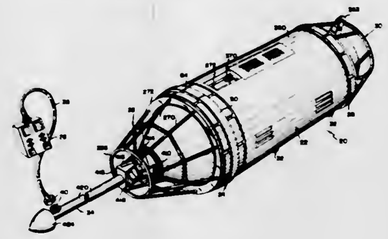


1. A cartridge holder comprising a body adapted for being inserted into a loading chamber of a gun; said body including a front part having a cylindrical external surface and a solid flat front end surface adapted for contacting a fastener disposed adjacent thereto in said barrel, and a rear part extending rearwardly from the front part and having a diverging frusto-conical surface, said rear part including a stop shoulder having a conical surface at the rearward end of said frusto-conical surface which is adapted for being retained in said loading chamber, said body having a recess opening at the rear end of the rear part and extending into the front part and defining a portion between said front and rear parts which is of minimum thickness whereby the parts will become separated at said portion upon detonation of a cartridge which is placed in said recess, said front part having a surface forming the bottom of said recess of curved shape to direct gases produced by said detonation rearwardly and outwardly.

3,261,529
WELDING BACK-UP DEVICE

Augustine J. Pagan, El Cajon, Calif., assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey

Filed May 21, 1963, Ser. No. 282,066
12 Claims. (Cl. 228—50)

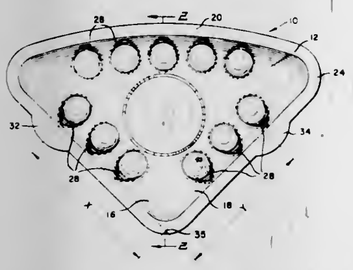


1. An internal pipe alignment device comprising:
a. a C-shaped ring;
b. means for expanding said ring into engagement with the inside of a pipe;
c. a ring segment dimensioned to fit between the ends of said C-shaped ring after the latter is expanded; and
d. means for moving said segment into position between said ring ends after the ring is expanded.

3,261,530
FOOD CONTAINERS

Robert L. Cave, Manhattan, Kans., assignor to Buckeye Bait Corp., Council Grove, Kans., a corporation of Ohio

Filed July 6, 1964, Ser. No. 380,376
4 Claims. (Cl. 229—2.5)



1. A plastic food container of substantially uniform wall thickness throughout having:

(a) a substantially flat bottom that is triangularly shaped with two sides that are disposed at right angles to each other and of approximately equal length and a third side which is longer than said two sides and arcuately shaped with the average radius of curvature of said arcuately shaped side being approximately 1½ times the length as measured exteriorly of the container of said third side; and

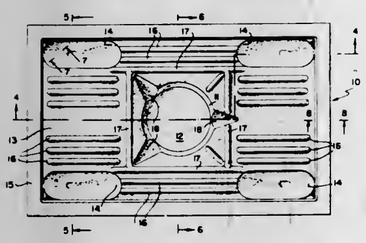
(b) upstanding side walls that are joined integrally with the sides of said container bottom by a smooth radius and terminate in a flange that extends around the entire periphery of said container to provide rigidity to the container and serve as a means by which a cover can be sealed over the open top of said container;

(c) said container being formed from a flat sheet of transparent, thermoplastic material that is inert to the food to be placed therein having initially a thickness no less than 0.007 inch and no greater than 0.015 inch, and having all corners between the three side walls rounded with radii sufficiently large to provide dimensional stability and a minimum thickness throughout the entire container that is no less than one-half the thickness of the sheet material from which the container is formed.

3,261,531
CONTAINER HOLDER AND TRAY

Stanley Barth, 7 Park Ave., New York, N.Y.

Filed Apr. 28, 1965, Ser. No. 451,438
10 Claims. (Cl. 229—2.5)

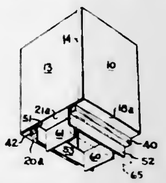


1. An integrally formed and contoured holder of substantially sheet-like material comprising a relatively deep cup-like receptacle for receiving the base of a container for a beverage therein and maintaining it in upright position to prevent tipping, a food supporting tray portion having a food-supporting area substantially larger than the cup-like receptacle and extending outwardly from the upper end of the cup-like receptacle at a height substantially above the base of the receptacle, the outer surface of the receptacle being defined by a relatively rigid wall which extends downwardly a substantial distance below the tray so that the receptacle can be grasped by the user by one hand partially encircling the periphery of the outer wall of the receptacle to carry the tray and contents in one hand, and a plurality of leg formations depending from the base of the tray and spaced apart from the receptacle so as not to interfere with the grasping of the receptacle by the user around the periphery of the outer wall of the receptacle, said depending leg formations being of substantially the same depth and cooperating in supporting the tray on a supporting surface.

3,261,532
SHIPPING CONTAINER

John J. Davis, Neenah, Wis., assignor to Great Northern Container Corporation, Neenah-Menasha, Wis., a corporation of Wisconsin

Filed Dec. 4, 1963, Ser. No. 327,888
7 Claims. (Cl. 229—6)

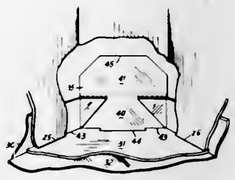


5. A collapsible and reusable pallet container comprising a corrugated paperboard carton having opposed pairs of main side walls and bottom closure flaps hingedly connected to the bottom edges of said walls, and a pair of palletizing runners fixed to each of one pair of opposed flaps, one of each pair of said runners being affixed to the flap approximately parallel to and adjacent the hinge connection of the flap to a side wall and the other of each pair of runers being affixed to the flap intermediate said one runner and the remote free edge of the flap, said one pair of opposed flaps being of combined length to substantially span the bottom of the carton.

3,261,533
REINFORCED CONTAINERS

Edward F. Repking, St. Louis County, Mo., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Jan. 22, 1965, Ser. No. 427,436
7 Claims. (Cl. 229—23)

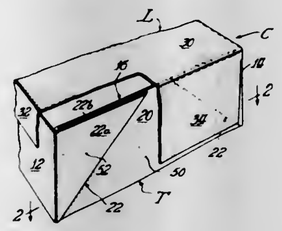


1. A bulk container comprising an upstanding tubular sleeve and a closure assembly disposed in telescoping relation over one end thereof: the tubular sleeve comprising a plurality of foldably connected wall panels including at least three pair of panels in respective opposed, parallel relation and with top and bottom edges; the closure assembly comprising an end cap and locking reinforcing pad; the end cap including a central closure panel coextensive with the tubular sleeve end edge conformation; a plurality of wall flanges, corresponding in number to the sleeve wall panels, and hingedly connected to side edges of the central closure panel; the wall flanges including alternating single and double thickness panels; an extension of the single thickness flanges fixedly secured between inner and outer plies of the double thickness flange; the reinforcing pad being in flatwise substantially coextensive relation to the end cap central closure panel and having alternate recessed edges adapted to receive free end edges of the double thickness flange inner ply thus securing the reinforcing panel in fixed relation to the end cap central panel and the wall flanges to each other and in right angular relation to the central closure panel.

3,261,534
END WALL ARRANGEMENT FOR SEAL END CARTON

Francis A. Chidsey, Jr., Devon, Pa., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Filed Mar. 18, 1964, Ser. No. 352,781
6 Claims. (Cl. 229—31)



6. A collapsible container formed from a unitary blank of foldable paperboard, comprising:

(a) horizontal top and bottom walls and opposed pairs of vertical side and end walls;

(b) each end wall including an inner flap hinged to an end edge of said bottom wall and folded upwardly normal to said bottom wall, a pair of intermediate flaps hinged to corresponding end edges of respective side walls and folded inwardly normal to said side walls to overlie marginal portions of said inner panel, and an outer flap hinged to an end edge of said top wall and folded downwardly to overlie said inner and intermediate flaps in adhesive engagement therewith;

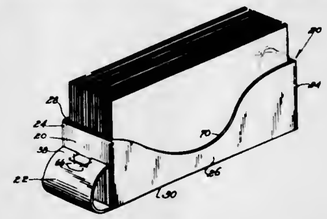
(c) one of said inner and outer flaps having a medial portion bowed out of the plane of its marginal portions toward the other of said inner and outer flaps to present a surface substantially co-planar with related surfaces of said intermediate flaps.

3,261,535
COMBINED GREETING CARD AND GREETING CARD HOLDER

John L. Krause, 3310 Thornberry Road, Glenview, Ill.

Filed Feb. 8, 1965, Ser. No. 430,945
7 Claims. (Cl. 229—35)

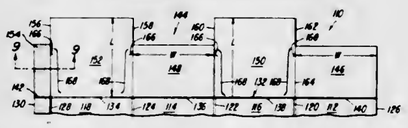
1. A combined greeting card and holder for greeting cards received, comprising a generally rectangular card having a rectangular central body pattern, to form the bottom of the card holder, provided at each of its ends with longitudinally extending rectangular end flaps, carried by the ends of the central body and by two elongated side walls carried by the central body, said side walls being prefolded along the lateral edges of the bottom to be bent up at right angles to the rectangular central bottom, said end flaps being separated from each other by inwardly extending end slits located in alignment with the lateral edges of the bottom and the flaps at each end of the pattern being prefolded along a common line at each end of the bottom, the flaps at the rear end of the card holder being folded at right angles to the side walls and bottom and overlapping each other, the central end flap having a slit and the other end flaps having each a punched wedge shaped tab to be inserted in said slit to lock the end flaps at the rear end of the card holder in box form, the other end flaps at the front of the card holder also being slit from each other along lines in alignment with the lateral edge of the bottom, and the latter end flaps including two end flaps which are carried by the side walls and folded at right angles to the side walls to overlap each other and form the box at the front end of the card holder, the third end flap extending from the bottom and being curved upward at the front end of the card holder, and held beneath a pair of tabs punched out of the end flaps and said latter tabs holding this end of the card holder in box form.



3,261,536
COVER SEALED LEAKPROOF CARTON

Kenneth D. Bixler, Huntington, N.Y., assignor to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 9, 1964, Ser. No. 409,717
9 Claims. (Cl. 229—37)



1. In a one-piece, planar, delaminable, carton blank having an inner and outer surface and for producing a glued end carton comprising pairs of alternatively disposed rectangular wall panels connected on mutually parallel fold lines and a continuous, linear marginal fold line extending transversely of one end of said wall panels, and an end-closure assembly comprising cut-and-scored portions for producing a glued-end, corner-sealed carton, comprising:

pairs of alternately disposed end closure flaps hingedly connected to said marginal fold line,

one pair of said end closure flaps comprising side margins in colinear relation to said mutually parallel fold lines and including a free terminal portion extending between said inner and outer surfaces and terminating in a base portion extending partially through said outer surface of said blank and terminating at said marginal fold line,

said one pair of end closure flaps including minute lateral nick portions extending through said flaps adjacent the juncture between said free terminal portions and base portions of said side margins for only initiating delamination of a sealing gusset therebelow during manipulation and closing of said end closure assembly,

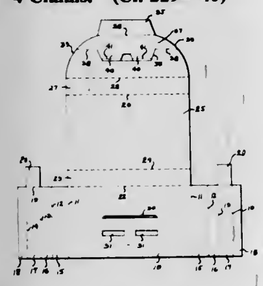
said one pair of closure flaps including at least one segmental cut slot extending through said blank between said inner and outer surfaces and

spaced from said nick portions and defining a substantially free side margin of said sealing gusset, said nicks and cut segmental cut slots having a solid blank portion disposed therebetween.

3,261,537
SELF LOCKING CONTAINER

Oscar J. Kistner, Cincinnati, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio

Filed Nov. 18, 1963, Ser. No. 324,329
4 Claims. (Cl. 229—40)

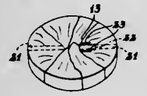


1. A device of the character described comprising a top panel, a first side panel, a bottom panel, and a second side panel successively interconnected by fold lines to one edge of said top panel, buffer members formed integrally with each side of said top panel, a locking structure interconnected by a fold line to said second side panel, said locking structure including a body portion connected to a flap body by a pair of spaced fold lines interconnected by a substantially U-shaped slit in said body portion for receiving a pair of spaced apart rearwardly extending lock tabs integrally formed with said flap body and symmetrically disposed relative to the central axis of a forwardly extending lock tab connected by a fold line to said flap body, and means for readily detachably securing said lock tabs to said top panel including slots formed therein and registering with each of said lock tabs.

3,261,538
CONTOUR PATTY WRAPPER

John A. Jones, Lima, Ohio, Claude K. Lee, Bourbonnais, Ill., and Arthur H. Vogt, Briarcliff Manor, and George M. Woodruff, Thornwood, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

Filed Sept. 4, 1963, Ser. No. 306,573
17 Claims. (Cl. 229—51)



1. A wrapper for containing a patty-shaped product comprising, a wrapper blank formed from at least one sheet of flexible material comprised of a thermoplastic heat-sealable substance enabling discrete surface areas of said sheet to be fused together when folded upon one another, said sheet being folded upon itself to form a pleat extending across said sheet between two opposite edges thereof, the multiple plies of said sheet defining said pleat being fused together to comprise an integral undivided multiple-ply tear strip of which all the plies are coextensive with one another, said sheet being drawn snugly around the surface of said product disposing a length of said tear strip completely across one face of said product, the edges of said sheet being folded down in overlapping folds against the opposite face of said product and fused together to completely enseal said product within said blank, one of said opposite edges having slits extending partly along opposed sides of the tear strip, said tear strip being manually peelable from said sheet along lines starting with said slits to sever said blank and enable removal thereof from said product.

3,261,539
ENVELOPE OPENER AND MAILING CARD

Daniel T. Robbins, 11245 Runnymede, Sun Valley, Calif.

Filed Oct. 19, 1964, Ser. No. 404,721
3 Claims. (Cl. 229—85)

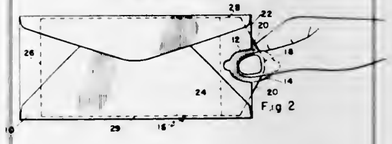


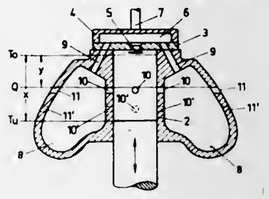
Fig 2

1. The combination comprising:
an envelope having a foldable tab portion defined by a linear weakened area beginning and ending in one edge of the envelope;
a card insert in said envelope having an end edge portion adjacent said one edge of said envelope shorter than the distance between the ends of said linear weakened area;
said card insert having an edge at each end of said end edge portion disposed at an angle to the latter and providing means for severing the remainder of said edge of the envelope after the tab portion has been severed at said linear weakened area; and
said card insert being provided with a linear weakened area extending transversely thereof adjacent said angled edge portions, whereby a rectangular mailing card is defined.

3,261,540
COMPRESSORS

Knud Vagn Valbjørn, Nordborg, Denmark, assignor to Danfoss A/S, Nordborg, Denmark, a company of Denmark

Filed July 10, 1963, Ser. No. 294,073
Claims priority, application Germany, July 10, 1962, D 39,343
3 Claims. (Cl. 230—19)

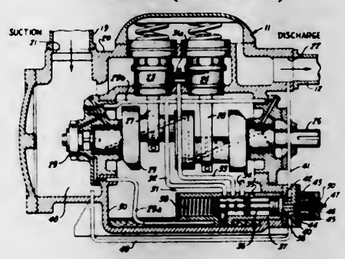


1. A method of producing refrigeration compressor housings for assemblying refrigeration compressors of different capacities from said housings with alike components comprising, providing a plurality of similar compressor housings each having a cylinder of equal dimensions for assembly therein of respective pistons driven reciprocably a given stroke length and having a given top dead center in operation, said housings having at least one chamber defining a suction muffler and a cylinder wall spacing said suction muffler from said cylinder, drilling openings in the cylinder wall of said housings at one axial distance from top dead center in some of said housings and at other axial distances in other of said housings, whereby when a given diameter piston is assembled in each cylinder and reciprocably driven in operation said openings define ports opened and closed by respective pistons and some compressors have different capacities than other of said compressors without differences in stroke length and piston diameters among all of said compressors.

3,261,541
COMPRESSOR UNLOADING MEANS

Erich J. Kocher, Milwaukee, Wis., assignor to Vilter Manufacturing Corporation, Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 29, 1963, Ser. No. 326,946
7 Claims. (Cl. 230—31)

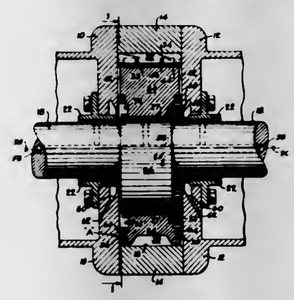


1. An unloading control system for a compressor having a suction chamber, a high pressure discharge, compression means, and unloading means therefor; said system comprising, a valve mounted on the compressor for controlling the unloading means, a source of oil pressure for the compressor, said control valve communicating with the unloading means and with said source of oil pressure, a conduit from the compressor discharge to said control valve for positioning said valve responsive to pressures existing in said conduit to thereby control the flow of oil under pressure from said source to the unloading means, and means actuated by compressor suction pressure for selectively relieving and permitting pressure build-up in said conduit dependent on the conditions prevailing in the suction chamber.

3,261,542
ROTOR AND SEAL CONSTRUCTION FOR ROTARY MECHANISMS

Charles Jones, Paramus, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed May 8, 1963, Ser. No. 278,862
11 Claims. (Cl. 230—145)

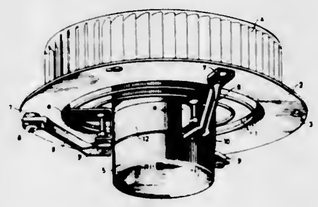


1. A rotary combustion engine comprising an outer body having axially-spaced end walls and a peripheral wall interconnecting said end walls to form a cavity therebetween; an inner rotor received within said cavity with the axis of the inner rotor being laterally spaced but parallel to the axis of said outer body cavity; said inner rotor having axially-spaced end faces adjacent to said end walls and also having a plurality of circumferentially-spaced apex portions for engagement with the inner surface of said peripheral wall to form a plurality of working chambers between said rotor and peripheral wall which vary in volume upon relative rotation of said rotor and outer body; oil seal ring means carried by an end face of said rotor for engagement with the adjacent end wall of the outer body with said seal ring means co-axially encircling the axis of said rotor; said rotor having a continuous annular hub portion projecting axially at each end face of the rotor and disposed radially inwardly of the oil seal ring means carried by said end face such that the axial width of the rotor at said hub portions is greater than the axial rotor width radially outwardly of said seal ring means and such that the axial clearance between the rotor and the outer body end walls is a minimum at said hub portions to restrain axial movement of said rotor.

3,261,543
SUSPENSION AND VIBRATION-DAMPING DEVICE FOR FANS

Sten Valdemar Holgersson, Enkoping, Sweden, assignor to Aktiebolaget Bahco, Stockholm, Sweden, a corporation of Sweden

Filed June 1, 1964, Ser. No. 371,373
2 Claims. (Cl. 230—235)



1. A suspension and vibration damping device for a motor driven fan including a fan wheel, a motor for supporting and driving said fan wheel and a supporting frame surrounding said motor, said damping device comprising:
a plurality of circumferentially spaced supporting arms each extending radially of said motor between said motor and said frame, and
means for resiliently damping vibrational movements occurring in a plane perpendicular to said rotational axis due to variation of the torque of said motor including,
pivotal connection means connecting the outer ends of each of said arms to said frame for limited pivotal movement relative to said frame about an axis parallel to the rotational axis of said motor,
and pivotal connection means connecting the inner ends of each of said arms to said motor for limited pivotal movement relative to said motor about an axis parallel to said rotational axis, the pivotal connection means for at least one end of each of said arms being a rubber spring means.

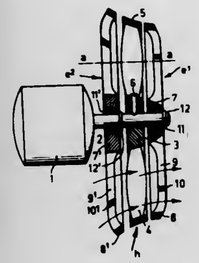
3,261,544
SAFETY GUARD FOR FAN

Roland Guichard, Fiers, France, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 10, 1963, Ser. No. 315,220
Claims priority, application France, Nov. 19, 1962, 915,836
4 Claims. (Cl. 230—275)

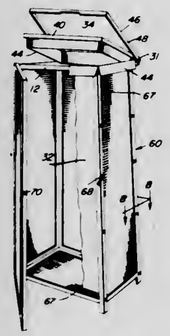
1. Apparatus comprising a prime mover means having a driven shaft, air moving screw means attached to said shaft, and safety guard means for substantially com-

pletely enclosing said air moving means in spaced relation therewith, bearing means mounting at least a portion of said safety guard means on said shaft for free rotation, said safety guard means having radially extending aero-



dynamic blade members for rotating said safety guard means, said safety guard means consisting of lightweight material and being of open construction for maximum air flow therethrough.

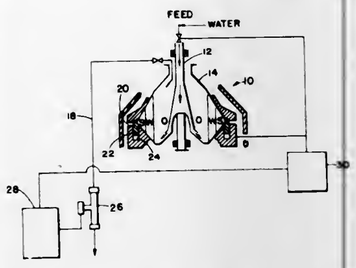
3,261,545
TRASH BAG HOLDER
Michael E. Frazier, Springfield, Mass., assignor to Tac, Inc., Springfield, Mass., a corporation of Massachusetts
Filed Mar. 25, 1964, Ser. No. 354,702
9 Claims. (Cl. 232—43.2)



6. A holder for holding the open top of a cuffed bag in open contents-receiving position, said holder comprising a rectangular bottom floor member, upwardly extending side walls on said bottom floor member providing an open top mouth, an open rectangular clamping frame hinged thereto for movement to and from a mouth-encompassing position, and a cover hinged thereto for movement to and from a mouth-closing position.

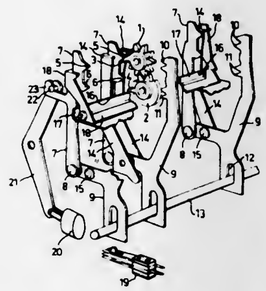
3,261,546
METHOD FOR CLARIFYING FATS AND OILS
Morris E. Gruver, Jr., Rochester, N.Y., assignor to Pfaudler Permutit Inc., Rochester, N.Y., a corporation of New York
Filed Oct. 29, 1962, Ser. No. 233,675
2 Claims. (Cl. 233—20)

1. A method for clarifying dry rendered fat containing hydrophylic impurities comprising the method steps of adding water to the said impure fat, centrifuging impure said fat-water mixture for separating said dry rendered fat from water and impurities, continuously drawing off said separated fat from said centrifuge, measuring the dielectric constant of said separated fat to de-



tect the presence of water, and removing the accumulated impurities and water from said centrifuge when water is detected in said separated fat.

3,261,547
METHOD OF PERFORMING ZERO CONTROL IN ADDING MACHINES HAVING A BALANCING REGISTER AND APPARATUS THEREFOR
Sven Tore Wilk, Malmo, Sweden, assignor to Aktiebolaget Addo, Malmo, Sweden, a corporation of Sweden
Filed Apr. 12, 1965, Ser. No. 447,178
Claims priority, application Sweden, Apr. 15, 1964, 4,619/64
6 Claims. (Cl. 235—1)



1. Apparatus for performing zero control in adding machines having a balancing register with carry transmitting means operating according to the principle of the "fugitive one" and being adjustable between an inoperative position and an operative position, comprising a blocking relay, switch means actuatable after a calculation the result of which shall be zero as registered by the balancing register, for energizing said blocking relay, a first make contact of said blocking relay, an error signalling means energizable by closing said first make contact, a testing relay, a break contact in said testing relay, a second make contact in said blocking relay, a first holding circuit for said blocking relay including said break contact of said testing relay and said second make contact of said blocking relay, a testing switch operable by means of the carry transmitting means of the highest order of the balancing register to be closed in the inoperative position and open in the operative position of the carry transmitting means of the highest order of the balancing register, a third make contact of said blocking relay, a second holding circuit for said blocking relay including said testing switch and said third make contact of said blocking relay, an energizing circuit for said testing relay operable by means of said blocking relay, electromagnetic means operable when energized to adjust the carry transmitting means of the lowest order of the balancing register from the inoperative position to the operative position, and a make contact of said testing relay for energizing said electromagnetic means.

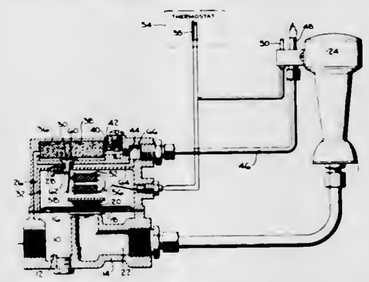
3,261,548
WRITING IMPLEMENT WITH SLIDE RULE
Udo Riehle, Lehfrauenweg 1, Zurich-Witikon, Switzerland
Filed Mar. 27, 1964, Ser. No. 355,319
Claims priority, application Germany, Apr. 5, 1963, J 23,500
2 Claims. (Cl. 235—71)



1. A writing implement combined with a slide rule comprising an elongated casing of substantially circular cross-section containing a ball point pen extending from end to end thereof for writing, a part of said casing of a certain width and of substantial length being transparent, a flexible tape, means mounting said tape for sliding movement longitudinally in said casing, in a path parallel to, and located to one side of, the longitudinal axis of said pen, said tape having scales thereon visible through said transparent part, the length of said tape being substantially greater than the length of said transparent part, means to accommodate the excess length of the tape, means accessible from the outside of said casing for moving said tape longitudinally within and relative to said casing and fixed scales immovable relative to said casing and visible from the outside thereof and associated with said scales on said tape, said pen being offset from the central longitudinal axis of the implement, said window being curved substantially about the longitudinal axis of the implement, said implement having means interiorly of the window for holding the tape beneath the window in convexly curved condition substantially similar to the curvature of the window.

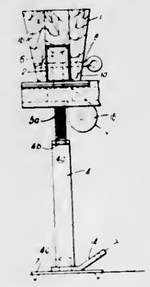
3,261,549
GAS DIAPHRAGM VALVES
William A. Ray, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Apr. 16, 1963, Ser. No. 273,458
5 Claims. (Cl. 236—80)

1. A valve construction of the character described, including a valve body having an inlet connection, an outlet connection, and valve means between said inlet and outlet connections, said valve body having a pressure inlet chamber, a movable pressure-responsive element forming a wall of said inlet chamber, a second chamber in said valve body defined in part by said pressure-responsive element, said valve body having a pilot burner line connection, an orificed passageway extending from said inlet chamber to said pilot burner line connection, two-position pilot valve means mounted in said body and having two ports, one of said ports being in communication with said inlet chamber for introducing inlet pressure to said second chamber, the other of said ports being in communication with said pilot burner line connection for com-



municating said second chamber to said pilot burner line connection, and two-position control means effective in one position to close one of said ports and to open the other of said ports and effective in the other position to close the other port and to open said one port, said orificed passageway serving to throttle pilot gas flow sufficiently to maintain the pressure at said pilot burner line connection sufficiently low to obtain operation of said valve means by gas pressure in said inlet chamber.

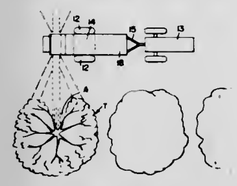
3,261,550
TRACKS FOR RAILED TRANSPORT SYSTEMS
Verner W. Hampton, Norman H. F. Renwick, George D. Green, and Thomas A. Johnson, Salisbury, Southern Rhodesia, assignors to Pneuways Development Company (Private) Limited, Salisbury, Southern Rhodesia, a Southern Rhodesian company
Filed July 25, 1961, Ser. No. 127,452
Claims priority, application Southern Rhodesia, Aug. 19, 1960, 507/1960
3 Claims. (Cl. 238—3)



1. A readily transportable, assembled and dismantled twin-rail track for wheeled vehicles, comprising rail-forming beams, means for assembling and connecting said beams in end to end continuity to form said track comprising transverse bearer members for supporting said beams in parallel spaced relation, means for supporting said bearer members at predetermined heights above the ground, said beams having openings at their ends and each of said assembling and connecting means comprising a hinge member positionable upon one of said bearer members and comprising inter-hinged leaves of complementary cross-section to be receivable as sliding fits into said end openings of a pair of beams adjacently assembled in forming a rail, and means for attaching to the respec-

tive leaves of a hinge member with some freedom of movement in the direction of the length thereof, the proximated ends of two of said rail-forming beams assembled to said respective hinge member leaves.

3,261,551
METHOD OF SPRAYING AGRICULTURAL CHEMICALS
Welker W. Funk, Moline, and Harry M. Meinert, East Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Original application Nov. 27, 1963, Ser. No. 326,476. Divided and this application Oct. 15, 1965, Ser. No. 496,281
2 Claims. (Cl. 239—8)



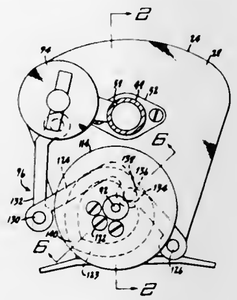
1. A method of applying agricultural chemicals to a plant which comprises the steps of directing an air blast against the plant, entraining agricultural chemicals in the air blast, splitting the lower portion of the air blast into two fixed diverging portions, oscillating the upper portion of the air blast upwardly and downwardly whereby the upper portion of the air blast is directed at times between the lower diverging portions.

3,261,552
DUAL SPEED SPRINKLER
Edwin James Hunter, Riverside, Calif., assignor to Moist O'Matic, Inc., Riverside, Calif., a corporation of Minnesota
Filed Jan. 6, 1964, Ser. No. 335,860
3 Claims. (Cl. 239—236)



3. A sprinkler comprising:
(a) a sprinkler head;
(b) a tubular shaft supporting said sprinkler head for continuous rotation;
(c) an internal gear means for driving said shaft and sprinkler head, said internal gear means including a first and a second set of gear segments, the segments of each set being separated by arcuate blank portions;
(d) a first drive means engageable with the first set of gear segments to rotate said sprinkler head at a selected normal speed;
(e) a second drive means engageable with the second set of gear segments to rotate said sprinkler head at a slower speed;
(f) said gear segments being positioned to move said sprinkler head in complementary arcs alternately at normal and slower speeds;
(g) both of said drive means being simultaneously engageable with their respective gear segments at the beginnings and ends of said gear segment;
(h) and yieldable means normally urging one of said drive means into engagement with its internal gear segments and operative to render said drive means inoperative during said simultaneous engagement.

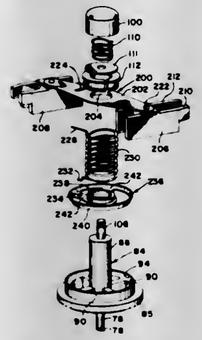
3,261,553
OSCILLATING LAWN SPRINKLER
Jan Kooi, Kitchener, Ontario, and Reginald M. Werlich, Preston, Ontario, Canada, assignors to Hahn Brass Limited, New Hamburg, Canada
Filed Oct. 5, 1964, Ser. No. 401,340
Claims priority, application Canada, Mar. 26, 1964, 898,938
5 Claims. (Cl. 239—242)



2. A wave type lawn sprinkler comprising a frame having an arbor at one end and a housing adjacent its other end; said housing having walls defining an impulse chamber and a gear chamber, said impulse chamber having a fluid inlet and outlet; a spray tube pivotally mounted at one end in said fluid outlet and at its other end to said arbor, said spray tube including means to adjust the area of the spray pattern thereof; drive means in said housing comprising an impeller in said impulse chamber mounted for rotation therein on a drive shaft journalled in said housing walls and extending into said gear chamber; reduction gears in said housing and extending outwardly therefrom; and motion linkage interconnecting said output shaft with said spray tube for effecting oscillating movement to said spray tube in response to rotation of said output shaft; said linkage comprising a pair of discs concentrically mounted on said output shaft and having spaced apart portions defining a passageway, a rod connecting said spray tube adjusting means to one end of a link arm pivoted at its other end to said housing, a portion of said link arm being retained in said passageway by a follower freely positioned therein and adapted to traverse the configuration thereof in response to rotation of said output shaft, whereby said spray tube receives oscillatory movement from said link arm and follower conforming to the configuration of said passageway.

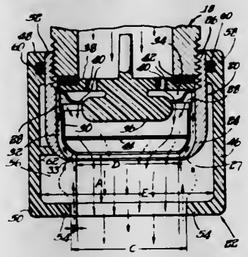
5. A motion transmitting linkage adapted for operative connection to a wave type lawn sprinkler having a housing provided with a fluid driven output shaft and an oscillatable spray tube extending outwardly from said housing; said linkage comprising a pair of discs adapted concentrically to be mounted on said output shaft for rotation therewith, each disc of said pair being provided on one face with an endless, heart-shaped groove therein; said discs being connected in face to face relation whereby said grooves are opposite to and in registry with one another to form a heart-shaped passageway between said discs, said passageway having a follower freely seated therein; and a link arm adapted operatively to be connected at one end with said spray tube and at its other end to be pivotally connected to said housing, a portion of said link circumferentially embracing said follower, whereby, in response to rotation of said output shaft, and said discs, said follower and link are adapted to transmit said rotation to said spray tube for oscillatory movement thereof; the heart-shape of said passageway, acting on said follower and link, being adapted to increase the speed of said movement at the points of directional change of said spray tube.

3,261,554
REVERSING SPRAY ARM
Richard L. Perl, Mansfield, Ohio, assignor to The Tappan Company, Mansfield, Ohio, a corporation of Ohio
Filed June 5, 1964, Ser. No. 372,951
10 Claims. (Cl. 239—252)



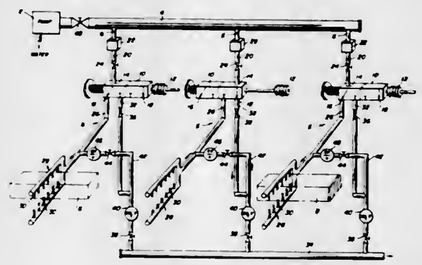
1. A reversing spray arm assembly comprising a rotatably mounted reaction spray arm, means for supplying liquid under pressure to said spray arm, said spray arm being provided with first drive jet means for rotating said spray arm in one direction and second drive jet means for driving said spray arm in the opposite direction, first chamber means communicating with said first drive jet means for supplying liquid under pressure thereto and second chamber means communicating with said second drive jet means for supplying liquid under pressure thereto, valving mechanism responsive to fluctuations in liquid pressure within said spray arm for reversing the direction of rotation thereof, said valving mechanism comprising rocker means disposed within said spray arm and valve means pivotally carried by said rocker means for alternately directing the liquid to said first and second chamber means for respectively rotating said spray arm first in said one direction and then in said other direction.

3,261,555
SELECTIVE AERATING ARRANGEMENT
Julius A. Hjulian, 12646 S. Harlem Ave., Palos Heights, Ill.
Filed Feb. 18, 1965, Ser. No. 439,494
6 Claims. (Cl. 239—427)



1. In a selective aerating arrangement, the combination comprising: a liquid discharge member; an aerator device at the outlet end of said discharge member including gas-inlet means and an annular wall with a fluid discharge edge at its lower end; an elongated imperforate tubular wall telescoped over said aerator device spaced radially outwardly from said discharge edge; a throat portion adjacent one end of said tubular wall for contacting one of said discharge member and said aerator device at a position spaced above said discharge edge; an outlet portion on the other end of said tubular wall including an annular inwardly extending flange spaced beneath said throat portion and beneath said discharge edge to define internally an annular chamber surrounding the flow of liquid from said aerator device beneath the discharge edge thereof, said chamber normally passing gas to said gas-inlet means and normally passing aerated discharge from said device, said annular chamber acting to receive a flood of discharging liquid when a momentary backup is caused in the flow of said liquid whereby said flood merges with said flow to cut off the normal flow of gas around said liquid flow and to said aerator device for developing a non-aerated discharge, said flange obstructing gravitational drainage of said flood during continuation of said flow of liquid; and sealing means acting between said tubular wall and the contacted one of asid aerator device and said discharge member to prevent air from entering said chamber from said throat portion to displace said flood, wherein the arithmetic difference between the inside diameter of said annular flange and the inside diameter of said annular wall at said discharge edge has an operating range of from about 0.030 inch to about 0.080 inch and wherein the distance between the upper edge of said flange and said discharge edge has an effective minimum value of about $\frac{6}{32}$ of an inch whereby to cause said chamber to flood and stay flooded upon development of a said backup and whereby to permit said chamber to drain upon termination of said non-aerated discharge.

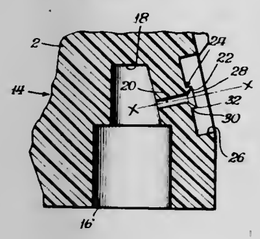
3,261,556
CONSTANT PRESSURE VARIABLE DEMAND HYDRAULIC SYSTEM
Paul Antalik, Liberty Township, Trumbull County, Ohio, assignor to United States Steel Corporation, a corporation of Delaware
Filed Oct. 6, 1964, Ser. No. 401,871
4 Claims. (Cl. 239—450)



1. A constant pressure, variable demand hydraulic system comprising a source of fluid under pressure, a header connected with said source, a plurality of fluid spray systems connected with and drawing fluid from said header, each of said fluid spray systems including a constant-flow, two-position fluid valve having an inlet port and first and second outlet ports connected at its inlet port with said header, said valve being adapted to be shifted between one position wherein said first outlet port is open and said second outlet port is closed and another position wherein said second outlet port is open and said first outlet port is closed without diminishing the flow of fluid through said valve, a first fluid conduit connected by one end with said first outlet port and by its other end with a fluid disposal means, pressure-reducing means in said first conduit adjacent said one end

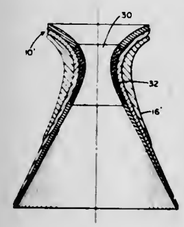
thereof for reducing the pressure of fluid flowing into said conduit from said first outlet, a second conduit connected by one end with said second fluid port, fluid spray nozzle means connected with the other end of said second conduit, a third conduit extending between said first conduit and said second conduit for conducting fluid under reduced pressure to said nozzle means from said first conduit when said first outlet port is open, a first check valve in said third conduit restricting the flow of fluid therethrough to the direction toward said second conduit, and a second check valve in said first conduit restricting the flow of fluid therethrough to the direction toward said fluid disposal means.

3,261,557
AEROSOL DISPENSER
James E. Greenbaum II, Highland Park, Ill., assignor, by mesne assignments, to Seaquist Valve Company, a Division of Pittsburgh Railways Company, Cary, Ill., a corporation of Pennsylvania
Filed Dec. 11, 1963, Ser. No. 329,749
2 Claims. (Cl. 239—579)



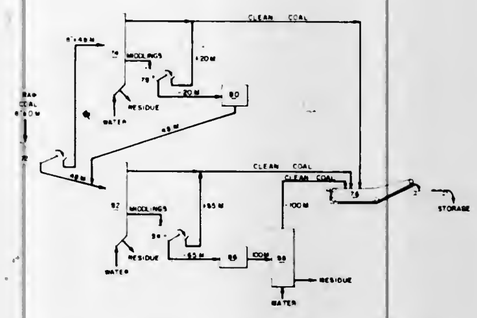
1. In a button for an aerosol dispenser containing a product to be dispensed and a propellant gas under superatmospheric pressure to force said product from said dispenser upon actuation of said button, the combination of a passage in the button adapted for connection to said dispenser, and a discharge port through said button and connected to said passage, said port having a uniform diameter with an annular knife-edge surface defining its radially outer perimeter at the end thereof remote from said passage whereby build-up of drops of liquid at said knife edge is prevented.

3,261,558
ROCKET FLUID DISCHARGE NOZZLE
Gail F. Davies, Mentor Township, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Jan. 23, 1962, Ser. No. 168,278
4 Claims. (Cl. 239—601)



1. A rocket fluid discharge nozzle comprising: a composite metal body having an axial bore of convergent-divergent configuration including a restricted cross sectional throat area and being composed of a matrix of powdered tungsten and fibers of a different metallic material uniformly distributed therethrough; and an overlay of tungsten material covering the external portions of the composite metal body within said bore and being metallurgically bonded thereto, the overlay having a density of 90 to 100 percent of theoretical density and a thickness ranging from 0.005 inch to 0.070 inch.

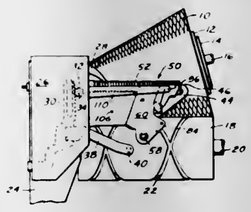
3,261,559
GRAVITY SEPARATION OF COAL ORE
Paul M. Yavorsky, Monongahela, and Everett Gorin, Pittsburgh, Pa., assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 7, 1961, Ser. No. 129,610
4 Claims. (Cl. 241—24)



1. A method of separating coal particles from a mixture of coal particles and pyrite particles which comprises comminuting said mixture to a predetermined spectrum of sizes containing coal particles having a spectrum of sizes and pyrites particles having a spectrum of sizes, introducing said mixture into a separating vessel, passing substantially clear water upwardly through said vessel at a linear velocity sufficient to suspend the largest particle of said coal and maintain substantially all of said coal particles suspended in said water and within said vessel, controlling the velocity of said water passing upwardly through said vessel to form within said vessel a first zone of particles adjacent the upper portion of said vessel and a second zone of particles adjacent the lower portion of said vessel, said first zone containing coal particles of small size and being substantially free of said pyrites particles, said second zone containing a mixture of coal particles of large size and said pyrites particles, withdrawing a stream of said water from said first zone, said stream including said coal particles, separating said coal particles from said water, withdrawing a stream of said water from said second zone, said stream including a mixture of coal particles and pyrites particles, said coal particles in said mixture being larger than said pyrites particles, and passing said stream from said second zone over a screen and separating said water and said pyrites particles from said larger sized coal particles.

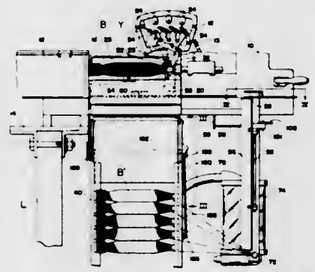
4. The method of separating a mixture of raw coal having a spectrum of particle sizes with a top size of about 8 mesh, said mixture having particles of different specific gravity including pyrites particles of high specific gravity and coal particles of low specific gravity, said method comprising separating said mixture of raw coal by size into a first quantity having a spectrum of particle sizes greater than about 48 mesh and a second quantity having a spectrum of particle sizes less than 48 mesh, introducing said first quantity into a first separating vessel, passing substantially clear water upwardly through said first vessel at a relatively high linear velocity, sufficient to suspend said coal particles having a low specific gravity and certain of said smaller pyrites particles having a high specific gravity in said water within said first vessel, said particles within said first vessel forming an upper zone adjacent an upper portion of said first vessel, said upper zone including coal particles of small size having low specific gravity, an intermediate zone including a mixture of low gravity coal particles of large size and high gravity pyrites particles of small size, withdrawing a first stream from said upper zone including coal particles and water, withdrawing a second stream from said intermediate zone containing a mixture of large coal particles, small size pyrites particles and water, passing said second stream over a 20 mesh screen to recover coal particles having a size greater than 20 mesh, said remaining portion of said second stream containing a mixture of coal and pyrites particles, comminuting said remaining portion of said second stream to a size less than 48 mesh, introducing said comminuted remaining portion of said second stream together with said second quantity of raw coal mixture having a size less than 48 mesh into a second separating vessel, passing substantially clear water upwardly through said second vessel at a relatively low linear velocity sufficient to suspend said coal particles having a low specific gravity and certain of said smaller pyrites particles having a high specific gravity in said water within said second vessel, said particles within said second vessel forming an upper zone adjacent an upper portion of said second vessel, said upper zone including coal particles having low specific gravity, an intermediate zone including a mixture of low gravity coal particles of larger size and high gravity pyrites particles of smaller size, withdrawing a third stream from said second vessel upper zone including coal particles having low specific gravity and water, withdrawing a fourth stream from said second vessel intermediate zone containing a mixture of large size low gravity coal particles and small size high gravity pyrites particles, passing said fourth stream over a 65 mesh screen to recover coal particles having a size greater than 65 mesh from said fourth stream, the remaining portion of said fourth stream containing a mixture of coal and pyrites particles, comminuting said remaining portion of said fourth stream to a size less than 100 mesh, and elutriating said comminuted remaining portion of said fourth stream to recover coal having a size less than 100 mesh therefrom.

3,261,560
YARN GUIDE FOR WINDING MACHINE
Richard I. Walden, Warwick, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Sept. 8, 1964, Ser. No. 394,836
8 Claims. (Cl. 242—18)



1. In a machine for winding a strand of yarn onto a rotating package and including traverse means for directing said strand onto said package, wherein said package is brought from rest condition up to speed while said traverse means is moving, the improvement therein comprising; an elongated member having a yarn receiving section adapted to receive said strand for delivery to said traverse means, a yarn discharge end for releasing said strand to said traverse means, and means for advancing said strand from the receiving section to the discharge end; sensing means for engaging said strand during its initial advance toward said discharge end; and a yarn carrier operable in response to engagement of said yarn with said sensing means to redeposit said strand on said receiving section whereby to induce further advance of said strand from said receiving section to said discharge end of said member.

3,261,561
WINDING MACHINE
Kurt W. Niederer, Warwick, R.I., assignor to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Jan. 16, 1964, Ser. No. 338,143
20 Claims. (Cl. 242—27)

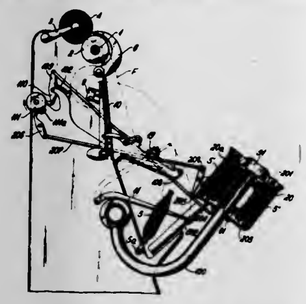


1. In an automatic winding machine of the class including spindle means for rotatably supporting a bobbin, delivery means for presenting a preselected one of a plurality of supply yarns for winding on said bobbin, and means for removing each said bobbin from said spindle means after yarn has been wound thereon, the improvement therein comprising, means for holding the outer end of yarn from said bobbin after said bobbin has been removed from said spindle means, a magazine having a plurality of separate compartments, in side-by-side relationship each separate compartment being adapted to receive bobbins having the same preselected yarn wound thereon, and guide means for directing the bobbin to the compartment appropriate to the type of yarn wound on said bobbin, said holding means being positioned proximate to said magazine and defining a common zone wherein the outer yarn ends of all of said bobbins are held, said zone lying in a substantially common horizontal plane with a delivery end of the magazine.

3,261,562
SUCTION TUBE FOR TEXTILE MACHINES
Wilhelm Küpper, Rickelrath, Kreis Erkelenz, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Apr. 6, 1964, Ser. No. 357,705
Claims priority, application Germany, Apr. 13, 1963, R 34,943
10 Claims. (Cl. 242—35.6)

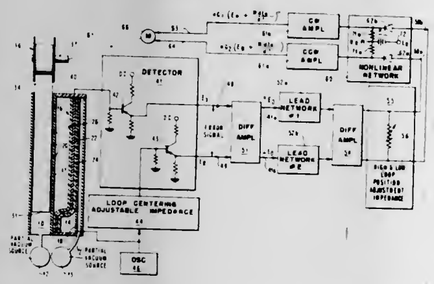
1. In a textile machine, in combination, a yarn end seizing device comprising a suction tube having an orifice at one end thereof, and plate means having a smooth surface and formed with an opening, said plate means being mounted at said one end of said suction tube for relative movement with respect to the end orifice in a direction transverse to said suction tube so as to relatively move said end orifice and said opening in said plate

means in and out of alignment with each other, magazine means for holding a plurality of wound yarn coils, and means for relatively moving said end orifice and said



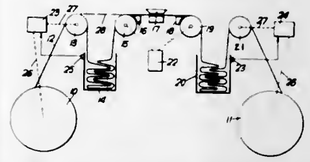
opening in said plate means into alignment for entraining respective yarn ends of said plurality of coils in said suction tube.

3,261,563
MAGNETIC TAPE REEL CONTROL SERVO SYSTEM
Jesse I. Aweida, Poughkeepsie, Donald K. Close, Wappingers Falls, and Henry C. Pao, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 11, 1962, Ser. No. 165,482
2 Claims. (Cl. 242—55.12)



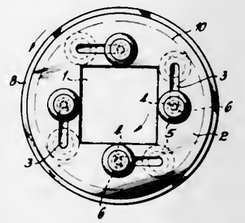
1. An automatic loop-positioning servo system not receiving any electrical capstan-control signal,
comprising means for receiving a tape loop,
motor means for driving a reel in either direction or stopping it in response to said servo system,
a capstan arrangement having means for quickly stopping or starting tape motion in either direction on the opposite side of said loop from said tape reel,
means for sensing the position of the tape loop in said receiving means and providing an amplitude-varying sensing signal dependent on loop position,
means providing a reference signal,
a first gain-control means for said reference signal fixed during operation of said servo system to control a static center-loop position for said loop, means for adjusting said first gain-control means to a fixed value prior to normal operation of said servo system,
an error-signal generator receiving said sensing signal and said reference signal to provide at least one error-signal output for said motor means,
at least one lead network serially connected in a path with said sensing signal to generate a time derivative of it,
said lead network providing a derivative signal with an overdamped characteristic when said tape reel is nearly empty and with an underdamped characteristic when said tape reel is nearly full,
a second gain-control means in the serial path of said error signal to control high and low dynamic loop positions relative to said static center position, and second means for adjusting said second gain-control means to a fixed value prior to normal operation of said servo system,
whereby said second gain-control means determines the distances of said upper and lower dynamic loop positions from said static center loop position.

3,261,564
TAPE HANDLING APPARATUS
Terence Clifford Sharpe, London, England, assignor to Decca Limited, London, England, a British company
Filed July 15, 1963, Ser. No. 295,049
Claims priority, application Great Britain, Feb. 27, 1963, 7,926/63
5 Claims. (Cl. 242—55.12)



1. Tape handling apparatus comprising a scramble bin formed of two parallel sheets of transparent material between which the tape is scrambled, and a connecting wall, the sheets of transparent material being spaced apart a distance slightly greater than the width of the tape by said wall, a light source and a diffusing screen on one side of the scramble bin and a sensing photo-cell system on the other side of the bin, the light source and diffusing screen being arranged so that light passes through the bin in many directions, a monitor photo-cell system adjacent the light source, circuit means for adjusting the output of said sensing photo-cell system and the output of the monitor photo-cell system to equality when the bin contains a predetermined quantity of tape, and a pair of trigger circuits responsive to the difference between the outputs of the two photo-cell systems, one trigger circuit being arranged to operate when the output from the sensing photo-cell system falls a predetermined amount below the output from the monitor photo-cell sytem and the other trigger circuit being arranged to operate when the output from the sensing photo-cell system rises by a different smaller predetermined amount above the output of the monitor photo-cell system.

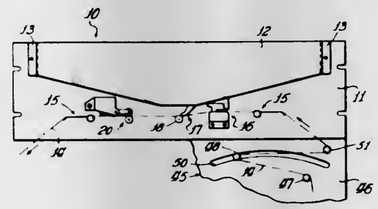
3,261,565
COUPLING DEVICE
Otto Hachtmann, Alemannstrasse 3, Hannover, Germany
Filed Feb. 14, 1964, Ser. No. 345,023
8 Claims. (Cl. 242—72)



1. An automatic coupling device, comprising a hollow cylindrical body, a shaft coaxial to said hollow cylindrical body, said shaft having plane surfaces, clamping elements located parallel to the axial line of said shaft and slidable parallel to said plane surfaces and along one

of the sides of said shaft, a supporting member fixed to said shaft, and a guiding member turnable thereon and adapted to guide all of said clamping elements at the same time parallel to and in frictional engagement with said plane surfaces, said hollow cylindrical body in its initial position engaging one of said clamping elements, said one clamping element being shifted upon said plane surface at the beginning of a revolution of said shaft and automatically connecting said hollow cylindrical body to said shaft and centering said hollow cylindrical body, all of said clamping elements being guided by the guiding member in a similar shifting movement.

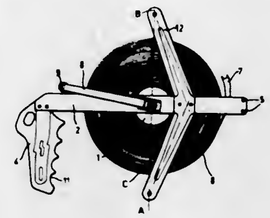
3,261,566
TAKEUP FOR ACCOMMODATING SLACK AND TENSION VARIATIONS
Herman Epstein, Philadelphia, Pa., assignor to Omnitronics, Inc., Philadelphia, Pa., a corporation of Delaware
Filed Apr. 17, 1964, Ser. No. 360,508
6 Claims. (Cl. 242—75.3)



1. In a tape handling system,
a supply unit for delivering tape at an output point,
means including a dancer arm positioned adjacent the output point of the supply unit for accommodating tension and slack variations in the tape,
a tape processing unit having a reference panel and an input point for receiving tape from the supply unit, to provide a tape path between the output point of the supply unit and the input point of the processing unit, and
means positioned at the input point of said tape processing unit, including a support shaft disposed substantially normal to the panel and to the tape path, and spring means affixed to said shaft and aligned with the tape path substantially parallel to said panel, for storing energy by movement in a given direction as the tape tension increases and returning energy by movement in a direction opposite said given direction as the tape tension decreases, whereby the position of the tape in said tape processing unit is not affected by movement of said dancer arm, thus to insure positive operation of the processing unit.

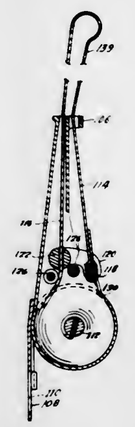
3,261,567
TAPE REEL
André Quenot, Besancon, Doubs, France, assignor to Etablissements Quenot & Cie S.a.r.l., Besancon, Doubs, France
Filed Sept. 8, 1964, Ser. No. 394,905
Claims priority, application France, June 23, 1964, 979,372
3 Claims. (Cl. 242—84.8)

1. A tape reel comprising:
(A) a drum having a tape wound thereon;
(B) a pair of spaced elongated members between which said drum is rotatably mounted;
(C) a handle rigid with corresponding ends of said members and at substantially right angles thereto;
(D) a collapsible crank operatively connected at one end thereof to said drum for controlling the rotation of said drum when projecting outwardly therefrom and a handle-forming portion at the other end, said portion being adapted to engage said elongated members when said crank is in its inoperative position;



(E) transverse V-shaped arms secured to each of said members, said arms being mounted eccentrically with respect to the axis of said drum; said arms having the tips thereof directed toward said handle and being positioned on the sides of said tape on said drum for preventing the convolutions of said tape from laterally separating.

3,261,568
SECURING DEVICES
Arthur Herbert McFarlane, Basildon, Essex, and Eric Herbert Spouge, Harold Hill, Essex, England, assignors to Teleflex Products Limited, London, England, a company of Great Britain and Northern Ireland
Filed Nov. 14, 1962, Ser. No. 237,454
Claims priority, application Great Britain, Nov. 15, 1961, 40,902/61; June 14, 1962, 22,907/62
9 Claims. (Cl. 242—107.2)



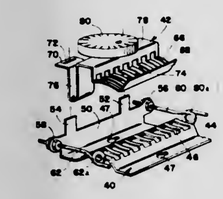
1. In a restraining device the combination comprising at least one strap, means for mounting said strap to define at least two runs and one running bight in said strap, take-up means connected to only one run of said strap and spaced from said bight, strap locking means operating on said one run between said take up means and said running bight, resilient means urging said strap locking means to the unlocked position, actuating means for said strap locking means, and means connecting said actuating means to the other run of said strap.

3,261,569
CLIP FOR FISHLINE SPOOLS
Berkley W. Bedell, Spirit Lake, Iowa
Filed Nov. 6, 1963, Ser. No. 321,847
3 Claims. (Cl. 242—136)



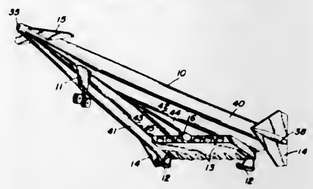
1. A device for use in transferring a fishline from a spool to the reel of a fishing rod, the device comprising:
(a) a clip unit including a transverse strip having a pair of spaced, parallel edges and a pair of oppositely directed, downwardly curved resilient fingers at each end thereof for partially encircling a spool of line, and
(b) a hook element connected to said strip intermediately of the ends thereof for suspending said clip from a fishing rod.

3,261,570
YARN TENSIONING DEVICE
Chester J. Dudzik, Warwick, Richard G. Hilbert, Esmond, and Henry Saunders, Warwick, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
Filed Jan. 29, 1964, Ser. No. 341,057
6 Claims. (Cl. 242—154)



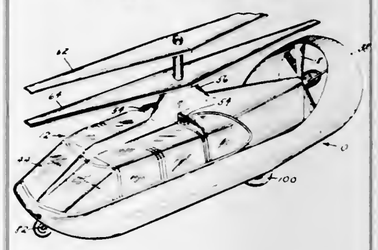
1. A tension device for use with a textile machine comprising, a first member adapted to be removably fixed to said textile machine, said first member having projection means thereon, a plurality of spaced yarn engaging fingers formed in said first member; a second member, said second member having projection-receiving means, said projection-receiving means being formed with at least one aperture, said aperture having longitudinal and transverse dimensions greater than said projection means, a plurality of spaced yarn engaging fingers formed in said second member and arranged to intermesh with the fingers of said first member when said projection means is engaged with said projection-receiving means to present a tortuous path to impart tension in an advancing strand of yarn, said projection-receiving means being yieldably engageable with and freely slidable longitudinally of said projection means, said projection means and projection-receiving means when engaged affording limited relative swinging movement between said first and said second members to thereby vary the degree of intermeshing of the fingers of said first and said second members, and damping means for controlling vibrations between said first and said second members.

3,261,571
HIGH ALTITUDE AIRCRAFT
Robert W. Pinnes, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Nov. 20, 1961, Ser. No. 153,767
3 Claims. (Cl. 244—1)



1. An aircraft capable of satellite operation comprising
a plurality of interconnected fuel containers forming the aerodynamic fuselage of said aircraft;
forward aerodynamic control means for controlling said aircraft in the earth's atmosphere;
rear aerodynamic control means for also controlling said aircraft in the earth's atmosphere;
a pilot's cockpit placed beneath and to the rear of said interconnected fuel containers;
propulsion means placed beneath said fuel containers and behind said pilot's cockpit having a plurality of engines in letterbox bank for propelling said aircraft from earth into orbit and back to earth;
each engine of said plurality of engines comprising
a first combustion chamber,
a heat exchanger,
a liquid hydrogen fuel pump for pumping fuel through said heat exchanger thereby increasing the temperature of said hydrogen fuel while condensing air into liquid air in said heat exchanger and for pumping said heated fuel into said first combustion chamber;
a liquid air pump for pumping said liquid air to said first combustion chamber for combustion with said hydrogen fuel;
a first exhaust nozzle whereby said engines operate as liquid air cycle engines during low altitude flights;
means for controlling the aircraft at altitudes beyond the earth's atmosphere; and
means for mobile support during take-off and landing whereby the aircraft employs a conventional runway for take-off, flies into orbit, and returns to the runway for a conventional landing.

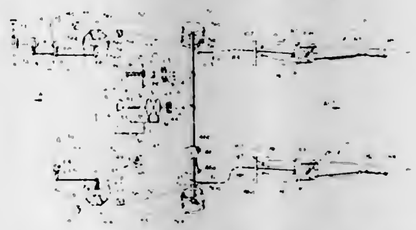
3,261,572
TRIPHIBIOUS VEHICLE
Carl E. Gorton, 76 Lockwood Ave., Farmingdale, Long Island, N.Y.
Filed May 14, 1964, Ser. No. 367,088
12 Claims. (Cl. 244—2)



7. An improved triphibious vehicle comprising:
(a) a fuselage,
(b) at least two coaxial rotors operatively secured to the fuselage;

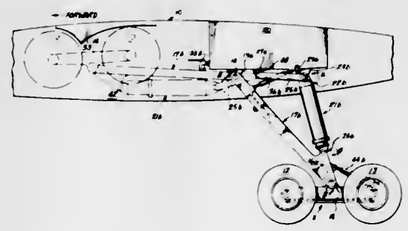
(c) a rear mounted propeller operatively secured to the fuselage, and
(d) power means powering the rotors and the propeller;
(e) first power transmission connected to the power means and the rotors, and second power transmission means connected to the propeller and the power means,
(f) control means connected to the power means, the rotors, and the propeller, the control means including a collective pitch control and
(g) braking means to arrest rotation of the said rotor-wings during flight in a detent position and retaining them in the said position, the rotor-wings then functioning as fixed wings with the said rear mounted propeller providing thrust.

3,261,573
AIRCRAFT CONTROL SYSTEM
Phillip H. Roberts, New Orleans, La., and William R. Snook, Jr., Wichita, Kans., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Dec. 14, 1964, Ser. No. 418,119
6 Claims. (Cl. 244—83)



1. In an aircraft pitch control system, an airframe, a horizontal stabilizer connected to the airframe, at least one elevator pivotally connected to the trailing edge of said stabilizer, control column means mounted for pivotal movement on a shaft and having a downwardly depending crank for pivotable movement therewith, linkage means connecting said control column means to said elevator for causing the pivoting of said elevator about a pivot axis relative to said stabilizer, said linkage means including a torque shaft, a first pulley and a second pulley fixed to said torque shaft, a third pulley spaced forwardly of said torque shaft, a fourth pulley spaced from said third pulley and said torque shaft, a first segment of cable having one end fixed to a point on said first pulley respectively extending partially around and guided on said third pulley and said fourth pulley and having another end fixed to a point on said second pulley corresponding to said point on said first pulley, a second cable segment having one end fixed to a point on said first cable opposite to said one end of said first cable segment and respectively extending partially around and guided on said third pulley and said fourth pulley in such a manner as to cross said third pulley segment between said third pulley and said fourth pulley and having another end fixed to a point on said second pulley opposite to said another end of said first cable segment, said linkage means having a push-pull rod pivotally connected to said first pulley and to said crank, said third pulley turning in a clockwise direction when said fourth pulley is turned in a counterclockwise direction, means in said linkage means disposed between and connected to said elevator and to said torque shaft for effectively isolating said control column means and preventing control feel feedback forces from flowing from said elevator to said control column means, first artificial control feel force means disposed forwardly of and connected to said torque shaft for acting on said control column means for biasing said control column means toward a centered neutral pitch control position and for resisting movement of said control column means with increasing force as said control column means is displaced away from said centered position, and second artificial control feel force means connected to said torque shaft for acting on said control column means for resisting movement of said control column means away from said centered position with increasing force as a function of increasing airspeed of the aircraft.

3,261,574
AIRCRAFT UNIVERSALLY JOINTED RETRACTABLE LANDING GEAR
Frederick E. Bowdy, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Jan. 15, 1965, Ser. No. 425,910
28 Claims. (Cl. 244—102)



1. A landing gear for an aircraft comprising;
(a) drag strut means for receiving drag and side loads,
(b) trunnion joint means for connecting one end of said drag strut to the aircraft,
(c) wheel means for the other end of said drag strut means,
(d) shock strut means for receiving vertical loads,
(e) universal joint means between one end of said shock strut and said drag strut,
(f) universal joint means between the other end of said shock strut and the aircraft,
(g) translating link means pivotally connected to said shock strut means, and
(h) landing gear retracting means, said landing gear retracting means being responsive to said translating link means for retracting said wheel means a greater distance forwardly from its extended position than the length of said shock strut means.

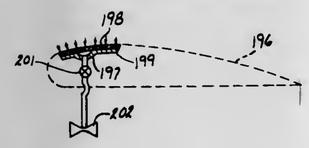
3,261,575
AIRCRAFT
Stanley Anthony Lock, Kingswood, Bristol, and John Freeman Leach, Downend, Bristol, England, assignors to British Aircraft Corporation (Operating) Limited, London, England, a British company
Filed May 22, 1964, Ser. No. 369,439
Claims priority, application Great Britain, Oct. 23, 1963, 41,840/63
5 Claims. (Cl. 244—120)



1. A high-speed aircraft having a windscreen, a nose, a shield, means for mounting the shield for movement between a first position in which the shield lies in front of the windscreen to provide the fuselage of the aircraft with the required streamlined shape for high-speed flight, and

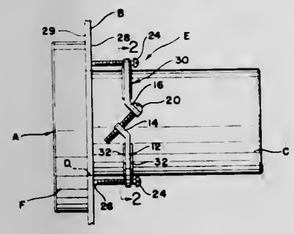
a second position, downwards from the first position, in which the shield lies inside the nose of the aircraft and at least partly exposes the windscreen, the shield being in two parts, namely a front part which is pivoted to the nose of the fuselage about a lateral axis at the front, so that it can be swung downwards into the nose, and a rear part which is adjacent to the windscreen, and including means for mounting the rear part for movement downwards and forwards to expose the windscreen.

3,261,576
AIRCRAFT STRUCTURE
Emery I. Valyi, Riverdale, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application June 14, 1962, Ser. No. 202,612, now Patent No. 3,201,858, dated Aug. 24, 1965. Divided and this application Aug. 25, 1964, Ser. No. 397,358
5 Claims. (Cl. 244—130)



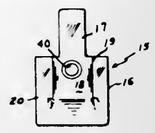
1. A composite porous component of an aircraft structure comprising:
(A) a sheet metal member having an embossment therein;
(B) a sintered, sheet-like porous body metallurgically bonded to said member, the external surface of said body lying in the plane of the external surface of said aircraft structure;
(C) fluid channel means formed by said member and said body;
(D) fluid flow means connected to said channel means and adapted to inject a fluid into said channel means under sufficient pressure to diffuse said fluid through said body.

3,261,577
INSTRUMENT MOUNTING DEVICE
Gentiel M. De Gryse, East Moline, and Robert H. Hornback, Rock Island, Ill., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Aug. 14, 1964, Ser. No. 389,678
5 Claims. (Cl. 248—27)



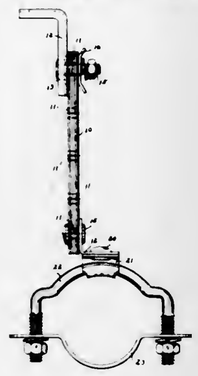
1. In an instrument mounting installation including an instrument having a cylindrical housing with a radially extending abutment and an instrument panel having an aperture through which a substantial portion of the housing projects, the improvement comprising:
an annular member having circumferentially spaced ends encircling the housing on the side of the panel opposite from said abutment,
adjustable fastener means extending between said ends being operable in a plane inclined to the axis of said instrument for urging said ends circumferentially together,
axially adjustable means on said annular member being engageable with said panel for drawing said abutment firmly against said panel when in the installed position, and a flexible liner extending circumferentially between the annular member and housing *for releasing* the annular member when a predetermined amount of axial force is applied.

3,261,578
HANGER UNIT
Irvin L. Himebaugh, 1703 Wayne Ave., Dayton, Ohio
Filed June 11, 1964, Ser. No. 374,302
4 Claims. (Cl. 248—29)



1. A hanger device, including a flat body having four side edges, a mid part of the body being deformed to define on one side thereof a recess opening through a location in a top peripheral edge of the body and to define on the other side an offset wall portion, said recess leaving on said one side a relatively broad and continuous three sided flat planar surface of U-shape configuration to bear against a mounting surface, a finger projecting in the plane of and as a continuation of said offset wall portion through and beyond the plane of said top peripheral edge of said body to project relatively thereto, said finger being disposed in a plane approximately parallel to and offset from the said flat planar surface of said one side, and aperture means in said body providing for the mounting thereof, said aperture means comprising a single aperture opening through the deformed portion of said body within the peripheral dimensions of said body and adjacent to the base of said finger.

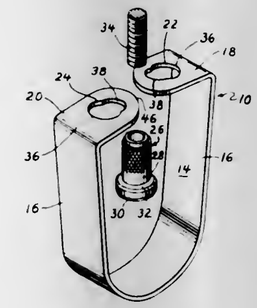
3,261,579
UNIVERSAL MUFFLER AND TAIL PIPE HOLDING BRACKET
Milton C. Engman and Avery Van Zee, Des Moines, Iowa, assignors to Engman Manufacturing Company, Des Moines, Iowa, a corporation of Iowa
Filed Sept. 21, 1964, Ser. No. 397,912
2 Claims. (Cl. 248—60)



1. In a tailpipe holding bracket,
first and second spaced apart elongated flexible bar strips,
a normally horizontal elongated connecting member,

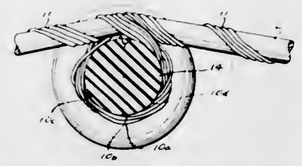
a horizontal ledge portion on said horizontal connecting member and having two spaced apart openings therein,
a U-shaped clamp member having opposite ends of a U-shaped portion extending through said openings;
tightening means on the ends of said U-shaped portion that extends through the openings in said flange,
pivotal securing means pivotally connecting one end of each of said bar strips adjacent to opposite ends, rerepectively, of said connecting member to permit said bar strips to pivot in the same vertical plane,
said pivotal securing means being positioned away from said horizontal ledge portion so that the relative distance between said ledge portion and the adjacent ends of said bar strips is changed as said bar strips are rotated from a first position at substantial right angles to said connecting member through an arc of substantially 180 degrees to a second position at substantially right angles to said connecting member.

3,261,580
PIPE HANGER
Joseph A. Schauster, Manchester, Conn., assignor to The Empire Tool & Manufacturing Company, Manchester, Conn., a corporation of Connecticut
Filed Mar. 15, 1965, Ser. No. 439,874
5 Claims. (Cl. 248—62)



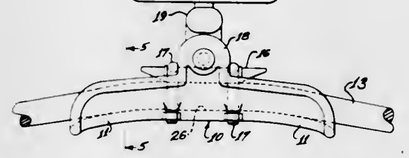
1. A pipe hanger adapted to be suspended from a depending threaded stud and comprising an elongated cylindrical nut engageable with the stud and having means defining an external support, a generally U-shaped metal pipe supporting strap having inturned terminal portions which can be pressed toward each other into substantially parallel overlapping relationship but which normally spring away from each other, each such terminal portion being provided with an elongated aperture having a longitudinally extending major dimension and which is defined by two intersecting arcs, the first arc being nearest the end of the terminal portion and being struck on a radius less than the outside diameter of the nut and the second arc being farthest from the end of the terminal portion and being struck on a radius greater than the outside radius of the nut and encompassing more than 180°, whereby the two points of intersection of the two arcs provide inwardly facing projections on opposite sides of the aperture, the larger arc portions of the apertures in the terminal portions being alignable when said terminal portions are pressed together and held whereby to receive the nut through said apertures to permit free rotation of the nut on the stud relative to the strap, and the projections in said apertures acting to engage said nut and to prevent rotation of the nut relative to the strap when said terminal portions are released, the strap then resting upon and being supported by the support on the nut.

3,261,581
TIE GUARD
Jess C. Little, Cleveland Heights, Tom E. Butz, Chagrin Falls, and Robert L. Reese, Rocky River, Ohio, assignors to The Fanner Manufacturing Company, a Division of Textron Inc., Cleveland, Ohio, a corporation of Rhode Island
Filed Dec. 10, 1964, Ser. No. 417,433
15 Claims. (Cl. 248—63)



1. In combination with a line and a support, a line tie and guard, said line tie and guard comprising a pair of resilient helical members surrounding the line and extending in opposite directions from the support, a pair of said helical portions being disposed adjacent each other and in circumferential engagement with the line at the point of tangency of the line to the support, a bight portion connecting said helical members and in surrounding engagement with the support, said bight portion being distorted within its elastic limits when applied to the support to provide resilient tension on said adjacent line engaging portions to pull said portions and the line toward the support.

3,261,582
CONDUCTOR CABLE SUSPENSION CLAMP
Malcolm Bethea, Jr., P.O. Box 1407, Birmingham 1, Ala.
Filed Sept. 2, 1965, Ser. No. 489,786
5 Claims. (Cl. 248—63)



1. A clamp for supporting conductor cables and the like of a predetermined diameter which comprises a cable support portion having a configuration defined by the equation

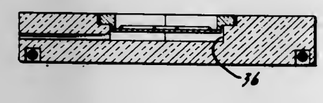
$$R=\frac{T_{max}}{L_a D}$$

wherein R represents the radius of curvature of the cable support portion, T_{max} represents the maximum axial tension in the cable, and L_a represents the empirically determined maximum allowable load per square inch for the material of the cable and D represents the predetermined diameter of the conductor cable.

3,261,583
HOUSEHOLD APPLIANCE REST
Raymond W. Smith, 8621 55th Road, Elmhurst, N.Y.
Filed June 29, 1964, Ser. No. 378,860
2 Claims. (Cl. 248—117.2)

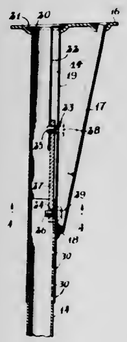
1. A rest for an electric iron of the steam type comprising, a main body member, an appliance holder member and clamping means to detachably secure said rest to a support, said body member having side walls to define a recess, a peripheral seat formed in said side

walls, said appliance holder member having a peripheral flange to be received by said seat with the bottom of said appliance holder member spaced from the bottom of said recess, a plurality of diamond shaped ribs on said appliance holder member on the upper surface thereof within the area defined by said flange, said area being depressed, a plurality of radiating ribs adjacent said diamond shaped ribs, a plurality of venting means for steam in said holder member within the area bearing



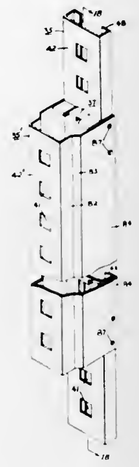
said ribs, a second plurality of venting means for steam in said body communicating with said space between the said bottom of said holder member and said body member, said clamping means comprising rod holders secured to the under side of said body member in nonprojecting relationship, a plurality of rods slidable laterally of said body member in said rod holders, springs biasing said rod members inwardly with respect to the periphery of said body member, and each rod having a hook to engage beneath said support.

3,261,584
ADJUSTABLE LEG
William C. Miller, North Manchester, Ind., assignor to Peabody Seating Company, Inc., North Manchester, Ind., a corporation of Indiana
Filed Aug. 4, 1964, Ser. No. 387,429
4 Claims. (Cl. 248—188.2)



4. An adjustable leg assembly for use in supporting articles of furniture at selected elevations comprising an outer clamping sleeve assembly including a hollow member joined to a mounting plate, a clamping bar joined to said clamping sleeve assembly and projecting longitudinally into said hollow member and being held slightly spaced therefrom, an opening in the wall of said member in register with a threaded bore formed in said clamping bar, an adjustable leg telescopically received within said hollow sleeve in slidable engagement with the internal wall thereof, said adjustable leg having a wall portion slidably received between said clamping bar and the internal wall of said hollow sleeve, said clamping bar having an external contour conforming to the shape of the internal wall portion of said adjustable leg to provide good clamping action, a series of apertures formed in said wall portion of said adjustable leg, said apertures being adapted to be brought into radial alignment with said opening in said hollow member and means urging said clamping bar towards said hollow member to clamp said adjustable leg therebetween.

3,261,585
PILASTER ADAPTER
Anthony R. Costantini, Lafayette Hill, and Anthony Di Angelus, Manoa, Pa., assignors to Victory Metal Manufacturing Company, doing business as Victory Metal Manufacturing Corporation, Plymouth Meeting, Pa., a corporation of Pennsylvania
Original application Apr. 20, 1960, Ser. No. 23,412, now Patent No. 3,177,988, dated Apr. 13, 1965. Divided and this application Dec. 23, 1964, Ser. No. 420,541
3 Claims. (Cl. 248—243)



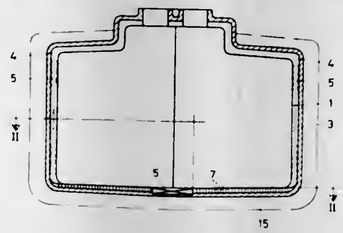
1. An adapter unit for quick detachable mounting to a vertically extending pilaster for increasing the extent of projection of the pilaster from the pilaster support structure comprising in combination, a generally U-shaped channel member having a front wall and a pair of side walls extending rearwardly from opposite sides of said front wall, and at least one clip member secured to said channel member between the side walls thereof, said clip member including a main body portion extending between said channel member side walls and latching elements adapted for quick detachable latching engagement with the pilaster, said clip member including a vertically extending tab rearwardly offset relative to said clip main body portion, and a spring biased latching tab underlying said vertical tab and extending rearwardly of said clip main body portion.

3,261,586
SUPPORTING MEANS FOR AN EXPANSIBLE CONTAINER
Bengt Gunnar Bengtsson, Goteborg, Sweden, assignor to Aktiebolaget Gotaverken, Goteborg, Sweden, a corporation of Sweden
Filed Feb. 15, 1965, Ser. No. 432,745
Claims priority, application Sweden, Mar. 7, 1964, 2,903/64
4 Claims. (Cl. 248—346)

1. Means for supporting a container adapted for receiving a cargo, the temperature of which differs widely from the ambient temperature, on a bottom structure

in such a manner that an essentially vertical central axis through the container remains fixed in relation thereto, whereby movements caused by changes in temperature can take place in all directions from said fixed axis,

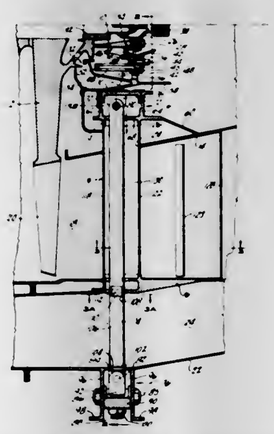
said means including a number of prismatic blocks with essentially plane vertical sides and rounded upper and lower contact surfaces arranged in such a



manner between the container and the bottom-structure that for each block a plane intersecting said block at right angles to the longitudinal axis thereof essentially passes through said fixed vertical axis,

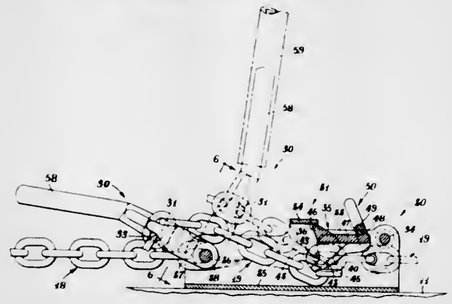
the blocks being spaced from each other a distance which is less than the height of a block and supported in upright position by insulating material arranged between the blocks.

3,261,587
BEARING SUPPORT
Robert L. Rowley, Glastonbury, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 24, 1964, Ser. No. 377,677
10 Claims. (Cl. 253—39)



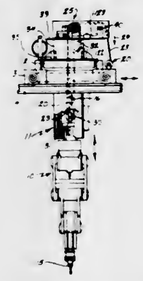
1. In a ducted fan gas turbine engine having an axial shaft, inner and outer engine cylindrical casings concentric with said shaft forming a turbine discharge passage, a bearing supporting said shaft, an outer fan casing concentric with said shaft spaced from said outer engine casing and forming with the latter a fan duct, said inner casing having a rigid inner ring providing support for said shaft bearing and engine cases, said outer fan casing having a rigid outer ring, a plurality of radial rods pivoted at their inner ends to said inner ring and at their outer ends to said outer ring, said rods being normally in tension, and resilient means between said inner ring and said bearing providing the selected spring rate for said bearing.

3,261,588
MEANS FOR TYING LADING COMPRISING CHAIN ENGAGING RECIPROCATING LEVER MEANS
Finn Jensen, Riverdale, and Theodore J. Sweger, Naperville, Ill., assignors to Illinois Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 10, 1964, Ser. No. 417,319
4 Claims. (Cl. 254—74)



1. Chain tensioning means comprising: trough-shaped frame means adapted to be anchored against movement and to receive a free end of a chain between its sides at one end, second-class lever means pivoted to said frame means between its sides remote from said one end and having a chain link receiving slot to receive a link of said free end of said chain to tension it on rotation of said lever means by movement of said slot along said frame means in the direction in which said chain is tensioned, chain locking pawl means pivoted to said frame means between its sides and adjacent said one end in overlying relation to said chain, said pawl means having depending detent means adapted to engage a link of said chain to hold it under tension as applied thereto by said lever means and a pawl retaining arm extending in chain restraining position laterally toward said one end of said frame means, and pawl retainer means pivoted to said sides of said frame means adjacent said one end thereof and having an intermediate portion overlying said pawl retaining arm to hold said pawl means in chain restraining position and rotatable out of overlying relation to said pawl retaining arm to release said pawl means from restraining position with respect to said chain.

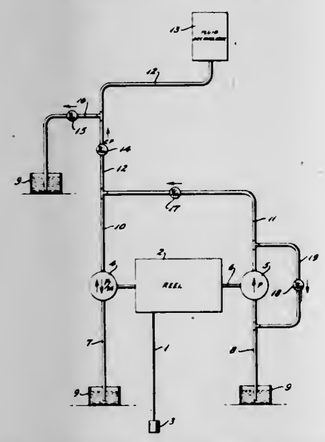
3,261,589
SAFETY DEVICE FOR TELESCOPING TUBES
Karl E. Neumeier, Stillwater, Minn., assignor to Programmed & Remote Systems Corporation, St. Paul, Minn., a corporation of Minnesota
Filed Mar. 2, 1964, Ser. No. 348,748
17 Claims. (Cl. 254—135)



1. A safety device for loads lifted by a support member attached to the load and mounted to a frame for supporting the load, said device including a movable element which moves to a first position when said support member is under a load, bias means urging said movable

element to a second position, load arrester means on said support frame, a safety element attached at a first end thereof to said load and to the load arrester means at a second end thereof, means to raise said safety element a distance equal to the distance said load is lifted, whenever said load is lifted in an upwardly direction, said movable element moving to its second position to actuate said load arrester to prevent movement of said safety element whenever said support member is not under load.

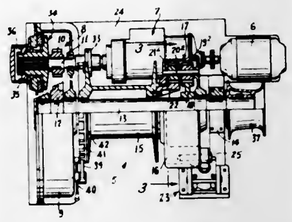
3,261,590
SAFETY LOWERING DEVICE
Edgar C. Bech, Gretna, and Gerald J. Gardelle, Marreso, La., assignors to Safety Line Corporation, Gretna, La., a corporation of Louisiana
Filed Mar. 3, 1965, Ser. No. 436,885
6 Claims. (Cl. 254—160)



1. A safety lowering device having in combination: a reel adapted to be installed in an elevated position; a cable having one end thereof affixed to said reel and adapted to be wound up thereon, said cable being adapted to be unwound from said reel by the weight of a body removably affixed to the free end thereof; and hydraulic means adapted to control operation of said reel, whereby the speed of descent of said body affixed to said cable is maintained constant and whereby said cable is automatically rewound on said reel when said body is released from said cable.

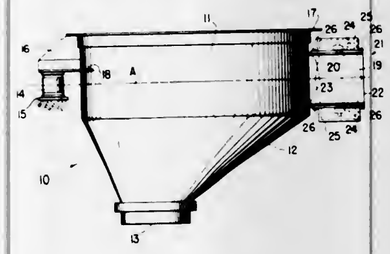
3,261,591
AUTOMATIC SELF-TENSIONING WINCH
George T. R. Campbell, Montreal, Quebec, and Norman V. Laskey, St. Lambert, Quebec, Canada, assignors to Algonquin Shipping and Trading Limited, Montreal, Quebec, Canada
Filed Nov. 29, 1963, Ser. No. 326,799
Claims priority, application Canada, Aug. 29, 1963, 883,468
17 Claims. (Cl. 254—172)

1. An automatic self-tensioning deck machine of the winch or windlass type including a barrel over which a cable is payed-out or hauled-in, means to drive the said barrel in either direction, the said drive means including an A.C. electric motor, a combined torque converter/reverse reduction clutch drive unit drivably connected with said A.C. electric motor, a main shaft on which the said barrel is rotatively mounted, a spur gear unit including a stationary casing, and an epicyclic gear unit including a casing journalled on said main shaft, the input side of said spur gear unit being drivably connected to the output side of said drive means and having its output side connected to said main shaft, the input side of said epicyclic gear unit being connected to said main shaft and having its output side connected to the said barrel, a brake operatively connected on one side with the input side of said spur gear unit and on the other side with the spur gear casing, hydraulic means connected to said epicyclic gear casing to position the said epicyclic gear casing about



said main shaft, and control means controlled by said hydraulic means to regulate the drive from said drive means to said barrel and to control the engagement and disengagement of said brake, the said control means effecting engagement of the clutch in said drive means when the said brake is released.

3,261,592
VIBRATORY HOPPER
George D. Dumbaugh and Robert J. Hess, Jeffersonville, Ind., assignors to Carrier Manufacturing Co., Jeffersonville, Ind., a corporation of Kentucky
Filed Nov. 4, 1963, Ser. No. 321,046
5 Claims. (Cl. 259—2)

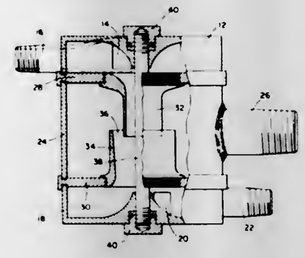


1. A vibratory hopper system comprising, in combination, a hopper structure which is supported by an isolating suspension and has a bottom discharge opening, and an exciter which forms with the hopper structure and the isolating suspension a vibratory system, and which is connected to the hopper structure and directed to apply to the hopper structure vibratory forces the resultant of which acts in the horizontal plane containing the center of gravity of the hopper structure, so as to vibrate the hopper structure equally from top to bottom with a horizontal movement having negligible vertical components.

3,261,593
FLUID MIXING PROCESS AND APPARATUS
Thomas D. Sharples, Lansdale, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1963, Ser. No. 332,095
14 Claims. (Cl. 259—4)

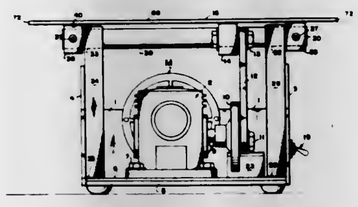
1. A fluid mixer comprising at least two vortex housings each having an inlet directing incoming fluid to one side of the axis thereof for producing vortices rotating in opposite senses of direction when viewed from one

end of the mixer, a mixing housing, wall means separating each vortex housing from the mixing housing, the wall means having central openings permitting commu-



nication from the vortex housings, respectively, directly with the mixing housing, the mixing housing having an outlet for mixed fluids.

3,261,594
MEANS FOR UNIFORMLY MIXING HUMAN BLOOD SAMPLES
Raymond S. Michel, 6060 NE. 112th Ave., Portland, Oreg.
Filed Apr. 20, 1964, Ser. No. 360,837
2 Claims. (Cl. 259—56)



1. A device for mixing the cellular and non-cellular components in samples of human blood in stoppered containers carried by a plurality of structurally identical trays stacked one upon the other, comprising in combination with said trays,

a base,

a platform support secured to said base,

a flat, square cornered tray-supporting platform,

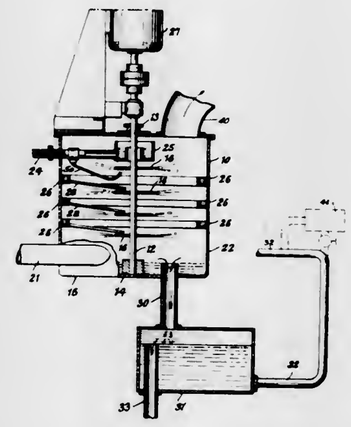
means rockably attaching said platform to said platform support,

a prime mover carried by said base having a driving connection with said tray-supporting platform to impart reciprocal rocking motion thereto,

said platform having parallel front and rear edges and parallel side edges,

each of said trays comprising a bottom wall, upwardly extending front, rear, and side walls, and downwardly projecting lugs at each corner thereof, whereby the bottom wall of the lowermost tray resting upon said platform with its downwardly projecting lugs engaging said platform will be held against displacement relative thereto and whereby the downwardly projecting lugs of superjacent trays in engagement with said walls of subjacent trays will maintain all of said trays in stacked formation relative to each other and to the platform during the rocking motion thereof to thereby mix said fluid blood components by reciprocal inversion.

3,261,595
METHOD OF TREATING GASES FOR LIBERATING SOLID PARTICLES AND MOISTURE THEREFROM
Karl Gustaf Trobeck, deceased, late of Danderyd, Sweden, by Åke Furrer, administrator, Tomtebogatan 5, Stockholm, Sweden
Filed Feb. 2, 1961, Ser. No. 86,830
16 Claims. (Cl. 261—3)



1. The method of treating industrial gases for removing solid particles and liquid droplets therefrom, which comprises subjecting the gases to a scrubbing action consisting essentially of:

(a) causing gases which emanate from a soda house bailer to ascend vertically in a chamber having a vertical wall;

(b) forming a series of vertically spaced curtains of scrubbing liquid, each of said curtains being disposed generally horizontally in said chamber and in the path of ascending flow of the gases in said chamber;

(c) delivering scrubbing liquid onto each of a plurality of vertically spaced horizontal surfaces while simultaneously rotating all of said surfaces to cause them to fling the scrubbing liquid therefrom in the form of fine droplets by centrifugal force, thereby to form said series of curtains and to cause said droplets of scrubbing liquid to impinge upon said vertical wall of said chamber, the peripheral speed of said surfaces corresponding to not less than 10 meters per second for a surface having a diameter of 80 centimeters, said scrubbing liquid being waste sulfate liquor.

(d) controlling the quantity of said scrubbing liquid delivered to said rotating surfaces so as not to exceed a rate of approximately 100 liters per minute for rotating surfaces of the aforesaid diameter and peripheral speed;

(e) controlling the rate of ascension of the gases in said chamber so as not to exceed an average speed of about two meters per second, calculated on the free area between the periphery of said rotating surfaces and said wall of the chamber;

(f) discharging the scrubbed gas at the top of said chamber after it has passed the uppermost of said surfaces; and

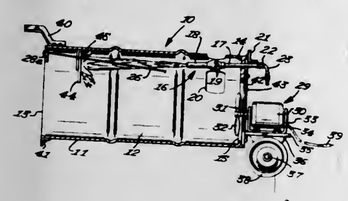
(g) removing at the bottom of said chamber, scrubbing liquid collected from said wall thereof.

3,261,596
ANNEALING AND DECORATING LEHRS
Edward W. Bowman, 279 Derrick Ave., Uniontown, Pa.
Filed Nov. 12, 1963, Ser. No. 322,825
3 Claims. (Cl. 263—8)



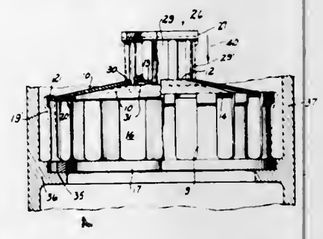
1. In an industrial heating furnace having a tunnel type heating and cooling chamber and an endless conveyor extending the full length of said chamber at substantially the vertical center thereof, the improvement comprising, means for dividing said tunnel chamber into a plurality of independently controllable heating zones at the front of the tunnel chamber and cooling zones toward the rear of said chamber, said means consisting of longitudinal spaced walls below said conveyor, correspondingly spaced bridge walls extending from the top of said tunnel, burners at the top in the front zone of the tunnel chamber, burners at the bottom in all of the heating zones of said tunnel chamber, the heating zones beyond the front zone and the cooling zones having fan chambers in the top, fans in said fan chambers for circulating the hot gases and drawing in air to the heating zones and drawing in and circulating cooling air in the cooling zones of said tunnel, exhaust stacks extending from the zones through the tunnel top adjacent the fan chambers, dampers in said stacks to regulate the exhaust of the circulating medium, and louvers at the top of the fan chambers for regulating the volume of air drawn into the zonal chambers by the fans whereby each zone is charged with the treating medium and vented independently of any other zones.

3,261,597
SPACE HEATER
Gregory J. McGough, 1200 Shryer Ave. W., St. Paul, Minn.
Filed Oct. 20, 1964, Ser. No. 405,160
4 Claims. (Cl. 263—19)



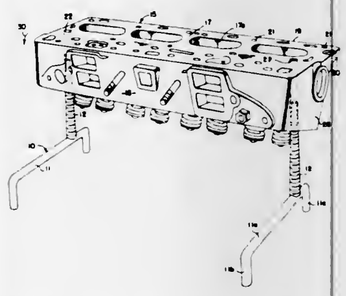
1. A portable space heater device comprising
a generally cylindrically shaped housing of circular cross sectional configuration being normally oriented whereby the axis thereof is disposed substantially horizontally, said housing having an open front discharge end and an open rear intake end,
ground engaging wheels connected to said housing for supporting the same for travel,
a nozzle burner mechanism positioned within said housing substantially in the axial center line plane thereof closely adjacent the upper center wall surface and rear intake end of said housing, said nozzle burner mechanism facing said front discharge end and being connected by conduit means to a source of combustible fuel,
valve control mechanism interposed in communicating and flow controlling relation with respect to said conduit means,
a blower mechanism supported by said housing and positioned rearwardly and below said nozzle burner mechanism,
a substantially flat generally rectangular shaped baffle member fixedly connected with and extending transversely of the interior of said housing, the lower edge of said baffle member being disposed adjacent the axis of said housing, said baffle member being positioned adjacent but spaced rearwardly of said discharge end and forwardly of said nozzle member and being effective to prevent the combusting fuel from escaping and splashing the combusting fuel into the stream of air produced by said blower mechanism to very effectively heat said stream of air.

3,261,598
SPRING MECHANISM
John Roger Jones, Manhattan Beach, Calif., assignor to Fairchild Hiller Corporation, Hagerstown, Md., a corporation of Maryland
Filed July 2, 1964, Ser. No. 379,797
12 Claims. (Cl. 267—1)



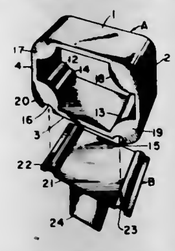
1. A spring mechanism comprising:
a disc spring having an opening in the center thereof defined by an inner edge,
first and second support means each having a resilient member movable radially of the spring axis, the resilient member of the first support means engaging the outer edge of the spring and the resilient member of the second support means engaging said inner edge, force applied to the mechanism causing the spring to deform and produce a force component radial to the spring axis thereby producing movement of the resilient members radial of the axis.

3,261,599
CYLINDER HEAD HOLDER
Sidney E. Holmen, 2203 S. 6th St., Moorhead, Minn.
Filed June 20, 1963, Ser. No. 289,240
2 Claims. (Cl. 269—47)



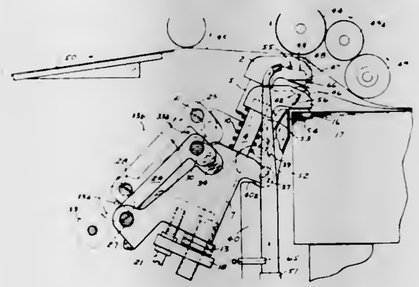
1. A cylinder head holder adapted to mount a cylinder head of the type having a plurality of bolt apertures adjacent one side thereof and at opposite ends, said cylinder head holder having a base and an elongated rod extending outwardly from said base and being cross-sectional in size and shape to be at least partially extendable into one of said cylinder head apertures, said rod being threaded and tapered to be of a decreasing cross-sectional dimension in a direction away from said base, the maximum cross-sectional dimension of said elongated rod being greater than the corresponding dimension of the cylinder head aperture into which it is to be extended and the minimum cross-sectional dimension being less than that of the cylinder head aperture.

3,261,600
SPECIMEN HOLDER FOR MICROTOME VISES
Anton J. Horn, Creve Coeur, Mo., assignor to Biological Research, Inc., Bridgeton, Mo., a corporation of Delaware
Filed Oct. 28, 1963, Ser. No. 319,145
11 Claims. (Cl. 269—321)



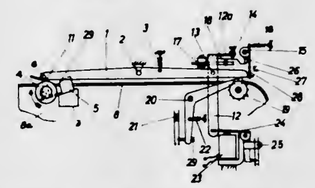
1. Means for positioning and holding a biological specimen in a microtome vise, said means comprising, in combination, a specimen holder including a rigid element adapted to engage and support a block of thermoplastic embedment material in which a biological specimen is mounted; said rigid element having indexing means, and an adapter comprising means for securely engaging the microtome vise whereby the adapter can be attached to said microtome vise in a fixed position, said adapter also having means adapted for engagement with the indexing means of the specimen holder so that the specimen holder can thereby be inserted into and held within the microtome vise in a predetermined orientation.

3,261,601
SHEET PICK-UP AND CONVEYING DEVICE
Adolf Schwebel, Offenbach (Main), Germany, assignor to Mabeg Maschinenbau G.m.b.H., Nachf. Hense & Pleines G.m.b.H. & Co., Offenbach (Main), Germany
Filed Aug. 27, 1964, Ser. No. 392,448
11 Claims. (Cl. 271—11)



1. A device for withdrawing successive sheets from a stack of sheets and conveying said sheets in the form of a continuously flowing line of sheets, said device comprising conduit means for directing a flow of pressure air against one side of the stack to loosen up the sheets in the upper portion of the stack, several suction and blowing means each including a head and a pipe secured to the head and disposed adjacent to said side of the stack, a support means for each of said suction and blowing means, each of said support means including a support member supporting one of the pipes, lengthwise displaceable in reference to the support member, a first yieldable means urging the suction and blowing means into a predetermined position of displacement, a pair of suspension members for each of said support means to suspend the same, one of the suspension members of each pair being pivotally linked to the respective support member, a second yieldable means interposed between the other suspension member of each pair and the respective support member, drive means coacting with the suspension members of each pair for sequentially moving the suspension members together with the respective support member and the suction and blowing means along a closed path, a stationarily mounted cam member for each support member, each of said second yieldable means urging the respective support member into engagement with the respective camming member during part of said closed path, and rotary sheet transport means disposed above each of said heads, said transport means being engageable with the top sides of the respective heads to displace the suction and blowing means against the action of said first yieldable means for part of the movements imposed to the same by the movements of said suspension members whereby the heads travel in a closed path diverging from that of the suspension members and causing the heads sequentially to lift one sheet and to press a sheet lifted by an adjacent head against said transport means.

3,261,602
APPARATUS FOR INSERTING CARDS
Hermann Waldenburger, Pforzen, near Kaufbeuren, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 30, 1964, Ser. No. 355,866
Claims priority, application Germany, Apr. 13, 1963, St 20,508
9 Claims. (Cl. 271—51)

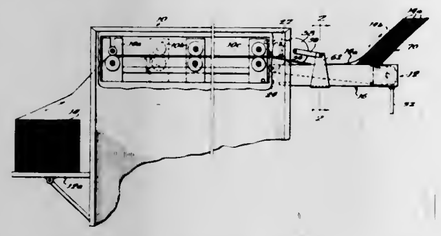


4. Apparatus for the automatic insertion of cards comprising: a tiltable beam, means for cooperating with said beam to pull cards into said apparatus, means for cooperating with said beam to feed cards out of said apparatus, a first card sensing means adjacent said pull-in means responsive to the presence of a card to tilt said beam into cooperative pull-in relationship with said card pull-in means, and a second card sensing means responsive to the presence of a pulled-in card for tilting said beam into cooperative card feed-out relationship with said feed-out means.

3,261,603
FORMS STACKING DEVICE
Charles L. Peterson, Crystal Lake, and Donald J. Steidinger, Barrington, Ill., assignors to Uarco Incorporated, a corporation of Illinois
Filed May 18, 1964, Ser. No. 367,978
8 Claims. (Cl. 271—86)

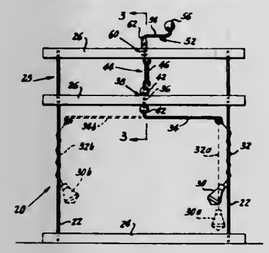
3. In a stacking device for a continuous form stationery burster including a platform having a movable surface for carrying form lengths ejected from the burster along

the platform at a reduced speed relative to the speed of ejection from the burster and further including a stacking member for stacking individual form lengths near the end of the platform, means for deflecting the individual form lengths as they are ejected from the burster, comprising:



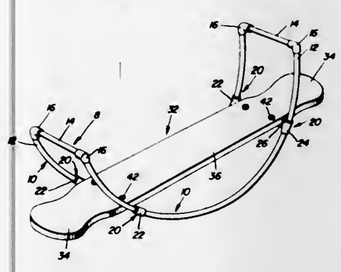
a plurality of strips of relatively stiff material positioned in the path of ejection of form lengths from the burster, said strips being yieldable in the direction of ejection so that stationery ejected from the burster can be deflected onto the movable surface of the platform.

3,261,604
TOY ROUNDABOUT
Wayne C. Clark, Norfolk, Va., assignor of forty-five percent to Walter C. Foracre, Sr., and ten percent to Paul C. Wolman, Jr., both of Baltimore, Md.
Filed Nov. 7, 1963, Ser. No. 322,093
3 Claims. (Cl. 272—31)



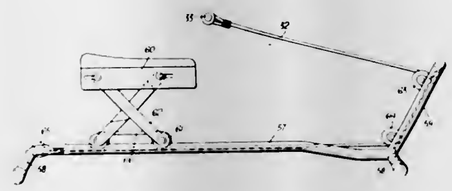
1. A toy comprising at least two vertically extending standard means, a weighted member, flexible means having two ends, said weighted member being carried on one end of said flexible means, an arm member having two ends, bearing means rotatably mounted one end of said arm member horizontally spaced from each of said standard means and from the other end of said arm, the other end of said flexible means being secured to the other end of said arm member, driving means operatively secured to said one end of said arm member for rotating the same in said bearing means to thrust said weighted member outwardly by centrifugal force in a substantially horizontally disposed circular path, said flexible means being of such a length as to be helically wound around one of said standard means in a plurality of convolutions by said weighted member, the power of said driving means being insufficient to continue rotation of said arm member when said flexible means is wound around one of said standard means, the force of gravity on said weighted member subsequently unwinding said flexible means from said one standard means whereafter said driving means continue the rotation of said arm member in said bearing means to again thrust said weighted member outwardly in said circular path, said flexible means being helically wound around another of said standard means when again thrust outwardly in said circular path by said driving means after being unwound by the force of gravity from one of said standard means, base means secured to the lower end of said standard means, header means secured to the upper end of said standard means, said bearing means being carried by said header means intermediate said standard means, said driving means including biasing means normally urging said arm member to rotate in said bearing means, windup means operatively secured to said biasing means for manually energizing said biasing means, stop means operatively secured to said windup means for precluding de-energization of said biasing means by said windup means, said biasing means including opposing end portions, one end portion of said biasing means being secured to said one end of said arm member, the other end portion of said biasing means being secured to said windup means, said biasing means being energized by rotation of said windup means with said arm member substantially stationary, whereby said biasing means is tensioned, and said stop means precluding reverse rotation of said windup means by said biasing means during rotation of said arm member, said stop means including a ratchet member secured to said windup means, and a fixed pawl member operatively engaging said ratchet member to allow rotation of said windup means in one direction only, said windup means including a substantially horizontally extending handle member and a downwardly depending bent end portion, additional bearing means rotatably mounting said depending bent end portion of said windup means, and said bent end portion being connected to said biasing means.

3,261,605
CONVERTIBLE SEE-SAW AND HUT
Samuel E. Smith, R.F.D. 2, Flushing, Ohio
Filed Mar. 23, 1964, Ser. No. 353,670
4 Claims. (Cl. 272—56)



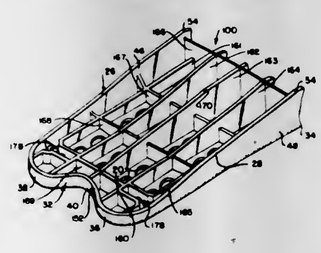
1. A convertible amusement device comprising a portable openwork frame structure having rockers, a rigid plank having seats at its ends, means on said frame structure detachably and adjustably mounting said plank in a balanced ready-to-use manner on said frame structure with said seats readily accessible and usable, said plank having a normally horizontal balanced position with its body portion unobstructedly available for use, said frame structure comprising a pair of opposed elongated spaced parallel longitudinally bowed cooperating frame members constituting said rockers, said frame structure being bodily invertible and having transverse cross-members interposed between and connecting and assembling the respective end portions of said frame members after said plank has been detached and said frame has been inverted, and in combination, a readily applicable and removable form-fitting open-bottom cover attachable to and adapted to enclose the frame structure inverted and used upside down, whereby to provide a hut for small children, said cover having end portions provided with holddown springs and said springs having lower ends which are detachably connectible with their respective transverse cross-members in a manner to tauten and retain the cover in a tight-fitting manner over and enclosing said frame structure.

3,261,606
ROWING-TYPE EXERCISING EQUIPMENT
Petros Elia and Kiki Elia, both of 7 Lowther Hill, London SE. 23, England
Filed July 31, 1964, Ser. No. 386,706
Claims priority, application Great Britain, Aug. 14, 1963, 32,169/63
5 Claims. (Cl. 272—72)



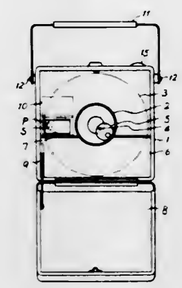
1. Rowing-type exercising equipment comprising a frame incorporating parallel side limits, a seat, two supports beneath the seat, one adjacent to each side thereof, each support being formed of a pair of levers pivoted together scissors-fashion at an intermediate point of their length, the said seat being carried by the upper ends of said pairs of levers, and the upper end of at least one lever of each pair being movable in relation to the seat, means connecting the lower ends of the two forward levers, further means connecting the lower ends of the two rearward levers, said means and said further means each having portions to run on said parallel side limbs, said means and said further means each having intermediate portions for receiving a cable thereover, pulleys mounted in said frame, a flexible cable running around said pulleys and looped around said intermediate portions of said means and of said further means, one end of said cable being secured to a fixed point of said frame, and the other end of the cable being provided with gripping means to facilitate hauling on the cable by an operator sitting on said seat, in order to cause a scissors movement of said pairs of levers, and thereby lift said seat upwards from the said side-limbs of the frame.

3,261,607
PLASTIC SWING OR LIKE SEAT
Isadore Horowitz, Shreveport, La., and Duane J. Quintal, New York, N.Y., assignors to Gym Dandy, Inc., a corporation of Louisiana
Filed Mar. 23, 1964, Ser. No. 353,928
5 Claims. (Cl. 272—85)



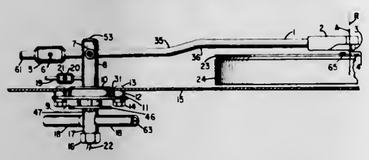
1. A seat member adapted for use with swing sets and like playground equipment having attaching means for interconnecting said member and said equipment, said member comprising a homogeneous rigid plastic molded material formed to provide an elongated support member having an upperside surface and an underside surface, said member having a continuous integral depending flange forming dependent front, rear and side stiffening members adjoining its peripheral front, rear and side boundaries, said front and rear stiffening members extending in the direction of the longer dimension of the seat and varying in depth from a maximum depth in the region of their mid-length to smaller depths at points spaced from their mid-length, a grid of spaced but interconnected strengthening webs integrally molded with said support member and extending substantially normal to its underside surface within the boundaries of said depending flange, at least some of said strengthening webs intersecting said depending flange, at least some of said webs adjacent the transverse center line of said seat member having greater depths than others between said transverse center line and said side stiffening members of said integral depending flange, and said seat member being provided with a set of apertures therethrough for the insertion of seat attaching means.

3,261,608
RECORD PLAYER
Ryozo Kitazawa, Kawasaki, Japan, assignor to Nippon Columbia Kabushikikaisha (Nippon Columbia Co., Ltd.), Kawasaki, Japan, a corporation of Japan
Filed May 21, 1963, Ser. No. 281,986
Claims priority, application Japan, Apr. 6, 1963, 38/18,469
5 Claims. (Cl. 274—9)



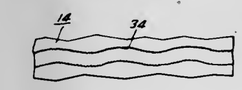
4. A portable record player comprising a portable case, a driving motor, a turntable, both of which are contained in said case, a transmission mechanism for connecting said driving motor and said turntable, an outer lid for said case, an inner lid having a window through which the top end of a pickup arm passes and approaches a record, a sliding lid for said window, an opening and closing mechanism for operating said sliding lid, a connecting lever mechanism for connecting said outer lid to said opening and closing mechanism to open said sliding lid when closing the outer lid, a moving frame connected to the opening and closing mechanism of said sliding lid and turning on a horizontal shaft, a pickup arm supporting frame secured to the free end of said moving frame and turning on a horizontal shaft, a pick-up arm pivoted on a vertical shaft with minimal resistance on said pickup arm supporting frame and having a stylus, a spring device for rotating the moving frame so as to bring said pickup arm at its starting position, another spring device interposed between said pickup arm supporting frame and moving frame and rotating the pickup arm supporting frame for affording a suitable pressure to the stylus against a record, a rotation mechanism for rotating said moving frame against said spring device attached thereto, a pickup arm return device having a declining face which guides said pickup arm in accordance with the rotation of said rotating mechanism from its play completing position to its starting position, and a magnet device for holding said pickup arm at its starting position.

3,261,609
PICKUP ARM ASSEMBLY
William C. Geiger, Jr., 6406 N. 5th St., Philadelphia 26, Pa.
Filed Feb. 15, 1965, Ser. No. 437,617
28 Claims. (Cl. 274—23)



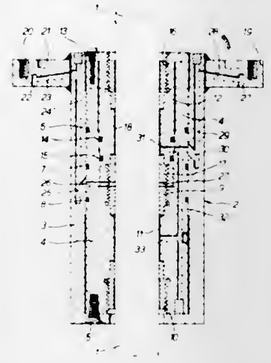
1. A pickup arm assembly for a sound pickup means, said pickup arm assembly being supported for lateral and up and down movement, for playing disk records on a rotary turntable means, wherein said pickup arm assembly includes: a sound pickup support means having a pickup arm means; said sound pickup support means being disposed, with respect to the pickup arm means, for supporting a sound pickup means with the stylus of the sound pickup means being located at one of the distal ends of the pickup arm means; a first pivot means for supporting said pickup arm means for up and down movement, said first pivot means being located between both distal ends of said pickup arm means; a counterweight means which is at all times positioned on said pickup arm means on the opposite side of said first pivot means from that side on which the stylus of the sound pickup means is located, said counterweight means being capable of being affixed to said pickup arm means in preselected positions relative to said pickup arm means and to said first pivot means to provide a preselected, downward, stylus tracking force when said sound pickup support means is equipped with a sound pickup means; said pickup arm means being so constructed and arranged, vertically, so that (the, longitudinal, center-line of) the, total, mass of said combination of, said pickup arm means, said counterweight means, said sound pickup support means, and said preselected sound pickup means (which total mass is pivoted about its said first pivot means for its up and down movement) passes in limits, from, actually, through the axis of rotation of said first pivot means for up and down movement, to close enough, to the axis of rotation of said first pivot means for up and down movement, so that, said, preselected, downward, stylus force, when measured at the stylus, is maintained the same, with 0.1 of one gram, at all elevation points, from zero to ¾ of an inch, above the top surface of the rotary turntable means.

3,261,610
PHONOGRAPH RECORD
Robert Wagner, Ford Road, Denville, N.J.
Filed May 12, 1965, Ser. No. 455,196
13 Claims. (Cl. 274—42)



1. A record of impressionable material having an embossed groove therein which groove characteristically has concavely scalloped sidewall impressions in the form of adjacent arcuate substantially identical segments of circular sectioned grooves, the circles of which the arcuate sectional segments are a part having diameters less than the width of the groove and which groove additionally undulates laterally in a modulated track in accordance with a recorded audio signal.

3,261,611
SHAFT SEAL SYSTEM FOR CONTROL ROD OF NUCLEAR REACTOR
Leslie Maidment, Thurso, Caithness, Scotland, assignor to United Kingdom Atomic Energy Authority, London, England
Filed June 15, 1964, Ser. No. 375,241
Claims priority, application Great Britain, June 14, 1963, 23,785/63
3 Claims. (Cl. 277—34)

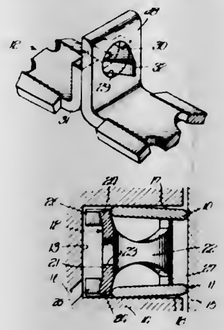


1. A nuclear reactor control system comprising a control rod, a housing through which the rod extends, the housing having a first passageway for admission of purge gas, the first passageway communicating with the rod at a region intermediate the ends of the housing whereby purge gas fed through the first passageway flows in both axial directions between the rod and the housing, impervious pellicular sleeves supported in the housing, one to each side of said region, to encircle said rod, said housing having an adjacent supportnig wall over the length of each sleeve, and having second and third passageways through which to apply sealing gas at a pressure greater than that of the purge gas to the sleeves for urging the sleeves into sealing contact with the rod thereby to throttle said flow of purge gas.

3,261,612
PISTON RING ASSEMBLY
Robert F. Games, Hagerstown, Ind., assignor, by mesne assignments, to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Continuation of application Ser. No. 238,661, Nov. 19, 1962. This application Aug. 2, 1965, Ser. No. 479,040
12 Claims. (Cl. 277—140)

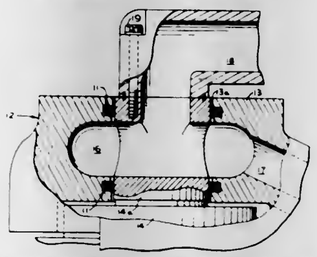
1. In a piston ring assembly adapted to be installed in an annular groove formed in a piston of an internal combustion engine and including a pair of annular rails, an annular spacer-expander for forcing the rails outwardly, said spacer-expander comprising a plurality of circumferentially spaced axially extending support members, and a plurality of U-shaped spring members connecting said support members for circumferentially expanding said spacer-expander, each of said spring members including a pair of arms connected at their outer ends by an intermediate portion which extends axially to support said rails adjacent their outer peripheries, the inner ends of said arms being connected to adjacent support members, and said spring members extending radially outward from said support members, each arm of each of the said spring members including an inner portion which decreases in cross section from said support members to substantially the midpoint of said arm, and an outer portion which increases in cross section from substantially said midpoint to said intermediate portions, both of said arm portions having a substantially

uniform stress condition throughout the length thereof under load, and the area at each section of each of said arm portions corresponding substantially to the moment imposed on that section, said inner and said outer portions of each arm when taken together approximating a pair of triangles, with their apexes joined in said midpoint region, the midpoint region of each of said arms having a shape and size just sufficient to maintain the



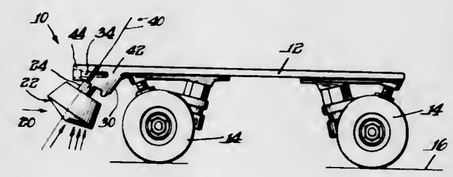
structural integrity of said arm, whereby each arm is designed and shaped both to produce a substantially uniform stress condition throughout its length when under load, and to provide large cut-away areas at the sides thereof for good oil drainage therearound, said spacer-expander being adapted to be positioned between said pair of rails, and said support members having means for engaging the inner peripheries of said rails and for urging said rails outwardly.

3,261,613
HIGH PRESSURE FLUID SEALS
William B. Norick, Washington, and Rollin P. Van Zandt and James M. Kostas, Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed May 13, 1965, Ser. No. 455,531
3 Claims. (Cl. 277—176)



1. In a high pressure sealing device for use with a machine having high pressure fluid between two elements, one of which is movable with respect to the other, the combination comprising:
(1) a low friction, long wearing sealing ring disposed between the machine elements so as to be fixed with respect to one and in abutting contact with the other;
(2) an elastically deformable ring member circumjacent said sealing ring, said ring member operable to maintain said sealing ring in contact with the other of the machine elements even in the absence of high pressure fluid; and
(3) a continuous back-up ring journalled to be disposed facially adjacent said sealing ring, said back-up ring having one of its peripheries circumjacent the machine element with which said sealing ring is in abutting contact at a sufficiently close distance to prevent extrusion of said sealing ring and having its opposite periphery disposed at a distance from the machine element with which said sealing ring is fixed, and supported by said deformable ring member so as to be free to float with the machine element with which said sealing ring is in abutting contact, said back-up ring being formed of a material which is dimensionally stable under high pressure conditions.

3,261,614
SKATE STRUCTURE AND STOP MOUNTING ARRANGEMENT THEREFOR
Gordon K. Ware, Chicago, Ill., assignor to The Chicago Roller Skate Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 6, 1964, Ser. No. 357,461
9 Claims. (Cl. 280—11.2)



1. In a roller skate structure, the combination of a roller supporting sole plate and toe stop means adjustably secured thereto, said toe stop means comprising an elastomeric ground engaging skate breaking body of resilient material having an elongated stud portion fixedly secured within said body with a threaded end extending outwardly therefrom for upwardly inclining receipt within a complementary bore in the sole plate; said sole plate having a downwardly forwardly inclining threaded bore at the forward end of said sole plate and having a rearwardly extending bolt receiving hole spaced on either side of said bore for receipt of locking bolts, said bore being split transversely forwardly of the bore axis by a cutting plane generally parallel to the axis of said bore, said plane dividing said bore into complementary front and rear stud holding portions, said threaded bore being complementary to the threads of said stud and adapted for locking receipt of said stud, said stud being positioned within said bore in a predetermined position; means for adjustably urging the forward stud holding portion rearwardly into stud holding relationship with said rear stud holding portion, said means comprising a pair of threaded locking bolts adapted for receipt into the pair of rearwardly extending bolt receiving holes, the portions of the holes in the sole plate rearwardly of the cutting plane being threaded complementary to the locking bolts whereby on insertion of the bolts threadedly into the stud holding portions with the stud positioned therebetween, the forward stud holding portion is urged rearwardly against the stud and the rear stud holding portion until the stud is locked firmly in position.

3,261,615
SAFETY TENSIONING DEVICE FOR SKI BINDING CABLE
Jean Joseph Alfred Beyl, 1 Rue Devieur Robelin, Nevers, Nievre, France
Filed Feb. 18, 1964, Ser. No. 345,731
Claims priority, application France, Feb. 18, 1963, 925,164
5 Claims. (Cl. 280—11.35)

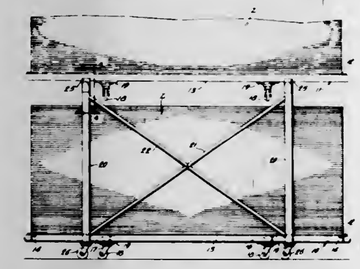
4. A safety tensioning device for ski binding cable, comprising a base member adapted to be secured on the ski, a control lever pivotally mounted on a pivot pin

carried by said base member and extending across and parallel to the ski, said control lever being adapted to be rotated toward the ski on the side opposite to said binding cable, means for anchoring said cable on said control lever and such that when said lever is rotated towards the ski and away from said cable said binding cable is tensioned, elastic means connecting said control lever to said base member, said elastic means comprising a piston



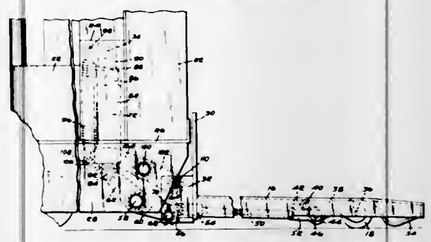
slidably mounted in a cavity formed in one of said two connected elements, a flat seat formed on the other element and registering with said piston, spring means urging said piston against said cam-forming flat seat, the plane of said flat seat being so directed that the thrust exerted by said piston against said seat due to said spring means will constantly urge said pivoting control lever to its cable-tensioning position toward the ski.

3,261,616
INDUSTRIAL APPARATUS
Walter E. Mason, Clayton, Ga., assignor to James Lees and Sons Company, Bridgeport, Pa., a corporation of Delaware
Filed Feb. 11, 1964, Ser. No. 344,017
1 Claim. (Cl. 280—33.99)



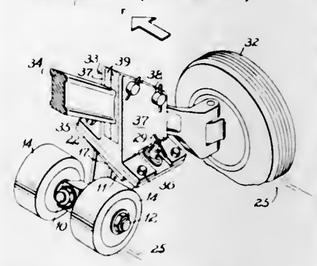
A fork lift stackable dolly assembly which comprises in combination a first dolly having a generally rectangular platform, a plurality of casters secured to the underside of said platform in spaced relation to the corners of the platform thereby providing a substantial overhang of the platform beyond the casters, a framework dimensioned to straddle the first platform and having completely unobstructed ends whereby the first platform when loaded can be moved from underneath the framework, a plurality of casters on which the framework is mounted, side braces for the framework and connected thereto in spaced relation from the top of the framework to provide ready access for the fork of a forklift truck, and a second dolly supported on the top of the framework, said second dolly having a generally rectangular platform, a plurality of casters secured to the underside of said platform in spaced relation to the corners of the platform thereby providing a substantial overhang of the platform beyond the casters, the length of the framework being substantially shorter than the length of both the first and second dollies and the framework having an open area on the top to permit either dolly to rest on the framework at points spaced from the casters thereon.

3,261,617
MEANS FOR RAISING AND LOWERING PALLET FORK EXTENSIONS
Bernard B. Becker, Belmont, and Francis W. Dorion, South Boston, Mass., assignors to Lewis-Shepard Company, Watertown, Mass., a corporation of Massachusetts
Filed Jan. 8, 1964, Ser. No. 336,511
5 Claims. (Cl. 280—43.12)



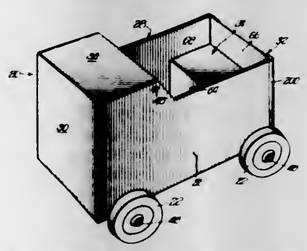
1. Means for raising and lowering the fork extensions of a materials handling truck having a main housing frame and a fork extension lifting frame vertically movable with respect to said main housing frame, said means comprising; a transverse shaft journalled in said main frame; an actuating arm mounted on said shaft for rotation therewith, said actuating arm pivotally connected to said lifting frame; a vertically pivotable roller carrier mounted in each said fork extension carrying a roller mounted for rotation therein; a connecting rod longitudinally movable within each said fork extension being pivotally attached at one end thereof to said roller carrier and being pivotally attached at its other end to said actuating arm at a point on said arm spaced from the lifting frame pivotal connection point; a ram mounted within said main housing frame operably engaging said transverse shaft for rotation of said shaft-mounted actuating arm to raise said lifting frame and, simultaneously, to lower said roller carriers; and means for rotating said shaft-mounted actuating arm in the reverse direction to lower said lifting frame and, simultaneously, to raise said roller carriers.

3,261,618
LOAD LIFTING WHEEL ASSEMBLY
Christian A. Alfsen, East Northport, N.Y., assignor, by mesne assignments, to Fairchild Hiller Corporation, Hagerstown, Md., a corporation of Maryland
Filed Mar. 30, 1964, Ser. No. 355,686
8 Claims. (Cl. 280—47)



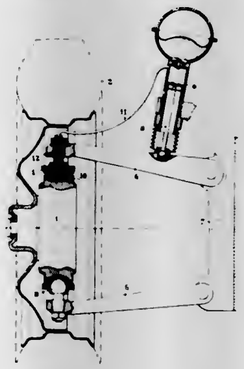
1. A wheel assembly to facilitate the movement of a load over a surface comprising a rotatable support, means for mounting said rotatable support on said load at a selected angle relative to said surface, said support having an outwardly extending arm, a stud projecting laterally from the outer end of said support, an axle pivotally connected medially of its length to the outer end of said stud, and at least one wheel mounted for unrestricted rotation on said axle adjacent each end thereof whereby the application of a moving force to said load with said support inclined in the direction of the moving force and said wheels disposed in contact with said surface and normal to the direction of said moving force causes the rotation of said support relative to said load moving said wheels to a position parallel to the moving force direction.

3,261,619
CHILD'S COASTER VEHICLE
Arthur J. Norgaard, Jr., Sheboygan, Wis., and Charles E. Jones, Evanston, Robert H. Crowle, Mount Prospect, and William G. Crowle, Deerfield, Ill., assignors to General Box Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 24, 1962, Ser. No. 232,728
7 Claims. (Cl. 280—79.2)



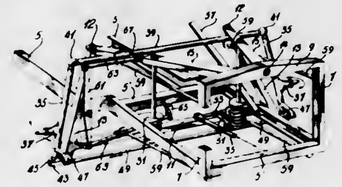
1. A toy comprising an integral sheet of corrugated cardboard or the like having side panels, a top panel, a rear panel, a front panel, and bottom flaps formed by fold lines, said bottom flaps having an axle assembly associated therewith to prevent said bottom flap from unfolding when assembled, said top panel having first flaps associated therewith to secure said top panel in position between said side panels, and said side panels and rear panel each having a second flap associated therewith which cooperate with one another and said bottom flaps whereby said second flaps are fixedly secured in said toy when assembled, said second flaps securing a seat in said toy.

3,261,620
BALL JOINT OF STEERING WHEELS OF A VEHICLE EQUIPPED WITH A HYDROPNEUMATIC SUSPENSION SYSTEM
Jean Cadiou, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France
Filed June 9, 1964, Ser. No. 373,794
Claims priority, application France, June 10, 1963, 937,546, Patent 1,369,413
3 Claims. (Cl. 280—96.2)



1. Mounting for the steerable wheel of an automotive vehicle equipped with a hydropneumatic suspension system wherein the stub axle is carried by two ball joints disposed symmetrically above and beneath said stub-axle at the end of a pair of suspension arms pivotally mounted on the frame of the vehicle, one of said arms having pivoted thereon the piston of the hydropneumatic suspension system, which comprises at the outer end of said one arm connected to said suspension system a bearing ball of one of said ball joints through which a duct is formed, a flexible pipe line connecting said duct to said hydropneumatic suspension system, a ball support for said one joint rigid with said stub-axle and a gaged concave seat formed in said ball support, whereby the suspension fluid at the pressure prevailing in said hydropneumatic system is directed to said seat.

3,261,621
AUTOMOBILE SUSPENSION
Paul Corbin, 7737 St. Denis St., Montreal, Quebec, Canada
Filed Aug. 24, 1964, Ser. No. 391,451
8 Claims. (Cl. 280—96.2)

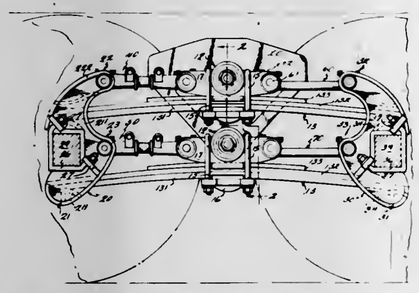


1. In a wheel suspension for motor vehicles, the combination comprising:
(a) a front wheel suspension frame;
(b) a body frame for a vehicle body; said body frame pivotally mounted on said suspension frame above the center of gravity of the body for rocking of said body about a central longitudinal axis thereof;
(c) a pair of steering knuckle bars, each on one side of said front wheel suspension frame;
(d) a wheel mounted on each knuckle bar, intermediate the ends thereof for steering movement;
(e) a transverse reciprocating balancing rod;
(f) each knuckle bar having one end pivotally mounted on said suspension frame and the other end articulated to said balancing rod whereby reciprocation of said rod causes banking of said knuckle bars and wheels, and
(g) leverage balancing means connecting said body frame to said reciprocating balancing rod adapted, upon banking of said vehicle in a curve and swinging of said body away from the center of the curve, to transmit reciprocating motion to said balancing rod to cause banking of said knuckle bars and wheels toward the center of the curve.

3,261,622
TANDEM AXLE SUSPENSION
Charles T. Hutchens, Springfield, Mo., assignor to Hutchens & Son Metal Products, Inc., Springfield, Mo., a corporation of Missouri
Filed Oct. 8, 1963, Ser. No. 314,805
5 Claims. (Cl. 280—104.5)

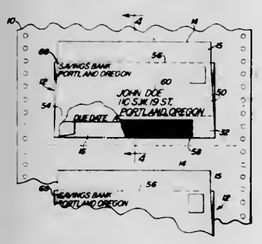
1. A tandem axle suspension for a tandem axle vehicle comprising a trunnion mounting means on each side of the vehicle, a pair of wheel mounting axles extending at equal distances before and after each trunnion mounting means, upper and lower multiple leaf springs extending longitudinally of the vehicle vertically spaced with respect to said trunnion mounting means, upper and lower spring mounting members rotatably mounted upon said trunnion mounting means and each supporting the respective upper or lower multiple leaf springs thereon, axle mounting

means having upper and lower multiple leaf spring retaining means for freely joining the respective upper or lower multiple leaf spring end to the lower adjacent axle, means rigidly securing each of said multiple leaf spring mounting members to its associated multiple leaf spring with the ends of said multiple leaf spring respectively joined to said multiple leaf spring retaining means, a plurality of channel-shaped elements in each of said axle mounting means, a plurality of channel-shaped elements on each of said



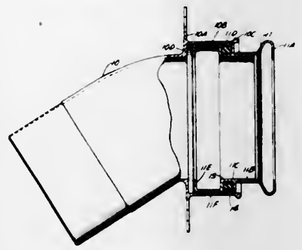
multiple leaf spring mounting members, each of said channel-shaped elements having an integral transverse sleeve therein, and a plurality of torque arms having shaped ends to operatively engage one of said integral transverse sleeves, each torque arm being pivotally connected at one end on the transverse sleeve of a channel-shaped element in each axle mounting means and each torque arm being pivotally connected at the other end on the transverse sleeve of a channel-shaped element on each multiple leaf spring mounting member.

3,261,623
ENVELOPE
David J. Kiedrowski, San Dimas, Calif., assignor to Pak-Well Paper Industries, Inc., Denver, Colo., a corporation of Colorado
Filed Nov. 23, 1964, Ser. No. 413,125
1 Claim. (Cl. 282—25)



A continuous envelope device including a perforated strip of paper and a plurality of envelopes secured to the strip at spaced points therealong, each envelope including
- a back panel of a predetermined width and lying against the strip,
- a return front panel secured along a fold line at the top thereof to the top edge of the back panel and of a width less than said predetermined width,
- the return front panel lying against the back panel,
- a pair of side flaps secured to the side edges of the back panel and to the side end portions of the return front panel and defining with the front panel an elongated viewing notch,
- a patch of pressure printable material normally of a light color and capable of being darkened by pressure and secured in a position between the rear panel and the front panel and substantially filling the viewing notch,
- a closure flap secured at a fold line to the bottom edge of the rear panel and adapted to cover the notch and the front panel,
- a pair of pressure sensitive adhesive spots on the free edge portion of the closure flap for securing the closure flap to the front panel,
- the closure flap having a tear line above the notch,
- a moistenable adhesive between the front panel and the portion of the closure flap just below said tear line thereof,
- the exterior portion of the closure flap below said tear line thereof and superimposed over the notch having a printed obscuring band,
- the exterior portion of the front panel just above the notch having indicia identifying adjacent indicia printed on the patch of pressure printable material,
- the exterior face of the front panel having a return address thereon,
- the exterior face of the portion of the closure flap above said tear line thereof having a mailing address thereon,
- and a tear-off strip secured by a tear line to the upper edge of the front flap and adhered to the strip,
- the strip being adapted to be advanced through a business machine to have a mailing address formed by printing on the exterior face of the portion of the closure flap above the tear line thereof and to have confidential information printed by pressure on the obscuring band, whereby the indicia on the patch of pressure printable material is formed.

3,261,624
DUCT JOINT
Kenneth V. Hackman, Arcadia, Calif., assignor to Southwest Products Co., Monrovia, Calif., a corporation of California
Filed Apr. 28, 1964, Ser. No. 363,106
3 Claims. (Cl. 285—62)

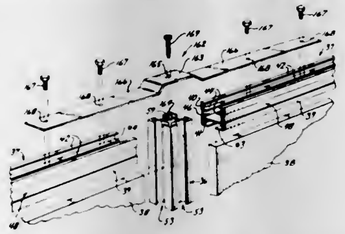


1. A duct joint of the character described, including an outer duct member, said outer duct member terminating in an outer enlarged cylindrical portion contiguous with an intermediate internal shouldered portion, said outer duct member having an integrally formed flanged portion for mounting, an internal duct member having an outer antifriction plastic liner which is generally L-shaped in cross-section with portions thereof adjacent said shouldered portion and said cylindrical portion, said inner duct member having a circumferentially grooved portion, and an O-ring in said grooved portion.

3,261,625
JOINT BETWEEN VERTICAL AND HORIZONTAL MEMBERS IN A PARTITION CONSTRUCTION
Alan R. Cripe, Chagrin Falls, Ohio, assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Dec. 27, 1961, Ser. No. 162,396
4 Claims. (Cl. 287—189.36)

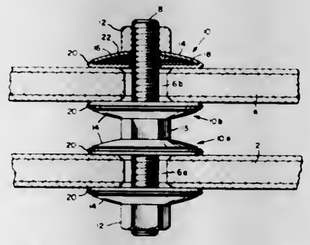
1. In a partition construction or the like, a first partition member having a central portion provided with a substantially square cross-sectional configuration and a

plurality of radially disposed flanges extending from the corners thereof and carrying right-angled arms at the free ends thereof to define outward facing channels respectively having substantially truncated triangular configurations, said first partition member being formed of a plurality of parts, a plurality of second partition members each having opposed sides respectively provided with inwardly turned ends and interconnected together by an intermediate web that cooperates with said turned ends to define channels therein, said second partition members being angularly disposed relative to and abutting said first partition member with the tops of all of said partition members being coplanar and with one of the chan-



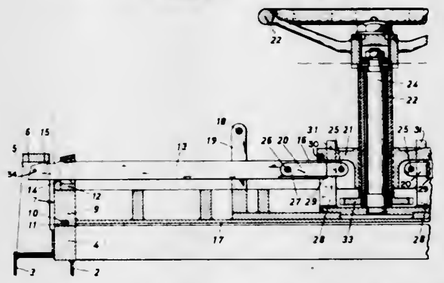
nels of each of said second partition members facing upwardly, and a retainer having a cap portion superimposed over the top of said first partition member and being secured thereto by a first fastening means, said retainer having segments extending downwardly from said cap portion, said retainer having outwardly directed offset arms interconnected to said segments and being parallel with said cap portion, said arms being received in said upwardly facing channels of said second partition members and being secured to said second partition members by second fastening means whereby said first partition part is held between said downwardly extending segments of said retainer.

3,261,626
APPARATUS FOR ATTACHING PARTS TO GLASS COATED APPARATUS
Donald E. Kropp and Albert M. Agron, Elyria, Ohio, assignors to Pfaudler Permutit Inc., Rochester, N.Y., a corporation of New York
Filed Mar. 25, 1964, Ser. No. 354,570
3 Claims. (Cl. 287—189.36)



1. A device for releasably connecting vitreous enamel coated members in spaced relationship, said device comprising:
- (a) a stud adapted to extend through aligned holes in said members;
- (b) a plurality of fastener assemblies each comprising a resilient dished disc having inwardly oriented edges and a central opening to receive said stud, a gasket adapted for disposition between said inwardly oriented edges and the vitreous enamel coating of said members and a corrosion resistant plastic cement within said dished disc, said cement setting about said stud to prevent leakage through said aligned holes, and said cement joining said dished disc and said gasket; and
- (c) locking means adapted to cooperate with said stud to draw said members together for forcing each disc toward an associated member to seal said gasket resiliently between said inwardly oriented edges and the vitreous enamel coating of said associated member.

3,261,627
LOCK FOR DOORS TO AUTOCLAVES AND THE LIKE
Knut Anders Osborne Wallden, deceased, late of Kaptensgatan 1, Kungsbacka, Sweden, by Carl Lennart Jonsson, legal representative, Kungsbacka, Sweden
Filed Nov. 21, 1963, Ser. No. 325,840
15 Claims. (Cl. 292—6)

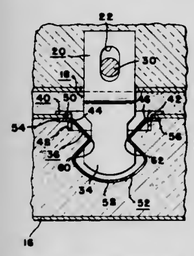


1. In a pressure vessel of the class described having a door frame and door having a rim formed with guide means, the combination of a plurality of lock members, a part, means for mounting the part for forward and rearward movement, respectively, from and toward the inner face of the door, motion transmitting means comprising the movable part for moving the lock members radially outward and inward, respectively, from and toward the part, the outer ends of the lock members upon outward radial movement thereof from the part engaging inward facing surface portions of the door frame to hold the door in a closed position, each of the lock members comprising a pair of inner and outer link elements defining toggles having knuckles, first connecting means at the knuckles for pivotally connecting the outer and inner link elements to one another, the motion transmitting means further including second connecting means pivotally connecting the inner ends of the inner link elements to the part, the lock members being swingable like two-armed levers with the outer link elements pivotally movable about the guide means at the rim of the door, the door including structure providing stops to limit the pivotal movement of the outer link elements about the guide means and abutment means at the vicinity of the part, the abutment means having slide surface regions adjacent to the part which face the inner ends of the outer link elements, and the last-mentioned slide surface regions, when the door is moved from its closed position at the door frame, functioning to impede radial inward movement of the outer link elements toward the part until the stops act against the inner ends of the outer link elements responsive to pivotal movement of the outer link elements.

3,261,628
DOMESTIC APPLIANCE LATCH
Keith K. Kesling, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,402
9 Claims. (Cl. 292—70)

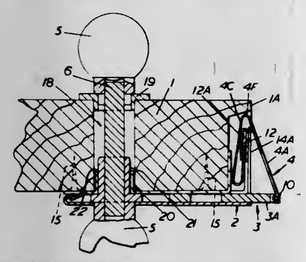
1. A latch construction for holding a first member with respect to a second member comprising a strike element, means for securing said strike element to one of the

members, a tubular element adapted to be inserted into the other of said members having side openings therein, said tubular element having a peripheral flange portion on one end thereof formed continuously about said tubular element for reinforcing said element and to guide said strike element with respect to the interior of said tubular element, said continuously formed flange overlying a first surface on the other member and being located in juxtaposition therewith, a separate spring clip element including spaced apart leg portions compressible



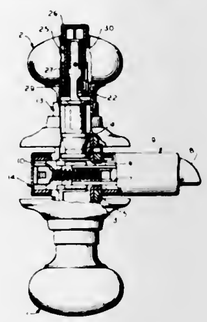
for insertion into said tubular element, tab portions on the ends of said spaced apart legs directed through said tubular element side openings to engage another surface of the other member and in conjunction with said peripheral flange portion serving to secure said tubular element and clip element on the other of the members, said tab portions being relatively movable within said tubular element side openings, said clip element having inwardly turned portions spring biased toward one another for releasably engaging said strike element for holding the members together.

3,261,629
LATCHES FOR DOORS
William J. Campbell, 38 Mair St., Glasgow SW. 1, Scotland
Filed Dec. 20, 1963, Ser. No. 332,034
Claims priority, application Great Britain, Dec. 27, 1962, 48,618/62; Feb. 21, 1963, 6,935/63
6 Claims. (Cl. 292—169)



1. In a latch for a hinged door comprising a casing for attachment to the front face of a door, a bolt slidably mounted within said casing, one end portion of the bolt projecting out of the casing at one end of the latter, a spring outside said casing, and end of said spring connected to the projecting end portion of the bolt, the spring urging the bolt depressibly to its projecting position, and turnable handle means operable to effect sliding movement of the bolt to a non-projecting position; a flange at said one end of the casing projecting laterally from the casing for connection to the side end face of the door, a connection between the other end of said spring and said flange, and a portion of said spring inclined laterally to the casing between said flange and said projecting end of the bolt and forming a lintel-engageable cam face between said flange and the outermost end of the projecting portion of the bolt.

3,261,630
HOLDBACK LOCK
Dewey H. Chew, Concord, Calif., assignor to Schlage Lock Company, a corporation
Filed Apr. 7, 1964, Ser. No. 357,939
5 Claims. (Cl. 292—169)



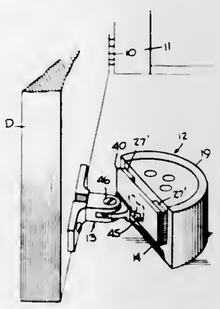
1. In a latchset that includes a normally projected latch bolt and a spindle rotatably supported in a stationary hub and adapted to be rotated from a normal position to retract said latch bolt,

a locking element carried by said hub and spring-urged radially inwardly thereof,

said spindle being formed with a radially extending hole adapted to register with said element for receiving the latter therein when said spindle is rotated a predetermined amount from said normal position, whereby said spindle is held by said element in retracted position,

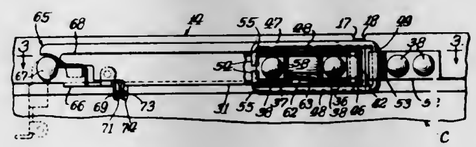
and means carried by said spindle for disengaging said element from said hole to permit return of said spindle and latch bolt to projected position.

3,261,631
MAGNETIC LATCHING MECHANISM
Frank G. Alessi, 1332 1st Ave., New York, N.Y.
Filed Mar. 11, 1964, Ser. No. 351,022
7 Claims. (Cl. 292—251.5)



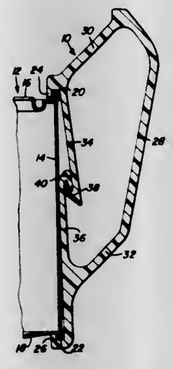
1. A latching mechanism for use with a support structure and a movable structure that is movable relative to the support structure, a first unit comprising a bracket that is adapted to be secured to one of said structures, a magnetic member, pivot means connecting the magnetic member to the bracket, and means comprising a locking member releasably connecting the bracket to the pivot means for adjusting the angular position of the magnetic member relative to the bracket, said first unit also including a fusible element that is solid at and below a preselected temperature and that becomes plastic at a temperature above said preselected temperature, said fusible element joining one portion of the first unit to the remainder thereof, and a second unit comprising a permanent magnet that is adapted to be secured to the other of said structures, the parts being so constructed and arranged that the first and second units are releasably coupled by magnetic attraction between the permanent magnet and the magnetic member when said structures are in one relative position.

3,261,632
LEVER LOCK CONSTRUCTION FOR SPLIT CLAMPING RING
Edward E. Schaefer, P.O. Box 8196, Reno, Nev.
Filed Dec. 9, 1963, Ser. No. 328,808
9 Claims. (Cl. 292—256.69)



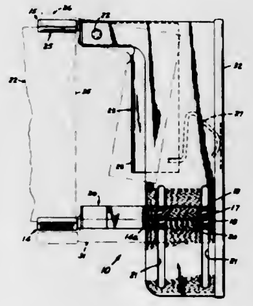
1. In a split clamping ring adapted to secure a separable cover to the open end of a barrel-type container, said clamping ring including a swingable lever operable to effect expansion and contraction of said ring on movement of the lever, the improvement comprising a lock construction for holding said lever in a ring clamping position including a detent carried by said lever and means carried by said ring for pivotally mounting said lever and having a pocket therein for receiving and retaining said detent upon movement of said lever into said clamping position, said detent and said pocket being disposed closely adjacent the pivot axis of said lever, whereby the effort required to move said lever into and out of said clamping position is reduced.

3,261,633
SNAP-ON HANDLE FOR CONTAINERS
Daniel Sakuta, Erie, Pa., assignor to United Precision Plastics, Inc., Erie, Pa., a corporation of Pennsylvania
Filed Mar. 27, 1964, Ser. No. 355,203
4 Claims. (Cl. 294—16)



1. A handle for a rigid container having fixedly spaced rims comprising, a handle body made of elastically deformable material, said handle body having a pair of spaced jaw formations, a grip portion, a pair of jaw deflecting extensions respectively connected to said jaw formations and displaceable therewith relative to the grip portion, means connecting said grip portion to one of the jaw formations and to one of the extensions spaced from the other of said jaw formations, and interengaging hook means formed on said deflecting extensions between the jaw formations for locking the jaw formations against displacement from predetermined positions when engaging the rims of a container.

3,261,634
CARD HANDLING DEVICE
William Trevor Hewson, Playa Del Rey, Calif., assignor to Hewson-Waltz Corporation, Culver City, Calif., a corporation of California
Filed Apr. 20, 1964, Ser. No. 361,165
3 Claims. (Cl. 294—16)

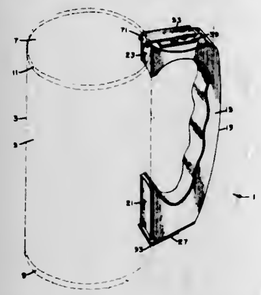


1. A card handling device adapted to grasp opposite edges of a stiff card, comprising: a rigid frame; a plurality of serrations on said frame; a first finger; a plurality of serrations on said first finger; releasable fastener means joining the first finger to the frame so that the serrations on the frame and on the first finger engage each other and hold the first finger aligned at a selected location; a second finger pivotally attached to the frame and so disposed and arranged in alignment with said first finger as to be pivotable between first and second positions which are respectively closer to and farther away from the first finger; a trigger pivotally attached to said frame and engaged to said second finger so as to move the second finger from one of said positions to the other, the trigger being aligned with the frame, whereby squeezing the trigger and frame together moves the second finger toward one of said positions, and releasing the trigger enables the second finger to move toward the other one of said positions; and each of the fingers being in the form of a groove with the recesses of the grooves facing each other, whereby to grasp the card at its two faces when the device is applied to the card.

3,261,635
BEER CAN HANDLE
Michael F. Talay, Catskill, N.Y., assignor of forty percent to Walter F. Wessendorf, Jr., Guilderland, N.Y.
Filed Sept. 2, 1964, Ser. No. 393,968
2 Claims. (Cl. 294—29)

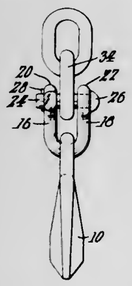
1. A detachable beer can handle for use with a conventional beer can comprising a cylindrical side wall, lower rim or bead, and upper rim or bead; said handle being D-shaped and comprising a top, a bottom, a handle grip portion, lower flange portion, upper flange portion, lower channel portion, retainer channel portion and spring; said handle grip portion being configured comfortable to a consumer's hand for gripping same, said lower and upper flange portions being integral with said handle grip portion and having convex portions for disposition in frictional, complemental abutting relationship with portions of a cylindrical side wall of a can, said lower channel portion being carried on said handle bottom and being structurally configured to receive a lower can rim

or bead in complemental relationship therewith, said retainer channel portion being rotatably disposed on said handle top for retentive engagement with an upper can rim or bead, and said spring being disposed relative to



said retainer channel portion and said handle top, and as disposed, said spring constraining and maintaining said retainer channel portion in such retentive engagement with an attached upper can rim or bead.

3,261,636
CLEVIS AND GRAB HOOK
Henry St. Pierre, 50 Frank St., Worcester, Mass.
Filed Apr. 15, 1964, Ser. No. 359,980
2 Claims. (Cl. 294—78)



1. The combination of a hook and a member to be attached thereto of a take-apart removable connection therefor comprising a U-shaped clevis, the clevis being insertable through the eye of the hook, said clevis including two spaced arms, an apertured head at the end of each arm, a removable pin extending between said heads, one of said heads being of a size and shape to slip through the eye of the hook, the other head being wider than the opening in said eye, the eye of the hook being elongated to such an extent that it can receive the narrower head therethrough but not to the extent that the other head can be received therethrough.

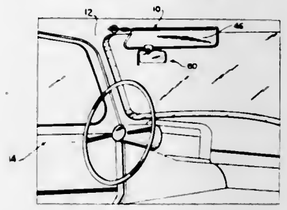
3,261,637
SELF-RELEASING PICKUP UNIT
Cecil W. Bopp and William E. Maddock, Waterloo, Iowa, assignors to The Greater Iowa Corporation, Des Moines, Iowa, a corporation of Iowa
Filed Mar. 13, 1964, Ser. No. 351,716
16 Claims. (Cl. 294—81)

1. A self-releasing pickup unit for containers or the like, comprising,
- an elongated frame member,
- a first arm pivotally connected to one end of said frame member,
- a second arm pivotally connected to the opposite end of said frame assembly,
- a hook means provided on the outer end of each of said arms,
- means for yieldingly holding said arms in a first pivotal position, said arms adapted to pivot outwardly over the peripheral edge of a container or the like, and



- means connected to said arms and adapted to be cocked for biasing said arms outwardly to a second position away from each other, said arms being maintained in said first position against the action of said last mentioned means when said hook means are in lifting engagement with a container or the like.

3,261,638
ADJUSTABLE SUN VISOR
Abraham Weingarten, 74—58 260th St., Glen Oaks, N.Y.
Filed Mar. 12, 1964, Ser. No. 351,436
2 Claims. (Cl. 296—97)

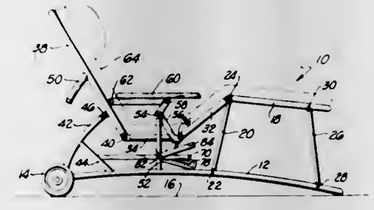


1. A sun visor for motor vehicles, comprising a mounting adapted to be secured to a structural part of a motor vehicle adjacent its wind-shield, a sleeve swivelly supported by said mounting, spring means acting between said sleeve and said mounting to cause sufficient frictional engagement between them to hold the sleeve in selected angular position relative to said mounting, a rod supported by said sleeve for axial and rotary movement relative thereto, a toothed ring in said sleeve, an annular flange in said sleeve at one end thereof and adjacent said toothed ring, a complementary toothed ring on said rod, a spring acting between said rod and said sleeve to urge said rod in one axial direction in order to cause inter-engagement between said toothed rings and thereby to lock said rod against angular movement relative to said sleeve, said annular flange limiting the movement of said rod in said axial direction such that said toothed rings do not disengage, said rod being manually movable in the opposite axial direction against the action of said spring in order to disengage said toothed rings from each other and thereby to permit angular movement of said rod to any selected position relative to said sleeve, and a visor secured to said rod.

3,261,639
LOUNGE DEVICE
Robert E. Phillips, 12217 Iredell St., Studio City, Calif.
Filed Dec. 26, 1963, Ser. No. 333,459
3 Claims. (Cl. 297—83)

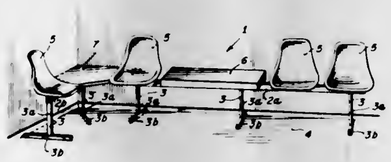
1. A lounge device adapted to the support of the human body and adapted to be moved from a recumbent to a sedentary position, said lounge device comprising:
- a main frame, said main frame having sides adapted to support the lounge device by ground engagement, said main frame being substantially rigid and comprising the ground engaging structure of said lounge device;

- supporting members on said lounge device, said supporting members being adapted to support the human body, said supporting members comprising a lower leg support member, an upper leg support member, a seat member and a back support member, said lower leg support member being pivotally connected to said upper leg support member at a first pivot, said upper leg support member being pivoted to said seat member at a second pivot, said seat member being pivoted to said back support member at a third pivot, and said back support member being pivoted to said main frame at a main pivot;
- at least first, second and third pairs of links, said first pair of links each being pivoted to said main frame and to said lower leg support member, said second



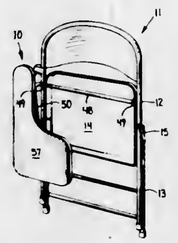
pair of links each being pivoted to said main frame and to said lower leg support member at said first pivot, and said third pair of links each being pivoted to said main frame and to said upper leg support member at said second pivot;
- said pivots on said lower leg support member thus being constrained to paths of motion which are circular arcs with respect to said main frame, said links and said pivots being arranged so that when said back support member is pivoted in one direction about said main pivot on said main frame all of said members substantially lie within a common plane, and when said back support member is pivoted in the opposite direction about said main pivot, said members position themselves appropriate to support a person in sedentary position.

3,261,640
MODULAR FURNITURE
Ernest J. Straits, St. Charles, Ill., assignor to Interlake Steel Corporation, a corporation of New York
Filed Oct. 20, 1964, Ser. No. 405,153
9 Claims. (Cl. 297—135)



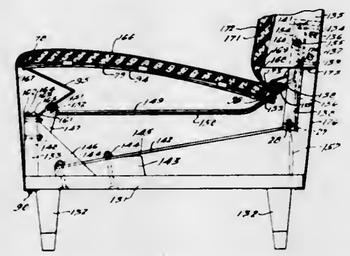
1. The combination in a multiple function furniture structure comprising, an elongated frame member, a plurality of legs, and a plurality of separate and distinct functional furniture members connecting portions spaced along the frame member, certain of said connecting portions having means engageable with the legs for connecting the legs at different locations along the frame member and to extend below the frame member, and other certain of said connecting portions having means engageable with the functional furniture members for connecting the members to extend above the frame member.

3,261,641
INDEPENDENT FOLDING TABLET ARM CHAIR
Allen V. Black, Cincinnati, Ohio, and Leslie B. Turner and Robert L. Waters, both of Muncie, Ind., assignors to Textron Inc., Providence, R.I., a corporation of Rhode Island
Filed Oct. 6, 1965, Ser. No. 493,378
13 Claims. (Cl. 297—162)



1. The combination with a chair having a seat and a back rest extending above said seat, of an independently folding arm rest assembly comprising a bar having one end pivotally supported from said back rest upon a transverse axis above said seat, a guide plate supported from said bar for limited longitudinal movement relative thereto and disposed substantially in a plane substantially perpendicular to said axis, said guide plate being provided with a generally longitudinally-extending guideway shaped to define, near its end remote from said axis, a generally V-shaped dip, the transverse width of said guideway, measured in said plane, being substantially constant except for an enlargement in the region of the nadir of said dip, a rigid link having its lower end pivotally connected to said seat upon a second axis parallel with said first-named axis and having its upper end slidably confined for movement along said guideway, and a substantially V-shaped bridge means fixed relative to said bar and cooperatively associated with said guideway in the widened region thereof, the nadir of said dip being disposed at one side of the apex of said bridge means when said guide plate is at one limit of its movement relative to said bar, and being disposed at the other side of said bridge means apex when said guide plate is at the opposite limit of its movement relative to said bar.

3,261,642
UNISON ACTION SEAT
Hyland C. Flint, 3551 Walnut Lake Road, Orchard Lake, Mich.
Filed Sept. 26, 1963, Ser. No. 311,738
20 Claims. (Cl. 297—309)



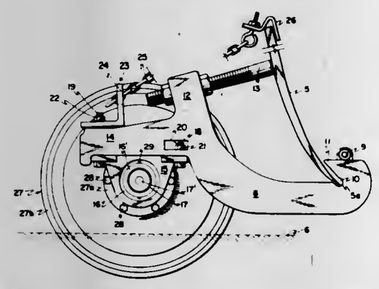
1. In a seat of the unison type, a base, a seat cushion and a back cushion secured together in pivotal relation, leaf springs supported on said base with the free end extending rearwardly beneath and pivotally connected to said back cushion, and links pivoted to the base and to said back cushion and extending below said seat cushion,

said links and said base and said back cushion and said leaf springs forming a resilient parallelogram support for said seat cushion and said back cushion to maintain a desired angular relation of said back cushion relation to said base with deflection of said seat cushion.

3,261,643
ASPHALT CUTTER ATTACHMENT FOR MOLD BOARDS

Frank F. Moench, 4214 E. Colfax, Denver 20, Colo.

Filed Oct. 22, 1962, Ser. No. 231,901
6 Claims. (Cl. 299—40)

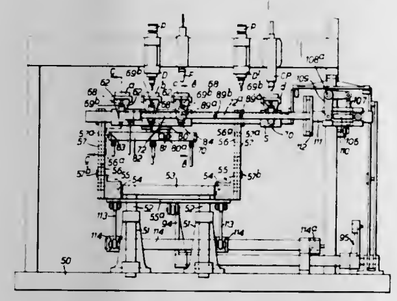


1. A rotary paving cutter assembly, comprising an elongated body member formed of companion sections detachably joined at one end and carrying bearing blocks at their opposite ends for the joint support of an axle of a rotary cutter, a recess in each section adjacent its joined end for reception of the scraping edge of a depending blade of a road working machine, linkage means connected to the bearing-supporting end of each section and having means for attachment to an upper portion of said blade remote from its scraping edge for suspending the cutter for pavement cutting movement by the road working machine, and an extensible member supported from an elevated position on each section for engaging the blade to hold it against movement in said recess.

3,261,644
BRUSH MAKING MACHINE

William Eric Mortimore Smith, East Cosham, England, assignor to J. Evans & Son (Portsmouth) Limited, Portsmouth, England, a British company

Filed May 26, 1965, Ser. No. 461,601
Claims priority, application Great Britain, Nov. 21, 1962, 44,048/62
11 Claims. (Cl. 300—3)

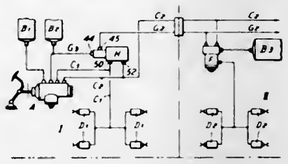


1. Apparatus for boring and filling brush stocks comprising at least one set of aligned working tools, each set comprising a pair of boring tools and a filling tool positioned therebetween with one of said boring tools twice as far from said filling tool as the other, and a corresponding set of three workholders aligned in a direction parallel to each tool set for supporting brush stocks to be operated on by said tools, each workholder being spaced from an adjacent workholder by a distance equal to that between said other boring tool and said filling tool, means for operating said tools during spaced time intervals, means for moving said workholders as a unit relative to said tools in a cycle comprising first and second successive movements in a first direction, at the end of each of which movements a workholder previously positioned so that the brush stock therein could be operated on by the other boring tool assumes a position in which the brush stock therein may be operated on by said filling tool, followed by a third movement in the opposite direction at the end of which movement said workholders occupy the same position relative to said tools as at the beginning of the first movement in said first direction, and means for initiating said movements successively, one between each two successive intervals of tool operation.

3,261,645
METHOD AND DEVICE FOR THE AUTOMATIC MODULATED EMERGENCY BRAKING OF TOWED VEHICLES PROVIDED WITH PNEUMATIC BRAKING SYSTEM

Giuseppe Alfieri and Roberto Morlondo, Milan, Italy, assignors to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a corporation of Italy

Filed Feb. 17, 1964, Ser. No. 345,474
Claims priority, application Italy, Feb. 27, 1963, 32,340; June 1, 1963, 35,696
19 Claims. (Cl. 303—7)

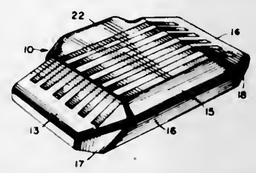


1. A device for tractor-trailer braking systems having a trailer pneumatic braking system including an automatic braking line, and service braking lines for said tractor and trailer respectively, said device comprising first means and second means responsive to the pressure in said tractor and trailer service braking lines respectively, means for rendering said first and second pressure responsive means cooperative with each other in order that the actions of the respective pressures may be mutually opposite, and valve means normally connecting said automatic braking line to a source of air pressure and being actuated by a loss of pressure on said second pressure responsive means to vent said automatic braking line.

3,261,646
TREAD SURFACES ON ELASTOMER BODIES

James H. Pax, Rudolph, Ohio, assignor to D. S. Brown Company, North Baltimore, Ohio, a corporation of Ohio

Filed June 19, 1964, Ser. No. 376,334
6 Claims. (Cl. 305—35)

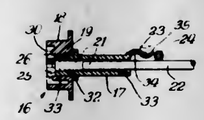


6. A tread member comprising a plate, a shank projecting outwardly from one face of said plate, an elastomer body molded about said plate with a thick layer of said body covering the opposite face of said plate, said layer being a relatively soft, flexible, polyurethane elastomer having a Durometer hardness in the range of about 50 to 95 Shore A, the outer surface of which is the tread surface of said tread member, said tread surface having a plurality of grooves therein, and strips of a hard polyurethane elastomer having a Durometer hardness of 45 to 85 Shore D secured in said grooves and forming a part of said tread surface.

3,261,647
WHEELED ROD STRUCTURE

Bruce E. Stewart, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware

Filed Nov. 13, 1963, Ser. No. 323,358
8 Claims. (Cl. 308—3.8)

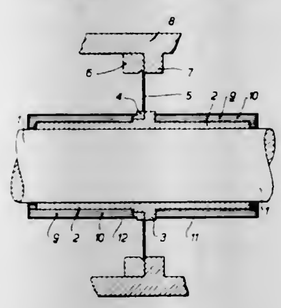


1. In a structure having a first rod having an outer end, and second rod extending transversely to the first rod adjacent said outer end, a wheel assembly comprising: a tubular axle having an outer end provided with a pair of shoulder spaced apart longitudinal of the axle, and an inner end; a wheel rotatively carried on said outer end of the axle, said wheel including a hub portion retained against substantial axial movement between said shoulders; and a retainer means carried on the inner end of said axle, said retainer means extending axially inwardly from said axle and having a portion defining a recess opening therefrom. said tubular axle being mounted on said outer end of the first rod and said retainer means engaging said second rod with said second rod received in said recess to substantially retain the axle against axial and rotative movement on said first rod, said retainer means being deflectable to permit selective movement of said axle axially inwardly and outwardly relative to said second rod for facilitated installation and removal of said wheel assembly relative to said rods as desired.

3,261,648
BEARING ASSEMBLIES

Shepherd Rigg, Appleton, Warrington, and James Rostron Wright, Culcheth, near Warrington, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed Dec. 17, 1962, Ser. No. 245,231
Claims priority, application Great Britain, Dec. 21, 1961, 45,959/61
3 Claims. (Cl. 308—121)

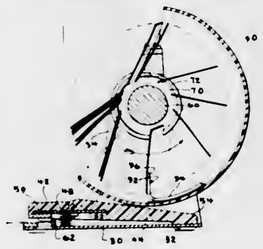


1. A bearing assembly comprising a rotatable shaft and a sleeve bearing disposed around the shaft, the shaft and bearing having bearing surfaces operatively separated by a narrow clearance, a gas lubricating film sustained within said clearance, a covering of heat insulating material extending contiguously over the external surface of the sleeve bearing for controlling the temperature of the sleeve bearing relative to the temperature of the shaft, thereby to maintain said narrow clearance.

3,261,649
CARD HOLDER AND DIALER

Roy Erickson, Deerfield, and Robert L. Kuenzel, Wilmette, Ill., assignors to Dial-A-Card, Inc., Northfield, Ill., a corporation of Illinois

Filed July 17, 1964, Ser. No. 383,361
5 Claims. (Cl. 312—189)



1. A card holder comprising a housing having a base portion and vertical side walls extending upwardly from the base portion in spaced apart relation by an amount greater than the crosswise dimension of the cards, a spindle mounted for rotational movement between the side walls and spacer vertically from the base by a distance greater than the height of the cards, means releasably mounting the cards on the spindle for rotational movement with the spindle, a segment of a cylindrically-shaped housing mounted between the side walls and dimensioned to have a radius greater than the radius of the spindle plus the height of the cards and a width greater than the width of the cards, a flipper member in the form of an elongate spring finger secured to the bottom portion of the inner peripheral surface of the housing and extending upwardly therefrom into the path of the outer edges of the cards mounted on the spindle and adjacent a lateral edge thereof whereby when the spindle is rotated with the cards, the flipper member engages the edge portions of the cards to cause bending movement of the cards in the crosswise direction as well as in the lengthwise direction as the cards are rotated to clear the flipper element.

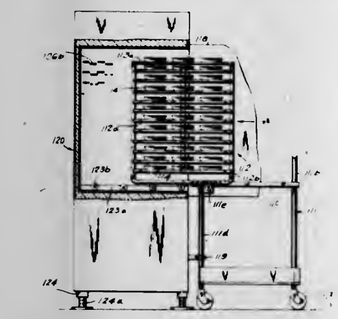
3,261,650
FOOD HEATING AND HANDLING STRUCTURE

Karl Borje Stromqvist, Bandhagen, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed Feb. 21, 1964, Ser. No. 346,560
5 Claims. (Cl. 312—236)

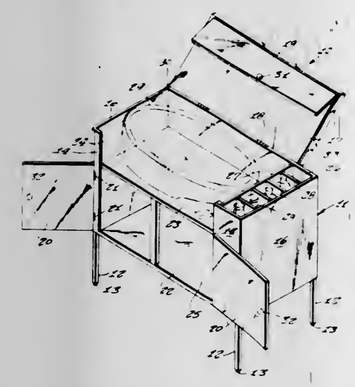
1. Apparatus of the class described for heating food held in receptacles having, in combination, an oven providing a hollow interior having opposing side walls and top and bottom walls defining a vertically extending heating space with a front access opening and closure means therefor movable between closed and open positions, the opposing side walls having vertically spaced slots and respectively defining an air inlet side and an air outlet side of the heating space, and means for forcibly circulating heated air at a sufficiently high velocity through the heating space between the air inlet and air outlet sides thereof and cause the air to be divided at the slots at the air inlet side to produce a plurality of air streams which flow contiguous to one another and horizontally one above another

through the heating space from the air inlet side to the air outlet side thereof and discharge through the slots in the air outlet side exteriorly of the space, structure for handling food which is insertable and removable into and from the heating space and comprises means for openly stacking a plurality of the receptacles one above another in vertically spaced relation, the stacking means comprising a vertically extending frame, a plurality of apertured shelves, means on the frame for carrying the shelves one above another in vertically spaced relation and upon which



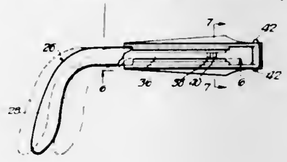
the receptacles are adapted to be supported, the shelves having vertical gaps therebetween, the heating space accommodating the receptacle stacking means with the vertically spaced shelves thereof vertically offset with the vertically spaced slots in the air inlet and air outlet sides of the heating space, and the frame being open at the sides thereof to promote flow of air from the slots at the air inlet side of the heating space toward the gaps at one side of the frame and to promote flow of air from the gaps at the opposite side of the frame toward the slots at the air outlet side of the heating space.

3,261,651
NURSERY BATHETTE
Lawrence O. Prowse, 8005 Rothdell Terrace, Los Angeles, Calif.
Filed July 7, 1964, Ser. No. 380,769
1 Claim. (Cl. 312—290)



A nursery bathette comprising, in combination, a cabinet, a plurality of legs supporting said cabinet in an elevated position said cabinet including a partial front wall, a rear wall parallel to said front wall, parallel spaced apart end walls, a hingeable top wall attached by hinges along its rear edge to the upper edge of said rear wall, said top wall carrying a front flap, said front flap being hingeably secured to said top wall, a movement-limiting device between said top wall and one of said end walls adapted to limit the upward and rearward movements of said top wall respective to said side wall, a pair of front doors hingeably secured by means of hinges to said partial front wall, a bottom wall and a shelf in spaced apart parallel relationship dividing the interior of said cabinet into an upper compartment adapted to store a tub and a lower compartment for storing diapers, towels and infant clothing, said front doors adapted to provide access to said lower compartment and said top wall and front flap capable of providing access to said upper compartment, a partition parallel to and being spaced apart from one of said end walls, a plurality of parallel spaced apart cross partitions positioned between said above-mentioned partition and said end wall, and a pad of resilient material attached to the upper side of said top wall for cushioning a child, said pad being covered on its upper side by water-proof sheeting.

3,261,652
ADJUSTABLE TEMPLE FOR EYEGLASSES WITH RACK AND PLURAL DETENT BAR
Finn H. Magnus, Washington Valley Road, Morristown, N.J.
Filed July 18, 1962, Ser. No. 210,901
2 Claims. (Cl. 351—118)



1. An adjustable temple comprising an earpiece having an ear contoured portion and an elongated forward portion, said forward portion being substantially rectangular shaped and having a recessed rack extending along one side face, said rack having rack teeth which are flush with said side face, a coupling member having a mating rectangularly shaped channel providing a sliding fit for the forward portion of said earpiece, a plural detent bar having its ends integrally attached to the front and rear end portions of said coupling member, said detent bar being disposed in spaced relation with respect to the upper and lower side walls of the channel, and said detent bar having inwardly extending detents for engaging said rack.

3,261,653
MOTION PICTURE CAMERA WITH AUTOMATIC EXPOSURE CONTROL
Herbert Reinsch, Stuttgart, Germany, assignor to Eugen Bauer G.m.b.H., Stuttgart-Unterturkheim, Germany
Filed Nov. 5, 1963, Ser. No. 321,509
Claims priority, application Germany, Nov. 7, 1962, B 69,534
18 Claims. (Cl. 352—141)

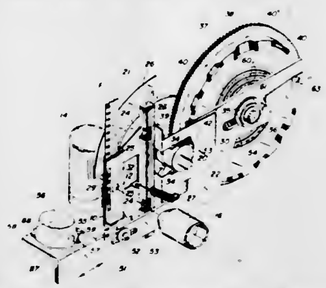
1. In a motion picture camera, in combination, diaphragm means providing an exposure aperture through which film in the camera is exposed; automatic means operatively connected to said diaphragm means for automatically adjusting the latter according to the lighting conditions to provide an exposure aperture which will give proper exposure when the film in the camera is exposed at a given number of frames per second; manually operable means for changing the number of frames exposed per second from said given number to a second number of frames per second; and motion-transmitting means connecting said manually operable means to said automatic means when said manually operable means changes the number of frames exposed per second from said given number for transmitting to said automatic means movement of said manually operable means to said second number for moving said automatic means to a position where the diaphragm means will provide



an aperture which will give proper exposure of the film when the latter is exposed at said second number of frames per second.

3,261,654
FILM FEEDING MECHANISM
Richard L. Faber and Bion W. McClellan, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 2, 1964, Ser. No. 371,938
12 Claims. (Cl. 352—194)

1. A motion picture projector comprising in combination:
(a) a gate having a projection aperture and through which gate a motion picture film is adapted to be intermittently advanced past the aperture therein for the projection of successive image frames thereon;
(b) a film claw;
(c) means for mounting said claw for in-and-out and up and down movements relative to said gate during which movements it intermittently engages and advances the film through said gate;
(d) drive means operating at a given frequency;
(e) an up and down cam connected to said drive means for driving said claw up and down relative to said gate at said given frequency;
(f) means for imparting in-and-out movements to said claw in different time relations with said up and down movement thereof including,
(1) a face cam rotatably mounted on an axis substantially parallel to the optical axis of said apertured gate,
(2) a plurality of in-and-out cam surfaces located on the face of said cam and arranged in groups of different numbers with the cam surfaces of each group circumferentially arranged in circles concentric to the axis of said cam,

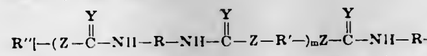


(g) means for rotating said face cam in synchronism with said up and down cam;
(h) a cam follower extending between said face cam and said claw to cause said claw to move into and out of engagement with said film in response to rotation of said face cam;
(j) means for selectively shifting said cam follower radially of said cam face between different predetermined positions and in each of which it lies in the path of different ones of said groups of cam surfaces while maintaining the connection between the follower and said claw to change the rate of film advance, and
(k) and means on said face cam and carried by said cam follower shifting means cooperating to accurately and positively locate said follower shifting means in different ones of said predetermined positions.

CHEMICAL

3,261,655
ISOCYANATE OR ISOTHIOCYANATE TERMINATED POLYURETHANES OF AN ALIPHATIC TRIOL TREATMENT OF CRUSTED LEATHER GRAIN SIDES
Maynard B. Neher, Columbus, and Victor G. Vely, Hilliard, Ohio, assignors, by mesne assignments, to Titekote Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 3, 1962, Ser. No. 241,539
The portion of the term of the patent subsequent to Dec. 4, 1979, has been disclaimed
5 Claims. (Cl. 8—94.21)

1. A process for treating crusted leather comprising, applying to the grain side of the leather and penetrating into the leather a treating composition consisting essentially of a substituted-amine product of a molecular weight in the range of 2,300 to 25,500, said product being defined by the formula



where *m* is an integer of at least 2, *n* is an integer of at least 3, Z is a radical selected from the group consisting of —O— and —NH— radicals, Y is an atom selected from the group consisting of oxygen and sulfur, R is a divalent organic radical selected from the group consisting of alkylene, arylene, and alkarylene radicals, R′ is a divalent organic radical selected from the group consisting of polyalkylene and polyoxyalkylene radicals, R″ is a polyvalent organic radical of polyoxyalkylenated aliphatic polyol, and *m*, *n*, R, R′ and R″ are such that the substituted-amine product has said molecular weight.

3,261,656
ISOCYANATE OR ISOTHIOCYANATE TERMINATED POLYOXYALKYLENE ETHERS OF A POLYOL TREATMENT OF CRUSTED LEATHER GRAIN SIDES AND THE PRODUCT THEREOF
Maynard B. Neher, Columbus, and Victor G. Vely, Hilliard, Ohio, assignors, by mesne assignments, to Titekote Corporation, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 3, 1962, Ser. No. 241,540
The portion of the term of the patent subsequent to Dec. 4, 1979, has been disclaimed
7 Claims. (Cl. 8—94.21)

1. A process for treating crusted leather comprising the step of:
(a) applying to the grain side of the leather and penetrating into the leather a treating composition con-

sisting essentially of a substituted-amine product of a molecular weight in the range of 2,300 to 20,500, said substituted-amine product being of a structure terminated solely by —NCY terminal groups and further structurally having a polyvalent radical of carbon, hydrogen and oxygen atoms with all oxygen atoms in the polyvalent radical present as polyoxyalkylene ether linkages, the polyvalent radical having at least three valencies with each valence satisfied by a single substituted-amine group connecting directly to a divalent organic radical having a valence satisfied by one of the radicals —NCY as a terminal group, the substituted-amine group being selected from the group consisting of carbamate and thiocarbamate radicals, said divalent organic radical being selected from the group consisting of alkylene, arylene, and alkarylene radicals, and Y being an atom selected from the group consisting of oxygen and sulfur.

3,261,657
GRAIN SIDE TREATMENT OF CRUSTED LEATHER WITH ISOCYANATE OR ISOTHIOCYANATE TERMINATED POLYOL ESTERS OF POLYURETHANES OF POLYESTERS AND POLYOXYALKYLENE POLYOLS AND LEATHER THEREFROM

Maynard B. Neher, Columbus, and Victor G. Vely, Hilliard, Ohio, assignors, by mesne assignments, to Titekote Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 3, 1962, Ser. No. 241,564
The portion of the term of the patent subsequent to Dec. 4, 1979, has been disclaimed
7 Claims. (Cl. 8—94.21)

1. A process for treating crusted leather comprising, applying to the grain side of the leather and penetrating into the leather a treating composition consisting essentially of a substituted-amine product of a molecular weight in the range of 3,000 to 20,500, said product being defined by the formula



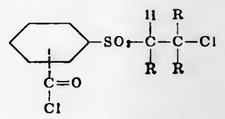
where *m* is a positive integer greater than zero, *n* is a positive integer greater than 2, R'' is a polyvalent organic radical of a compound selected from the group consisting of polyoxyalkylenated aliphatic polyol and hydroxyl-terminated polycarboxylic acid polyester each averaging at least about three terminal hydroxyl groups per molecule, R' is a divalent organic radical of di-functional hydroxyl-terminated polyester, and R is a divalent radical selected from the group consisting of alkylene, arylene and alkarylene radicals, and said *m*, *n*, R, R' and R'' are such that the substituted-amine product has said molecular weight.

3,261,658
PROCESS OF REACTING CHLOROETHYL-SULFONYL BENZOYL CHLORIDE COMPOUNDS WITH TEXTILE AUXILIARIES AND REACTING SAID AUXILIARIES WITH TEXTILE FIBERS

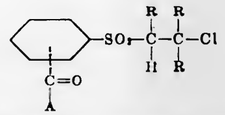
James F. Feeman, West Reading, Pa., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

No Drawing. Original application June 27, 1960, Ser. No. 38,733, now Patent No. 3,098,096, dated July 16, 1963. Divided and this application Dec. 10, 1962, Ser. No. 256,784
4 Claims. (Cl. 8—116)

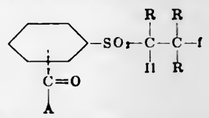
1. The method of attaching textile auxiliaries to textile fibers where said auxiliary has a functional group which is capable of replacing the chlorine of carbonyl chloride and where said textile fiber has a functional group capable of reacting with a chloroalkylsulfonyl group, said method comprising reacting, under substantially neutral conditions, the auxiliary with a compound selected from the group consisting of the meta and para substituted compounds having the structure



wherein R is a radical selected from the group consisting of —H and -lower alkyl, to form the derivative having the structure



(wherein A is the auxiliary attached through a functional group from which a hydrogen has been displaced), applying the derivative to the textile fiber, and reacting the derivative and the textile fiber to form



(wherein f represents a textile fiber attached through a functional group from which a hydrogen has been displaced).

2. The method according to claim 1 wherein the textile fiber is cellulosic and the reaction of the derivative and the fiber is carried out in the presence of an acid binding agent.

4. The method according to claim 1 wherein the textile fiber contains functional amino groups.

3,261,659
PACKAGED ENVIRONMENTAL SYSTEM FOR DECONTAMINATING AIR

Albert Henry Schwichtenberg, Albuquerque, N. Mex., and Archibald P. Kelley, Boris D. De Baryshe, and Selden B. Spangler, Jr., Scottsdale, Ariz., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Feb. 23, 1962, Ser. No. 175,220
12 Claims. (Cl. 21—53)



5. A unitary environmental system for protection against chemical, biological and radiological warfare agents, comprising:

a. a supporting frame forming a plurality of chamber sections;

b. a large inflatable bag constituting a protective enclosure at one end of said frame when inflated, one of the chamber sections formed by said frame constituting an entrance chamber to the enclosure formed by said bag when inflated and a storage receptacle for said bag when the bag is deflated; and

c. means disposed in another of the chamber sections formed by said frame providing a continuing source of decontaminated breathable air for inflating said bag and maintaining it in an inflated condition.

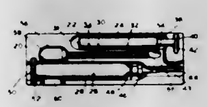
6. The method of removing chemical and biological agents from an air stream comprising:

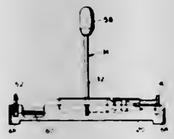
a. passing the air stream containing said agents through indirect heat exchange relationship with gases at approximately 1000° F. constituting the exhaust of a gas turbine.

3,261,660
SYRINGE HOLDER FOR STERILIZING

Walter R. Wilkinson, 1613 Euclid Ave., Syracuse, N.Y.

Filed July 24, 1964, Ser. No. 384,990
1 Claim. (Cl. 21—105)





A holder for sterilizing the parts of a hypodermic syringe comprised of a plunger having a closed end and an end flange opposite the closed end, and a barrel having an open end with surrounding flange at one end and a needle at the opposite end, said holder comprising an elongated block having sides and top and bottom surfaces, handle means comprising a handle having a knob with an attached rod removably screw threaded into said top surface and projecting upwardly from a central portion thereof for lifting said block into and out of sterilizing liquid, three spaced, parallel, longitudinal, semi-circular-sectioned grooves in said top surface consisting of a first groove for accommodating said plunger, a second groove for accommodating said barrel and needle, and an intermediate groove disposed between said first and second grooves for accommodating said removable handle when detached from said block, said first groove having a first predetermined transverse cross-section and depth terminating at one end and opening at its opposite end into a first relieved area of greater transverse cross-section and depth than said first predetermined transverse cross-section and depth, said first relieved area having a transverse arcuate recess to receive the end flange of said plunger, and being disposed adjacent to and opening out through one of said sides, said second groove having a first longitudinal portion of a second predetermined transverse cross-section and depth terminating at one end in the direction of said one of said sides into a second longitudinal portion of lesser transverse cross-section and depth than said second predetermined transverse cross-section and depth to receive said needle, and opening at the end opposite said one end into a second relieved area of greater transverse cross-section and depth than said second predetermined transverse cross-section and depth, said second relieved area being adjacent to and opening in a transverse direction out through another of said sides, said second groove having a third longitudinal portion of the same transverse cross-section and depth as said second predetermined transverse cross-section and depth terminating at one end in the direction of said one of said sides into said second relieved area and opening at the end opposite said last-named end out through a side opposite said one of said sides, each said portion of said second groove being axially aligned, said intermediate groove having a third predetermined cross-section and depth to receive said rod terminating at one end and opening into an enlarged area of greater cross-section and depth than said third predetermined cross-section and depth and of lesser depth than said second predetermined depth of said second groove to receive said knob, said enlarged area opening laterally into and forming an extension of one of said relieved areas, and said relieved areas defining finger reliefs to allow a person to grasp said parts of a hypodermic syringe in their respective grooves.

3,261,661
TREATMENT OF MATERIAL IN A BED OF INERT PARTICLES

Bronislav Stefan Javorsky, Lidingo, and Åke Lennart Andersson, Stockholm, Sweden, assignors to Aktiebolaget Celleco, Stockholm, Sweden, a corporation of Sweden

Filed Mar. 13, 1962, Ser. No. 179,450
Claims priority, application Sweden, Mar. 15, 1961, 2,739/61
1 Claim. (Cl. 23—1)

In the process of treating gas containing finely divided particles in a fluidized bed of solid inert other particles resistant to the intended treatment, a stream of said gas entraining said finely divided particles being passed upwards through an essentially vertical duct in succession through the interspaces between the particles of a first bed of relatively coarse inert first particles and thereafter through a second bed of relatively fine inert second particles, at a gas-velocity at which said second bed in which the treatment takes place is maintained in a fluidized state under the influence of said stream of gas, the improved method which comprises in combination the steps of providing a first bed of such inert first particles, such first particles being so dimensioned in relation to said inert second particles that the range of gas-velocities at which, by the influence of said stream of gas, said second bed is maintained in a fluidized state, will include predetermined gas velocities at which, by influence of the same stream of gas, said first bed will be stirred without any essential part thereof reaching a fluidized state, and regulating at least temporarily the velocity of said stream of gas through said first and second bed so as to correspond to such predetermined gas-velocities, thereby causing such stirring of said first bed, while retaining the fluidized state of the second bed.

3,261,662
ABSORPTION OF SULPHUR DIOXIDE AND SEPARATION OF ASHES FROM COMBUSTION GASES OBTAINED BY COMBUSTION OF MAGNESIUM WASTE LYE

Karl Olle Axelsson, Viggbyholm, Sweden, assignor to Aktiebolaget Rosenblads Patenter, Stockholm, Sweden, a corporation of Sweden

Filed May 3, 1963, Ser. No. 277,794
4 Claims. (Cl. 23—48)

1. A method which comprises burning waste magnesium sulphite liquor in finely divided state so as to obtain ashes as finely divided particles suspended in the combustion gases containing sulphur dioxide, passing a stream of such combustion gases and an aqueous absorption liquid through a scrubber in which the sulphur dioxide is absorbed by a spray of the absorption liquid, and retaining in the stream of combustion gases passed to the spray of absorption liquid in the scrubber a quantity of said ashes which in slaked condition will form substantially all the magnesium hydrate required to obtain

the desired pH-value in the absorption liquid during the absorption of sulphur dioxide, thereby causing the separation of that quantity of ashes and substantially all slaking and supply of magnesium hydrate to take place in said spray simultaneously with the absorption of sulphur dioxide therein.

3,261,663
METHOD OF PREPARING TITANIUM TRICHLORIDE

Abram Aronovich Foorman, 1st Jaroslavskaja, 21–a, korpus 24, Apt. 35, and Victorija Borisovna Lavrova, Maly Levshinsky Bystreet, 6–8, Apt. 37, both of Moscow, U.S.S.R.

No Drawing. Filed July 18, 1963, Ser. No. 296,118
4 Claims. (Cl. 23—87)

1. A method for the preparation of $TiCl_3$ from $TiCl_4$ and Si which comprises:

bringing $TiCl_4$ into contact with solid Si in a reaction zone at a temperature above 700° C. thereby forming a vapor mixture containing $TiCl_3$ and $SiCl_4$ produced as a result of the reaction between Si and $TiCl_4$;

condensing the $TiCl_3$ from said vapor mixture at a temperature above the boiling point of $TiCl_4$ and the boiling point of $SiCl_4$;

and recovering the $TiCl_3$, so produced.

3,261,664
PROCESS FOR THE PRODUCTION AND SEPARATION OF TITANIUM TETRACHLORIDE FROM CRYSTALLINE FERROUS CHLORIDE

Edward Lawrence Cairns, Newark, Del., and Earl O. Kleinfelder, Antioch, Calif., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 21, 1963, Ser. No. 325,482
9 Claims. (Cl. 23—87)

1. A method for preparing titanium tetrachloride substantially free of ferrous chloride which comprises chlorinating a ferrotitaniferous material in the presence of a reducing agent thereby forming a gaseous mixture at about 900° C. containing titanium tetrachloride, ferrous chloride and ferric chloride, cooling the gaseous mixture to a temperature within the range of from 500–550° C. in order to form stable dry crystalline ferrous chloride, separating the crystalline ferrous chloride from gaseous titanium tetrachloride and recovering titanium tetrachloride.

3,261,665
PROCESS FOR THE TREATMENT OF WASTE SULFURIC ACID PICKLE LIQUOR

Richard K. Rathmell, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 5, 1962, Ser. No. 235,528
1 Claim. (Cl. 23—122)

In a process for the treatment of waste sulfuric acid pickle liquor by adding to a reaction vessel a lime slurry and said liquor, mixing the reaction mass at a temperature in the range of from 180° F. to the normal boiling point of said mass while bubbling air therethrough, and subsequently separating the aqueous content and the solids content composed essentially of calcium sulfate and ferrosoferric oxide particles, of said reaction mass from each other, the steps of simultaneously adding separate streams of said liquor and lime slurry into said reaction vessel at such rates of addition in relation to one another so as to constantly maintain the pH of the reaction mass in a range of from 7 to 8, and withdrawing a stream of said reaction mass from the reaction vessel at a rate to provide a reaction mass hold-up time of at least four hours.

3,261,666
METHOD OF PRODUCING NITRIDES OF ALUMINUM AND BORON

Benjamin J. Luberoff, Monsey, Robert N. Rickles, Riverdale, and Robert W. Stuchell, Elmhurst, N.Y., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed May 8, 1962, Ser. No. 193,324
5 Claims. (Cl. 23—191)

1. A process of producing the nitride of an element of Group IIIA of the Periodic System selected from the class consisting of aluminum and boron which comprises heating at a temperature ranging from about 800° C. to about 1350° C. in the presence of silica and under a non-oxidizing atmosphere, one oxidic equivalent of the element including the basic metal aluminate and borate equivalents thereof with a basic metal salt selected from the class consisting of basic metal cyanamides and cyanides the quantity of basic metal salt being sufficient to provide at least 1 equivalent of cyanide and isolating the so-formed nitride by leaching out the reaction by-products.

3,261,667
PROCESS FOR THE PRODUCTION OF METAL BORIDES AND NITRIDES

Timothy Edmond O'Connor, Brandywine Hundred, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application Jan. 25, 1960, Ser. No. 4,252. Divided and this application June 19, 1963, Ser. No. 301,222
2 Claims. (Cl. 23—191)



1. A process for the production of metal nitrides, said process comprising admixing turbostratic boron nitride and the oxide of a metal selected from the group consisting of aluminum, titanium, and zirconium; heating said mixture to above 1000° C.; and recovering the corresponding metal nitride from said mixture.

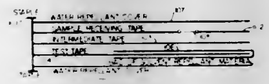
2. A process for the production of metal borides, said process comprising admixing turbostratic boron nitride and the oxide of a metal selected from the group consisting of zirconium, vanadium, niobium, chromium, molybdenum, and tantalum; heating said mixture to above 1000° C.; and recovering the corresponding metal boride from said mixture.

3,261,668
CHEMICAL ANALYZER TAPE

Samuel Natelson, Valley Stream, N.Y., assignor to Scientific Industries, Inc., Springfield, Mass., a corporation of Delaware

Filed Aug. 14, 1962, Ser. No. 216,845
6 Claims. (Cl. 23—253)

1. An arrangement for chemical analysis, comprising in combination, three flat strip mediums, superimposed one on the other, the outer medium on the one side being absorbent and designed to receive a sample, the intermediate medium being non-reactive and porous of a pore size such that it is permeable to water but molecules of a molecular weight higher than proteins cannot pass therethrough, the outer medium on the other side being a test



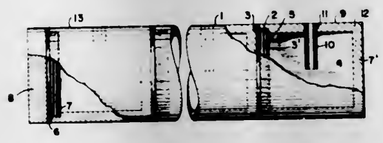


medium to which the sample is to be transferred in an evenly distributed spot.

3,261,669
MULTIPLE HYDROGENATION INSERT

Roger A. Eisenhauer, Washington, and Robert E. Beal, Elmwood, Ill., assignors to the United States of America as represented by the Secretary of Agriculture

Filed Jan. 25, 1963, Ser. No. 254,031
1 Claim. (Cl. 23—253)



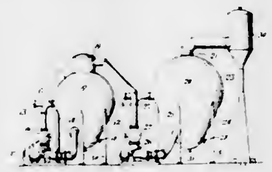
An adapter insert assembly for simultaneously permitting reaction of a pressurized gas with a multiplicity of samples of materials to be analyzed, said adapter assembly comprising a cooperating multiplicity of at least five identical and interchangeable substantially hollow cylindrical segments each unassembled segment having a deeply drilled open end and an unopened end so as to form a cup-like reaction chamber whose wall is penetrated at about mid-length by a short piece of transversely directed pressure tubing to permit access to said chamber of an externally applied pressurized gas, liquid-proof coupling means at the ends of each said segment, a non-interchangeable base segment differing from the other segments only in lacking a coupling means at its solid end, and a cap member having a liquid-proof means for coupling to the open end of the terminal interchangeable segment, the unopened end of each interchangeable segment cooperating with the open end of the adjoining segment to provide a liquid-proof closure therefor.

3,261,670
CONISPHERICAL VESSEL FOR CRYSTALLIZATION

Anthony N. Chirico, Naperville, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois

Filed Apr. 21, 1965, Ser. No. 452,447
11 Claims. (Cl. 23—273)

1. A chemical processing crystallizer having large capacity comprising a conispherical vessel having a hemispherical top portion and a conical bottom portion directly connected to said top portion converging to an apex at the bottom of said vessel, the intersection of said top portion and said bottom portion being tangential, an equator belt in said top portion, a vapor outlet in said top portion, feed inlet means immediately adjacent and

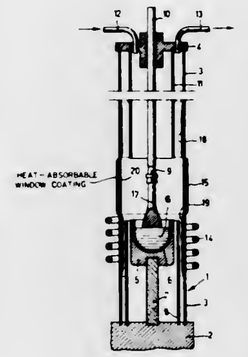


below said equator belt, a recirculating solute outlet in said bottom portion below said feed inlet means and connecting with said feed inlet means, and a magma outlet means in said bottom portion.

3,261,671
DEVICE FOR TREATING SEMI-CONDUCTOR MATERIALS BY MELTING

Jelis de Jonge, Petrus Cornelis van der Linden, and Jacob Willem de Ruiter, all of Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 29, 1963, Ser. No. 326,931
8 Claims. (Cl. 23—301)

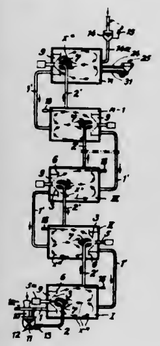


1. Apparatus for treating semiconductive materials by melting which semiconductive materials when molten produce vapors capable of forming opaque deposits, comprising a chamber having wall portions and within the chamber means for supporting a crystalline rod-like body of said semiconductive material with respect to a melt, means for heating at least a portion of the semiconductive material at a temperature at which it melts, a wall portion of said chamber being at least partly transparent and serving as an observation window for the melt, said observation window being exposed to the melt and thus subject to the growth of said opaque deposits thereon which obscure continued observation of the melt through the window, and integral with said observation window a material having a higher absorption power for heat radiation than materials of adjacent wall portions of the chamber whereby the said observation window is maintained by absorption of heat radiation at a higher temperature than the adjacent wall portion thereby reducing the tendency for deposits to grow thereon and obscure vision therethrough.

3,261,672
COUNTERCURRENT EXTRACTION PROCESS

Kurt Heinrich, Wevelinghoven, Germany, assignor to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany

Original application May 22, 1961, Ser. No. 111,818, now Patent No. 3,212,857, dated Oct. 19, 1965. Divided and this application Nov. 19, 1962, Ser. No. 238,427
Claims priority, application Germany, May 23, 1960, M 45,401
1 Claim. (Cl. 23—310)



In a countercurrent treating process, the steps of conveying a stream of treating fluid through a plurality of consecutive treating stations in a first direction, said plurality of consecutive treating stations including a first and a last treating station and the conveying of said stream of treating fluid being carried out in said first direction from said last to said first treating station; introducing unextracted material into said first treating station; and removing extracted material from said last treating station after said material has passed through said plurality of treating stations in a second direction opposite to said first direction from said first treating station to said last treating station; reintroducing from each of said treating stations in said second direction into the following treating station part of said stream of fluid so as to obtain a countercurrent recirculation of part of said stream of treating fluid between each two of said treating stations, said countercurrent recirculation carrying along from each of said treating stations into the following treating station said material to be extracted; substantially separating in each of said treating stations said recirculated part of said stream of fluid from the material carried along and reintroducing the thus separated part of said stream of fluid in said first direction into the next preceding treating station while permitting extraction of the thus separated material in the respective treating station; and removing at said first treating station said stream of treating fluid after said stream of treating fluid has served for extraction of said material passing through said treating stations in said second direction in countercurrent to said stream of treating fluid.

3,261,673
OXIDE COATED ARTICLES WITH METAL UNDERCOAT

William Maxwell Wheildon, Jr., Framingham Center, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Continuation of application Ser. No. 570,602, Mar. 9, 1956. This application May 17, 1963, Ser. No. 281,366
9 Claims. (Cl. 29—195)

1. As a new article of manufacture, a metal base member having a rigid integral oxidation resistant composite coating integral with said metal base member, said composite coating comprising a first coating bonded to said base member and consisting essentially of particles of a metal being selected from the group consisting of nickel, chromium, cobalt, iron, molybdenum, copper, lead, tin and alloys thereof and being self-bonded throughout the mass of said first coating so that said first coating itself constitutes a rigid integral structure and a second



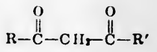
coating bonded to said first coating and consisting essentially of particles of refractory metal oxide material having a melting point over 1000° C. and being self-bonded throughout the mass of said second coating so that said second coating itself constitutes a rigid integral structure, the adhesive strength between the second coating and the first coating being substantially equal to the cohesive strength of said second coating.

3,261,674
STABILIZED GASOLINE ANTIKNOCK COMPOSITIONS AND GASOLINE CONTAINING SAME

Albert C. Condo, Jr., Newtown Square, Pa., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 10, 1961, Ser. No. 94,686
12 Claims. (Cl. 44—69)

11. A fuel composition for use in spark ignition internal combustion engines consisting essentially of a petroleum fraction boiling in the gasoline hydrocarbon range, which gasoline fuel is stable toward gum-formation and a stable antiknock composition consisting essentially of a lead alkyl antiknock agent, methyl cyclopentadienyl manganese tricarbonyl antiknock agent, and a hydrocarbon oil soluble beta-diketone characterized by having the structural formula



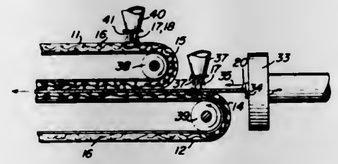
wherein R and R′ are hydrocarbon radicals selected from the group consisting of alkyl, aryl, alkaryl and aralkyl radicals containing from 1 to 20 carbon atoms, the lead of the lead alkyl antiknock agent ranging from 0.1 gram to 6.3 grams per gallon of gasoline, the manganese of the methyl cyclopentadienyl manganese tricarbonyl ranging in an amount from 0.1 gram to 6.3 grams per gallon of gasoline and the beta-diketone being present in an amount ranging from 1 mole to 3 moles per mole of the methyl cyclopentadienyl manganese tricarbonyl.

3,261,675
METHOD OF MAKING SCOURING ARTICLES

John A. Cameron, Fort Lauderdale, Fla., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

Original application Oct. 9, 1961, Ser. No. 143,914, now Patent No. 3,192,679, dated July 6, 1965. Divided and this application Sept. 11, 1964, Ser. No. 400,968
3 Claims. (Cl. 51—293)

1. A method of forming an abrasive, detergent-containing scouring pad which comprises extruding a continuous strip of flowable detergent material on one surface of a porous batt section of organic fibers having abrasive particles bonded to the fibers of said batt so that said strip enters the voids in said batt section to an extent wherein the strip is substantially included within the volume of said batt, superposing on said surface a further batt section, bonding said batt sections and subdividing the adhered sections into individual pads each of which

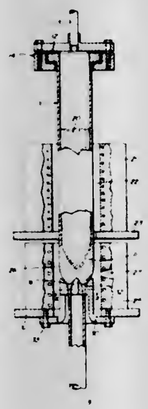


has detergent strips disposed at the adhering surface thereof over a portion which is less than the entirety of said surface.

3,261,676
METHOD FOR FORMING SILICA ARTICLES

Charles R. Morelock, Ballston Spa, N.Y., assignor to General Electric Company, a corporation of New York

Filed Jan. 24, 1963, Ser. No. 253,675
1 Claim. (Cl. 65—18)



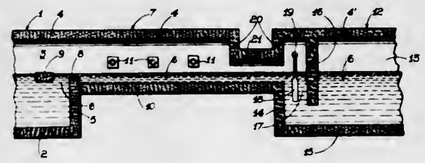
The process for producing a fused silica tube or rod comprising: providing a fused silica tube of preselected diameter and length having one end sealed, positioning the silica tube in a vertical position with the closed end down, placing a quantity of granular crystalline silica in the fused silica tube, connecting the open upper end of the fused silica tube to an evacuating system having a pressure no higher than 5×10^{-2} mm. Hg and effecting continuous evacuation thereof, heating the fused silica tube and its granular crystalline silica contents in a first heating zone to a temperature of from about 900° C. to 1600° C. to effect degasification thereof, progressively lowering the silica tube and its contents through the first heating zone into a second heating zone and heating to a temperature of not lower than about 1800° C., to effect fusion of the silica tube and the granular crystalline silica into an integral homogeneous mass, and shaping the fused mass into a desired shape as it exits from the second heating zone.

3,261,677
GLASS FURNACE HAVING A REFINING CHAMBER FOR THE MOLTEN GLASS

Emile Plumat, Gilly, Belgium, assignor to Glaverbel, Brussels, Belgium, a Belgian company

Filed Jan. 2, 1963, Ser. No. 249,011
Claims priority, application Belgium, Jan. 11, 1962, 488,531, Patent 612,555
8 Claims. (Cl. 65—346)

1. In a glass furnace having a melting chamber, a thermal conditioning chamber, and a refining chamber positioned between the other two chambers, all chambers having separate bases and a coextensive arch, the improvement in combination therewith comprising said thermal conditioning base being positioned at a substantially lower level than said refining chamber base, a vertical wall connecting the bases of said refining and thermal conditioning chambers, a partition extending vertically downward from the arch to a point below said refining chamber base and near said conditioning chamber base, said partition spaced from said vertical wall to form a



narrow vertical passageway therewith and to form an outlet with said conditioning chamber base, whereby when said furnace is operating with molten glass there will be a shallow pool of molten glass in said refining chamber and a deep pool of molten glass in said conditioning chamber, said molten glass will pass downwardly in said vertical passage and enter said conditioning chamber in a substantially horizontal direction along said base thereof.

3,261,678
METHOD FOR INHIBITING PLANT GROWTH

Norman E. Searle, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 27, 1964, Ser. No. 340,524
3 Claims. (Cl. 71—2.6)

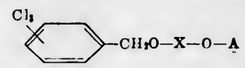
1. A method for inhibiting the growth of plants, said method comprising applying a plant growth inhibiting amount of 2,3,6-trichlorobenzoyl halide to the area to be protected.

3,261,679
HERBICIDAL USES OF TRICHLOROBENZYLOXY-ALKYL-ESTERS OF CHLORINATED PHENOXY-ALIPHATIC ACIDS

Jack S. Newcomer, Wilson, Edward D. Weil, Lewiston, Edwin Dorfman, Grand Island, and Jerome Linder, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed June 8, 1964, Ser. No. 373,563
10 Claims. (Cl. 71—2.6)

1. A herbicidal method which comprises applying to the locus to be treated a herbicidal amount of

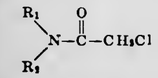


wherein X is an organic radical selected from the group consisting of alkylene, alkylene-oxy-alkylene, alkylene substituted by —OA, and alkylene substituted by —OH, said alkylene radicals having from two to six carbon

atoms exclusive of any A group, and where A is an organic radical selected from the group consisting of 2,4-dichlorophenoxyacetyl, 2,4,5-trichlorophenoxyacetyl and 2-(2,4,5-trichlorophenoxy) propionyl, and mixtures thereof.

3,261,680
HERBICIDAL COMPOSITION AND METHOD
John M. Deming, Hazelwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 11, 1965, Ser. No. 454,979
12 Claims. (Cl. 71—2.7)

1. A herbicidal composition comprising activated charcoal particles containing per 100 parts by weight of charcoal, from about 5 to about 30 parts of an α-chloroacetamide of the structure



wherein R_1 and R_2 are substituents selected from the group consisting of hydrogen and straight chain linear hydrocarbon radicals of one to six carbon atoms, provided that not more than one of the R_1 and R_2 substituents is hydrogen, substantially all of the charcoal particles being between 10 and 100 mesh.

3,261,681
METHOD OF REMOVING SILICON FROM GERMANIUM INGOTS
Toshio Abe, Kawasaki-shi, and Masaji Kanazawa and Taizo Ohashi, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Horikawacho, Kawasaki-shi, Japan, a corporation of Japan
No Drawing. Filed Nov. 16, 1962, Ser. No. 238,296
Claims priority, application Japan, Nov. 18, 1961, 36/41,326
2 Claims. (Cl. 75—84)

1. A method of removing silicon from a germanium ingot comprising melting the ingot in an oxidizing atmosphere comprising a mixture of at least one gas selected from the group consisting of nitrogen, argon, neon, helium and hydrogen, and at least one gas selected from the group consisting of oxygen, steam and carbon dioxide in such an amount that the oxygen portion thereof produces a partial pressure of 0.001 to 0.1 atmosphere, repeating the melting of said germanium ingot thereby to allow silicon contained in the germanium ingot to float to the surface of the melt in the form of silicon dioxide, and removing the silicon dioxide thus formed.

3,261,682
ZIRCONIUM ALLOYS CONTAINING CERIUM AND YTTRIUM
Ulrich Rösler, Erlangen, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany
No Drawing. Filed Nov. 8, 1962, Ser. No. 236,421
Claims priority, application Germany, Sept. 29, 1962, S 81,837, S 81,838
9 Claims. (Cl. 75—177)

3. A zirconium alloy consisting essentially of 0.3 to 2.5% columbium, 0.01 to 0.5% cerium, and at least one addition selected from the group consisting of

	Percent
Sn	0.2 to 1
Cu	0.5 to 1.5
Fe	0.1 to 1.5
Cr	0.1 to 1.5
Ni	0.1 to 1.5
Mo	0.5 to 1
W	0.5 to 1
V	0.2 to 1

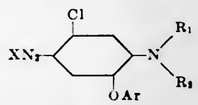
and the balance consisting essentially of zirconium.

3,261,683
METHOD OF PREPARING TRANSFER COPIES AND COMPOSITIONS FOR USE THEREIN
Joseph R. Sottysiak, Binghamton, John Proc, Vestal, and Charles M. Hovancik, Chenango Forks, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 2, 1960, Ser. No. 25,826
12 Claims. (Cl. 96—29)

1. A photographic diffusion-transfer reversal process which comprises exposing to light a photographic element having a light-sensitive emulsion layer thereon comprising silver halide and a colloid to form an image thereon and contacting said image with a receiving layer comprising a colloid, a silver halide developing agent and bismuth nitrate in the presence of a silver halide developing solution and a silver halide solvent.

3,261,684
PROCESS AND DEVELOPER FOR DEVELOPING EXPOSED ONE-COMPONENT DIAZOTYPE MATERIALS
Johannes Henricus Andreas Wilders and Bernardus Hubertus Marie Loenen, Venlo, Limburg, Netherlands, assignors to Chemische Fabriek L. van der Grinten N.V., Venlo, Limburg, Netherlands, a corporation of the Netherlands
No Drawing. Filed Aug. 29, 1962, Ser. No. 220,129
Claims priority, application Netherlands, Aug. 31, 1961, 268,816
6 Claims. (Cl. 96—49)

1. Process for the production of diazotype copies according to the one-component diazotype method wherein a thin layer of an aqueous developing liquid is applied to the sensitized side of one-component diazotype paper, which comprises applying to imagewise exposed one-component diazotype paper, which has been sensitized with a diazo compound of the formula:



in which X is an anion, R_1 and R_2 are selected from the class consisting of methyl groups, ethyl groups, a methyl group and an ethyl group, and a methyl group and a cyclohexyl group, and Ar is a phenyl radical carrying at most two substituents, a thin layer of an acid-reacting, aqueous, buffered developing liquid, which contains phloroglucinol as at least the principal coupling component, and which contains alkali metal maleate selected from the class consisting of potassium maleate, lithium maleate and mixtures thereof as the principal buffer salt and has a pH between 6.5 and 7.

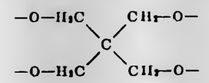
2. A developer composition for one-component diazotype material, which comprises phloroglucinol as at least the principal coupling component, which contains as the principal buffer salt alkali metal maleate selected from the class consisting of potassium maleate, lithium maleate and mixtures thereof and which has in aqueous solution a pH of 6.5 to 7.

3,261,685
HIGH TEMPERATURE DEVELOPMENT PROCESS USING 3-PYRAZOLIDONES IN ACID MEDIA
Louis De Haes, Edegem-Antwerp, and Andre Rott, Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a company of Belgium
No Drawing. Filed Sept. 21, 1965, Ser. No. 489,080
Claims priority, application Netherlands, Jan. 20, 1961, 260,300
12 Claims. (Cl. 96—66)

1. A process of photographic reproduction comprising subjecting a photographic material comprising a support and an exposed photographic silver halide emulsion layer on one side of said support to development with a 3-pyrazolidone developing agent, said development being carried out by treating said exposed photographic silver halide emulsion layer with an aqueous solution in the presence of said 3-pyrazolidone developing agent at a pH of less than 7 and at a temperature from 45° C. to 100° C.

3,261,686
PHOTOPOLYMERIZABLE COMPOSITIONS AND ELEMENTS
Jack Richard Celeste, Westfield, and Sigrid Bauer, New Brunswick, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 23, 1963, Ser. No. 274,909
4 Claims. (Cl. 96—115)

1. A photopolymerizable layer comprising:
(a) a thermoplastic macromolecular organic polymer solid at 50° C., and
(a–a) at least one ester of a pentaerythritol compound containing a nuclei of the formula:



wherein three of the free bonds have attached thereto an acrylyl radical and the remaining free bond is linked to a member selected from the group consisting of an aliphatic hydrocarbon radical, an ether substituted aliphatic hydrocarbon radical, a carboxylic acid ester substituted hydrocarbon radical, a hydroxyalkyl radical and hydrogen.

3,261,687
ANIMAL FEED CONTAINING LINCOMYCIN AND SPECTINOMYCIN
Malcolm E. Bergy and Ross R. Herr, Kalamazoo, and Donald J. Mason, Portage, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Sept. 21, 1964, Ser. No. 398,060
6 Claims. (Cl. 99—2)

4. An animal feed for increasing production in healthy meat-producing animals comprising from 1 to 10 parts by weight of spectinomycin to one part by weight of lincomycin in combination with an animal feed.

3,261,688
GROWTH PROMOTING AGENTS
Winfred N. McCutchan, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Sept. 11, 1961, Ser. No. 137,007
5 Claims. (Cl. 99—9)

1. An animal feed containing as an essential active ingredient, a small but effective amount to promote growth of a growth-promoting composition produced by incubating under aerobic conditions a nutrient medium inoculated with *Bacillus licheniformis* to promote a growth-promoting agent and bacitracin, separating the growth-promoting agent from the bacitracin for incorporation into the feed.

3,261,689
SOLUBLE COFFEE PROCESS
George B. Ponzoni, Nutley, N.J., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Filed June 7, 1963, Ser. No. 286,206
3 Claims. (Cl. 99—71)

1. In the art of aromatizing soluble coffee with particles of freshly roasted and ground coffee the improvement which comprises forming a liquid extract of soluble coffee solids, said extract having a temperature of between 40 and 100° F., tempering a separate charge of freshly roasted coffee for at least 3 hours at a temperature of between −80° and 10° F. to congeal the coffee oils present in said coffee and form large crystals of water ice, subdividing the tempered coffee at a temperature of below −80° F. to a size wherein substantially all of the coffee passes through a 100 mesh U.S. Standard sieve screen and at least 50% passes through a 200 mesh U.S. Standard sieve screen, dispersing the charge of coffee in said liquid extract, said coffee being added at level of 1 to 10% by weight of the total soluble solids in the extract, maintaining said extract at 40° to 100° F. while solubilizing between 1 and 10% of the coffee solids present in said fines, and spray-drying said extract to thereby encapsulate the freshly roasted coffee with a thin coating of dry coffee extract which serves to stabilize the roasted coffee.

3,261,690
EXTRACTIVE MILLING OF RICE IN THE PRESENCE OF AN ORGANIC SOLVENT
Truman B. Wayne, P.O. Box 13086, Houston, Tex.
Filed Nov. 3, 1964, Ser. No. 408,702
23 Claims. (Cl. 99—80)

1. An improved process for milling rice comprising milling bran from kernels of brown rice under sufficient pressure on the rice to mechanically remove the bran coat and extracting fatty components from the rice and bran with a sufficient quantity of a volatile liquid organic solvent to extract a substantial amount of the fatty components of the rice and bran during the milling step.

3,261,691
SAFFLOWER OIL COMPOSITION
Roy Erickson, Deerfield, Ill., assignor to A. C. Grace Company, Northfield, Ill., a corporation of Illinois
No Drawing. Filed July 16, 1962, Ser. No. 210,203
5 Claims. (Cl. 99—118)

1. A composition consisting essentially of safflower oil, 1.2 to 1.5 percent by weight of a compound selected from the group consisting of glycerol monooleate and glycerol dioleate, and 1.2 to 1.5 percent by weight of a sorbitan monooleate polyoxyethylene in which the glyceride of oleic acid and the sorbitan monooleate polyoxyethylene are present in the ratio of 40–60 parts by weight of one to 60–40 parts by weight of the other.

3,261,692
METHOD OF PREPARING A FROZEN SALT-CONTAINING MEAT PRODUCT
Stephen S. Chang, Franklin Park, and Peter X. Hoynak, Jr., Wayne, N.J., assignors to Rutgers Research and Educational Foundation, New Brunswick, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 1, 1963, Ser. No. 262,201
4 Claims. (Cl. 99—194)

1. A method of preparing a frozen salt-containing meat product which contains unsaturated lipid that is subject to rancidity, said salt being sodium chloride, comprising coating particles of sodium chloride with edible fat having a melting point substantially above room temperature to produce a product consisting essentially of sodium chloride coated with such solid fat, said solid fat being present on the salt in an amount of at least 2% by weight of the salt, adding said fat-coated salt to said meat and freezing said salt-containing meat product while maintaining the fat coating on the salt particles in solid condition to prevent access of said salt particles to the unsaturated lipid in the frozen meat product.

3,261,693
METHOD OF PREPARING AND FREEZING LOBSTERS AND CRABS
Ruth W. Jung, 75—76 199th St., Flushing, N.Y.
No Drawing. Filed Mar. 5, 1964, Ser. No. 349,743
6 Claims. (Cl. 99—195)

3. The process of preparing shell fish for storage comprising the steps of;
quickly paralyzing or killing the shell fish by electric shock until the shell fish becomes immobile and then freezing the shell fish.

3,261,694
METHOD FOR DEHYDRATION OF MOISTURE CONTAINING MATERIALS OF CELLULAR STRUCTURE
John H. Forkner, Fresno, Calif., assignor to The Pillsbury Company, Minneapolis, Minn., a corporation of Delaware
Filed Dec. 6, 1961, Ser. No. 157,538
15 Claims. (Cl. 99—199)

1. In a method for the dehydration of particles of predetermined size of moisture containing chilled food material of cellular structure, the steps of subjecting a body of oil at a temperature level within the range of from 240 to 600° F. to a partial vacuum of the order of from 22 to 29 inches mercury column, enveloping a predetermined amount of said particles of said food material in said hot oil while maintaining said partial vacuum and while said particles are chilled sufficiently to effect rapid heat transfer between the oil and the material with rapid evolution of water vapor to create a vapor-oil mixture which envelops said material and causes a rapid drop in temperature of the oil to a level within the range of from 130 to 230° F., removing evolved vapor from the oil with continued application of partial vacuum thereto during said rapid drop in temperature, and then separating the material from the oil and thereafter releasing the partial vacuum.

3,261,695
PROCESS FOR PREPARING DEHYDRATED FOODS
Boleslaw Sienkiewicz, Pearl River, N.Y., and Frank Hollis, Jr., Hillsdale, N.J., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Dec. 24, 1962, Ser. No. 246,832
9 Claims. (Cl. 99—207)

1. A process for preparing a dehydrated potato product, comprising cooking potatoes until they are soft enough to mash, mashing the cooked potatoes, slurrying the mashed potatoes with sufficient aqueous medium to form a slurry containing about 7 to 16 percent potato solids, dewatering the slurry to a filter cake, slurrying the dewatered potatoes to form a reslurry containing about 7 to 16 percent potato solids, and spray-drying the reslurried potatoes.

3,261,696
ZIRCONIA BASED FOAM INSULATING MATERIAL AND METHOD
Robert E. Wiegert, Middletown, and Thomas J. Byrne, Franklin, Ohio, assignors to The Aeronca Manufacturing Corporation, Middletown, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 27, 1964, Ser. No. 406,911
8 Claims. (Cl. 106—40)

1. The method which comprises, preparing a mixture which consists essentially of about 76–80 parts per hundred by weight of castable zirconia, about 7.5–10.0 parts calcined granular alumina, and .1–.2 part powdered aluminum metal, adding to said mixture a phosphoric acid solution corresponding to about 8.0–10.0 parts phosphoric acid in 85% aqueous solution and about 3.1–5.0 parts additional water, thereby producing a foaming reaction in which water vapor and hydrogen are evolved which impart a cellular structure to the reaction mass, permitting the reaction mass to stabilize itself at room temperature for at least about one hour, and thereafter hardening the resultant product at a temperature in the range of about 150–800° F. for a period of hours.

3,261,697
OXIDATION RESISTANT CARBONACEOUS BODIES AND METHOD FOR MAKING
William E. Parker, Lewiston, and John F. Rakszawski, Niagara Falls, N.Y., assignors to Air Reduction Company, Incorporated, a corporation of Delaware
Filed Jan. 16, 1962, Ser. No. 166,563
4 Claims. (Cl. 106—56)

1. An article made of carbon and having a low rate of oxidation upon exposure to oxidation conditions at temperatures of 700° C. and above, which article consists of graphitized carbon having homogeneously distributed therein 0.001 to 20 mole percent of a boron silicide.

3,261,698
REFRACTORY SHAPES
Dwight S. Whittemore, Pittsburgh, and Thomas W. Smoot, Bethel Park, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Sept. 4, 1964, Ser. No. 394,597
4 Claims. (Cl. 106—56)

2. A fired refractory shape of good resistance to penetration and wetting by molten metal and slags comprising a skeletal refractory structure characterized by extensive interconnected interior pore space amounting to between about 15 and 30% of the volume thereof and consisting essentially of at least about 70% stabilized zirconia, said shape impregnated throughout its extensive interconnected pore space with carbon substantially free of volatile components, said shape characterized by substantial resistance to destabilization of the zirconia constituting it.

3,261,699
METHOD OF PREPARING ALUMINA REFRACTORY
Jack L. Henry, Albany, Oreg., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
No Drawing. Filed Apr. 8, 1963, Ser. No. 271,510
4 Claims. (Cl. 106—62)

1. A method of making a refractory body of improved quality comprising preparing a refractory mixture consisting essentially of a major portion of alumina and a minor portion of at least one fluoride from the group consisting of alkali metal fluorides, alkaline earth metal fluorides, and aluminum fluoride, milling the mixture, precalcining the refractory mixture at a temperature of at least about 500° C., pressing the refractory mixture into desired form, and firing the pressed form at a temperature of at least about 850° C. and below the volatilization temperature of said fluoride constituent.

3,261,700
KILN BRICK
Gerald M. Spence, Monolith, and Alif R. Bryan, Tehachapi, Calif., assignors to Monolith Portland Cement Co., Los Angeles, Calif., a corporation of Nevada
Filed Feb. 6, 1963, Ser. No. 256,599
5 Claims. (Cl. 106—64)

5. A kiln brick consisting essentially of from 1 to 10% by weight tetracalcium aluminate ferrite, 1 to 10% by weight tricalcium aluminate and less than 5% by weight contaminants and the remainder tricalcium silicate.

3,261,701
COMPOSITION OF MATTER CONTAINING ALUMINUM NITRIDE AND ALUMINUM BORIDE
Carl A. Grulke, Berea, Ohio, assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 19, 1961, Ser. No. 125,070
4 Claims. (Cl. 106—65)

1. A chemically and thermally stable composition of matter consisting essentially of aluminum nitride and aluminum boride, said aluminum nitride forming a substantially continuous phase throughout said composition.

3,261,702
METHOD OF PREPARING ALUMINA CASTING SLIPS
Leroy D. Hart, Crestwood, Mo., and William F. Graebe, Belleville, Ill., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 3, 1962, Ser. No. 241,532
3 Claims. (Cl. 106—65)

1. A method of preparing slips which comprises heating a mixture of siliceous material and alumina containing water-soluble soda, said mixture having less than 0.3%, by weight of added basic oxides and compounds containing both magnesia and silica, at a temperature of 900 to 1600° centigrade for sufficient time to insolubilize the soda, and thereafter preparing a slip from the resultant material containing insolubilized soda and siliceous material.

3,261,703
METHOD OF PREPARING CASTING SLIPS FROM ALUMINA HYDRATE
Leroy D. Hart, Crestwood, Mo., and William F. Graebe, Belleville, Ill., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Dec. 3, 1962, Ser. No. 241,536
3 Claims. (Cl. 106—65)

1. A method of preparing slips which comprises heating a mixture of siliceous material and alumina hydrate containing water-soluble soda, said mixture having less than 0.3%, by weight, of added basic oxides and compounds containing both magnesia and silica, at a temperature of 1200 to 1600° centigrade for sufficient time to insolubilize the soda, and thereafter preparing a slip from the resultant material containing insolubilized soda and siliceous material.

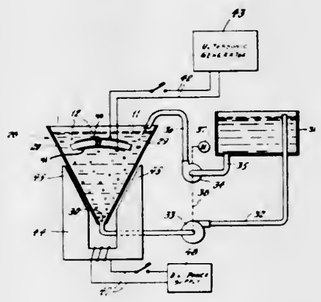
3,261,704
METHOD OF FORMING A CELLULOSE SPONGE
Fred B. Stieg, 35—16 85th St., Jackson Heights, N.Y.
No Drawing. Filed Apr. 3, 1959, Ser. No. 803,848
7 Claims. (Cl. 106—122)

1. The method of forming a sponge having a multiplicity of fine pores to the extent of at least 500,000 pores per cubic inch, said method comprising preparing a paste including a viscose solution and powder fine crystals of an alkali metal salt having a melting point not greater than about 75° C., subjecting the paste thus formed to two separate heat applications, the first comprising an initial elevated temperature in the range of from about 55° C. to 75° C. to effect partial regeneration of the cellulose of the viscose solution whereby a substantially immobile and homogeneous gel-like mass including the fine crystals of salt is formed and the second heat application comprising thereafter subjecting this gel-like mass to a subsequent temperature at least 10° C. higher than the first applied heat and in excess of 75° C. to accomplish the complete regeneration of the cellulose of the viscose solution to form the sponge.

3,261,705
METHOD OF PRODUCING AN EMULSIFIABLE GEL
John Gallagher, 104 Cliff Drive, Fairhope, Ala.
No Drawing. Filed Mar. 1, 1965, Ser. No. 436,366
5 Claims. (Cl. 106—212)

1. A method of forming a water emulsified gel wherein 90 to 100 grams of powdered corn starch are combined with about 1½ fluid ounces of glacial acetic acid until a heavy paste is formed, adding to said paste 16 fluid ounces of pure gum shellac, four pound cut in one gal. denatured alcohol, adding 4 fluid ounces of ammonium hydroxide, 29% aqua ammonia solution, and stirring until thoroughly mixed and then adding about 48 ounces of pure water and allowing the resin to precipitate out into a solid.

3,261,706
METHOD OF FABRICATING MAGNETIC TAPE
Florence Nesh, 4707 Connecticut Ave. NW., Washington, D.C.
Filed May 4, 1962, Ser. No. 192,606
6 Claims. (Cl. 117—33)

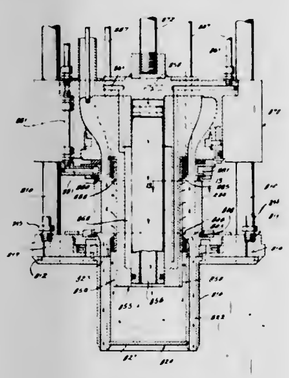


1. The method of fabricating magnetic tape which comprises coating one surface of a plastic tape with an adhesive, uniformly dispersing on said coating finely divided small particles of a paramagnetic material before said adhesive has set, disposing said tape in a gas loaded liquid and while submerged in said liquid subjecting said tape to ultrasonic vibrations in the presence of a force field.

3,261,707
STATOR COATING
Frank S. Korski, Brentwood, and Walter J. Grodzki, Jr., Jennings, Mo., assignors to Emerson Electric Co., a corporation of Missouri
Filed Oct. 21, 1963, Ser. No. 317,757
23 Claims. (Cl. 117—18)

22. A method of coating with a sinterable material a part of the walls of teeth defining a multiplicity of winding-receiving slots of a stator core, said teeth being spaced to define for each slot a winding-receiving area to be coated and, radially inwardly thereof, a relatively narrow gap opening into the bore of the core, said method comprising inserting in each of said gaps a spline through the full radial reach of said gap, said spline having side walls spaced from the gap-defining walls of the teeth sufficiently to admit gas therebetween; forcing gas under pressure along and past the said side walls of said spline, thereby forming a kinetic mask along the gap-defining walls of contiguous teeth; introducing said sinterable coating material in the form of particles in a gas medium into the winding-receiving area of said slot while maintaining the said kinetic mask; thereafter stopping the introduction of particulate coating material

to the winding-receiving area of said slot, depositing said coating material on the unmasked area of said winding-



receiving area of the slot of said hot core, and thereafter stopping the flow of masking gas.

3,261,708

PROCESS FOR FORMING CHEMICALLY DEPOSITED PHOTOSENSITIVE LEAD SULFIDE LAYERS

Raymond Cooperstein, Cincinnati, Ohio, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed July 30, 1958, Ser. No. 753,173
8 Claims. (Cl. 117—34)

1. The method of forming a photosensitive layer of lead sulfide crystals which comprises precipitating the crystals onto a solid glass support by adding a solution of thiourea to an alkali metal hydroxide solution of a lead salt, one of the solutions containing an alkali metal halide, the halogen atom being selected from the group consisting of bromine and iodine, the lead salt being a water soluble salt selected from the group consisting of lead nitrate, lead acetate, lead chlorate and lead perchlorate, the concentrations in the solutions when first combined being as follows: alkali metal halide from 0.05 to 0.3 gram per liter when a bromide is used and 0.005 to 0.05 gram per liter when an iodide is used, lead between .05 and .06 molar, and hydroxide between .55 and .75 molar, and from 5–30 minutes after said solutions are combined immersing the solid glass support in the combined solutions to receive precipitated crystals of lead sulfide and then drying the surface.

3,261,709

PROCESS FOR PREPARING PHOTOCONDUCTIVE COMPOSITIONS AND SHEETS COATED THEREWITH

Joseph Shulman, Hyde Park, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

No Drawing. Filed Jan. 15, 1965, Ser. No. 425,943
3 Claims. (Cl. 117—34)

1. Process of making a photoconductive sheet suitable for making prints under a wide range of relative humidity conditions including humidities in excess of 75%, comprising the steps of preparing a water emulsion consisting of a styrene and an acrylate in the ratio of 20 to 70 parts styrene balance alkyl acrylate, a styrene-maleic anhydride copolymer, water, and a volatile alkaline material in an amount sufficient to render said styrene-maleic anhydride copolymer soluble in said emulsion, heating to effect copolymerization of said styrene, acrylate, and styrene-maleic anhydride copolymer, preparing a water dispersion of zinc oxide, uniformly mixing said emulsion and said dispersion with sufficient water to adapt the resulting composition to a coating step, coating said mixture onto a backing sheet, and then heating the resulting coating to drive off water and volatile constitutents, and react carboxyl groups of said maleic anhydride with said zinc oxide to form a hydrophobic complex therewith, the final dried product consisting of one to 10 parts zinc oxide to one part of the polymers.

3,261,710

METHOD FOR REMOVING COATING OF EPOXY-PHENOLIC RESIN AND POLYTETRAFLUOROETHYLENE FROM METAL CASES

Elmer E. Waldmann, Jefferson, Wis., assignor, by mesne assignments, to The United States of America as represented by the Secretary of the Navy

No Drawing. Original application May 15, 1962, Ser. No. 195,011. Divided and this application Feb. 26, 1963, Ser. No. 270,780
5 Claims. (Cl. 117—49)

1. The method of removing a coating of epoxy-phenolic resin from metal cases having also a coating of sufficiently porous polytetrafluoroethylene adhered to said resin comprising:

immersing the cases in a hot bath for a period of time sufficient to completely remove the coatings without resulting in an undue loss of metal;

said hot bath including essentially a solution, on a gallon basis, of from 1–10 ounces of chromium trioxide, from 0.2–2.0 ounces of an antioxidant additive, from 0.1–1.0 fluid ounce of a liquid composition acting as an acid inhibitor;

said acid inhibitor including the reaction product of coal tar derivatives selected from the group consisting of pyridine, lutidines, picolines, collidines, quinoline or substituted derivatives thereof with an organic chloride selected from the group consisting of ethylene dichloride, propylene dichloride, dichlorethyl ether, dichloroisopropyl ether, triglycol dichloride, tetraglycol dichloride, benzyl chloride and naphthyl methyl chloride and with a material selected from the group consisting of water soluble thiocyanates and thiourea; and

concentrated sulfuric acid the remaining portion of the bath;

removing the cases from the solution;

rinsing the cases with water; and

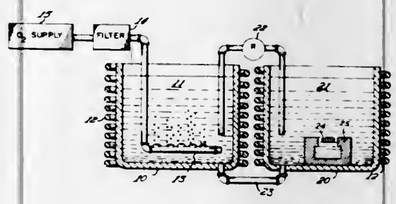
recoating the cases with a rust preventative agent.

3,261,711

ELECTROLESS PLATING

Jerome S. Sallo, St. Louis Park, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Dec. 17, 1962, Ser. No. 245,234
8 Claims. (Cl. 117—93.2)



1. The process of chemically plating a body of which at least surface portions are catalytic with at least one metal of the class consisting of nickel and cobalt, which

comprises providing a hot aqueous plating bath including cations of at least one metal of the group consisting of cobalt and nickel and including anions of hypophosphite, maintaining the oxygen content of said bath at near saturation level, contacting said body with said hot plating bath, and allowing said body to remain in contact with said bath until the desired thickness of metal is deposited thereon.

3,261,712

PROCESS FOR DIFFUSION COATING METALS

Giles F. Carter, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 15, 1965, Ser. No. 440,014
6 Claims. (Cl. 117—114)

1. In an alloy diffusion coating process wherein a metal article is contacted with a molten bath containing at least about 10% by weight of a metal transfer agent selected from the group consisting of calcium, barium and strontium and at least one metal diffusing element, the improvement which comprises including in said molten bath a controlled amount of a nitride of said metal transfer agent, said amount being in the range from about 3% by weight to saturation of said bath.

3,261,713

METHOD OF COATING SURFACE WITH SOLDER

Arnold Groten, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 11, 1963, Ser. No. 250,808
Claims priority, application Germany, Mar. 3, 1962, P 28,897
4 Claims. (Cl. 117—212)



1. A method of solder coating the end surface portions of an array of spaced semiconductive members while avoiding substantial solder penetration between the members, said end surface portions being separated from each other by a substance which is not wetted by the solder, comprising the steps of providing a coherent foil of solder having an array of apertures so related to the array of semiconductive members that, when the foil is positioned over the said end surface portions, an aperture exists over each space separating each of the end surface portions from all the others, placing the said solder foil in contact with the said end surface portions so that the apertures in the foil are substantially aligned with the spaces between the end surface portions, and heating the thus-formed assembly at a temperature at which the solder melts, whereby, as the solder begins to melt, the melt's surface tension causes the solder to withdraw, starting at the apertures in the foil, to the said contacted end surface portions without any substantial penetration thereof occurring between the members.

3,261,714

SEALED DRY CELLS HAVING AN IONIZATION CATALYST IN THE DEPOLARIZER

Karl V. Kordesch, Lakewood, and Lewis F. Urry, Parma, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed Jan. 7, 1963, Ser. No. 249,743
4 Claims. (Cl. 136—6)

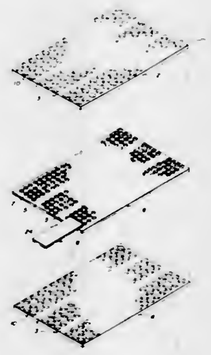
1. A dry cell battery comprising a sealed container, and in said container, an anode, a cathode in the form of a depolarizer mix, said cathode having a greater charge capacity than said anode, and an immobilized electrolyte in contact therebetween, said depolarizer mix comprising particles of activated carbon having coated thereon a hydrogen ionization catalyst of a platinum metal, said platinum metal catalyst being present in amounts of from about 0.1 to about 10 milligrams of metal per gram of carbon.

3,261,715

NEGATIVE ELECTRODE ASSEMBLY FOR ALKALINE BATTERIES

Frank Solomon, Lake Success, N.Y., and Robert F. Enters, Hackensack, N.J., assignors to Yardney International Corp., New York, N.Y., a corporation of New York

Filed Oct. 26, 1961, Ser. No. 147,778
6 Claims. (Cl. 136—50)



1. A negative electrode comprising an electrically conductive plate of a metal selected from the group which consists of copper and silver, said plate being provided with a multiplicity of perforations, a flat zinc structure overlying a face of said plate, said structure being formed with interstices larger than said perforations, and plugs of comminuted zinc at least partly in oxidized form occupying said perforations, said plugs extending into said interstices in intimate contact with said structure.

3,261,716

METHOD OF OPERATING A FUEL CELL CONTAINING A SULFURIC-NITRIC ACID ELECTROLYTE

Leland H. S. Roblee, Jr., Metuchen, and Charles W. Foust, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

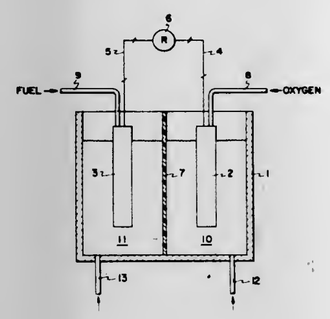
Filed Dec. 19, 1961, Ser. No. 160,568
3 Claims. (Cl. 136—86)

1. A method of operating a fuel cell comprising in combination an anode, a cathode spaced apart from said anode, an electrolyte compartment adapted to retain liquid extending between and communicating with said anode and said cathode, an aqueous sulfuric acid electrolyte consisting essentially of about 3 to 50 wt. percent sulfuric acid and about 0.1 to 1.0 wt. percent nitric acid in said electrolyte compartment providing means for ionic conductance between said anode and said cathode, which comprises passing a fluid fuel into dual contact with said anode and said electrolyte; passing a fluid oxidant into said electrolyte compartment; and establishing electrical connection between said anode and said cathode external to said electrolyte.

3,261,717
PROCESS OF OPERATING A FUEL CELL CONTAINING INORGANIC ACID ELECTROLYTE

Joseph A. Shropshire, Scotch Plains, and Barry L. Tarmy, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 19, 1961, Ser. No. 160,570
3 Claims. (Cl. 136—86)

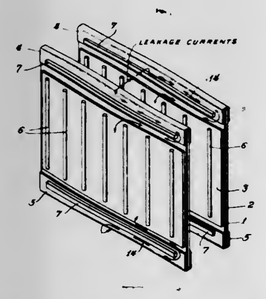


1. A process of operating a fuel cell comprising an anode, a cathode, an anolyte compartment, a catholyte compartment, an ion permeable partition separating said anolyte compartment and said catholyte compartment, an aqueous mineral acid anolyte selected from the group consisting of 3 to 50 wt. percent sulfuric acid and phosphoric acid, a catholyte consisting essentially of about 1 to 6 wt. percent HNO_3 and an aqueous mineral acid selected from the group consisting of about 3 to 50 wt. percent sulfuric acid and phosphoric acid, comprising passing a fluid fuel into dual contact with said anolyte and said anode, passing a fluid oxidant into said catholyte compartment, and establishing electrical connection between said anode and said cathode exterior to said anolyte and said catholyte.

3,261,718
RESERVE ELECTRIC BATTERY

Milton E. Wilke, Freeport, Ill., assignor to Servel, Inc., Evansville, Ind., a corporation of Delaware

Filed Apr. 8, 1964, Ser. No. 358,320
5 Claims. (Cl. 136—90)

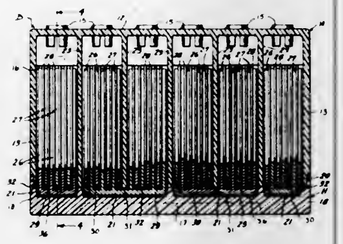


1. In a reserve battery comprising a stack of cells each having spaced electrodes, said stack being arranged within an enclosure having an opening therein providing limited communication between the interior and the exterior of the enclosure, the improvement which comprises means which together with the inside surfaces of the enclosure, form individual channels connecting respectively the interiors of the several cells with the opening in said enclosure, said channels being defined by non-conducting surfaces and being elongated to limit communication of the interiors of the cells with the exterior of the battery to long indirect paths.

3,261,719
STORAGE BATTERY WITH BOTTOM ASSEMBLY

John K. Shannon, 2028 63rd Place, Kenosha, Wis.

Filed Mar. 27, 1963, Ser. No. 268,245
15 Claims. (Cl. 136—134)



1. A storage battery comprising a premolded case including an integral substantially flat top wall and depending side walls, a base for the case and said case also having transversely extending partitions defining individual cells, said partitions being formed on and depending from the top wall, plate cell groups in the cells and said cell groups being connected in proper order by cell connector straps disposed in engagement with the base and terminal posts for the negative and positive plates of terminal cells.

3,261,720
THERMOELECTRIC GENERATOR AND METHOD OF PREPARING SAME

Paul H. McCormack, Metuchen, N.J., assignor to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 11, 1961, Ser. No. 144,396
9 Claims. (Cl. 136—205)



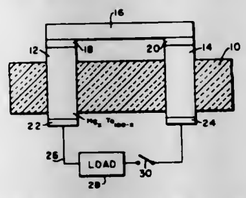
1. A thermoelectric generator comprising a member having two dielectric surfaces, each of which surfaces has a coating of a discontinuous, particulate layer of a metal, the metal particles on one surface being dissimilar in composition to the metal particles on the other surface, the dielectric surfaces of said member being in laminated relation with each other over substantially their entire areas with the metal particles on one surface in particle-to-particle contact with the metal particles on the other surface, said member having means electrically connected to said metal coatings at the opposite ends of said member for establishing contact with an external circuit.

6. The method of preparing a thermoelectric generator which comprises coating each of two dielectric surfaces with a discontinuous, particulate layer of a metal, the metal particles on one surface being dissimilar in composition to the metal particles on the other surface, and then bringing into laminated relation the thus coated two dielectric surfaces over substantially their entire areas with the metal particles on one surface being brought into particle-to-particle contact with the metal particles on the other surface.

3,261,721
THERMOELECTRIC MATERIALS

Albert J. Cornish, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 26, 1961, Ser. No. 140,802
4 Claims. (Cl. 136—238)



1. A material suitable for use as a p-type thermoelectric material, the material having the formula:

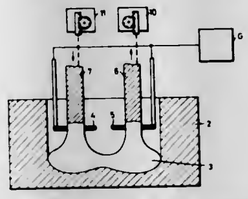
$$Hg_xTe_{100-x}$$

and x varies from 5 to 30, with up to 15%, by weight, of the tellurium replaceable by selenium.

3,261,722
PROCESS FOR PREPARING SEMICONDUCTOR INGOTS WITHIN A DEPRESSION

Wolfgang Keller and Eberhard Spenke, both of Pretzfeld, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Filed Nov. 29, 1963, Ser. No. 326,945
Claims priority, application Germany, Dec. 12, 1962, S 82,821
3 Claims. (Cl. 148—1.6)



1. Method of producing a monocrystalline semiconductor member which comprises forming a depression in the top of a block of semiconductor material, inductively heating the bottom of the depression from a heat source within the depression to a temperature at which a semiconductor melt is formed in the interior of the block, drawing a portion of the semiconductor material out of the melt so that it cools and solidifies to a monocrystalline rod having a diameter greater than 25 mm., feeding a mass of polycrystalline semiconductor material from above through the depression to the melt at the bottom of the depression for replacing the portion of semiconductor material drawn therefrom, and simultaneously inductively heating the mass of polycrystalline semiconductor material to its melting temperature as it is being fed through the depression.

3,261,723
METHOD FOR REDUCING COMBUSTION CHAMBER DEPOSITS IN INTERNAL COMBUSTION ENGINES

Willis G. Craig, Willoughby, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,156
6 Claims. (Cl. 148—6.15)

1. A method for reducing the formation and accumulation of deposits in the ferrous metal combustion chamber head of an internal combustion engine, which method comprises treating said combustion chamber head with an aqueous phosphating solution having a total acidity within the range of from about 5 to about 300 points and containing as essential ingredients the phosphate ion and a metallic ion selected from the group consisting of manganese, sodium, and nickel ions to form thereon an integral phosphate coating of at least about 25 milligrams per square foot of surface area.

3,261,724
STAINLESS STEEL CLAD ALUMINUM AND METHODS OF MAKING SAME

John B. Ulam, Canonsburg, Pa., assignor to Composite Metal Products, Inc., a corporation of Pennsylvania

Filed June 28, 1965, Ser. No. 467,548
10 Claims. (Cl. 148—11.5)

1. The method of cladding aluminum and aluminum alloys with stainless steel which comprises providing an outer layer of substantially pure aluminum on said aluminum and aluminum alloy removing by mechanical treatment substantially all oxide from the surfaces of the outer layer of aluminum and stainless steel to be bonded, heating the metal surfaces to a temperature above the recrystallization temperature of aluminum but below the melting point of aluminum and below the recrystallization temperature of the stainless steel, bringing the cleaned surfaces into contact with one another under pressure sufficient to effect a simultaneous reduction of 5% to 35% in each of the metals, urging them together to unite the surfaces into a diffusion bond and thereafter annealing at a temperature of about 700° F. to 900° F.

3,261,725
DEVICE COMPRISING A III–V COMPOUND SEMICONDUCTOR BODY AND AT LEAST ONE CONTACT TO SAID BODY

Lawrence Reginald David Jenkins, Southampton, Hants, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

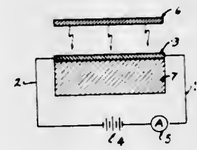
No Drawing. Filed Mar. 20, 1963, Ser. No. 266,507
Claims priority, application Great Britain, Mar. 21, 1962, 10,914/62
8 Claims. (Cl. 148—33)

1. A semiconductor device comprising a semiconductive body of a compound of one of the elements selected from the group consisting of boron, aluminum, gallium and indium with one of the elements selected from the group consisting of nitrogen, phosphorus, arsenic and antimony, and mixed crystals thereof, a contact surface alloyed to said body and comprising a basic material containing 2%–25% by weight of lead, up to 4% by weight of tin, up to 2% by weight of cadmium, the balance of indium.

3,261,726
PRODUCTION OF EPITAXIAL FILMS

Robert A. Ruehrwein, Clayton, Mo., assignor to Monsanto Company, a corporation of Delaware

Filed Oct. 9, 1961, Ser. No. 143,882
6 Claims. (Cl. 148—33.4)



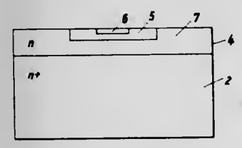
1. As an article of manufacture a substrate material selected from the group consisting of I–VII compounds, III–V compounds, silicon and germanium and mixtures

thereof, and having superposed on said substrate material and in epitaxial relation therewith at least one layer of a material comprising combinations of elements selected from the group consisting of beryllium, zinc, cadmium, mercury, sulfur, selenium and tellurium, said layer(s) having different electrical conductivity than any adjacent layer(s) and said substrate when in contact therewith.

3,261,727
METHOD OF MAKING SEMICONDUCTOR DEVICES

Friedrich Wilhelm Dehmelt and Gerhard Grust, Ulm (Danube), Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany

Filed Dec. 3, 1962, Ser. No. 241,847
Claims priority, application Germany, Dec. 5, 1961, T 21,226
24 Claims. (Cl. 148—175)



1. A method for making a semiconductor device having a plurality of zones of different conductivity types, comprising the steps of:

(a) applying onto a first surface of a high-ohmic semiconductor starting body a semiconductor layer which is low-ohmic and thus has a conductivity greater than that of said starting body for providing a supporting carrier for said starting body, said starting body itself forming a zone of one conductivity type;

(b) removing material from that side of said starting body which is opposite said first surface thereof for reducing the thickness of said starting body down to that required for the particular semiconductor device being made, in consequence of which said starting body is left with an exposed second surface which is opposite to said first surface; and

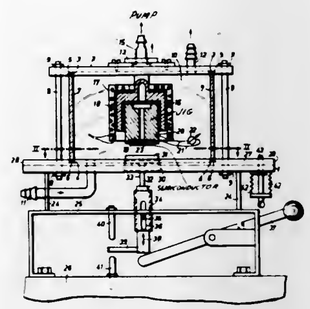
(c) bringing into said second surface of said starting body at least one other zone which is of the opposite conductivity type and outside of said semiconductor layer.

3,261,728
METHOD OF ALLOYING ELECTRODES TO A SEMICONDUCTOR BODY

Carl Heinrich Kramp, Hamburg-Nlendorf, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed May 23, 1962, Ser. No. 196,982
Claims priority, application Germany, May 25, 1961, P 27,216
6 Claims. (Cl. 148—177)

1. In the manufacture of a semiconductor device, the method of alloying a small electrode mass to a thin, wafer-like, semiconductor body, comprising the steps of providing in a protective gas atmosphere an alloying jig for holding the semiconductor body and electrode material while they are alloying together at an elevated alloying temperature, said alloying jig having a large heat capacity compared with that of the semiconductor body and electrode, preheating said jig to at least the alloying temperature prior to supplying the semiconductor body and electrode material thereto, thereafter supplying the semiconductor body and electrode material to the preheated jig and holding the body and material in contact with one another and in releasable engagement with the jig until they assume the alloying temperature and alloy together, and

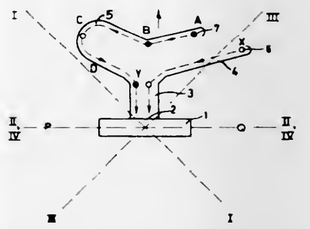


thereafter separating the alloyed body and electrode material from the heated alloying jig allowing the former to cool down rapidly.

3,261,729
METHOD FOR ALLOYING IN SUCCESSION PLURAL METALLIC MASSES AT THE SAME SURFACE PORTION OF A SEMICONDUCTIVE BODY AND APPARATUS THEREFOR

Raymond Clarence Chance Wadey, Ashurst, and Alan Leonard Farr, Shirley, Southampton, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 20, 1963, Ser. No. 289,448
Claims priority, application Great Britain, Aug. 22, 1962, 32,255/62
10 Claims. (Cl. 148—179)

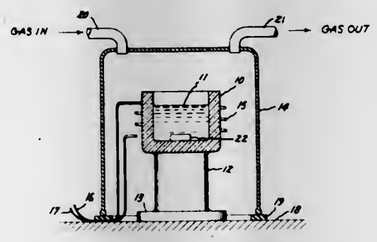


8. A method for alloying in succession plural metallic masses at the same surface portion of a semiconductive body held in a jig with a surface portion thereof exposed, said jig defining a plurality of channels terminating at said exposed surface portion of the body with each of said channels containing a first separate site remote from the body, locating in said first sites said masses for alloying to the body with the jig positioned in a first position such that the said surface portion of the body is inclined to a horizontal plane, one of said channels having two stable sites including the first site and the position of the semiconductive body and another of said channels having four stable sites including the first site and the position of the semiconductive body and further including two additional intermediate sites, heating the jig at a temperature at which at least the mass in said one channel becomes molten, rotating the jig to a second position wherein the said body surface portion is horizontal whereby the mass located in the first site of said one channel becomes unstable causing it to flow along the channel and fall onto the said body surface portion, and whereby the mass located in the first site of said other channel becomes unstable causing it to flow along the channel to a second site intermediate the first site and the said body surface portion wherein it is stably retained, rotating the jig to a third position wherein the said body surface portion is inclined to a horizontal plane whereby the mass located in said other channel becomes unstable in the second site and flows along the channel to a third site intermediate the second site and the said body surface portion wherein it is stably retained, and rotating the jig back to the second position wherein the said body surface portion is horizontal whereby the last-named mass becomes unstable and is caused to flow along the channel and fall onto the same said body surface portion, said jig having been heated at a temperature at which the mass in said other channel is molten at the time it falls onto the semiconductive body.

3,261,730
METHOD OF FORMING GALLIUM ARSENIDE SEMICONDUCTOR DEVICES

Erik M. Pell, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Original application Sept. 26, 1960, Ser. No. 58,501, now Patent No. 3,200,017, dated Aug. 10, 1965. Divided and this application Mar. 12, 1964, Ser. No. 356,684
7 Claims. (Cl. 148—186)



1. The method of making semiconductor bodies for use in tunnel diode devices which comprises: providing a gallium arsenide body having a concentration of an impurity selected from the group consisting of donors and acceptors greater than 10^{18} atoms per cubic centimeter such that said body is degenerate and of one-type conductivity, said group excluding copper, silver and gold; immersing said body in a material fusing at a temperature below about 800° C. and capable of forming stable compounds and complexes with harmful rapidly diffusing impurities of the class consisting of copper, silver and gold in said body, said material being selected from the group consisting of cyanides, halides and sulfides; and heating said material to a temperature above the fusing temperature thereof for at least 5 hours to reduce the concentration of said harmful rapidly diffusing impurities in said body to a value less than about 10^{15} atoms per cubic centimeter.

3,261,731
CALCIUM CONTAINING PYROTECHNIC COMPOSITIONS FOR HIGH ALTITUDES

Seymour Lopatin, Dover, N.J., and David Hart, deceased, late of Dover, N.J., by Ruth Hart, executrix, Dover, N.J., assignors to the United States of America as represented by the Secretary of the Army

No drawing. Filed June 8, 1964, Ser. No. 373,586
4 Claims. (Cl. 149—19)

3. A process for preparing a pyrotechnic composition comprising, grinding separately to a powder 40–90% of metal calcium and 60–10% of potassium perchlorate, blending together the powdered constituents in a sealed container for a uniform mixture and packaging the powdered mixture into a vehicle which on combustion of the composition at an altitude above 100,000 feet will yield a light output more than double that emitted by combustion of composition at sea level.

4. A pyrotechnic composition yielding a higher light output on ignition at an altitude over 100,000 feet than on ignition at sea level in which the composition consists of a finely divided mixture of a powdered constituent containing calcium, a powdered oxidizing agent and a powdered binder selected from the group consisting of nitrocellulose lacquer, vinyl acetate alcohol resin, laminac and epoxy resins.

3,261,732
AQUEOUS SLURRY BLASTING AGENT CONTAINING ALUMINUM AND AN ACETIC ACID-ZINC OXIDE STABILIZER

Clyde W. Eilo, Succasunna, N.J., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed June 18, 1964, Ser. No. 376,240
12 Claims. (Cl. 149—38)

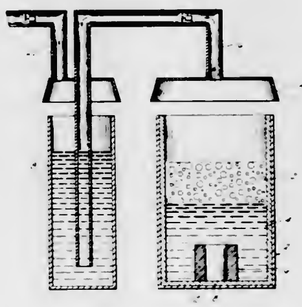
6. A gelled aqueous slurry blasting agent comprising by weight

(a) from about 20 to about 35% of a sensitizing agent,
(b) from about 15 to about 38% of ammonium nitrate,
(c) from about 7 to about 16% of sodium nitrate,
(d) from about 0.4 to about 2% of guar gum gelling agent,
(e) from about 7 to about 20% of particulate aluminum,
(f) from about 14 to about 22% of water, and
(g) a stabilizer consisting essentially of from about 0.01 to about 0.1% acetic acid and from about 0.03 to about 0.5% zinc oxide at a pH of from about 5 to about 7 for the final composition, all percentages by weight of the final composition.

3,261,733
METHOD OF DISSOLVING A PLUG FROM A BIMETALLIC METAL CORE AND ETCHING BATH

Kenneth P. Bellinger, Ellington, Conn., assignor to Conversion Chemical Corporation, Rockville, Conn., a corporation of Connecticut

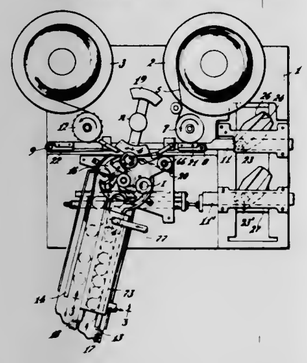
Filed July 2, 1963, Ser. No. 292,325
6 Claims. (Cl. 156—3)



1. The method of forming metals substantially inert to concentrated nitric acid comprising forming about a core of a dissolvable metal selected from the group consisting of iron, molybdenum and copper a primary metal substantially inert to nitric acid to produce an initial assembly; and immersing said initial assembly in a core-removing bath for a period of time sufficient to dissolve said core, said bath being at a temperature of about 140 to 210° Fahrenheit and comprising an aqueous solution consisting essentially of about 15.0 to 42.0 percent by weight nitric acid, 2.0 to 28.0 percent by weight of a reaction-controlling agent selected from the group consisting of

urea and melamine, and 40.0 to 80.0 percent by weight water, said bath having a molar ratio of reaction-controlling agent to nitric acid of 0.1 to 0.75:1.0, the immersion of said initial assembly in said bath producing a blanket of foam on the top of said bath through which fumes must pass.

3,261,734
METHOD AND APPARATUS FOR APPLYING INDICIA TO PLASTIC BOTTLES AND THE LIKE
Arthur A. Long, Framingham, Mass., assignor to Dennison Manufacturing Company, a corporation of Nevada
Filed Aug. 13, 1962, Ser. No. 216,562
4 Claims. (Cl. 156—156)



1. For applying indicia to preformed containers made of stiff flexible material which can be softened with heat, the method which comprises feeding the containers successively along a predetermined path, at one location along said path applying indicia to surfaces of successive containers, subjecting each container to inflation while the indicia is being applied to it, and in advance of said location heating each container so that said inflation presses outwardly on said surfaces.

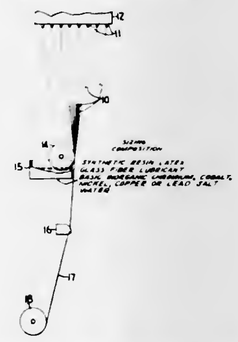
3,261,735
METHOD FOR FORMING TUBULAR PIPE COUPLING
Delmont D. Brown, North Baltimore, Ohio, assignor to The D. S. Brown Company, North Baltimore, Ohio, a corporation of Ohio
Original application Jan. 24, 1962, Ser. No. 168,453, now Patent No. 3,177,015, dated Apr. 6, 1965. Divided and this application Mar. 12, 1965, Ser. No. 439,144
2 Claims. (Cl. 156—158)

1. A process for making a pipe coupling which comprises extruding a cellular-elastomer in the form of a strip having a bottom wall and an upper wall with an upwardly-projecting, longitudinal rib extending along the mid-portion of said strip and wall portions on opposite sides of said rib each sloping upwardly and outwardly from the base of said rib to the respective longitudinal edges of said strip, forming in said rib and a portion of said strip below said base of said rib a longitudinal, narrow cavity, transversely cutting said extruded strip into pieces with lengths corresponding to the desired circumference of the pipe coupling, forming the respective pieces into rings with said bottom wall as the outer, annular wall and said upper wall as the inner, annular wall with the opposite ends of the respective pieces in abutment, and cementing the respective opposite ends of each strip together to form a hollow, cellular-elastomer coupling ring having normally frusto-conical, inner walls tapering from an axially central portion of said coupling ring to opposite ends thereof, said central portion including a cellular-elastomer, annular rib projecting into the central portion of said coupling ring, and said central portion having an enclosed, annular cavity with the outer, radial wall of said cavity located radially outwardly of



the inner wall of said central portion and the inner, radial wall located in said rib for compensating stresses in said coupling ring when pipe ends are inserted in said coupling ring.

3,261,736
GLASS FIBER TREATMENT
George E. Eilerman, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 3, 1962, Ser. No. 184,737
7 Claims. (Cl. 156—167)

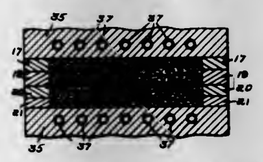


1. An aqueous glass fiber sizing composition having adhesive compatibility for synthetic resins which composition consists essentially of in percent by weights of water, 0.3 to 2 percent lubricant, 2 to 8 percent synthetic resin latex, and 0.2 to 1 percent of an inorganic coupling composition selected from the group consisting of:
(a) compounds having
(1) a trivalent metal ion selected from the group consisting of chromium, cobalt, nickel, copper and lead,
(2) at least one hydroxyl group, and
(3) at least one anion of a strong mineral acid;
(b) coordinate electronic complexes of compounds defined as in (a); and
(c) mixtures of (a) and (b),
with the proviso that the overall basicity of the coupling composition is less than 50 percent and wherein the viscosity of the sizing composition is less than about 100 centipoises at 20° C.

7. In the method of preparing a glass fiber reinforced resinous laminate which method comprises the steps of:
forming glass fiber strands;
applying to the glass fiber strands a stable aqueous sizing composition;

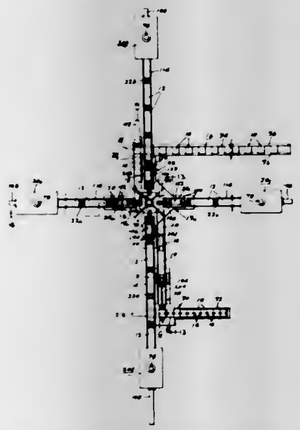
drying the treated strands;
associating the srtnads in suitable form for resin reinforcement;
combining the strand: with a resin to produce a glass fiber reinforced resinous laminate;
and curing the resin;
the improvement which comprises using as the aqueous sizing composition the composition described in claim 1.

3,261,737
METHOD OF MAKING BRIDGE BEAM BEARING
John Murray Stevens, Franklin, Mass., assignor to Lowell Industries, Inc., Allston, Mass., a corporation of Massachusetts
Filed Apr. 11, 1961, Ser. No. 102,200
1 Claim. (Cl. 156—310)



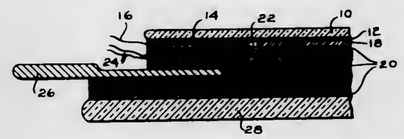
The method of making elastomeric sheet material which includes the steps of sizing a plurality of component plies of glass fiber on each side thereof with plastisols of differing degrees of hardness when fused, assembling the plies in superposed relation in the order of their eventual hardness, applying heat to the outside plies only, applying pressure to the outside plies to transmit such heat throughout the outer plies in quantity to fuse the plastisol in such outer plies alone, and thereafter increasing the pressure to transmit heat through the fused outer plies to the inner plies in quantity sufficient to fuse the plastisol therein.

3,261,738
APPARATUS FOR PLATING BRICKS
Robert M. Focht, Lansdale, Pa., assignor to E. J. Lavino and Company, Philadelphia, Pa., a corporation of Delaware
Filed Nov. 29, 1962, Ser. No. 240,799
22 Claims. (Cl. 156—363)



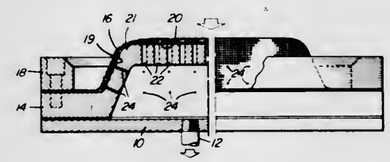
1. Apparatus for simultaneously applying plates to a plurality of brick surfaces comprising a brick plating station, brick feed means for positioning a brick within said plating station with the surfaces to be plated being vertically disposed, a plurality of plate stations extending from said plating station, said plate stations including means for locally applying a mastic adhesive to plates passing therethrough, means for vertically positioning the plates with adhesive applied thereto in the plating station in spaced juxtaposition to the brick surfaces to be plated, pressing cylinders disposed in said plating station adapted to provide a clamping force to simultaneously advance and bias the plates against the faces of a brick positioned therein, and means for removing a plated brick from the plating station.

3,261,739
LAMINATED GLASS
Willard L. Porter, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Mar. 22, 1961, Ser. No. 97,688
3 Claims. (Cl. 161—193)



1. An article of manufacture comprising at least two sheets of glass and a glass-adherent interlayer, said interlayer composed of a combination of at least one sheet of transparent organosilicon elastomer and at least one sheet of a polyvinyl butyral, with at least one sheet of said transparent organosilicon elastomer positioned between and substantially coextensively with said polyvinyl butyral and at least one sheet of glass.

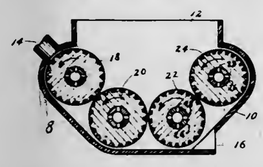
3,261,740
METHOD AND MOLD FOR PRODUCING MULTILAYER ABSORBENT TRAY
Roger Wells, Stamford, Conn., assignor to Diamond International Corporation, a corporation of Delaware
Filed Sept 27, 1963, Ser. No. 312,197
20 Claims. (Cl. 162—123)



1. A method of forming a multi-ply pulp molded article comprising: passing a selectively perforated mold having small holes at one part and large holes at another part through a pulp stock having a water draining capacity greater than the water draining capacity of the small holes in said mold, applying a differential pressure to said mold in said stock to effect selective depositon of pulp from said stock on said mold at said other part, passing said mold with said selective deposit of pulp through a second pulp stock having a water draining capacity less than the water draining capacity of the small holes in said mold, and applying a differential pressure to said mold in said second stock to effect deposition over the entire surface of said mold and first deposit.

12. A mold for forming pulp articles comprising a body portion shaped to the desired configuration of the article to be produced, said body defining a first portion and a second portion, said body having walls defining perforations extending therethrough from one side of the body to the other side thereof, the perforations in said first portion comprising from about 7.5 to 45% of the surface area of said bottom, and the perforations in said second portion comprising 0.2 to 1.5% of the surface area of said side portion.

3,261,741
APPARATUS FOR PREPARING PAPER STOCKS
Howard Bidwell, Granby, Mass., assignor of fifty percent to Rachel Bidwell, Granby, Mass.
Original application May 17, 1961, Ser. No. 118,756. Divided and this application June 30, 1964, Ser. No. 379,294
3 Claims. (Cl. 162—261)



1. Apparatus for altering the moisture content of fibrous material comprising in combination, a housing for a roll-enclosing material-receiving chamber and having an opening therethrough for admitting the fibrous material into the chamber and an outlet therefrom for the exiting of the altered stock from the chamber, at least four hollow coarse granular-surfaced porous moisture-pervious stock agitating rolls disposed in spaced side-by-side U-shaped relationship within the chamber of said housing, means for rotating said rolls at variable speeds respective to each other, the rotation of said rolls effecting separation of the more moisture-penetrated portions of the charged fibrous material from the remainder thereof, means for supplying fluids to the chamber of said housing through said rolls, the chamber of said housing having a fluid inlet and fluid outlet for allowing a fluid flow therethrough the moisture-penetrated portions of the fibrous being transported by the fluid flow through the chamber of said housing material.

3,261,742
SOIL DISINFECTANT COMPOSITIONS COMPRISING 2,3-DIBROMOPROPIONITRILE AND 1,2,2-TRICHLORO-1-NITROETHYLENE
Zitsuichi Kishikawa, Osaka, and Tatsuo Harada, Kawachinagano-shi, Osaka, Japan, assignors to Nihon Nohyaku Kabushiki Kaisha, Tokyo, Japan
No Drawing. Filed Nov. 27, 1963, Ser. No. 326,376
Claims priority, application Japan, July 9, 1963, 38/35,207
1 Claim. (Cl. 167—22)

Soil disinfectant compositions comprising as active ingredients, mixtures of two compounds consisting of 1 part by weight of 2.3-dibromopropionitrile ($CH_2Br{\cdot}CHBrCN$) and from 0.5 to 2 parts by weight of 1.2.2-trichloro-1-nitroethylene ($CCl_2{=}CClNO_2$).

3,261,743
CONTROLLING NEMATODES WITH ORGANIC PHOSPHONOTHIOITES AND PHOSPHONOTHIOATES
John W. Wilson, Jr., Richmond, Va., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Apr. 3, 1964, Ser. No. 357,270
13 Claims. (Cl. 167—22)

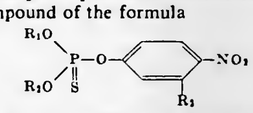
1. A method of controlling nematodes which comprises applying thereto a nematocidal amount of a compound of the formula



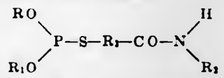
wherein R and R′ are alkyls having from 1 to 4 carbon atoms, inclusive, and M is a member of the group consisting of —OR″, —(O)OR″, and —(S)OR″, wherein R″ is a member of the group consisting of aliphatic and haloaliphatic radicals, said aliphatic and haloaliphatic radicals having from 1 to 12 carbon atoms, inclusive.

3,261,744
PESTICIDAL PREPARATIONS
Fritz Bachmann, Riehen, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a company of Switzerland
No Drawing. Filed July 8, 1965, Ser. No. 470,558
Claims priority, application Switzerland, July 22, 1964, 9,639/64
4 Claims. (Cl. 167—30)

1. A preparation for combating pests which comprises as active principle a pesticidal amount of a mixture of
(a) a compound of the formula



wherein R_1, R_2 and R_3 each represents lower alkyl, and
(a) a compound of the formula



wherein R and R_1 each represents lower alkyl, R_2 represents lower alkoxyalkyl and R_3 represents lower alkylene, together with a carrier, the ratio of component (a) to component (b) being within the range of from 3:1 to 1:3.

3,261,745
COMPOSITIONS AND METHOD FOR PROTECTING MATERIALS AGAINST BIOLOGICAL ATTACK
Alfred E. Read, Welwyn Garden City, England, assignor to Catomance Limited, Welwyn Garden City, England, a British company
No Drawing. Filed Dec. 7, 1964, Ser. No. 416,595
Claims priority, application Great Britain, Dec. 9, 1963, 48,537/63
6 Claims. (Cl. 167—38.7)

1. A composition for protecting material against biological attack comprising at least 80% of pentachlorophenol fatty acid ester, 1 to 10% of pentachlorophenol and 0.5 to 10% of thymol.

5. A method of protecting material against biological attack comprising applying to the material a composition according to claim 1.

3,261,746
LIQUID ABSORBENT AND VAPOR RELEASANT BLOCK
David W. M. Copley, 3 Attunga Ave., Golflands, South Australia, Australia
Filed Dec. 5, 1962, Ser. No. 242,422
Claims priority, application Australia, Dec. 11, 1961, 12,240/61; Feb. 28, 1962, 14,900/62
3 Claims. (Cl. 167—42)



1. A liquid absorbent and vapour releasant block of compressed cellulose acetate granules formed by the method of mixing 1360 parts by weight of cellulose acetate granules with from 30 to 1400 parts by weight of ethylene glycol monoethyl ether, said cellulose acetate granules having a mean minimum dimension of not less than 0.5 millimeter, adding from 20 to 400 parts by weight of calcium carbonate and further mixing, transferring to a pelleting press and pressing into a block having from 2% to 20% porosity, oven drying said block, imersing said block in an oil based perfume liquid, and removing surplus perfume liquid from the block surface by spin drying.

3,261,747
STABILIZED IODINE LABELED 2′-DEOXY-5-IODOURIDINE
Spencer L. Commerford, Shirley, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed May 8, 1964, Ser. No. 366,202
2 Claims. (Cl. 167—51)

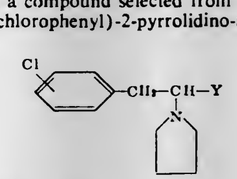
1. A stabilized composition of matter comprising:
(a) water
(b) up to about 10^{-10} moles per liter based upon the amount of water utilized in the composition of high specific activity 2′-deoxy-5-iodouridine containing radioactive isotopes of iodine
(c) from about 10^{-5} moles to about 10^{-1} moles per liter of potassium triiodide based upon the amount of water utilized in the composition.

3,261,748
1,1,1,2-TETRAFLUOROETHANE ANESTHETIC
Eric R. Larsen, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 17, 1964, Ser. No. 383,502
7 Claims. (Cl. 167—52)

1. The process which comprises administering 1,1,1,2-tetrafluoroethane by inhalation to warm-blooded animals in anesthetic amounts.

3,261,749
METHOD OF CURBING APPETITE
Ernst Seeger, Biberach an der Riss, Germany, assignor, by mesne assignments, to Boehringer Ingelheim G.m.b.H., Ingelheim (Rhine), Germany, a corporation of Germany
No Drawing. Filed Oct. 12, 1962, Ser. No. 230,262
10 Claims. (Cl. 167—55)

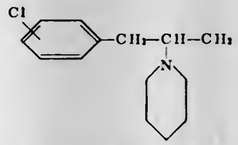
1. The method of curbing appetites in animals which comprises administering by oral administration or rectal administration a compound selected from the group consisting of 1-(chlorophenyl)-2-pyrrolidino-alkanes having the formula



wherein Y is an alkyl radical having 1 to 4 carbon atoms and their pharmaceutically acceptable, non-toxic acid addition salts in an amount sufficient to curb the appetite of the animal.

3,261,750
METHOD OF CURBING APPETITE
Ernst Seeger, Biberach an der Riss, Germany, assignor, by mesne assignments, to Boehringer Ingelheim G.m.b.H., Ingelheim (Rhine), Germany, a corporation of Germany
No Drawing. Filed Oct. 12, 1962, Ser. No. 230,264
6 Claims. (Cl. 167—55)

1. The method of curbing appetites in animals which comprises administering by oral administration or rectal administration a compound selected from the group consisting of 1-(chlorophenyl)-2-piperidino-propanes having the formula



and their pharmaceutically acceptable, non-toxic acid addition salts in an amount sufficient to curb the appetite of the animal.

3,261,751
PROCESS OF PRODUCING HAMYCIN ANTIBIOTIC AND PRODUCT PRODUCED
Mandayam J. Thirumalachar, Pimpri, near Poona, India, assignor to Hindustan Antibiotics Limited, Pimpri, near Poona, India, an Indian company
No Drawing. Filed Oct. 13, 1961, Ser. No. 144,836
10 Claims. (Cl. 167—65)

1. A process for producing the antibiotic substance Hamycin, which comprises inoculating an aqueous nutrient medium with a culture of *Streptomyces pimprina*, allowing aerobic fermentation to take place and recovering Hamycin from the fermentation liquor.

10. An antibiotic substance Hamycin, prepared according to the process of claim 1, which is amphoteric, has the absorption maxima in the ultra-violet region of the spectrum at 230 mμ, 285 mμ, 345 mμ, 363 mμ, 383 mμ with

$$E^{1\%}_{1\,cm.} = 916$$

and 406 mμ when dissolved in 80% methanol, an average composition by weight of 58.2% carbon, 8.3% hydrogen, 2.1% nitrogen and 31.4% oxygen (by difference); with 60% isopropanol as developing solvent on paper chromatography an Rf of 0.83, and in potassium bromide pellet exhibits characteristic absorption in the infra-red region at the following frequencies: 3.0μ, 3.45μ, 4.35μ, 5.8μ, 5.85μ, 6.1μ, 6.15μ, 6.21μ, 8.5μ, 9.35μ, 9.9μ, 11.8μ, and 12.5μ.

3,261,752
METHOD FOR REDUCING SERUM CHOLESTEROL
Dale D. J. Chodos, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Mar. 2, 1964, Ser. No. 348,836
2 Claims. (Cl. 167—65)

1. A method for reducing elevated serum cholesterol levels in non-hyperglycemic subjects which comprises: administering a compound selected from the group consisting of 1-(hexahydro-1-azepinyl)-3-p-tolylsulfonylurea and acid addition salts thereof to said non-hyperglycemic subjects.

3,261,753
ANIONIC ORGANIC SULFATE OR SULFONATE AND NONIONIC ETHOXY-PROPOXY HAIR AND SKIN COMPOSITIONS
Ernst Gotte, Dusseldorf-Oberkassel, and Alfred Kirstahler, Dusseldorf, Germany, assignors to Bohme Fettchemie G.m.b.H., Dusseldorf, Germany
No Drawing. Filed July 18, 1962, Ser. No. 210,816
Claims priority, application Germany, Aug. 3, 1961, B 63,506
7 Claims. (Cl. 167—87)

1. A composition for the care of the skin and hair having low de-fatting properties comprising an anionic surface active compound selected from the group consisting of the alkali metal salts of organic sulfonates and sulfates having 6 to 18 carbon atoms and fatty acids having 8 to 18 carbon atoms; and a mixed alkylene oxide adduct formed by condensing first 5 to 40 mols of ethylene oxide and then 3 to 50 mols of propylene oxide with 1 mol of a compound selected from the group consisting of amines, alcohols, carboxylic acids, carboxylic acid amides and mercaptans, having 8 to 22 carbon atoms in a weight ratio of 1:9 to 10:1.

3,261,754
SOLVENT DYEING OF HUMAN HAIR
Leo Peters and Cyril Beynond Stevens, Leeds, England, assignors to Rapidol Limited, London, England
No Drawing. Filed Mar. 4, 1959, Ser. No. 797,038
Claims priority, application Great Britain, Apr. 21, 1956 12,249/56; May 22, 1956, 12,249/56
20 Claims. (Cl. 167—88)

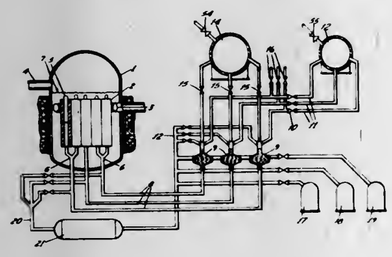
1. A hair dyeing composition comprising an aqueous liquor containing a dye and up to 20% by volume, based

on the total volume of the composition, of an organic compound selected from the group consisting of benzyl alcohol, amyl alcohol and amyl lactate.

3,261,755
NUCLEAR REACTOR CONTROL

Pieter Mostert, San Jose, Calif., assignor to N.V. Samenwerkende Electriciteits Productiebedrijven, Arnhem, Netherlands

Filed June 3, 1963, Ser. No. 285,104
Claims priority, application Netherlands, June 4, 1962, 279,220
4 Claims. (Cl. 176—22)



1. In a nuclear reactor having a core containing fissile nuclear fuel and a cooling circuit for said core: at least one group of separate control tubes within said core, each of said tubes extending in a continuous upward direction and being closed at its upper end; means defining a common supply passage to which the lower ends of said control tubes are connected; a quantity of a neutron-absorbing liquid filling said supply passage and partially filling each of said control tubes; a quantity of gas contained within each of said control tubes between the closed end thereof and the surface of the neutron-absorbing liquid in the tube to provide a resilient gas cushion for said liquid; means for exerting a variable gas pressure on the liquid in said supply passage to force neutron-absorbing liquid into said control tubes against the gas cushions, the resilience of said gas cushions and the height of the closed upper ends of said control tubes being such that for a given pressure in said supply passage the levels of neutron-absorbing liquid in the different control tubes differ in a predetermined manner; a scram vessel containing high pressure gas and means for transmitting said high pressure gas to said supply passage, said transmitting means including a valved pipe leading from said scram vessel to one side of a burst diaphragm whose other side is exposed to the variable pressure acting on the liquid in said supply passage and means restraining rupture of said diaphragm by said variable gas pressure.

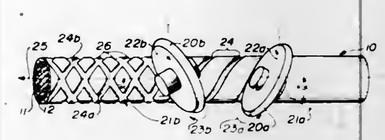
3,261,756
EMBOSSED CLADDING FUEL ELEMENT AND MANUFACTURING PROCESS THEREFOR

Charles C. Ripley, San Jose, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 28, 1965, Ser. No. 428,889
6 Claims. (Cl. 176—67)

1. In a method for manufacturing an embossed fuel element for a nuclear reactor the steps comprising filling a thin-walled metallic tube with fissile fuel material, compacting said fissile fuel to a medium density and then applying narrow local compression force means progressively along the surface of said fissile fuel filled tube to deform said tube inwardly to further compress said fissile fuel in the region of said narrow local compressive force to generate a narrow helical groove along said tube and to simultaneously deform said tube outwardly in regions supported only by fissile fuel between successive turns of said narrow grooves to produce an embossed outwardly deformed area between successive narrow grooves.

6. A fuel element for a nuclear reactor comprising a powdered fissile fuel material, and a thin ductile tubular metallic cladding encasing said fuel material, said cladding



having depressed narrow helical linear regions penetrating into said fuel with outwardly deformed regions supported only by fissile fuel between said depressed narrow linear regions, said fissile fuel material being selectively compacted beneath said depressed cladding areas through simultaneous compression of both cladding and fissile fuel material to form a matrix of compacted narrow helical linear regions within said fuel.

3,261,757
NUCLEAR FUEL ELEMENT

Meyer Steinberg, Huntington Station, Gerald Farber, Elmont, and David H. Gurinsky, Center Moriches, N.Y., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Oct. 22, 1965, Ser. No. 502,694
7 Claims. (Cl. 176—70)

1. A nuclear fuel element for use in a chemonuclear reactor comprising: an inner core composed of an alloy containing from about 70 to about 99 weight percent of palladium, based on the total weight of the core, and from about one to about 30 weight percent uranium based on the total weight of the core, said inner core having a layer of platinum covering the external surface of said core, the platinum layer having a thickness ranging from about 0.2 to about 6 microns.

4. A nuclear fuel element for use in a chemonuclear reactor comprising an inner core composed of an alloy containing from about 50 to about 98 weight percent palladium based on the total weight of the core, from about 1.0 to about 30 weight percent uranium based on the total weight of the core, and from about 1.0 to about 20 weight percent platinum based on the total weight of the core, said inner case having a layer of platinum covering the external surface of said core, the platinum layer having a thickness ranging from about 0.2 micron to about 6 microns.

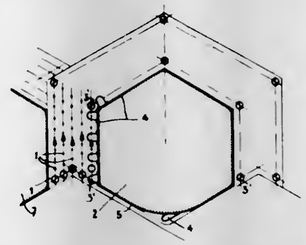
3,261,758
NUCLEAR REACTORS

Pierre Edmond Jules Marie Maldague and Louis Henri Joseph Tollet, Brussels, Belgium, assignors, by mesne assignments, to Société anglo-belge Vulcain, Société anonyme, Brussels, Belgium

Filed Feb. 21, 1962, Ser. No. 174,795
Claims priority, application Belgium, Mar. 9, 1961, 601,155
1 Claim. (Cl. 176—76)

An assembly of fuel elements for a nuclear reactor, comprising a hollow cylindrical support and means for fixing said fuel elements to said support, a plurality of rows of fuel elements arranged around said support in a horse-shoe-like structure, the external contour of which constitutes four adjacent sides of a hexagon, the terminal fuel elements of said rows in each of the terminal sides

of said horse-shoe-like structure being located along two lines forming an angle of 120 degrees, said angle and the

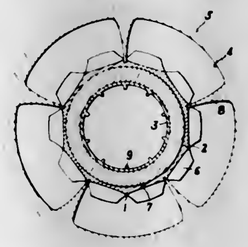


angle formed by the two central sides of said hexagon being correspondent.

3,261,759
FUEL ELEMENT FOR NUCLEAR REACTOR

Bernard Boudouresques and Ennemond Maillet, Paris, and Jacques Pelce, Fontenay aux Roses, France, assignors to Commissariat a l'Energie Atomique, Paris, France

Filed June 27, 1963, Ser. No. 291,045
Claims priority, application France, July 6, 1962, 903,239; Oct. 17, 1962, 912,545, Patent 83,307
5 Claims. (Cl. 176—81)



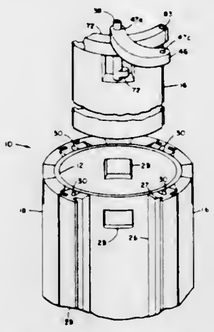
1. A canned nuclear fuel element of tubular shape including an inner and an outer can, said inner can having projecting portions of small height and heat transfer fins on said outer can cooled by a fluid which circulates both externally and internally thereof the surface of the inner can having a coefficient of friction of from 5 to 25 times less than the coefficient of friction of the outer can, and the surface of the inner can offering to the flow of the fluid a resistance per unit area of from 1.5 to 6 times greater than the resistance of said inner can without said projecting portions.

3,261,760
QUICK OPENING LATCH AND ANTI-VIBRATION LOCK FOR NUCLEAR REACTOR SAFETY ROD

Roy E. Manoll, Idaho Falls, Idaho, assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Nov. 27, 1964, Ser. No. 414,480
8 Claims. (Cl. 176—86)

1. Apparatus for attaching a neutron absorbing material to a safety rod comprising a slot formed in said rod, a plate of said absorbing material, support means attached to said plate for being clamped to said rod with said plate therebetween, said support means and said plate each having openings aligned with said slot, said support means having a shoulder overlapping the edges of said plate and said rod, clamping means mounted on said shoulder for releasably holding said support means, plate, and rod together, said clamping means including a locking pin extending through said shoulder into said opening of said plate and having a transverse foot at the lower end of said pin, means for rotating said pin between a first position wherein said foot passes through the opening in said rod and a second position wherein said foot is disposed wholly within the width of said plate to permit



removal of the latter, and means for raising said pin when in said first position to tighten said foot against the upper edge of the opening in said rod to lock the assembly of support means, plate and rod against relative vertical motion of the parts.

3,261,761
METHOD OF FREEZE DRYING BACTERIAL CULTURES

Arthur W. Anderson, Corvallis, Oreg., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed May 7, 1962, Ser. No. 193,027
3 Claims. (Cl. 195—96)

1. A method of freeze drying bacterial cultures to produce a higher survival rate of viable cells consisting in

growing bacterial cells in a suitable medium in the presence of 0.1 to 2.0% of a salt selected from the group consisting of sodium chloride, calcium chloride, and magnesium chloride until a culture is obtained wherein said cells are at their maximum stationary cultural phase,

diluting said culture with a buffer and 1 to 50% of a sugar solution at a pH of 5 to 8,

slowly pre-cooling said diluted culture to a temperature of 0° C. to +1° C., during a period of about 5 hours,

then subjecting said pre-cooled culture to a vacuum to cause the temperature to drop to about −5° C. to −35° C.,

maintaining said culture at said temperature of −5° C. to −35° C. to keep the culture frozen and to cause sublimation of moisture therefrom, the temperature of said culture being prevented from descending below −35° C., and allowing said temperature to rise to 35° C. to 60° C. as said culture becomes dry due to the sublimation of said moisture.

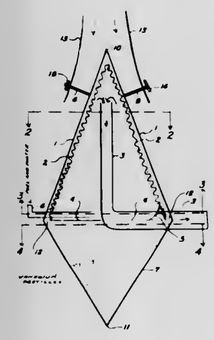
3,261,762
FUEL RECTIFICATION APPARATUS

Edward M. Knapp, 951 Livingston St., Arlington 5, Va.

Filed Aug. 6, 1962, Ser. No. 214,876
1 Claim. (Cl. 196—115)

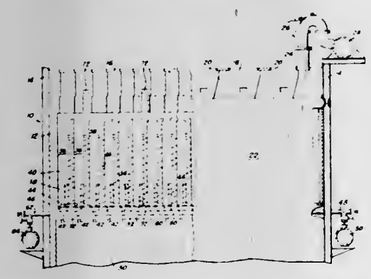
An apparatus including an exhaust gas flared opening of a gas turbine for discharge of hot exhaust gases and having a heater inserted in said flaring opening, said heater consisting of three cones fabricated from metallic sheet, the said heater being fitted with an inlet pipe for the introduction of liquid fuel oil containing vanadium and having an outlet pipe for the egress of fuel

gases, said fuel gases being derived from said liquid fuel oil by decomposition and thermal cracking thereof in the apparatus, said liquid fuel being mixed with a stoichiometrically determined amount of water prior to introduction into said heater, the first of said three cones of the heater being fabricated with a solid surface and fitted with radially extending struts to position the apex of the first cone forwardly in said flared exhaust opening of the gas turbine, the second of the three cones being foraminous as to its conical surface and having attached to it a solid circular base, a solid arcuate shield having a concave surface disposed at one corner of the base of said second cone to provide a vortex in the fluid flow and an angular outlet conduit, one end of which extends vertically along the vertical axis of said second



cone and having an opening at the apex of the second cone, the other end of said conduit extending along in the plane of said base for discharging said fuel gases, the said second cone being disposed inside and in parallel relationship with and spaced from said first cone to provide an opening at the base of the first and second cone, a third cone of shorter extent than said first cone and removably attached to the first cone so that their bases coincide whereby liquid fuel is introduced into said inlet pipe within the second cone for vaporization and thermal cracking of the fuel and withdrawn as a vapor in said outlet conduit and the vanadium deposits as particles which penetrate the foraminous second cone and pass through the opening therein and into said third cone.

3,261,763
GUN FLUE COKING RETORT OVEN
Linwood G. Tucker, Jr., Pittsburgh, Pa., assignor to Koppers Company, Inc., a corporation of Delaware
Filed Aug. 27, 1963, Ser. No. 304,928
1 Claim. (Cl. 202—141)



In a coking retort oven having a plurality of flame flues in the wall separating adjacent coking chambers and a plurality of dividing walls separating adjacent flame flues, the improvement comprising:

(a) a first low burner nozzle at the bottom of said flame flue;

(b) a second high burner nozzle in the bottom of said flame flue and spaced apart from said first burner nozzle;

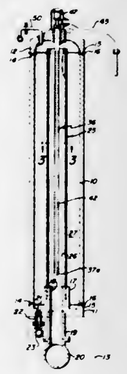
(c) a vertical first duct in a stepped portion of a flue-dividing wall communicating with said second burner nozzle, said first vertical duct terminating in a high



burner port intermediate the bottom and the top of said flame flue; and

(d) a vertical second duct in said dividing wall communicating with the region of said flame flue that is above said high burner port and the region of said first duct adjacent said second nozzle burner whereby the gaseous products of combustion in the region of said flame flue above said high burner port circulate downward in said second duct and mix with and dilute the gaseous products of combustion formed at said second nozzle burner.

3,261,764
THERMOELECTRIC HEATER FOR LIQUID CONCENTRATING STILL
Cullen Casey, Huntington, W. Va. (2045 Cranston St., Cranston 9, R.I.)
Filed June 17, 1963, Ser. No. 288,355
2 Claims. (Cl. 202—187)

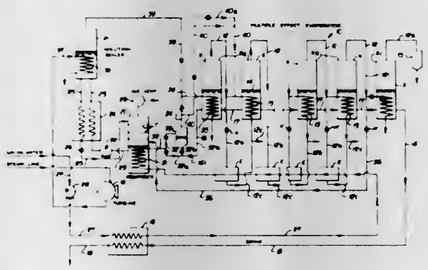


1. A liquid distillation apparatus comprising a closed housing formed with first and second communicable chambers, liquid inlet means communicating with said first chamber including a pair of coaxially disposed, relatively axially displaceable tubular members having the adjacent surfaces thereof arranged in sliding, contacting engagement, each of said tubular members being formed with a multiplicity of apertures which are relatively arranged to be aligned at a first relative position of said tubular members permitting the flow of liquid therethrough and to be misaligned at a second relative position of said tubular members substantially preventing the flow of liquid therethrough, first outlet means communicating with said first chamber, second outlet means communicating with the second of said chambers, a thermoelectric assembly having a first set of terminals arranged in heat-exchanging relationship with said first chamber and a second set of terminals arranged in heat exchanging relationship with said second chamber, and means for energizing said thermoelectric assembly by causing an electric current to flow through said first and second sets of terminals in a predetermined direction whereby heat will be rejected by one set of said terminals and heat will be absorbed by the other set of said terminals.

3,261,765
PROCESS OF CONVERTING SEA WATER TO FRESH WATER EMPLOYING AGAVE PLANT JUICE
Claude L. Spray, 40—40 203rd St., Bayside, N.Y.
No Drawing. Filed Oct. 23, 1963, Ser. No. 318,156
1 Claim. (Cl. 203—7)

The process of continuously operating distillation equipment to convert sea water to fresh water having heat exchange structure, which process comprises maintaining at one side of the heat exchange structure saline water containing as high as 300,000 parts per million of dissolved solids by weight and the saline water containing between 20 and 2000 parts per million by volume of agave plant juice, and applying heat to the other side of the heat exchange structure to heat the saline water to at least above its boiling point at atmospheric pressure and up to 270° F., the agave plant juice being unfermented and concentrated and containing its natural sugars and other ingredients and containing sufficient alkaline material to adjust the pH of the concentrated juice to between about 9 and about 11 and having an almost black color, said process being characterized in that scale forming insolubles in the saline water will form a relatively soft scale which will not adhere to the heat exchange structure and is capable of being blown down to remove the same from the equipment whereby the U factor of the heat exchange structure is maintained at a high value to enable the equipment to operate at is maximum efficiency.

3,261,766
MULTISTAGE EVAPORATION WITH ABSORPTION OF DISTILLED VAPORS
Thomas K. Sherwood, Concord, Mass., assignor to The Fluor Corporation, Ltd., Los Angeles, Calif., a corporation of California
Filed Dec. 11, 1964, Ser. No. 417,551
12 Claims. (Cl. 203—11)



1. In the evaporation of saline water by passage through a series of evaporator zones in each of which vapor is generated and the vapor is condensed by indirect heat exchange with the saline water passing through the zones, the method that includes:

(A) continuously circulating a hygroscopic absorption liquid through an absorption zone and a boiling zone,

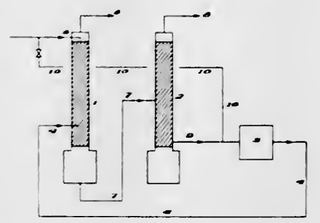
(B) passing water vapor at low subatmospheric pressure from one of said evaporator zones among the later stages into said absorption zone and therein absorbing the vapor in said liquid,

(C) pumping the resulting liquid into said boiling zone to effect said circulation and heating the liquid therein by indirect heat exchange with steam to vaporize the absorbed water,

(D) passing a saline water stream in indirect heat exchange with the absorption zone liquid and thence through said evaporator zones; and

(E) passing water vapor from said boiling zone into one of said evaporator zones among the early stages thereof to condense the vapor therein.

3,261,767
EXTRACTIVE DISTILLATION FOR THE SEPARATION OF MIXTURES CONTAINING UNSATURATED CARBOXYLIC ACID ESTERS AND ALCOHOLS CAPABLE OF FORMING AZEOTROPIC MIXTURES
Fritz Knörr and Hellmuth Spes, Burghausen, Upper Bavaria, Germany, assignors to Wacker-Chemie G.m.b.H., Munich, Germany
Filed May 1, 1961, Ser. No. 106,662
Claims priority, application Germany, Apr. 29, 1960, W 27,753
4 Claims. (Cl. 203—60)



1. An extractive distillation process for the separation of mixtures which contain azeotropically distilling mixtures of alkanols from 1 to 4 C-atoms and unsaturated carboxylic acid esters, in which the alcohol component is a lower alkanol, which comprises introducing said mixtures in the lower part of a column, introducing a β-alkoxycarboxylic acid ester, in which the alcohol component is a lower alkanol into the upper part of the column as the extraction agent, withdrawing the alcohol on the head of the column as a distillate, withdrawing the unsaturated acid ester in admixture with the β-alkoxy carboxylic acid ester from the sump of the column and separating the sump effluent into its components by distillation under reduced pressure.

3,261,768
METHOD OF PRODUCING LIGHT MODULATORS
Bryon J. Sabin, 36 Venezio Ave., Guilderland, N.Y.
No Drawing. Filed Aug. 5, 1965, Ser. No. 477,583
1 Claim. (Cl. 204—6)

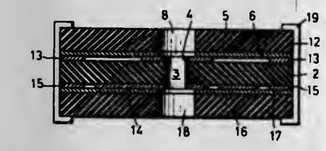
A method of producing plastic light modulators comprising creating an original for said light modulators, electroforming a primary metal pattern plate by electroplating said original, electroforming mold molding pattern plates by successive discrete electroplatings of said primary metal pattern plate, electroforming mold plates

by successive discrete electroplatings of one of said mold molding pattern plates and utilizing one of said electroformed mold plates to mold up to 20,000 plastic light modulators.

3,261,769
METHOD OF FORMING METALLIC LINERS BY ELECTRODEPOSITION IN APERTURED PRINTED CIRCUIT BOARDS

Thomas Coe and Cornelis Marinus van de Kerkhof, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 31, 1962, Ser. No. 220,672
Claims priority, application Netherlands, Sept. 5, 1961, 268,976
2 Claims. (Cl. 204—15)

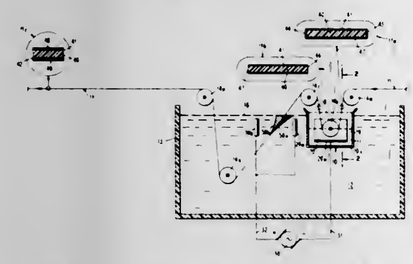


1. A method of forming metallic liners by electrodeposition in apertured printed circuit boards comprising coating the aperture surface of the circuit board with a conductive coating material, coating a surface of a masking board with a conductive coating material, punching apertures through said masking board so that the apertures of the circuit board and the apertures of the masking board are coaxially aligned when the masking board is juxtaposed over the circuit wiring on the circuit board, securing the circuit and masking boards in the relation above set forth and emersing the assembly thus obtained in an electrolytic bath with said conductive coating material being the cathode thereof.

3,261,770
SALT SOLUTION CONTACT ACTIVATOR AND SCRIBER FOR ELECTROPLATING ON A CONTINUOUS FILM AND METHOD OF USING THE SAME

John S. Judge, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 29, 1962, Ser. No. 206,307
2 Claims. (Cl. 204—28)



2. A method of controlling the conduction of an electroplating current substantially along one side of a thin resistive layer of cobalt alloy initially coated on all sides of a plastic web comprising the steps of:

passing said web into a contact salt solution compatible with a following electroplating bath,

insulating said contact solution from said bath except through a web metallic layer to force current substantially along said web,

moving said web between a pair of plates adjacent the edges of said web in said contact-salt solution,

connecting said plates to a negative terminal of a plating current source,

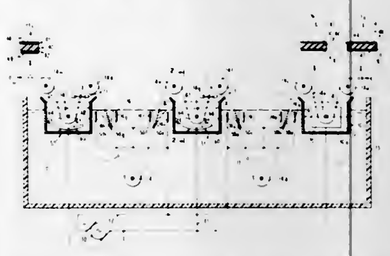
removing metal primarily along the edges of said web with said current in said contact solution in order to electrically separate front and back metallic layers coated on said web,

and engaging an insulating surface against the back of said web while it is in said contact-salt solution to inhibit current flow to the back metallic layer in order to activate and convey electroplating current only to the exposed front side of said web in said contact-salt solution for the subsequent electroplating operation in the following electroplating bath.

3,261,771
METHOD AND APPARATUS FOR ELECTROPLATING ON A PLASTIC WEB HAVING A HIGH RESISTANCE COBALT ALLOY COATING

Rhodes W. Polleys, Hyde Park, and John S. Judge, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 29, 1962, Ser. No. 206,381
2 Claims. (Cl. 204—28)



2. A method of electroplating a plastic web having a high resistance cobalt alloy coating which comprises the steps of:

advancing said web from a first electroplating bath into a contacting body of liquid mercury,

advancing said web from said body of liquid mercury into a second electroplating bath,

insulating one side of said web from said body of liquid mercury by passing said one side in contact with an insulating roll in said body of liquid mercury to force substantially all electroplating current to pass through the other side of said web as it is advanced between each bath and the contacting body of mercury,

connecting said mercury to a negative terminal of a power source having its positive terminal connected to each electroplating bath,

floating a layer of water over said mercury body,

and passing said web over a non-evaporative distance between said layer of water and said plating baths.

3,261,772
NICKEL ELECTROPLATING BATH AND PROCESS

Harry A. H. Ericson, Warby, Fittja, Sweden, assignor to Firma Sture Granberger, Bochum, Germany

No Drawing. Filed May 14, 1964, Ser. No. 367,592
Claims priority, application Sweden, Dec. 17, 1963, 14,058/63
32 Claims. (Cl. 204—49)

1. An aqueous acidic bath solution for electroplating nickel containing at least one nickel salt as a source of nickel which plating solution includes a brightener having the structural formula

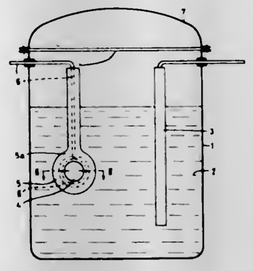
$$R_1-\underset{\displaystyle R_3}{\overset{\displaystyle |}{N}}-R_2SO_3R_4$$

wherein R_1 is selected from the group consisting of alkenyl, alkynyl, alkenoyl and alkynoyl radicals having 1 to 6 carbon atoms; R_2 is selected from the group consisting of hydrogen, aliphatic, alicyclic and aromatic radicals; R_3 is an aliphatic bridge containing from 1 to 5 carbon atoms and R_4 is selected from the group consisting of hydrogen and alkali metal.

3,261,773
APPARATUS FOR DOPING AND CONTACTING SEMICONDUCTOR BODIES

Herbert Sandmann and Richard Dötzer, Nurnberg, Germany, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt, Germany, a corporation of Germany

Original application Jan. 12, 1960, Ser. No. 1,921. Divided and this application Mar. 8, 1962, Ser. No. 178,428
Claims priority, application Germany, Jan. 12, 1959, S 61,298
6 Claims. (Cl. 204—242)



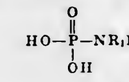
1. Device for electrolytically forming a doped surface zone and junction on a crystalline semiconductor body, comprising a gas-tight vessel adapted to contain an electrolyte in an inert atmosphere, a hollow holder for the semiconductor body of a material chemically inert with respect to the electrolyte, and current supply leads, one of which is adapted to be connected with the semiconductor body and is mounted within the holder so as to be shielded with respect to the electrolyte, said holder comprising a tube having a front-face edge adapted for tight sealing contact engagement with said semiconductor body; means connected with said tube for producing in its hollow space during the electrolysis process a negative pressure for holding the semiconductor body tightly against said front-face edge of said tubular holder, said tubular holder being further provided with an open annular groove, said device having electric lead means for supplying current to the semiconductor body disposed in said groove, said lead for contacting said semiconductor body being circular and coaxial with said groove.

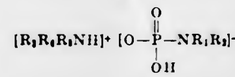
3,261,774
REDUCING FOULING IN REFINING OF PETROLEUM PRODUCTS

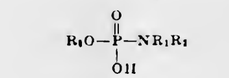
John D. Newkirk, Westmont, and Richard M. Miller, La Grange, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

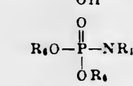
No Drawing. Filed Sept. 1, 1965, Ser. No. 484,466
5 Claims. (Cl. 208—48)

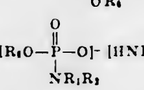
1. In a process wherein a hydrocarbon stock is passed in direct, heat exchange contact with a heat exchange surface having a surface temperature of about 100° F. to 2000° F. to heat said stock to a processing temperature, the improvement comprising inhibiting the fouling by organic and inorganic deposits from said hydrocarbon stock on said heat exchange surface by incorporating in said hydrocarbon stock an N-alkyl amidophosphoric acid selected from the group consisting of:

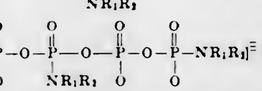
(A)


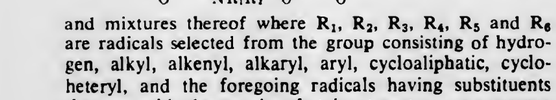
(B)


(C)


(D)


(E)


(F)


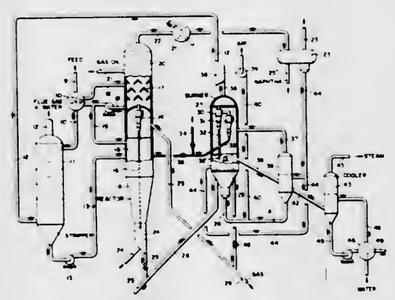
(G)


and mixtures thereof where R_1, R_2, R_3, R_4, R_5 and R_6 are radicals selected from the group consisting of hydrogen, alkyl, alkenyl, alkaryl, aryl, cycloaliphatic, cycloheteryl, and the foregoing radicals having substituents thereon, with the proviso that in at east one occurrence one of the foregoing radicals contains at least eight carbon atoms.

3,261,775
FLUID COKING PROCESS

Don E. Blaser, Dover, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Apr. 23, 1963, Ser. No. 274,964
9 Claims. (Cl. 208—85)



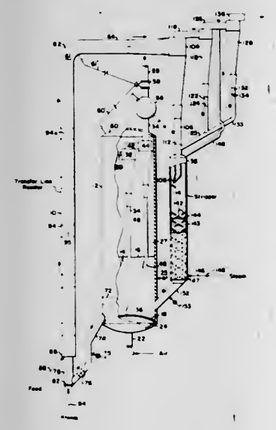
1. A process for obtaining oil from an admixture of water and mineral solids which comprises countercurrently contacting said mixture in a vessel with hot flue gas thereby removing the greater portion of the said water, passing the resulting mixture into a coking zone wherein it is contacted with a dense fluidized bed of solid particles maintained at a temperature between 800–1200° F., wherein the oil is converted to product vapors and coke is deposited on the said solid particles and a cohesive force is formed between the said deposited coke and the said solids, removing product vapors from the said coking zone, removing a portion of the coke-con-

taining solid particles to a first burning zone, said zone being maintained at a temperature of 800–1400° F., thereby increasing the temperature of the said particles and burning some of said coke, returning a portion of the said heated particles to the said coking zone, passing a second portion of the said coke-containing solid particles from said first burning zone to a second burner maintained at a temperature of 1000–1500° F. to burn all of the said coke, passing the hot flue gases from the said second burner into the said first burner thereby combining the flue gases, subjecting the said combined flue gases to centrifugal force so that any entrained solids are removed, and utilizing said hot flue gases from which entrained solids have been removed as the hot flue gas passed into the bottom of the said vessel for countercurrently contacting the said mixture of oil, water and mineral solids.

3,261,776
CONVERSION OF HYDROCARBONS

George P. Baumann, Sparta, and Felix J. Ponzek, Morris Township, Morris County, NJ., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed May 23, 1962, Ser. No. 197,087
2 Claims. (Cl. 208—113)

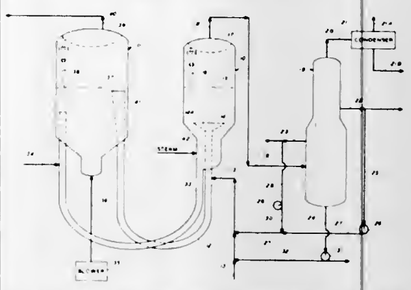


1. In a process for converting hydrocarbons which comprises passing a relatively dilute suspension of catalyst particles in hydrocarbon vapors as a substantially main upflowing stream through the center of an elongated conversion zone, separating spent catalyst particles from cracked hydrocarbon vapors leaving the upper end of said conversion zone, regenerating the spent catalyst particles, returning regenerated catalyst particles to the lower end of said elongated conversion zone and introducing hydrocarbon oil feed to be converted into the lower portion of said conversion zone for admixture with said introduced regenerated catalyst particles to form said relatively dilute suspension of catalyst particles above mentioned, the improvement whereby cocurrent contacting between the solid catalyst particles and vaporous hydrocarbons in the main upflowing catalyst suspension stream passing up through the center of said elongated conversion zone and solid catalyst particles passing downwardly along the inner wall of said elongated conversion zone is obtained without subdividing the main upflowing suspension stream into a multiplicity of streams by passing said main suspension stream upwardly through a series of single Venturi constricted zones spaced one above the other along the length of said elongated conversion zone to increase the velocity of the main upflowing catalyst suspension stream at said constricted zones and to eliminate a long back-mixing solids path in said elongated conversion zone.

3,261,777
CONTROLLING COKE LAYDOWN IN A CATALYTIC CONVERSION PROCESS

Lewis Iscol, Albany, and Eneas D. Kane, El Cerrito, Calif., assignors to Chevron Research Company, a corporation of Delaware

Filed Aug. 14, 1962, Ser. No. 216,833
12 Claims. (Cl. 208—113)



1. In a process for the catalytic conversion of a hydrocarbon feed stream wherein said stream, along with at least one recycle stream, is contacted with an active catalyst of definable activity and selectivity for said conversion, in a reactor maintained under catalytic conversion conditions of temperature and pressure, said catalyst becoming contaminated by the deposition of coke thereon, and said contaminated catalyst being circulated from said reactor through a regenerator wherein said coke is burned, with the evolution of a flue gas, by contact with an oxygen-containing gas, thereby regenerating the catalyst and elevating its temperature before its return to said reactor, and wherein reaction products are removed from said reactor and are separated into at least one product stream and at least one recycle stream, the improvement in such process which comprises:

(a) producing a primary indicator signal CA indicative of the rate of coke accumulation upon the catalyst in the over-all reactor-regenerator system, said signal representing the mathematical relationship comprised of

$$CA = M_R C_R + M_G \dot{C}_G$$

wherein

M_R is the mass of catalyst in the reactor in pounds,
M_G is the mass of catalyst in the regenerator in pounds,
C_R is the coke content of the catalyst leaving the reactor
$\dot{C}_R$ is the first derivative of C_R with respect to time in hours,
C_G is the coke content of the catalyst leaving the regenerator in weight fraction, and
$\dot{C}_G$ is the first derivative of C_G with respect to time in hours;

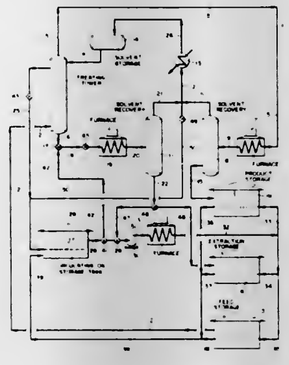
producing signals indicative of the values of M_R, M_G, $\dot{C}_R$ and $\dot{C}_G$; combining said signals M_R, M_G, $\dot{C}_R$ and $\dot{C}_G$ in accordance with said mathematical relationship to produce said primary indicator signal CA; and

(b) regulating at least one of the process variables of feed composition, feed temperature, feed rate, recycle rate, oxygen-containing gas rate, reactor pressure, the amount of catalyst within the system, catalyst activity and catalyst selectivity to keep said primary indicator signal CA as near as possible to a desired value.

3,261,778
SOLVENT RECOVERY PROCESS

James D. Bushnell, Berkeley Heights, John L. Ehrler, Landing, and Harold N. Weinberg, East Brunswick, NJ., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Sept. 27, 1962, Ser. No. 227,124
4 Claims. (Cl. 208—321)



1. An improved process for treating hydrocarbon fractions to selectively solvent extract aromatic constituents from said hydrocarbon fractions wherein the solvent extraction is carried out at elevated temperatures and pressures which comprises that in the event of an upset resulting in the release of hot solvent vapors that the vapors are passed to an oil storage tank containing cool oil and are condensed, said cooling liquid being used as a separate hot circulating fluid for heating a feed hydrocarbon fraction storage tank.

3,261,779
PROCESS AND PLANT FOR TREATING SEWAGE

John K. Sullins, Kingsport, and Richard W. Self, Blountville, Tenn., assignors to The Mead Corporation, Dayton, Ohio, a corporation of Ohio

Filed Apr. 10, 1962, Ser. No. 186,370
17 Claims. (Cl. 210—5)



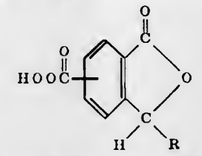
9. A process for treating sewage or the like comprising feeding said sewage to a sump tank, overflowing a portion of said sewage in said sump tank to a settling chamber, constantly removing sewage from the lower portions of said tank and chamber and delivering the same to a trickling filter, and constantly discharging the filtered product of said filter into said tank.

3,261,780
LUBRICANT ADDITIVE AND LUBRICATING COMPOSITIONS

Omar O. Juveland, South Holland, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Oct. 31, 1963, Ser. No. 320,501
12 Claims. (Cl. 252—51.5)

11. A lubricant composition comprising a major proportion of a normally liquid lubricant oil base stock and a minor amount sufficient to impart dispersancy of a dispersant, wherein said dispersant is the reaction product made by reacting an organic compound of the structure:



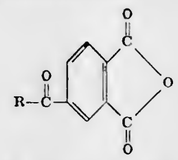
wherein R is an alkyl group containing at least 4 to about 3,000 carbon atoms with an amine of the structure: $H(NHR')_xNH_2$ wherein R' is a lower alkylene group and x is an integer of from 1 to 20, said reacting being accomplished by heating said organic compound and said amine to boiling.

3,261,781
LUBRICANT ADDITIVE AND LUBRICATING COMPOSITIONS

Omar O. Juveland, South Holland, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Nov. 15, 1963, Ser. No. 323,910
11 Claims. (Cl. 252—51.5)

10. A lubricant composition comprising a major proportion of a normally liquid lubricant oil base stock and a minor amount sufficient to impart dispersancy up to about 30 percent by weight of a dispersant, wherein said dispersant is the reaction product made by reacting an organic compound of the structure:



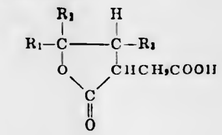
wherein R is an alkyl group containing at least 4 to about 1000 carbon atoms with an amine of the structure: $H(NHR')_xNH_2$ wherein R' is a lower alkylene group and x is an integer of from 1 to 20, said reacting being accomplished by heating a mixture of said organic compound and said amine to boiling.

3,261,782
ALKYLBUTYROLACTONE-α-ACETIC ACIDS

Donald J. Anderson, San Anselmo, and Louis de Vries, Richmond, Calif., assignors to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Mar. 5, 1964, Ser. No. 349,747
2 Claims. (Cl. 252—57)

1. A lubricating oil composition comprising a major proportion of an oil of lubricating viscosity, and from 0.1% to 10% by weight of an alkylbutyrolactone-α-acetic acid of the formula



wherein R_1, R_2 and R_3 are selected from the group consisting of hydrogen and alkyl radicals having a total of from 10 to 300 carbon atoms.

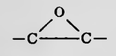
3,261,783

COMPOSITIONS AND PROCESSES FOR CURING EPOXY RESINS AND PRODUCTS RESULTING THEREFROM

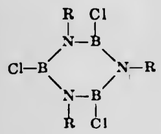
Gilbert F. Pollnow and Daniel T. Haworth, Milwaukee, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

No Drawing. Filed June 1, 1961, Ser. No. 114,035
7 Claims. (Cl. 260—2)

1. A heat curable composition comprising a polyepoxide having a



epoxy equivalency greater than 1.0 and about 4 to about 8 parts per hundred by weight of a B-trichloroborazine having the general structural formula



wherein R is a member of the class comprising hydrogen, the lower alkyl groups and phenyl groups.

3,261,784

PROCESS FOR ALTERING THE PROPERTIES OF HIGH MOLECULAR WEIGHT HALOGEN CONTAINING SUBSTANCES

Max Goecke, Bad Homburg vor der Hohe, Otto Schweitzer, Konigstein im Taunus, and Rudolf Nagelschmidt, Hanau am Main, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Jan. 18, 1960, Ser. No. 2,855
Claims priority, application Germany, Jan. 23, 1959, D 29,832
15 Claims. (Cl. 260—2.5)

1. A process for altering the properties of organic high molecular weight polymeric substances, the molecules of which uninterrupted possess carbon chains which predominantly are linear and which carry chlorine atoms directly on carbon atoms of such linear chains, which comprises heating such polymeric substances in contact with 0.01–10% by weight based on the polymeric substances of a monomeric N,N'-dimethylol compound of a polyamine selected from the group consisting of primary and secondary alkylene-, aralkylene-, arylene-, alkyl arylpolyamines and such primary and secondary polyamines which are amino substituted alkylene-, arylene-, aralkylene-, alkylarylene-hydrocarbons carrying at least one further substituent on such hydrocarbon radical selected from the group consisting of oxalkyl groups, hydroxyl groups and heterocyclic groups at a temperature of at least about 80° C. to effect cross-linking of said polymeric substances with said N,N'-dimethylol compound as cross-linking agent.

3,261,785

MODIFIED VINYL CHLORIDE POLYMERS

Anderson E. Robinson, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed June 25, 1963, Ser. No. 290,317
10 Claims. (Cl. 260—2.5)

1. A process of modifying a vinyl chloride polymer selected from the group consisting of polyvinyl chloride, vinyl chloride-acrylonitrile copolymers, vinyl chloride-vinyl acetate copolymers, vinyl chloride-vinylidene chloride copolymers, and vinyl chloride-1,2-ethylene dicarboxylic acid alkyl ester copolymers which comprises heating said polymer in the presence of an aliphatic polysulfonazide having the general formula

$$R(SO_2N_3)_x$$

where x is an integer greater than 1 and R is an organic radical selected from the group consisting of aliphatic and aryl aliphatic radicals, said sulfonazide groups being attached to aliphatic carbon atoms.

3,261,786

MODIFIED VINYL CHLORIDE POLYMERS

David S. Breslow, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed June 25, 1963, Ser. No. 290,328
10 Claims. (Cl. 260—2.5)

1. A process of modifying a vinyl chloride polymer selected from the group consisting of polyvinyl chloride, vinyl chloride-acrylonitrile copolymers, vinyl chloride-vinyl acetate copolymers, vinyl chloride-vinyl acetal copolymers, vinyl chloride-vinylidene chloride copolymers, and vinyl chloride-1,2-ethylene dicarboxylic acid alkyl ester copolymers which comprises heating said polymer in the presence of an aromatic polysulfonazide.

3,261,787

RESIN SOLUTION COMPRISING A PHENOL-ALDEHYDE RESIN AND A POLYEPOXIDE-ROSIN REACTION PRODUCT

John A. Davies and John H. Hutchins, Athens, Ga., assignors to Champion Papers Inc., Hamilton, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 30, 1963, Ser. No. 312,316
8 Claims. (Cl. 260—25)

1. An aqueous vehicle comprising a blend of resins dissolved in a solvent medium;

(1) said solvent medium consisting essentially of:
- (1.1) a water-miscible and volatile ether alcohol;
- (1.2) water, said water comprising from about 20% to about 75%, based on the total weight of (1.1) and (1.2); and,
- (1.3) a volatile base in a sufficient quantity to provide said solvent medium (1) with a pH of from about 7.5 to about 9.5;

(2) said blend of resins consisting essentially of a blend of:
- (2.1) an essentially linear, heat-hardening, alkaline-condensed, water-soluble condensation product of a tetrafunctional bisphenol and formaldehyde, with
- (2.2) the partial reaction product of:
  - (2.21) rosin, and
  - (2.22) a polyepoxide having a 1,2 epoxy functionality of from about 1.3 to about 2.0 and a molecular weight in the range of about 250–600;

said rosin being reacted with said polyepoxide in equivalent proportions of about 0.25:1.0 to 1.0:0.25, based on the carboxyl in said rosin and the oxirane in said polyepoxide; said condensation product (2.1) and said partial reaction product (2.2) being blended in a weight ratio of from about 50:50 to 90:10 to form a solid resin having a melting point above 110° C. and an acid number of from about 30 to about 200.

3,261,788

DISPERSION POLYMERIZATION OF MONOMER IN PRESENCE OF BLOCK OR GRAFT COPOLYMER AND FILM-FORMING RESIN

Ronald James Carter, Slough, Richard Henry Cousens, Gerrards Cross, and Desmond Wilfrid John Osmond, Iver Heath, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 16, 1960, Ser. No. 76,116
Claims priority, application Great Britain, Dec. 18, 1959, 43,048/59
6 Claims. (Cl. 260—4)

1. In a process for producing a stable dispersion of a solid addition polymer in an inert organic liquid in which the polymer is insoluble which comprises polymerizing at least one ethylenically unsaturated monomer dissolved in said organic liquid in the presence of a member of the group consisting of organic block and graft copolymers of which one polymeric constituent is compatible with, and is co-precipitated with, the polymer and another polymeric constituent is solvated by the organic liquid and stabilizes the polymer dispersion; the improvement which comprises carrying out the polymerization in the presence of, in addition to said copolymer, a compatible film-forming resin, said resin being present in an amount which normally would be insoluble in the organic liquid alone but is dissolved by the monomer being polymerized, and continuing the polymerization to co-precipitate the resin with the polymer as the monomer is used up in the formation of said polymer and thereby obtaining a stable dispersion of the modified polymer in the organic liquid.

3,261,789

CURING HALOGENATED POLYMERS

Martin Berger, East Brunswick, Nicholas Michaels, Roselle, and Thomas A. Manuel, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Feb. 5, 1963, Ser. No. 256,263
7 Claims. (Cl. 260—5)

1. A composition comprising the reaction product of a major proportion of a rubbery halogenated copolymer of about 85 to 99.5 weight percent of a C_4 to C_7 isoolefin and about 15 to 0.5 weight percent of a C_4 to C_{14} multiolefin and a minor proportion of iron pentacarbonyl.

3,261,790

POLYOLEFINS STABILIZED WITH A NICKEL GLYOXIME

Arthur C. Hecker, Forest Hills, and Otto S. Kauder, Jamaica, N.Y., assignors to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of New York

No Drawing. Filed Nov. 23, 1962, Ser. No. 239,827
14 Claims. (Cl. 260—23)

11. An olefin polymer composition having improved resistance to deterioration upon exposure to light comprising an olefin polymer and from about 0.001 to about 0.5% by weight of the polymer of a nickel glyoxime.

3,261,791

POLYOLEFINS STABILIZED WITH A GLYOXIME

Arthur C. Hecker, Forest Hills, Otto S. Kauder, Jamaica, and Norman L. Perry, Baldwin, N.Y., assignors to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of New York

No Drawing. Filed Aug. 9, 1963, Ser. No. 301,204
14 Claims. (Cl. 260—23)

11. An olefin polymer composition having improved resistance to deterioration upon exposure to light comprising an olefin polymer and from about 0.005 to about 5% by weight of the polymer of a glyoxime.

3,261,792

PREPARATION OF LATICES

Walter M. Halper, San Pedro, and Fred Dudley Moss, Long Beach, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

Filed Sept. 19, 1962, Ser. No. 224,677
3 Claims. (Cl. 260—23.7)

1. In the process for the production of a rubber latex wherein a cement comprising 5–20% by weight of a rubbery polymer of a conjugated diene dissolved in a hydrocarbon solvent having from 4 to 9 carbon atoms per molecule, said solvent having a maximum boiling point below the decomposition temperature of the rubber and having a solubility of less than 5 cc. in one liter of water, is emulsified with 40–300 parts of water per 100 parts by volume of cement in the present of 0.5–2% by weight, based on the water, of an emulsifying agent, said agent comprising an alkali metal soap of a monocarboxylic acid having at least 12 carbon atoms per molecule and solvent is removed leaving a latex colloidally suspended in water, the steps comprising:

(a) heating the emulsion to form a foam of substantially all of the emulsion components in the substantial absence of flashing, said foam comprising vaporized solvent and liquid water containing colloidally dissolved emulsifying agent, and colloidally suspended rubber particles containing less than about 100 parts of solvent per 100 parts by weight of rubber;

(b) collapsing the foam by cooling whereby the vapors are liquified at the pressure employed, decanting the liquified solvent phase from the aqueous latex phase, said latex phase comprising water, colloidally dissolved emulsifier and colloidally dispersed rubber containing less than about 40 parts of solvent per 100 parts by weight of rubber and a slime comprising solvent containing colloidally suspended droplets, said droplets comprising a continuous water phase and partially stripped rubber particles containing a smaller proportion of solvent than in the original cement;

(c) passing the slime through a coalescer whereby it is resolved into a separate solvent phase and a latex phase containing rubber particles of solvent content substantially reduced from that of the original emulsion;

(d) and decanting solvent from latex.

3,261,793

VINYLIDENE POLYMER FILMS WITH MIXTURES OF MgO AND EPOXIDIZED SOYBEAN OIL

Fred Stevenson, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 20, 1963, Ser. No. 281,525
8 Claims. (Cl. 260—23.7)

1. A polymeric composition consisting essentially of a blend of (I) from 70 to 95 percent by weight of the composition of a normally crystalline polymer selected from the group consisting of polyvinylidene chloride and interpolymers of at least about 70 percent by weight of vinylidene chloride with up to about 30 percent by weight of at least one monoethylenically unsaturated comonomer, (II) from about 5 to 30 percent by weight of said composition of a rubber-like copolymer of (a) between 70 and 95 weight percent of an open chain aliphatic conjugated diolefin selected from the group consisting of butadiene and isoprene and (b) between 5 and 30 weight percent of methyl methacrylate, and (III) between about 0.50 and 2.75 percent by weight in the aggregate based on the total weight of the composition of a stabilizer mixture consisting essentially of (1) from about 0.25 to 0.75 percent by weight of magnesium oxide having an average particle

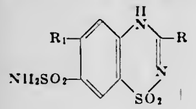
size of less than about 1 micron, and (2) from about 0.25 to 2 percent by weight of an epoxidized soybean oil having an epoxy-oxygen content of at least about 6 percent.

3,261,794
3-PERFLUOROALKYL-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE DERIVATIVES

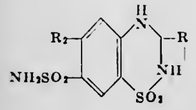
Maxwell Gordon, Elkins Park, and Edward A. Nodiff, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 1, 1959, Ser. No. 810,212
6 Claims. (Cl. 260—243)

4. A chemical compound having a fundamental structural formula selected from the group consisting of:



and



in which R is perfluoroalkyl having 1 to 4 carbon atoms inclusive; R_1 is a member selected from the group consisting of chloro, trifluoromethyl, nitro and amino; and R_2 is a member selected from the group consisting of nitro and amino.

3,261,795
PROCESS FOR THE MANUFACTURE OF STABLE AMINO RESIN SOLUTIONS

Rudolf Goullon and Kurt Rehnelt, Dusseldorf-Holthausen, Germany, assignors to Böhme Fettchemie G.m.b.H., Dusseldorf, Germany

No Drawing. Filed Jan. 29, 1964, Ser. No. 341,119
Claims priority, application Germany, Feb. 2, 1963, B 70,594
4 Claims. (Cl. 260—29.4)

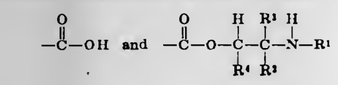
1. A process for the production of aqueous amino resin condensate solutions, stable upon prolonged storage and exposure to temperatures down to 0° C. against monomer and oligomer precipitation, which comprises incorporating in said solutions substantially 0.5 to 10 percent my weight, calculated on said condensate, of a resin obtained by the condensation of 2–3 mols urea with substantially 9–10 mols formaldehyde followed by alkoxylation of the reaction product with 0.4 to 0.8 mols, per mol urea, of a substance selected from the group consisting of ethylene oxide, propylene oxide, and mixtures thereof, and etherification with substantially 0.5 to 1 mol, per mol urea, of an alcohol selected from the group consisting of methanol, ethanol, n-propanol and isopropanol.

3,261,796
AQUEOUS DISPERSION OF VINYL ADDITION POLYMER CONTAINING AMINOESTER RADICALS

John A. Simms, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 1, 1964, Ser. No. 379,718
5 Claims. (Cl. 260—29.6)

1. An aqueous dispersion suitable for use as a coating composition consisting essentially of a latex of a vinyl addition polymer having attached to the carbon-carbon chain monovalent radicals of the formulas



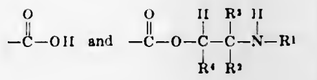
wherein R^1 is selected from the group consisting of hydrogen, benzyl and C_1 to C_{10} alkyl radicals, R^2 and R^3 are selected individually from the group consisting of hydrogen, benzyl, aryl and C_1 to C_{10} alkyl radicals, and R^4 is selected from the group consisting of hydrogen and C_1 to C_5 alkyl radicals; said latex having a pH of about 8–10 and containing about 0.05–10% anionic surfactant based on the weight of said polymer, and said polymer having an amino nitrogen content of about 0.01–2% by weight.

3,261,797
PROCESS FOR IMINATING POLYMERIC LATICES

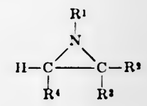
Maurice J. McDowell, Media, and Ervin R. Werner, Jr., Levittown, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 28, 1964, Ser. No. 407,215
11 Claims. (Cl. 260—29.6)

1. In the process for forming an aqueous dispersion suitable for use as a coating composition and consisting essentially of a latex of a vinyl addition polymer having attached to the carbon atoms of the polymer backbone monovalent radicals of the formulas:



the improvement in combination therewith comprising reacting at a temperature of about 35 to 90° C. (1) a latex of a carboxylic polymer having 0.5–10% by weight monomer units containing pendant —COOH groups with (2) 10–70% of the molar amount of an alkylene imine necessary to convert the pendant —COOH groups of said carboxylic polymer to aminoester groups to form said vinyl addition polymer and (3) adjusting the pH of said latex with a water-soluble alkaline compound to about pH 8–10; said alkylene imine having the formula:



and wherein each of said formulas R^1 is from the group consisting of hydrogen, benzyl and C_1 to C_5 alkyl radicals, R^2 and R^3 are selected individually from the group consisting of hydrogen, benzyl, aryl and C_1 to C_5 alkyl radicals, and R^4 is from the group consisting of hydrogen and C_1 to C_5 alkyl radicals.

3,261,798
PAPER TREATING SOLUTION OF AN ALPHA-OLEFIN/MALEIC ANHYDRIDE COPOLYMER AND A BISULFITE

Charles P. Farley, Florissant, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Nov. 12, 1964, Ser. No. 410,724
6 Claims. (Cl. 260—29.6)

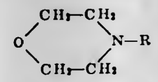
1. A composition comprising (1) an aqueous basic solution of an aliphatic alkene alpha-olefin/maleic anhydride copolymer having an olefin to maleic anhydride molar ratio of from about 1:1 to about 1:1.9 and an average molecular weight of from about 1000 to about 10,000, the alpha-olefins having from 6 to about 24 carbon atoms, and (2) from about 0.01 percent to about 5%, based on the copolymer content, of an alkali metal salt of an anion selected from the group consisting of bisulfite and sulfite.

3,261,799
FREEZE-THAW STABLE AMINOESTER POLYMER

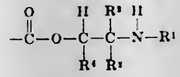
George B. Vermont, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 6, 1965, Ser. No. 423,845
19 Claims. (Cl. 260—29.6)

1. A freeze-thaw stable aqueous film forming composition consisting essentially of a dispersion of a water-insoluble negatively charged carboxylic vinyl addition polymer and a compound of the Formula A:



wherein R is from the group of hydrogen and C_1 to C_4 alkyl radical; said vinyl addition polymer consisting essentially of C_2 to C_{20} monomeric units and containing about 0.3 to 5% by weight of ethylenically unsaturated carboxylic acid units and having attached to the carbon atoms in the polymer backbone about 0.03% to 3% by weight of said vinyl addition polymer, monovalent aminoester radicals of the formula:



wherein R^1 is selected from the group consisting of hydrogen, benzyl and C_1 to C_5 alkyl radicals, R^2 and R^3 are selected individually from the group consisting of hydrogen, benzyl, aryl and C_1 to C_5 alkyl radicals, and R^4 is selected from the group consisting of hydrogen and C_1 to C_5 alkyl radicals; said composition containing an amount of the compound of Formula A sufficient to provide a pH of about 7 to 10 and containing 0.3 to 10% by weight based on the weight of said vinyl addition polymer of a surfactant of the group of anionic surfactants, nonionic surfactants and a mixture of nonionic and anionic surfactants.

3,261,800
BORON NITRIDE INCORPORATED IN POLYMER PRODUCTS

Oliver Dale Collins III, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 8, 1960, Ser. No. 54,578
4 Claims. (Cl. 260—37)

1. A composition comprising polyoxymethylene and from .05% to 10% by weight of boron nitride.

3,261,801
REVERSION RESISTANT ORGANOPOLYSILOXANE CONTAINING BARIUM OXIDE OR BARIUM PEROXIDE

Wilbur J.. Wormuth, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Aug. 22, 1962, Ser. No. 218,520
8 Claims. (Cl. 260—37)

1. An organopolysiloxane composition comprising (1) 100 parts, by weight, of an organopolysiloxane, (2) from 10 to 200 parts of a filler, (3) from 0.1 to 10 parts of an oxide of barium selected from the class consisting of barium oxide and barium peroxide, said organopolysiloxane being convertible to the solid, cured, elastic state and having a viscosity of at least 100,000 centipoises at 25° C., in which the organo radicals of said organopolysiloxane being attached to silicon through silicon-carbon linkages and being selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals, and cyanoalkyl radicals, there being an average of about 1.95 to 2.05 organo radicals per silicon atom.

3,261,802
VINYL CHAIN-STOPPED ORGANOPOLYSILOXANE AND FERRIC OXIDE MASTERBATCHES MILLED WITH ORGANOPOLYSILOXANE COMPOSITIONS

William J. Bobear, Latham, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,283
5 Claims. (Cl. 260—37)

1. A method for making organopolysiloxane compositions comprising (A) from about 0.1 to about 20 parts of ferric oxide, (B) 100 parts of an organopolysiloxane having a viscosity of at least 100,000 centipoises at 25° C. of the formula:

$$(R)_aSiO_{4-a/2}$$

and (C) from 10 to 300 parts of a filler, which method comprises milling a mixture comprising (B), (C), and from about 1 to about 200 parts of a ferric oxide masterbatch consisting essentially of a mixture of ferric oxide and a vinyl chain-stopped organopolysiloxane free of ferric oxide agglomerates greater than 50 microns in diameter. where the ferric oxide is utilized in a proportion of from about .01 part to about 4.5 parts per part of said vinyl chain-stopped organopolysiloxane which has a viscosity of less than 100.000 centipoises at 25° C. and consists essentially of chemically combined diorganosiloxy units having the formula:

$$(R)_2SiO$$

and terminated with chemically combined units of the formula:



where R is a member selected from the class consisting of monovalent hydrocarbon radicals, halogenated monovalent hydrocarbon radicals and cyanoalkyl radicals, R′ is a vinyl radical and *a* is equal to from 1.9 to 2.01, inclusive.

3,261,803
ORGANOSILOXANES VULCANIZED WITH HEXYLENE GLYCOL BENZOATE PERBENZOATE

Edward Terence Naughton, Rumney, Cardiff, Glamorgan, Wales, assignor to Midland Silicones Limited, London, England

No drawing. Filed Apr. 24, 1964, Ser. No. 362,468
Claims priority, application Great Britain, May 3, 1963, 17,583/63
11 Claims. (Cl. 260—37)

2. A silicone rubber stock consisting essentially of 100 parts by weight of an essentially linear, diorganosiloxane polymer of at least 50,000 cs. viscosity at 25° C. wherein the monovalent organic substituents are selected from the group consisting of hydrocarbon radicals containing from 1–18 carbon atoms, halogenohydrocarbon radicals containing from 1–8 carbon atoms and cyanoalkyl radicals containing from 1–18 carbon atoms, a filler and 0.1 to 10 parts by weight of hexylene glycol benzoate perbenzoate.

3,261,804
COMPOSITIONS COMPRISING UNIRRADIATED AND IRRADIATED MIXTURES OF A POLYOLEFIN AND A THIOPHOSPHATE ESTER AND THE METHOD OF IRRADIATING THE COMPOSITION

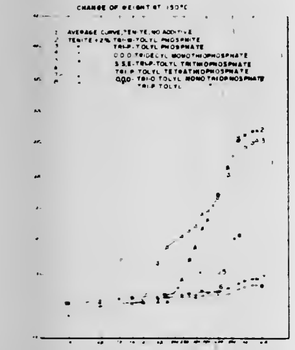
Bruce Graham, Los Altos, Calif., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut

Filed Jan. 30, 1959, Ser. No. 790,236
Claims priority, application Canada, Aug. 31, 1956, 713,881
16 Claims. (Cl. 260—45.7)

1. A composition comprising a mixture of a solid polymer of an olefin having 2 to 3 carbon atoms and a

minor amount of a thiophosphate ester, the amount of said ester being sufficient to stabilize said polymer.

7. A composition comprising irradiated polyethylene and a triaryl thiophosphate in an amount of 0.001% to 10% by weight of the total of the polyethylene and thio-



phosphate, said irradiation having been with a dosage of between 1×10^6 REP and 1×10^8 REP.

11. A process comprising irradiating polyethylene and a triaryl thiophosphate in an amount of 0.001% to 10% by weight of the total of the polyethylene and the thiophosphate with a dosage of between 1×10^6 REP and 1×10^8 REP.

3,261,805
POLYOXYMETHYLENE STABILIZED WITH AROMATIC NITRO COMPOUNDS

Vivien Griffiths, Welwyn Garden City, and John Carswell McGowan, Harpenden, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 21, 1963, Ser. No. 252,555
Claims priority, application Great Britain, Jan. 30, 1962, 3,473/62
15 Claims. (Cl. 260—45.8)

1. A composition comprising a high molecular weight oxymethylene polymer and 0.05% to 5% by weight of the polymer of an aromatic compound having a molecular weight of at least 220 and containing at least one nitro group attached to a carbon atom of the aromatic nucleus and at least one other monovalent radical attached to another carbon atom of the same aromatic nucleus, where the aromatic nitro compound is selected from the group consisting of those of the formulae:

$$[(\text{Nitro-Ar})\text{—CO—O}]_n\text{R}$$
$$(\text{Nitro-Ar})\text{—NXY}$$
$$(\text{Nitro-Ar})\text{—CH=N—NH—Z}$$

in which:

(Nitro-Ar) is a nitrated monovalent benzene radical;
R is the residue of a polyhydroxyl compound containing 2 to 4 hydroxyl groups;
n is 2 to 4;
X and Y together with the nitrogen atom form a six-membered heterocyclic ring or X is hydrogen and Y is selected from the group consisting of halogen-substituted phenyl, diphenylamino, N-(benzylideneimino) carbamoyl, N-nitrocarbamoyl, and

—CO—NH—A

wherein A is selected from the group consisting of carboxyphenyl, acetylphenyl, nitro-substituted phenyl, halogen-substituted phenyl, secondary alkyl groups of the formula CHR^1R^2 where R^1 and R^2 are each alkyl groups containing at least 2 carbon atoms,

and alkylene radicals;
the second valence of which is satisfied with a further group of the formula

—NH—CO—NH—(Nitro-Ar)

and Z is selected from the group consisting of phenyl and carbamoyl.

3,261,806
VINYL CHLORIDE RESINS CONTAINING A TRIALKYL LEAD PHTHALIMIDE AS A STABILIZER

Richard D. Gorsich, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 31, 1963, Ser. No. 284,341
9 Claims. (Cl. 260—45.75)

1. A vinyl chloride resin stabilized against discoloration by having incorporated therein a trialkyl lead phthalimide in an amount sufficient to stabilize the resin against discoloration, said trialkyl lead phthalimide having from 1 to about 5 carbon atoms in each alkyl group.

3,261,807
ORGANOSILICON MATERIALS

Ben A. Bluestein, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

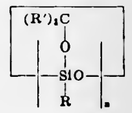
No Drawing. Filed Oct. 21, 1963, Ser. No. 317,826
10 Claims. (Cl. 260—46.5)

1. Organosilicon materials selected from the class consisting of,

(a) silanes having the formula,

$$(R')_1C\,OSi(OR'')_3$$

(b) cyclopolysiloxanes having the formula,



and (c) polyorganosiloxane polymers comprising chemically combined units of the formula,

$$(R')_1C\,OSiO$$

where R is a member selected from the class consisting of monovalent aryl radicals and halogenated monovalent aryl radicals, R′ is an alkyl radical having up to four carbon atoms, and R″ is a member selected from the class consisting of hydrogen, an R′ radical, and an acyl radical, and *n* is an integer equal to from 3 to 8, inclusive.

3,261,808
LINEAR, HARDENABLE EPOXY POLYCARBONATES

Hermann Schnell, Krefeld-Uerdingen, and Heinrich Krimm, Krefeld-Bockum, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 9, 1959, Ser. No. 858,339
Claims priority, application Germany, Dec. 13, 1958, F 27,258
8 Claims. (Cl. 260—47)

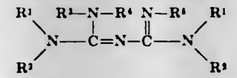
1. The resinous product obtained by reacting (1) phosgene, (2) epichlorohydrin and (3) a dihydric phenol at the same time.

3,261,809
SUBSTITUTED ISOBIGUANIDE CATALYSTS FOR EPOXY RESINS

Allan E. Sherr, Norwalk, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 2, 1962, Ser. No. 235,143
18 Claims. (Cl. 260—47)

1. A composition comprising (A) an organic resin forming polyepoxide compound selected from the group consisting of monomeric and polymeric epoxides having a plurality of reactive 1,2-epoxy groups, and an epoxide equivalency of at least 1.0 and (B) a catalytic amount of an isobiguanide represented by the general formula:



wherein R^1, R^2, R^3 and R^4 each represent an alkyl group having from 1 to 6 carbon atoms, inclusive, and R^5 represents a member selected from the group consisting of hydrogen and a lower alkyl group.

3,261,810
PROCESS FOR PREPARING POLYCARBONATES

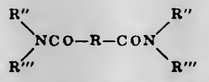
Toshio Chiba, Ashigarakami-gun, Kanagawa-ken, Masao Izuka, Odawara-shi, Kanagawa-ken, and Nobuo Tsuji, Ashigarakami-gun, Kanagawa-ken, Japan, assignors to Fuji Photo Film Co., Ltd., Kanagawa-ken, Japan, a corporation of Japan

No Drawing. Filed June 24, 1963, Ser. No. 290,224
Claims priority, application Japan, July 7, 1962, 37/27,822
4 Claims. (Cl. 260—47)

1. A process for preparing polycarbonates which comprise condensation-reacting a bis-(monohydroxyaryl)-alkane with a compound selected from the group consisting of phosgene and a bis-chloro-carbonic acid ester of a bis-(monohydroxyaryl)-alkane in the presence of an acid acceptor consisting of caustic alkali and in the presence of a catalyst selected from the group consisting of

$$\text{R′—NHCO—R—CONH—R′}$$

and



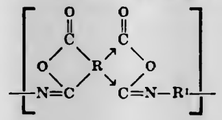
where R is a member selected from the group consisting of alkylene and alkylidene, said groups each having 2–20 carbon atoms; R′ is a member selected from the group consisting of cycloalkyl having 3–20 carbon atoms, alkyl having cycloalkyl branches, and alkyl and aralkyl groups bearing at least one tertiary or quaternary carbon atoms; and R″ and R‴, each is a member selected from the group consisting of staright chain alkyl having 1–20 carbon atoms, and groups represented by R′.

3,261,811
PROCESS OF PRODUCING AROMATIC POLYAMIDE-ESTERS FROM POLYIMINOLACTONES

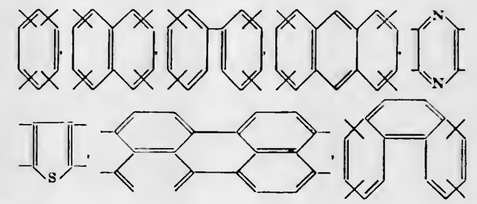
William Earl Tatum, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 21, 1963, Ser. No. 325,497
3 Claims. (Cl. 260—47)

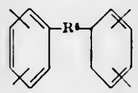
1. A process for preparing shapeable polymeric compositions which comprises treating a polyiminolactone consisting essentially of recurring units of the formula:



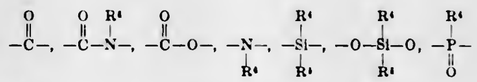
wherein the arrows denote isomerism;
R is a radical selected from the group consisting of



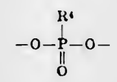
and



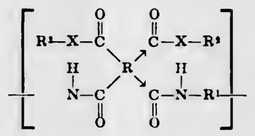
where R^6 is selected from the group consisting of an alkylene chain having 1–3 carbon atoms —O—, —S—, —SO_2—,



and



where R^4 and R^5 are selected from the group consisting of alkyl and aryl;
R^1 is arylene;
with a compound R^2—XH wherein R^2 is selected from the group consisting of alkyl and aryl and X is selected from the group consisting of oxygen and sulfur to form a polyamide-ester having the recurring units of the formula:



wherein the arrows denote isomerism;
R has the same meaning as above;
R^1 is arylene;
R^2 is selected from the group consisting of alkyl and aryl; and
X has the same meaning as above.

3,261,812
ELASTOMERIC POLYESTERS OF DIACIDS, CYCLOHEXANEDIMETHANOL AND POLY(TETRAMETHYLENE GLYCOL)

Alan Bell, Charles J. Kibler, and James G. Smith, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 9, 1962, Ser. No. 215,768
20 Claims. (Cl. 260—75)

1. A highly polymeric linear fiber-forming elastomeric polyester of constituents consisting essentially of equimolar proportions of a dicarboxylic acid constituent (A)

and of a mixture of glycol constituents composed of (B–1) and (B–2), said linear polyester having an inherent viscosity above 1.3 as measured in a mixture of 60% phenol plus 40% tetrachloroethane at 25° C., and having a crystalline melting point greater than 150° C., and wherein said dicarboxylic acid and glycol constituents are as follows:

(A) a dicarboxylic acid having from 2 to 40 carbon atoms, and composed of from 80 to 100 mole percent of a dicarboxylic acid in which the carboxy radicals are directly attached to a hexacarbocyclic ring,

(B–1) a glycol selected from the group consisting of the cis and trans isomers of 1,4-cyclohexanedimethanol,

(B–2) a polytetramethylene ether glycol having a molecular structure represented by the following formula:



wherein *n* represents an integer such that the molecular weight is in the range of from about 1900 to about 5100, the amount of glycol constituent (B–2) is from 50 to 90% by weight of said linear polyester and the amount of glycol constituent (B–1) is at least 50 mole percent of the sum of the glycol constituents (B–1) and (B–2), whereby fibers of said polyester have a percentage of elastic recovery from a 200 percent elongation which is in excess of 90% and have a tenacity of at least about 0.25 gram/denier.

3,261,813
ROOM TEMPERATURE CURING SYSTEM FOR URETHANE PREPOLYMERS UTILIZING BIS-CHLOROANILINE AND DIBUTYLTIN DILAURATE

Thomas Ramos, New York, N.Y., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Feb. 13, 1963, Ser. No. 258,357
6 Claims. (Cl. 260—77.5)

1. The method of preparing a cured urethane polymer which comprises

mixing, at a temperature in the range of 60 to 80 degrees Farenheit,

(a) an isocyanate terminated, liquid urethane prepolymer, with 4,4′-methylenebis(2-chloroaniline) and dibutyltin dilaurate, and curing the mixture at room temperature.

3,261,814
HYDROXYLATED SUGAR PHOSPHITE BASED POLYURETHANES

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Sept. 7, 1962, Ser. No. 222,180, now Patent No. 3,219,658, dated Nov. 23, 1965. Divided and this application July 16, 1965, Ser. No. 484,497
19 Claims. (Cl. 260—77.5)

1. A polyurethane comprising the reaction product of a phosphorus compound selected from the group consisting of phosphites and phosphonates of hydroxyalkyl sugars, hydroxyalkoxyalkyl sugars, hydroxypolyalkoxyalkyl sugars, hydroxyalkyl glycosides, hydroxyalkoxyalkyl glycosides and hydroxypolyalkoxyalkyl glycosides, said phosphorus compound having a plurality of hydroxy groups and an organic polyisocyanate.

3,261,815
POLYMERS OF α,β-ETHYLENICALLY UNSATURATED DICARBOXYLIC ACIDS OR DERIVATIVES THEREOF AND 1,5-CYCLOOCTADIENE

Rostyslaw Dowbenko, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 21, 1964, Ser. No. 405,564
14 Claims. (Cl. 260—78.5)

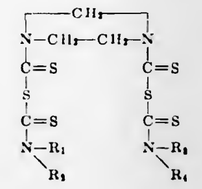
1. An interpolymer produced by the free-radical initiated copolymerization of a mixture of monomers consisting essentially of 1,5-cyclooctadiene and a member of the class consisting of alpha,beta-ethylenically unsaturated dicarboxylic acids, their anhydrides and their esters, said interpolymer containing recurring bicyclo[3.3.0]octane groups in the polymer chain.

3,261,816
VULCANIZATION ACCELERATORS

Krijn van den Boogaart, Vlaardingen, Netherlands, assignor to Fabriek van Chemische Producten Vondelingenplaat N.V., Rotterdam, Netherlands, a Dutch corporation

No Drawing. Filed May 21, 1963, Ser. No. 282,109
8 Claims. (Cl. 260—79.5)

7. A process for vulcanizing rubber, which comprises using as an accelerator a compound having the formula



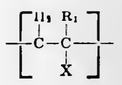
wherein R_1, R_2, R_3 and R_4 each represent an alkyl group having from 1 to 4 carbon atoms.

3,261,817
OXIMINO-CONTAINING POLYMERS

Rudolph J. Angelo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 12, 1962, Ser. No. 244,017
11 Claims. (Cl. 260—80)

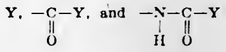
1. A linear film-forming polymer having the recurring unit:



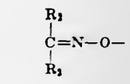
wherein

R_1 is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms; and

X is an oximino-containing radical selected from the group consisting of



Y having the formula



R_2 being alkyl of 1 to 6 carbon atoms, and

R_3 being selected from the group consisting of hydrogen, aryl and alkyl of 1 to 6 carbon atoms.

3,261,818
CROSS-LINKING POLYMERS

Arnold F. Marcantonio, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Mar. 29, 1963, Ser. No. 269,196
11 Claims. (Cl. 260—85.1)

1. Process of cross-linking a hydrocarbon polymer which comprises treating said polymer with an aromatic polyazide having the formula $R(N_3)_x$ where R is an aromatic grouping inert to the cross-linking reaction and *x* is an integer greater than 1 in the presence of a non-protonating Lewis acid.

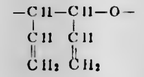
4. Process of claim 1 wherein the hydrocarbon polymer is a styrene-butadiene copolymer.

3,261,819
PREPARATION AND POLYMERIZATION OF 1,2-DIVINYL ETHYLENE OXIDE

Eugene L. Stogryn, Fords, and Anthony J. Passannante, Metuchen, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Aug. 22, 1962, Ser. No. 219,368
3 Claims. (Cl. 260—88.3)

1. As a new composition of matter, a homopolymer of 1,2-divinyl ethylene oxide containing the recurring unit.



2. Process for the polymerization of 1,2-divinyl ethylene oxide, which comprises polymerizing 1,2-divinyl ethylene oxide in the presence of 0.1 to 10% by weight of a polymerization catalyst chosen from the group consisting of PF_5, PF_5-tetrahydrofuran complex, aluminum triisobutyl-water and $NaOCH_3$ at a polymerization reaction temperature in the range of about 0° C. to about 150° C. and recovering said polymer.

3,261,820
PREVAILINGLY TO SUBSTANTIALLY ATACTIC CRUDE POLYMERS AND METHODS FOR PRODUCING THE SAME

Giulio Natta, Piero Pino and Giorgio Mazzanti, all of Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Original application Nov. 22, 1955, Ser. No. 550,164. Divided and this application Aug. 7, 1958, Ser. No. 753,624
Claims priority, application Italy, Dec. 3, 1954, Patent 526,101; Dec. 16, 1954, Patent 545,332
14 Claims. (Cl. 260—93.5)

1. A process for polymerizing alpha-olefins selected from the group consisting of propylene, butene-1 and styrene directly to a crude polymerizate made up for more than 50% of linear, regularly head-to-tail atactic macromolecules, which process comprises contacting the alpha-olefin, in an inert hydrocarbon solvent and at a temperature of from about 60° C. to about 100° C. with a catalyst consisting essentially of the hydrocarbon-soluble portion of the catalytic product prepared by (1) starting with a compound of a transition metal selected from the group consisting of the hydrocarbon-soluble halides, oxyhalides and alkoxyhalides of titanium, vanadium, zirconium, chromium and molybdenum, and (2) mixing said hydrocarbon-soluble compound with an aluminum compound in which at least all but one of the valences of the metal are satisfied by alkyl radicals containing more than four and up to 16 carbon atoms, and the remaining valence, if any, is saisfied by a member selected from the group consisting of said alkyl radicals and alkoxy radicals.

3,261,821
PROCESS AND CATALYST FOR POLYMERIZATION OF 1-OLEFINS

Edwin J. Vandenberg, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Dec. 31, 1959, Ser. No. 863,115
18 Claims. (Cl. 260—93.7)

1. The process of preparing a poly(olefin) which comprises polymerizing at least one 1-olefin of from 2 to 8 carbon atoms in an inert liquid diluent by contacting said olefin with at least a catalytic amount of a two-component catalyst composition comprising (1) the total reaction mixture produced prior to use in the polymerization process by the reaction in an inert liquid hydrocarbon diluent of titanium tetrachloride and an aluminum compound having the formula selected from the group consisting of AlR_3 and $MAlR_4$ where R may be one of the group consisting of H and alkyl and M is alkali metal in a molar ratio such that there is from about 0.75 to about 1.5R per titanium and heating the total reaction mixture to a temperature of from about 50° C. to about 150° C., and (2) a dialkylaluminum chloride wherein the alkyl groups contain 2 to 4 carbon atoms in an amount such that the molar ratio of the second catalyst component to the first catalyst component will be from about 0.1:1 to about 20:1.

17. A catalyst composition prepared by the sequence of steps comprising (1) reacting hydrocarbon solutions of aluminum triethyl and titanium tetrachloride in a mole ratio ranging from about .25:1 to less than .4:1 at elevated temperatures until at least the aluminum triethyl is completely oxidized and (2) thereafter reacting the total product of (1) with a hydrocarbon solution of aluminum diethyl chloride in an amount to give a total aluminum to titanium mole ratio of from 1:1 to 20:1.

3,261,822
PROCESS OF PREPARING HEAT GELABLE SOYBEAN PROTEIN

Frederick M. Robbins, Congers, Anthony G. Bonagura, West Nyack, and Robert S. Yare, New City, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,608
6 Claims. (Cl. 260—123.5)

1. A process for preparing a bland, optically clear, heat gelable soybean protein which comprises

adding one part by weight of soybean meal to 2 to 100 parts by weight of water, having a pH of 3.5 to 5.5, to form a first slurry,

maintaining the pH of said first slurry at 3.5 to 5.5 during said addition,

maintaining the temperature of said first slurry below about 40° C. to obtain a soluble fraction containing soluble protein, soluble carbohydrates and soluble salts and an insoluble fraction containing insoluble protein, cellulosic constituents and insoluble salts,

separating said soluble fraction from said insoluble fraction,

suspending said insoluble fraction in water to form a second slurry,

adjusting the pH of said second slurry to 6 to 8 to solubilize the protein insoluble in said first slurry,

separating said second slurry into a soluble fraction containing said solubilized protein and an insoluble fraction containing cellulosic materials and insoluble salts,

adjusting the pH of said soluble fraction of said second slurry to the isoelectric point of said solubilized protein with acid while avoiding local concentration of acid, thereby precipitating said solubilized protein, and

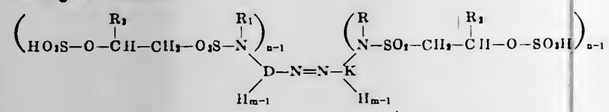
separating said precipitated protein.

3,261,823
METALLIFEROUS ETHIONYLAMINOARYL AZO-DYESTUFFS

Rudolf Kühne and Fritz Meininger, Frankfurt am Main, Walter Noll, Bad Soden, Taunus, and Helmut Rinno and Siegfried Schlessler, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Aug. 24, 1962, Ser. No. 219,138
Claims priority, application Germany, Aug. 26, 1961, F 34,782
7 Claims. (Cl. 260—149)

1. A complex metal compound of an azo-dyestuff, said compound containing a metal of the group consisting of copper, cobalt, nickel, and chromium, said azo-dyestuff having the formula



wherein R_1 is a member of the group consisting of hydrogen, cyclohexyl, and alkyl having 1 to 5 carbon atoms; R_2 is a member of the group consisting of hydrogen and alkyl having 1 to 5 carbon atoms; n and m are each an integer from 1 to 2 inclusive, the sum of $n+m$ being 3, and at least one group



being present in the dyestuff molecule; D is a member selected from the group consisting of benzene, o-hydroxybenzene, o-methoxybenzene, o-carboxybenzene, o-methoxybenzene sulfonic acid, o-hydroxybenzene mono- and di-sulfonic acids, o-carboxybenzene sulfonic acid, o-methoxy-methoxy benzene, o-hydroxy chlorobenzene sulfonic acid, o-hydroxy acetylamino benzene sulfonic acid, o-hydroxy nitrobenzene sulfonic acid, and o-hydroxy naphthalene sulfonic acid; and K is the radical of a coupling component selected from the group consisting of

(a) 1-phenyl-5-pyrazolone substituted in the 3-position by a member of the group consisting of $—CH_3$ and —COOH,
(b) 1-(2'-chloro-4'-sulfo-6'-methyl-phenyl) - 3-methyl-5-pyrazolone,
(c) 1-(4'-β-hydroxyethyl-sulfone-sulfuric acid ester-phenyl)-3-methyl-5-pyrazolone,
(d) naphthalene mono- and di-sulfonic acids substituted by at least one member of the group consisting of hydroxyl, amino, methylamino, acetylamino, benzoylamino, and carboxyphenylamino,
(e) diamino benzene,
(f) acetoacetylamino benzene,
(g) phenylazo hydroxyaminonaphthalene,
(h) phenylazo dihydroxynaphthalene disulfonic acid,
(i) aminobenzene sulfonic acid substituted by a member of the group consisting of amino and hydroxy,
(j) hydroxy azophenyl benzene,
(k) 1-(3'-phenylamino-2',4',6'-triazinyl-5')-amino - 8-hydroxy-naphthalene-3,6-disulfonic acid substituted in the 1'-position of the triazine ring by a member of the group consisting of —Cl and $—OCH_3$,

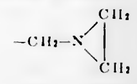
the molar ratio between the metal and azo dyestuff being 1:1 for copper, cobalt, nickel, and chromium, and 1:2 for cobalt and chromium; said compound containing at least one water-solubilizing group selected from sulfonic acid and carboxylic acid groups.

3,261,824
FIBER REACTIVE ORGANIC DYESTUFFS

David Irwin Randall, New Vernon, and Wilhelm Schmidt-Nickels, Little York, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,244
10 Claims. (Cl. 260—152)

1. An organic dyestuff selected from the group consisting of azo, anthraquinone and phthalocyanine, from 1 to 4 aromatic nuclear carbon atoms of which are bonded to a radical which has the formula

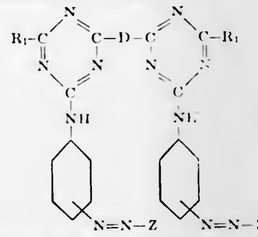


3,261,825
AZO-DISULFIDE TRIAZINE DYESTUFFS

Thomas E. Lesslie, Mount Holly, and Gordon A. Geselbracht, Charlotte, N.C., assignors to Martin-Marietta Corporation, a corporation of Maryland

No Drawing. Filed Mar. 11, 1963, Ser. No. 264,046
14 Claims. (Cl. 260—153)

1. A compound of the formula



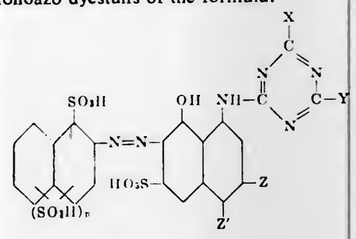
wherein D is the radical of a member selected from the group consisting of diaminodiphenyldisulfides and diaminodinaphtyldisulfides, D being linked to the triazines via its amino groups; R_1 is a member selected from the group consisting of chlorine and phenylamino; Z is the radical of a member selected from the group consisting of acetoacet-ortho-anisidide, 3-methyl-5-pyrazolone, 1-phenyl-3-methyl-5-pyrazolone, 2,4 - dihydroxyquinoline, β-naphthol, and 3-hydroxy-2-naphth-ortho-anisidide; and in which the azo groups are positioned meta or para with respect to the amino groups attached to the phenyl rings.

3,261,826
MONOAZO TRIAZINE CONTAINING DYESTUFFS

Herbert Francis Andrew, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed May 13, 1963, Ser. No. 280,085
Claims priority, application Great Britain, May 28, 1962, 20,371/62
6 Claims. (Cl. 260—153)

1. Monoazo dyestuffs of the formula:



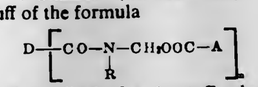
wherein n has a meaning of from 0 to 2, one of Z and Z' stands for a hydrogen atom and the other for a sulphonic acid group, X stands for a halogen atom selected from the class consisting of chlorine and bromine and Y stands for an o-carboxyanilino radical carrying a single further substituent on the benzene ring selected from the class consisting of carboxylic and sulphonic acid groups.

3,261,827
ORGANIC FIBER REACTIVE DYESTUFFS

Carl Boresch and Roderich Raue, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 5, 1962, Ser. No. 177,161
Claims priority, application Germany, Mar. 7, 1961, F 33,361
7 Claims. (Cl. 260—163)

1. A dyestuff of the formula



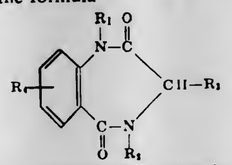
wherein D is the radical of a dyestuff selected from the class consisting of monoazo, disazo, anthraquinone and polymethine dyestuff moieties; R is a member selected from the group consisting of hydrogen and lower alkyl; A is lower alkyl; and n is an integer of 1–2.

3,261,828
3H-1,4-BENZODIAZEPINE-2,5(1H,4H)-DIONE COMPOUNDS

Milan Radoje Uskokovic, Passaic, and Wilhelm Wenner, Upper Montclair, N.J., assignors to Hoffman-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 4, 1962, Ser. No. 228,256
8 Claims. (Cl. 260—239.3)

1. A compound selected from the group consisting of compounds of the formula



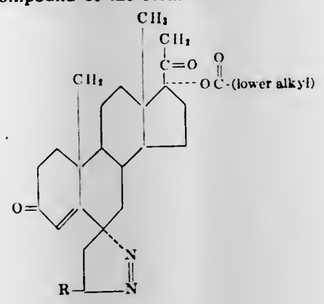
and acid addition salts thereof; wherein R_1 is selected from the group consisting of lower alkyl, phenyl-lower alkyl, nitrophenyl-lower alkyl and cyclo-lower alkyl-lower alkyl; R_2 and R_3 are each selected from the group consisting of hydrogen and lower alkyl; and R_4 is selected from the group consisting of hydrogen and halogen.

3,261,829
SPIRO(STEROIDAL-6,3'-1-PYRAZOLINES) AND PROCESS

Frank B. Colton, Evanston, and Robert T. Nicholson, Glenview, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 12, 1964, Ser. No. 389,183
11 Claims. (Cl. 260—239.5)

2. A compound of the formula



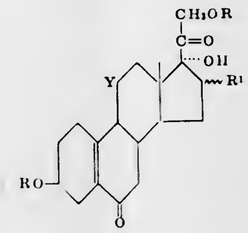
wherein R is a member of the class consisting of hydrogen and a lower alkyl radical.

3,261,830
6-KETO-$\Delta^{5(10)}$-19-NOR-DERIVATIVES OF CORTICAL HORMONES

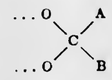
Albert Bowers and Otto Halpern, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed July 9, 1963, Ser. No. 293,834
Claims priority, application Mexico, Apr. 3, 1963, 71,544
12 Claims. (Cl. 260—239.55)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and an acyl radical of less than 12 carbon atoms; R^1 is selected from the group consisting of hydrogen, α-methyl, β-methyl, α-hydroxy, α-acyloxy; R^1 together with the hydroxyl group at C–17 represents also the grouping



wherein A is selected from the group consisting of hydrogen and a lower alkyl radical and B is selected from the group consisting of lower alkyl, aryl and aralkyl radicals containing up to eight carbon atoms; Y is selected from the group consisting of hydrogen, β-hydroxy and keto.

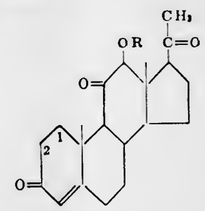
6. 16α,17α - isopropylidenedioxy - $\Delta^{5(10)}$-19-nor-pregnene-3β,11β,21-triol-6,20-dione.

3,261,831
11-KETO-12β-HYDROXY PROGESTERONE AND DERIVATIVES THEREOF

Patrick A. Diassi, Westfield, N.J., assignor, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 30, 1964, Ser. No. 363,970
8 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of steroids of the formula



and the 1,2-dehydro derivatives thereof, wherein R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid of less than twelve carbon atoms.

5. The 3,20-bis-lower alkylene ketal of 11-keto-12β-hydroxyprogesterone.

ERRATUM

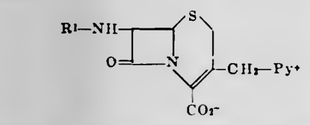
For Class 260—243 see:
Patent No. 3,261,794

3,261,832
PROCESS FOR 7-AMINOCEPHALOSPORANIC ACID DERIVATIVES

Brian Richard Cowley, London, Gordon Ian Gregory, Chalfont St. Peter, and Alan Gibson Long, Greenford, Middlesex, England, assignors to Glaxo Laboratories Limited, Middlesex, England, a British company

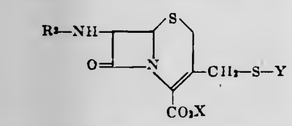
No Drawing. Filed July 9, 1964, Ser. No. 381,580
Claims priority, application Great Britain, July 15, 1963, 27,990/63
17 Claims. (Cl. 260—243)

1. In a process for the preparation of a compound of the formula:



(IV)

in which R^1 is a carboxylic acyl group selected from the group consisting of thienylacetyl and phenylacetyl and Py is selected from the group consisting of pyridine and nuclear-substituted pyridines, the step which comprises reacting a compound of the formula:



(V)

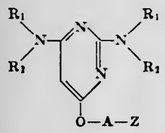
in which R^2 is selected from the group consisting of said carboxylic acyl groups and hydrogen; the moiety —S—Y is the residue of a nucleophile YSH, and X is a cation, with a compound Py in the presence of a dissolved salt of a metal selected from the group consisting of mercury, silver and gold, said salt being able to complex with the moiety —S—Y and to ionize in water, the resulting compound where R^2 represents hydrogen thereafter being acylated.

3,261,833
2,4-DIAMINO-6-AMINOALKOXY PYRIMIDINES

Blaine M. Sutton, Philadelphia, and Joseph Weinstock, Phoenixville, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 20, 1964, Ser. No. 405,286
8 Claims. (Cl. 260—247.5)

1. A chemical compound selected from the group consisting of a free base and its nontoxic pharmaceutically acceptable acid addition salts, said free base having the formula:



wherein:

R_1 and R_2 are each members selected from the group consisting of hydrogen and lower alkyl of from 1 to 4 carbon atoms;

A is an alkylene chain of from 2 to 4 carbon atoms; and

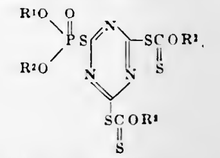
Z is a member selected from the group consisting of amino, N-loweralkylamino, N,N-diloweralkylamino, N-pyrrolidino, N-morpholino, N-piperidino and N-(N'-methyl)-piperazino, said lower alkyl groups being from 1 to 4 carbon atoms.

3,261,834
TRIAZINE DIXANTHATE THIOPHOSPHATES

Arthur M. Imel, Richmond, Calif., and Richard C. Maxwell, Pullman, Wash., assignor to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 3, 1963, Ser. No. 327,803
7 Claims. (Cl. 260—248)

1. A compound of the formula



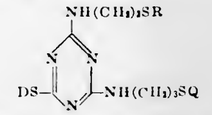
wherein R^1 and R^2 are lower alkyls and R^3 is a radical selected from the group consisting of lower alkyls, lower alkenyls and phenyl substituted lower alkyls.

3,261,835
POLYSUBSTITUTED AMINO-s-TRIAZINES

Philip C. Hamm, Webster Groves, and Angelo John Speziale, Kirkwood, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Jan. 19, 1959, Ser. No. 787,380
2 Claims. (Cl. 260—249.8)

1. A compound of the formula



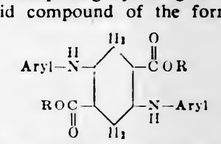
where D, R and Q are alkyl groups of 1 to 8 carbon atoms.

3,261,836
PROCESS FOR PRODUCING LINEAR QUINACRIDONES

Chung C. Chen, Belleville, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Oct. 15, 1962, Ser. No. 230,707
4 Claims. (Cl. 260—279)

1. In a process for the production of a linear quinacridone the steps comprising cyclizing a 2,5-diarylamino-terephthalic acid compound of the formula



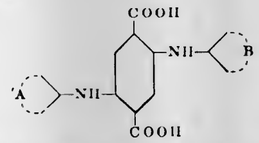
where R is an alkyl group of no more than 3 carbon atoms, and the aryl group is selected from the group consisting of phenyl, naphthyl, halogen-substituted phenyl, halogen-substituted naphthyl, alkyl-substituted phenyl and alkyl-substituted naphthyl radicals wherein said alkyl substituents contain up to 3 carbons, said substituted radicals having at least one unsubstituted carbon ortho to the amino group, by heating said terephthalic acid compound in fuming sulfuric acid.

3,261,837
PROCESS FOR THE PRODUCTION OF QUINACRIDINE DIONES

Hans Bohler, Basel, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland

No Drawing. Filed May 9, 1963, Ser. No. 279,337
Claims priority, application Switzerland, May 15, 1962, 5,892/62; July 31, 1962, 9,144/62 and 9,145/62; Apr. 9, 1963, 4,519/63
5 Claims. (Cl. 260—279)

5. Process for the production of linear quinacridine-7, 14-diones which comprises heating to a temperature between 150° to 270° C. a 2,5-diarylamino-terephthalic acid of the formula



(I)

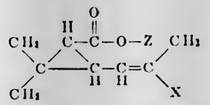
wherein each of A and B represents the atoms necessary for the completion of a cyclic radical selected from the class consisting of unsubstituted phenyl, phenyl substituted by 1 lower alkyl group, phenyl substituted by 1 nitro group, phenyl substituted by 1 lower alkoxy group, phenyl substituted by 1 cyan group, phenyl substituted by 1 methylsulfonyl group, phenyl substituted by 1 to 3 halogen atoms, naphthyl, pyrenyl and carbazyl, the acid of Formula I containing no more than 4 substituents in phenylamino radicals, in the presence of from 0.5 to 1.5 moles of phosphorus oxychloride with reference to 1 mole of the acid of Formula I and in the presence of an organic solvent for the phosphorus halide which is selected from the class consisting of hydrocarbons, halogenated hydrocarbons and nitrated hydrocarbons with boiling points between 150° to 270° C.

3,261,838
QUATERNARY AMMONIUM SALTS OF CHRYSANTHEMUM ACIDS

Reginald L. Wakeman, Philadelphia, Pa., and Edward Griffin Shay, Belle Mead, N.J., assignors, by mesne assignments, to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 23, 1964, Ser. No. 362,558
4 Claims. (Cl. 260—286)

1. A quaternary ammonium compound having the structure:



wherein X is selected from the group consisting of a methyl group and a COOZ' group and Z and Z' are cations of a microbiologically active quaternary ammonium compound having a phenol coefficient of at least 100 with respect to both *Staphylococcus aureus* and *Salmonella typhosa* at 20° C. and having at least one alkyl of 8 to 22 carbon atoms on the quaternary nitrogen.

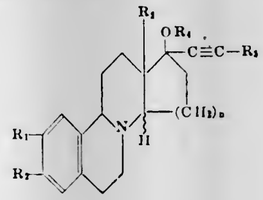
4. The alkyl isoquinolinium salt of 2,2-dimethyl-3-(2-methylpropenyl) cyclopropanecarboxylic acid wherein the alkyl has 8 to 22 carbon atoms.

3,261,839
ETHYNYLATED QUINOLIZINES

Richard E. Brown, Hanover, and Robert I. Meltzer, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Nov. 15, 1963, Ser. No. 323,896
4 Claims. (Cl. 260—289)

1. A compound selected from the group consisting of those having the formula:



wherein R_1 and R_2 is each a member of the group consisting of hydrogen, hydroxy and lower alkoxy; R_3 is a member of the group consisting of hydrogen and lower alkyl; R_4 is a member selected from the group consisting of hydrogen and acyl of a carboxylic acid and R_5 is a member of the group consisting of hydrogen, halogen, lower alkoxy, aryl and lower alkyl and *n* is an integer of from 1 to 2.

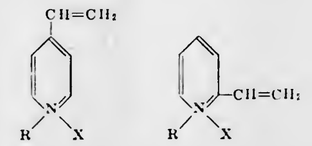
3. Trans - 1,2,3,3a,5,6,10b,11,12,12a - decahydro-1-hydroxy - 1 - ethynyl-8-methoxy-12a-methylbenzo[a]cyclopenta[f]quinolizine.

3,261,840
BRIGHT NICKEL PLATING BATHS

Harry Kroll, Warwick, R.I., assignor to Sarki Research and Development Corporation, a corporation of Rhode Island

No Drawing. Original application Mar. 18, 1963, Ser. No. 266,032, now Patent No. 3,170,853, dated Feb. 23, 1965. Divided and this application Apr. 14, 1964, Ser. No. 359,762
9 Claims. (Cl. 260—290)

1. A compound having a formula given by the following:



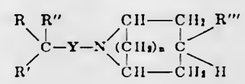
where R is selected from the group consisting of allyl and methallyl radicals, R' is a vinyl group, and X is selected from the group consisting of bromide and chlorine.

3,261,841
N-SUBSTITUTED 1,5-IMINOCYCLOALKANES AND -ALKENES

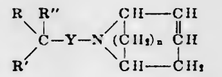
Bernard L. Zenitz, Colonie, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 3, 1961, Ser. No. 107,338
26 Claims. (Cl. 260—292)

1. A compound selected from the group consisting of (A) a compound having the formula



and



wherein R is monocarbocyclic aryl; R' is a member of the group consisting of monocarbocyclic aryl, cycloalkyl having from 5 to 6 ring members, lower-alkyl, monocarbocyclic aryl-lower-alkyl, thienyl, pyridyl, furyl and indolyl; R'' is a member of the group consisting of hydrogen and hydroxy; R''' is a member of the group consisting of hydrogen, hydroxy, lower-alkoxy, lower-alkanoyloxy, carboxy-lower-alkanoyloxy, monocarbocyclic aroyl, monocarbocyclic aryl-lower-alkanoyl, lower-alkenoyl, monocarbocyclic aryl-lower-alkenoyl, carbamyloxy, N-lower-alkylcarbamyloxy and N,N-di-lower-alkylcarbamyloxy; Y is an α,β-lower-alkylene bridge; and *n* is an integer from 2 to 3; monocarbocyclic aryl in each instance being a member of the group consisting of phenyl and phenyl substituted by from one to three substituents selected from

the group consisting of lower-alkyl, lower-alkoxy, halogen, hydroxy and nitro; (B) acid-addition salts thereof; and (C) quaternary ammonium salts thereof.

3,261,842
RECOVERY OF CYCLIC DICARBOXYLIC ACIDS

Walter Schenk, Heidelberg, Ludwig Vogel, Frankenthal, Pfalz, and Albrecht Wallis, Ludwigshafen (Rhine), Germany, assignors to Badische Aniline- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Jan. 7, 1965, Ser. No. 424,110
Claims priority, application Germany, July 22, 1961, B 63,371
6 Claims. (Cl. 260—295)

1. A process for the recovery of cyclic dicarboxylic acids which comprises: dissolving in a member selected from the class consisting of water, a mixture of water with a low molecular weight water-soluble alcohol and a mixture of water with a water-soluble ether, a reaction mixture comprising a dialkali metal salt of a dicarboxylic acid selected from the class consisting of terephthalic acid, naphthalene-2,6-dicarboxylic acid, diphenyl - 4,4' - dicarboxylic acid and pyridine-2,5-dicarboxylic acid, said reaction mixture having been obtained by heating a neutral alkali metal salt of an acid selected from the class consisting of aryl and pyridine carboxylic acids other than said dicarboxylic acids to a temperature of from 250° to 450° C. at a pressure of from 1 to 30 atmospheres; continuously mixing the resultant solution in a first mixing zone at a temperature of from 80° to 250° C. with a member selected from the class consisting of aryl and pyridine monocarboxylic acids and an acid alkali metal salt of polybasic aryl and pyridine carboxylic acids other than said dicarboxylic acids in such an amount that the pH in said first mixing zone is constantly maintained at from 4.1 to 6.5; cooling the resultant mixture to a temperature substantially below 80° C.; separating the precipitated acid alkali metal salt of said dicarboxylic acids; slurrying said acid salt with water; mixing the resultant slurry in a second mixing zone at a temperature of between 105° and 250° C. with a member selected from the class consisting of an aryl and a pyridine monocarboxylic acid, polybasic aryl and pyridine carboxylic acids other than said dicarboxylic acids and anhydrides of said polybasic aryl and pyridine carboxylic acids in such an amount that the pH in said second mixing zone is constantly maintained at from 2.1 to 3.4; cooling the resultant mixture to a temperature below the temperature in said second mixing zone; and separating the precipitated dicarboxylic acid.

3,261,843
METHOD OF OBTAINING NICOTINIC AND ISONICOTINIC ACIDS OF PYRIDINE BASES AS WELL AS OF CHINOLINE AND OF ITS DERIVATIVES

Wojciech Swietoslawski, Pasteura—Street 1; Jerzy Bialek, Stoleczna—Street 2; Andrzej Bylicki, Staroscinska—Street 3; and Andrzej Kotarski, Grojecka—Street 40, all of Warsaw, Poland

No Drawing. Filed Feb. 27, 1961, Ser. No. 91,662
Claims priority, application Poland, Feb. 26, 1960, 93,070
8 Claims. (Cl. 260—295.5)

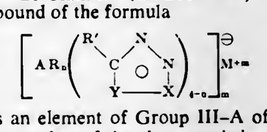
1. The method of oxidizing pyridine bases to pyridine carboxylic acids, which comprises heating a pyridine base selected from the group consisting of quinoline, dimethyl pyridines, isoquinoline, 3-picoline and 4-picoline dissolved in sulfuric acid, sulfur trioxide and a catalyst adapted to catalyze oxidation of said pyridine base to a temperature sufficiently high to cause oxidation of said pyridine base to the corresponding pyridine carboxylic acid, and thereby forming a reaction mass comprising said pyridine carboxylic acid, sulfur dioxide, water and unreacted pyridine base; and adding sulfur trioxide to said reaction mass, said sulfur trioxide reacting with said water to form sulfuric acid and heat which effect oxidation of unreacted pyridine base to convert the same to corresponding pyridine carboxylic acid without outside addition of heat for the promotion of the endothermic oxidation reaction of said pyridine base.

3,261,844
PYRAZOLYL, TRIAZOLYL AND TETRAZOLYL DERIVATIVES OF GROUP III–A ELEMENTS AND THEIR COMPOUNDS WITH METALS AND PREPARATION THEREOF

Swiatoslaw Trofimenko, Philadelphia, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 5, 1964, Ser. No. 387,559
20 Claims. (Cl. 260—299)

1. A compound of the formula



wherein A is an element of Group III–A of the Periodic Table; R is a member of the class consisting of hydrogen, alkyl containing up to 18 carbon atoms, phenyl and cyano; X is a member of the class consisting of N and C—R'''; Y is a member of the class consisting of N and C—R'''; R', R'' and R''' each represents a member of the class consisting of hydrogen, hydroxy, mercapto, cyano, nitro, nitroso, carboxy, loweralkyl, phenyl, halogen, trifluoromethyl, amino, formyl, loweralkylcarbonyl, benzoyl, loweralkoxy, loweralkoxycarbonyl, loweralkylmercapto, hydroxyloweralkyl, aminoloweralkyl and carboxyloweralkyl with the proviso that any two of R', R'' and R''' on adjacent carbon atoms may be taken together to form, with the two carbons to which they are attached, an aryl system on the nitrogen containing ring to which they are attached, said aryl system being a member of the class consisting of a benzo system and a naphtho system; *n* is an integer from 0–2, inclusive; *m* is an integer from 1–2, inclusive, equal to the net positive charge on M; and M is a cation selected from the class consisting of hydrogen, ammonium, alkylammonium containing up to 18 carbon atoms, phenylammonium, loweralkylsulfonium and metals having a net positive valence of 1–2, inclusive.

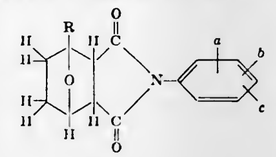
19. Process which comprises heating stepwise a mixture of a compound selected from the class consisting of pyrazoles, triazoles and tetrazoles and a compound of the formula MAR_4 wherein M is a cation selected from the class consisting of hydrogen, ammonium, alkylammonium containing up to 18 carbon atoms, phenylammonium; loweralkylsulfonium and metals having a net positive valence of 1–2, inclusive; A is an element of Group III–A of the Periodic Table; and R is a member of the class consisting of hydrogen, alkyl containing up to 18 carbon atoms, phenyl and cyano.

3,261,845
N-PHENYL DERIVATIVES OF 3,6-EPOXY-HEXAHYDROPHTHALIMIDE

Earl R. Bockstahler, Acton, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,608
14 Claims. (Cl. 260—326)

1. A compound having the formula



wherein *a* is selected from the group consisting of Cl, Br, F, CF_3, CH_3, C_2H_5, NO_2, —SCH_3, —OCH_3, —OC_2H_5 and



b is selected from the group consisting of H, Cl, Br, CH_3 and NO_2, *c* is selected from the group consisting of H, Cl, Br and NO_2 and R is selected from the group consisting of hydrogen and methyl, the compound being in the exo-cis configuration.

3,261,846
RECOVERY OF TRIMELLITIC ACID PRODUCT

Delbert H. Meyer, Highland, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed June 30, 1961, Ser. No. 120,962
11 Claims. (Cl. 260—346.4)

1. In the preparation of trimellitic acid product selected from the class consisting of trimellitic acid and the intra-molecular anhydride of trimellitic acid resulting from the catalytic liquid phase oxidation of pseudocumene with molecular oxygen in the presence of acetic acid as reaction medium at elevated temperature and elevated pressure in an oxidation zone to produce trimellitic acid, the recovery of trimellitic acid product which consists of combining the total fluid effluent containing trimellitic acid from said oxidation zone with pseudocumene in an amount in the range of from 0.2 to 10 parts per part of total solids by weight in said total effluent; distilling the resulting mixture to recover (a) an azeotropic mixture containing an aqueous acetic acid phase and a pseudocumene phase, (b) dehydrated acetic acid and (c) said trimellitic acid product as residue.

3,261,847
MANUFACTURE OF MALEIC ANHYDRIDE

Eugene F. Sullivan, Orinda, Calif., assignor to Chevron Research Company, a corporation of Delaware

Filed June 17, 1964, Ser. No. 375,896
4 Claims. (Cl. 260—346.8)

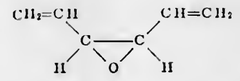
1. Continuous process for the manufacture of maleic anhydride, in which a hydrocarbon selected from the group consisting of benzene and toluene is catalytically oxidized in vapor phase with air in a reaction zone to produce a maleic anhydride effluent, which comprises passing the effluent through a cooling zone, and there condensing and separating as a liquid phase a portion of the maleic anhydride content of the effluent, passing the uncondensed portion of the effluent into a scrubbing zone and there contacting it with water to remove the residual maleic anhydride content of the effluent and convert it to maleic acid in water solution, withdrawing maleic acid-water solution from the scrubbing zone at a rate such as to maintain the maleic acid concentration of the solution in the range about 25 to about 50 percent by weight, passing the withdrawn maleic acid-water solution into the intermediate portion of a dehydration column, passing the condensed liquid maleic anhydride into the lower portion of said dehydration column, said dehydration column containing an organic liquid capable of forming an azeotropic mixture with water, distilling the water and said organic liquid, as an azeotropic mixture, separating the organic liquid from the water, returning a major proportion of the organic liquid to the lower portion of the distillation column, and a minor proportion to provide reflux to the upper portion of the column, withdrawing maleic anhydride from the lower portion of the dehydration column, and continuously subjecting it to distillation to purify it.

3,261,848
PREPARATION AND POLYMERIZATION OF 1,2-DIVINYL ETHYLENE OXIDE

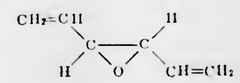
Eugene L. Stogryn, Fords, and Anthony J. Passannante, Metuchen, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 19, 1962, Ser. No. 245,645
2 Claims. (Cl. 260—348)

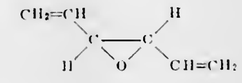
1. A composition consisting of cis and trans-isomers of 1,2-divinyl ethylene oxide, the cis-isomer having the formula:



and the trans-isomer having the formula:



2. The composition as in claim 1 of 1,2-divinyl ethylene oxide containing principally the trans-isomer having the formula:

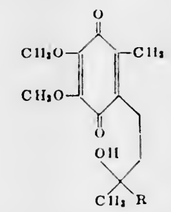


3,261,849
ALKYL GAMMA-HYDROXYL-1,4-QUINONES

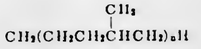
Arthur F. Wagner, Princeton, Bruce O. Linn, Plainfield, and Aino Lusi, Rahway, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 19, 1963, Ser. No. 266,202
3 Claims. (Cl. 260—396)

1. A compound of the formula



wherein R is a member selected from the group consisting of methyl and



where *n* is an integer from one to nine.

3,261,850
PROCESS FOR THE CONVERSION OF 5α,6α-EPOXY STEROIDS TO THE CORRESPONDING 6β-FLUORO-5α-HYDROXY STEROIDS

Hugh V. Anderson, Oshtemo Township, Kalamazoo County, and Ingemar B. Forsblad, Portage Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Jan. 9, 1963, Ser. No. 250,244
5 Claims. (Cl. 260—397.1)

4. The process which comprises reacting methyl 3,11-diketo-5α,6α-epoxy-17(20)-[cis]-pregnen-21-oate 3-ethylene ketal with hydrogen fluoride in the presence of water

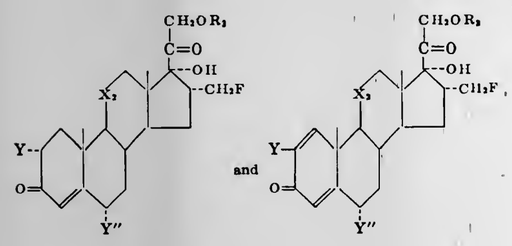
and sodium fluoride at temperatures within the range of from about −50° to −65° C. wherein the mole ratio of hydrogen fluoride to the starting 5α,6α-epoxy steroid is within the range of from about 150:1 to 160:1, the mole ratio of water to hydrogen fluoride is within the range of from about 1:20 to 1:30 and the mole ratio of sodium fluoride to hydrogen fluoride is within the range of from about 1:15 to 1:25, to produce methyl 3,11-diketo - 6β - fluoro-5α-hydroxy-17(20)-[cis]-pregnen 21-oate.

3,261,851
16α-FLUOROMETHYL COMPOUNDS OF THE PREGNANE SERIES AND PROCESSES FOR THE PRODUCTION THEREOF

Philip F. Beal III, Kalamazoo Township, Kalamazoo County, and John E. Pike, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

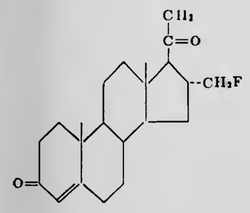
No Drawing. Filed Jan. 11, 1960, Ser. No. 1,454
28 Claims. (Cl. 260—397.3)

1. A compound selected from the formulae:



wherein R_3 is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from 1 to 12 carbon atoms, inclusive, Y and Y'' are selected from the group consisting of hydrogen and methyl in which when Y is methyl Y'' is limited to hydrogen, and X_2 is selected from the group consisting of the methylene radical, the carbonyl radical and the β-hydroxymethylene radical.

26.



3,261,852
ADAMANTOATE ESTERS OF TESTOSTERONE

Richard T. Rapala, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed July 6, 1964, Ser. No. 380,627
4 Claims. (Cl. 260—397.4)

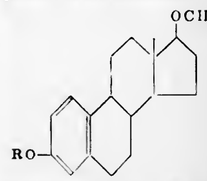
1. A compound selected from the group consisting of 4-chlorotestosterone 17β-(1-adamantoate), 19-nortestosterone 17β-(1-adamantoate) and testosterone 17β-(1-adamantoate).

3,261,853
d-17β-CARBAMOYLMETHOXY-3-METHOXYESTRA-1,3,5(10)-TRIENE

Gerhard R. Wendt, Havertown, and Kurt W. Ledig, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 3, 1964, Ser. No. 408,689
2 Claims. (Cl. 260—397.1)

1. A compound of the formula:



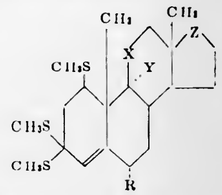
wherein R represents a lower alkyl group of 1 to 5 carbon atoms.

3,261,854
3-DIMETHYLMERCAPTOLE STEROIDS AND PROCESS THEREFOR

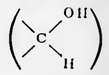
Donald E. Ayer, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Nov. 13, 1962, Ser. No. 237,281
20 Claims. (Cl. 260—397.4)

1. Compounds of the formula



wherein R is selected from the group consisting of hydrogen and methyl; Y is selected from the group consisting of hydrogen and fluorine; when Y is hydrogen, X is selected from the group consisting of the methylene radical ($>CH_2$), the β-hydroxymethylene radical



and the carbonyl radical (>C=O); when Y is fluorine, X is selected from the group consisting of the β-hydroxymethylene radical and the carbonyl radical; X and Y together is a double bond at the 9(11)-position; Z is selected from the group consisting of



and



wherein R'' is selected from the group consisting of hydrogen and the lower-acyl radical of a hydrocarbon carboxylic acid containing from one to eight carbon atoms, inclusive.

2. A compound selected from the group consisting of 17α-hydroxy-6α-methyl-1β-methylthio-4-pregnene - 3,20-dione, 3-dimethylmercaptole and the 17-acylates thereof wherein the acyl radical is that of a hydrocarbon carboxylic acid containing from one to eight carbon atoms, inclusive.

3,261,855
METHOD FOR THE PREPARATION OF $\Delta^{5(10)}$-STEROIDS

Filippus Johannes Zeelen, Oss, Netherlands, assignor to Organon Inc., West Orange, N.J., a corporation of New Jersey

No Drawing, Filed Apr. 17, 1964, Ser. No. 360,746
Claims priority, application Netherlands, Apr. 25, 1963, 291,993
5 Claims. (Cl. 260—397.5)

1. Method for the preparation of $\Delta^{5(10)}$-steroids non-substituted in the 3-position, comprising reacting a $\Delta^{5,6}$-19-hydroxy-steroid of the androstane series non-substituted in the 3-position with an oxidative metal acylate selected from the group consisting of a lead tetraacylate, a silver acylate and a mercury acylate to produce the corresponding $\Delta^{5(10)}$-6-acyloxy-oestrene compound, hydrolyzing said 6-acyloxy compound to the corresponding 6-hydroxy compound, oxidizing the 6-hydroxy compound to the corresponding 6-keto compound, and splitting off the 6-keto group by thioketalization and reduction.

3,261,856
PROCESS FOR THE MANUFACTURE OF ALIPHATIC MONOCARBOXYLIC ACIDS FROM ALKYL SULFURIC ACIDS

Jonas Kamlet, deceased, late of New York, N.Y., by Edna Yadven Kamlet, executrix, New York, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 27, 1962, Ser. No. 247,763
4 Claims. (Cl. 260—413)

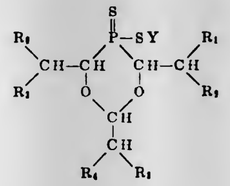
1. A process for the manufacture of aliphatic monocarboxylic acids containing from about two to about twenty-one carbon atoms which comprises oxidizing and cleaving alkyl sulfuric acids, resulting from the sulfation of alpha olefines having about 8 to about 22 carbon atoms with nitric acid having a concentration of about 20% to about 92% in amounts to initially provide about 3 to about 20 moles of nitric acid per mole of said alkyl sulfuric acids and thereafter adding additional amounts of nitric acid up to a total maximum of 54 moles of nitric acid per mole of said alkyl sulfuric acids to maintain a nitric acid concentration of at least 20%, while maintaining the reaction at a temperature of about 50° C. to the reflux temperature of the reaction mixture until gas evolution ceases to form aliphatic monocarboxylic acids and recovering said aliphatic monocarboxylic acids by stratifying and separating the liquid reaction mass into a lower aqueous layer and an organic layer, wherein the nitric acid has an initial concentration of about 25% to about 35% and the aliphatic monocarboxylic acids formed are treated with hydrochloric acid having a concentration of about 20% to about 40%, at temperatures of about 175° C. to about 250° C., for about 2 to about 8 hours to remove nitrogen compounds.

3,261,857
NOVEL ORGANOPHOSPHORUS COMPOUNDS

Michael McKay Rauhut, Norwalk, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,739
6 Claims. (Cl. 260—429.9)

1. An organophosphorus compound corresponding to the formula



wherein Y represents a member selected from the group consisting of hydrogen; ammonium; alkali metal; alkaline earth metal; copper; mercury; zinc; nickel; aluminum; alkyl; alkenyl; cyclopentyl; cyclohexyl; benzyl; nitrophenyl; and R_1 and R_6 each represents alkyl having from 1 to 10 carbon atoms.

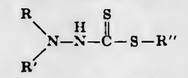
6. The zinc salt of 2,4,6-triisopropyl-1,3-dioxa-5-phosphacyclohexane-5-dithioic acid.

3,261,858
ALKENYL AND CYCLOALKENYL ESTERS OF DITHIOCARBAZIC ACIDS

John J. D'Amico, Charleston, W. Va., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed July 25, 1962, Ser. No. 212,450
10 Claims. (Cl. 260—455)

1. An ester of a dithiocarbazic acid of the formula



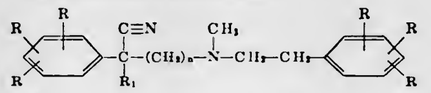
wherein R is selected from the group consisting of hydrogen, lower alkyl and hydroxyloweralkyl, R' is selected from the group consisting of hydrogen and lower alkyl and R'' is selected from a group consisting of lower alkenyl, halogenated lower alkenyl and cyclohexenyl.

3,261,859
BASICALLY SUBSTITUTED PHENYL ACETONITRILE COMPOUNDS

Ferdinand Dengel, Mannheim, Germany, assignor to Knoll A.-G. Chemische Fabriken, Ludwigshafen (Rhine), Germany, a corporation of Germany

No Drawing. Filed Apr. 27, 1962, Ser. No. 190,772
Claims priority, application Germany, Apr. 28, 1961, K 43,596
19 Claims. (Cl. 260—465)

1. The compound of the formula



in which

R_1 is a member selected from the group consisting of lower alkyl, cyclohexyl, and phenyl,

R is hydrogen and at least one of the following: chlorine, lower alkoxy, lower alkyl, and *n* is an integer from 2 to 3, inclusive,

or its pharmaceutically acceptable acid addition salts.

3,261,860
PRODUCTION OF AROMATIC CYANOCARBOXYLIC ACIDS

Friedrich Becke, Heidelberg, and Gerhard Mutz, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Jan. 28, 1963, Ser. No. 254,415
Claims priority, application Germany, Feb. 2, 1962, B 65,776
3 Claims. (Cl. 260—465)

1. A process for the production of cyanocarboxylic acids selected from the group consisting of benzene cyanocarboxylic acids and naphthalene carboxylic acids which comprises: passing a gas selected from the group consisting of oxygen and mixtures of oxygen and nitrogen in the presence of an oxidation catalyst selected from the group consisting of cobalt salts, manganese salts and mixtures thereof at a temperature of 75° C. to 150° C. through a liquid mixture of a carboxylic anhydride derived from a saturated aliphatic carboxylic acid with 2 to 4 carbon atoms and an aromatic cyano compound selected from the group consisting of benzene cyano com-

pounds and naphthalene cyano compounds having 1 to 2 oxidizable side chains with at least one carbon atom immediately bound to the aromatic nucleus and with a total of 1 to 4 carbon atoms, said aromatic cyano compound and said carboxylic anhydride being applied in a molar ratio of 1:1 to 1:6.

3,261,861
N-CYANO-GLYCINONITRILES PREPARATORY PROCESS

Francis Johnson, Newton Lower Falls, and Wilmonte A. Nasutavicus, Framingham, Mass., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 2, 1963, Ser. No. 313,157
14 Claims. (Cl. 260—465)

1. Aromatic N-cyano-glycinonitriles having the formula



wherein R and R′ are each selected from the group consisting of hydrogen, lower alkyls, monocycloalkyls, and monocyclic aryls, and at least one of said groups must be a monocyclic aryl.

3,261,862
ESTERIFICATION OF STERICALLY HINDERED ALKANOIC ACIDS IN THE PRESENCE OF STOICHIOMETRIC AMOUNTS OF A BORON FLUORIDE COMPOUND

William E. Wellman, Edison, Stanley J. Brois, Westfield, and Alfred J. Rutkowski, Colonia, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Sept. 24, 1962, Ser. No. 225,902
6 Claims. (Cl. 260—488)

1. A process for esterifying a sterically hindered carboxylic acid which comprises reacting an alkanoic acid having at least one carboxyl group attached to a tertiary carbon atom with an amount of a boron fluoride compound sufficient to form a complex with said alkanoic acid containing one mol of boron fluoride compound per carboxyl group and reacting said complex with a branched or straight chain alcohol of from 1 to 30 carbon atoms to dissociate said complex and form the corresponding ester of said alkanoic acid.

3,261,863
PRODUCTION OF ALKALI METAL TEREPHTHALATES

Walter Schenk, Heidelberg, and Albrecht Wallis, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Aug. 13, 1962, Ser. No. 216,324
Claims priority, application Germany, July 8, 1961, B 63,190
7 Claims. (Cl. 260—515)

1. In a process for the production of an alkali metal salt of terephthalic acid by heating an initial salt reactant selected from the group consisting of

the potassium and sodium salts of other benzene carboxylic acids, with the proviso that the initial salt reactant contains a potassium salt proportion of at least 30% by weight,

to a temperature between about 280° C. and 480° C. in the presence of an initial catalyst selected from the group consisting of the oxides, carbonates and organic acid salts of zinc and cadmium, and then dissolving the reaction product in water with a solid carbonaceous material remaining undissolved in said water, the improvement of the catalytic effect of said process which comprises:

adjusting the aqueous solution of the reaction product to a pH value between 7 and 9 by introducing carbon dioxide into said solution; filtering said solution, in which the crude reaction product remains dissolved, for removal of said carbonaceous material as a residue together with said catalyst; and adding the catalyst-containing carbonaceous residue of said filtration directly to said initial salt reactant as a catalyst in said process.

3,261,864
PROCESS FOR PREPARING α-CHLOROCARBONIC ACID HALIDES

Walter Fink, Zurich, Switzerland, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Apr. 30, 1962, Ser. No. 191,316
Claims priority, application Switzerland, May 5, 1961, 5,349/61
8 Claims. (Cl. 260—544)

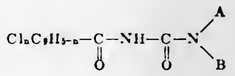
1. A process for making α-chlorocarbonic acid halides of the formula $R^1R^2CClCOX$ wherein R^1 is a halogen atom and R^2 is selected from the class consisting of hydrogen atoms, halogen atoms and $CF_3(—CF_2)_n—$ wherein n is an integer from 0 to 20, and X is selected from the class consisting of fluorine, chlorine and bromine atoms, comprising reacting olefinic compound of the formula $R^1R^2C{=}CX_2$ with $ClNO_3$ at a temperature at which addition will occur across the olefinic double bond and adjusting the temperature to a temperature at which the formed chloronitrate addition product will decompose and give off halonitrite.

3,261,865
N-(CHLOROBENZOYL)UREAS

Angelo John Speziale, Creve Coeur, and Lowell R. Smith, St. Louis, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Original application Sept. 4, 1962, Ser. No. 221,302. Divided and this application May 13, 1965, Ser. No. 455,642
2 Claims. (Cl. 260—553)

1. An N-(aroyl)urea of the formula



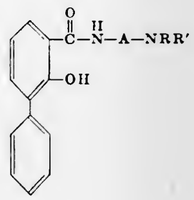
wherein n is a whole number from 1 to 3, and wherein A and B, respectively, are aliphatic having from 1 to 5 carbon atoms selected from the group consisting of alkyl, alkenyl, alkynyl, chloroalkyl and chloroalkenyl.

3,261,866
N-AMINOALKYL-PHENYLSALICYLAMIDES

Melville Sahyun, Santa Barbara, and John A. Faust, Solvang, Calif.; said Faust assignor to Melville Sahyun, doing business as Sahyun Laboratories, Santa Barbara, Calif.

No Drawing. Filed July 9, 1963, Ser. No. 293,848
7 Claims. (Cl. 260—559)

1. A compound of the formula:



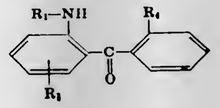
wherein A is lower-alkylene having 2 to 4 carbon atoms and R and R′ are lower-alkyl having 1 to 4 carbon atoms.

3,261,867
2-AMINO-5-HALO-2′-DIALKYLAMINO-AND-PIPERIDINO-BENZOPHENONES AND PREPARATION THEREOF

Rodney Ian Fryer, West Orange, and Leo Henryk Sternbach, Upper Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 13, 1962, Ser. No. 237,347
4 Claims. (Cl. 260—570)

1. A compound of the formula



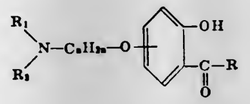
wherein R_1 is hydrogen, lower alkyl or phenyl-lower alkyl; R_3 is bromine or chlorine; and R_4 is di-lower alkylamino or piperidino.

3,261,868
AMINOALKOXY-HYDROXYACETOPHENONES

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Mar. 14, 1963, Ser. No. 265,048
5 Claims. (Cl. 260—570.7)

1. A compound selected from the group consisting of (1) free base compounds of the formula



wherein R is selected from the group consisting of lower-alkyl and phenyl; $—C_nH_{2n}—$ is lower-alkylene; n is an integer from 2 to 4, inclusive; and R_1 and R_2 taken separately are lower-alkyl, and taken together with —N< constitute a saturated heterocyclic amino radical



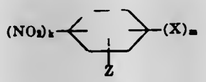
of from 5 to 7 nuclear atoms, inclusive, wherein Z is a saturated bivalent radical selected from the group consisting of alkylene, oxadialkylene, thiadialkylene, and N-lower-alkylazadialkylene; and (2) acid addition salts thereof.

3,261,869
METHOD FOR THE PRODUCTION OF BENZYL ANILINES

Grannis S. Johnson, Englewood, and David E. Graham, Westfield, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 9, 1963, Ser. No. 307,298
15 Claims. (Cl. 260—570.9)

1. A method for preparing a benzyl aniline which consists in reacting, in the presence of a hydrogenation catalyst, hydrogen, a nitrobenzene of the formula:



where k is 1–3, m is 0–3, X is methyl and Z is hydrogen, hydroxyl or amino and an excess of an aromatic aldehyde selected from



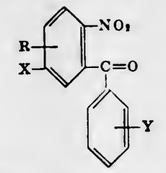
wherein n is 0–2 and Y is hydrogen, chloro, bromo, methyl or methoxy.

3,261,870
5-HALO-2-NITRO-BENZOPHENONES AND PROCESSES FOR THEIR PREPARATION

Albert Israel Rachlin, Hackensack, N.J., assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

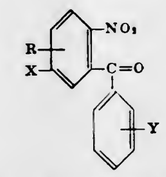
No Drawing. Filed Apr. 12, 1962, Ser. No. 186,873
13 Claims. (Cl. 260—591)

1. A compound of the formula

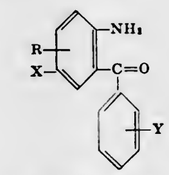


wherein X is halogen; Y is selected from the group consisting of hydrogen, chlorine and fluorine; and R is selected from the group consisting of hydrogen and lower alkyl.

5. A process for the preparation of compounds of the formula



wherein X is halogen; Y is selected from the group consisting of hydrogen, chlorine and fluorine; and R is selected from the group consisting of hydrogen and lower alkyl, which comprises reacting a compound of the formula



wherein R, X, and Y have the same meaning as above, with a peracid.

3,261,871
REDUCTION OF PHOSPHINE OXIDES

Hans Fritzsche, Siegburg, Ulrich Hasserodt, Menden, and Friedrich W. A. G. K. Korte, Hangelar, Germany, assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 10, 1964, Ser. No. 417,489
Claims priority, application Germany, May 16, 1964, S 91,131
17 Claims. (Cl. 260—606.5)

1. The process of converting tertiary phosphine oxide to the corresponding phosphine by reacting the tertiary

phosphine oxide in the presence of a tertiary amine with a silicon compound containing at least one



moiety, X represents halogen.

3,261,872

PROCESS FOR EXTRACTING ACID SUBSTANCES SUCH AS PHENOLS, THIOPHENOLS AND/OR THEIR HOMOLOGS FROM NONAQUEOUS MIXTURES CONTAINING THEM

Helmut Fritzsche and Fritz Kroger, Recklinghausen, and Karl Stein, Castrop-Rauxel, Germany, assignors to Firma Carl Still, Westphalia, Germany

No Drawing. Filed July 18, 1961, Ser. No. 126,831
Claims priority, application Germany, Dec. 2, 1960, St 17,186
7 Claims. (Cl. 260—609)

1. In the process for recovering a member selected from the group consisting of phenols, thiophenols and mixtures thereof from nonaqueous mixtures by contacting the nonaqueous mixtures with an aqueous salt solution, recovering a solution of said member and the aqueous salt solution and extracting said member from the salt solution with an organic solvent and subsequently separating said member from the organic solvent, the improvement of using as the aqueous salt an alkali metal benzoate in solution sufficiently concentrated so as to dissolve said member at a temperature of substantially 70° C.

3,261,873

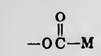
SUBSTITUTED 2-HALO-4-AMINOIMIDAZOLES AND PREPARATORY PROCESS

Francis Johnson, Newton Lower Falls, and Wilmonte A. Nasutavicus, Framingham, Mass., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 26, 1962, Ser. No. 226,469
17 Claims. (Cl. 260—309)

1. A process comprising reacting

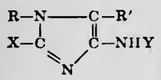
(1) an alkyl cyanide having a substituent on the alpha carbon selected from the group consisting of halides, an acyl radical having the formula



and a sulfonyl radical having the formula —O—SO_2M, wherein M is a hydrocarbon radical, with a hydrocarbon substituted cyanamide in an anhydrous amide solvent to form a N-cyano-glycinonitrile, and recovering said N-cyano-glycino-nitrile; and

(2) reacting said N-cyano-glycinonitrile with at least two molar equivalents of an anhydrous halogen halide to form the hydrohalide salt of the 2-halo-4-amidoimidazole.

6. A substituted 2-halo-4-aminoimidazole having the formula



wherein R and R′ are each selected from the group consisting of hydrogen, lower alkyl, monocyclic cycloalkyl of 5 to 6 carbon atoms, and monocyclic aryl, Y is selected from the group consisting of hydrogen, lower alkanoyl of 2 to 4 carbon atoms and benzoyl, and X is selected from the group consisting of chlorine, bromine and iodine.

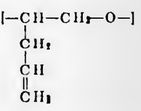
3,261,874

PREPARATION AND POLYMERIZATION OF 1,4-PENTADIENE MONOXIDE

Eugene L. Stogryn, Fords, and Anthony J. Passannante, Metuchen, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

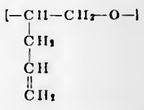
No Drawing. Filed Aug. 22, 1962, Ser. No. 219,369
2 Claims. (Cl. 260—615)

1. Homopolymers of 1,4-pentadiene monoxide characterized by containing the recurring unit:



said homopolymers being further characterized by being liquids having molecular weights in the range of about 250 to 3000 and by having terminal OH groups.

2. The method of preparing homopolymers of 1,4-pentadiene monoxide which comprises polymerizing 1,4-pentadiene monoxide with an epoxide polymerization catalyst selected from the group consisting of PF_5, KOH and $NaOCH_3$ at a polymerization reaction temperature in the range of —50° C. to 150° C., and recovering a resulting homopolymer having the recurring unit:



said homopolymers being liquids having molecular weights in the range of about 250 to 3000 and having terminal hydroxyl groups.

3,261,875

PRODUCTION OF CYCLIC DIENES

Roy L. Pruett, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 11, 1962, Ser. No. 209,251
15 Claims. (Cl. 260—666)

1. A process which comprises contacting a conjugated alkadiene containing from 4 to 12 carbon atoms with from about 0.1 to about 25 weight percent, based on the weight of the conjugated alkadiene, of an admixture of bis(cyclopentadienyl)nickel and a triarylphosphine, under hydrogen atmosphere, at a temperature of from about 50° C. to about 200° C., and for a period of time sufficient to dimerize said alkadiene.

3,261,876

METHOD FOR PRODUCING VICINAL POLYMETHYLBENZENES

Stephen N. Kovach, Highland, Ind., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 6, 1961, Ser. No. 122,068
5 Claims. (Cl. 260—668)

1. A method of producing vicinal polymethylbenzenes of 8 to 9 carbon atoms, to the substantial exclusion of non-vicinal polymethylbenzenes of similar molecular weight which consists essentially of hydrogenating a non-vicinal polymethylbenzene of C_9 to C_{10} carbon atoms whose methyl groups are on separate ring carbon atoms and wherein only a single methyl group is in a non-vicinal position with respect to the other methyl groups in the presence of a hydrogenation catalyst and under hydrogenation conditions to obtain the corresponding polymethylcyclohexane, contacting said polymethylcyclohexane

with hydrogen and a catalyst consisting essentially of nickel supported on a siliceous carrier at a temperature of about 400 to 1000° F. and a pressure of atmospheric to about 1000 p.s.i.g. to produce vicinal polymethylcyclohexane of lower molecular weight to the substantial exclusion of non-vicinal polymethylcyclohexane of the same molecular weight and dehydrogenating the resulting product by contact with a dehydrogenation catalyst under dehydrogenation conditions to obtain the corresponding vicinal polymethylbenzene.

3,261,877

PROCESS FOR PREPARATION OF VERY PURE BENZENE

Klaus Dierschke, Bad Vilbel, Kreis Friedberg, and Adolf Schmalenbach and Emil Sattler, Essen, Germany, assignors, by mesne assignments, to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Dec. 26, 1961, Ser. No. 161,889
3 Claims. (Cl. 260—674)

1. Process for preparation of very pure benzene with a melting point of 5.4° C. and higher from a starting mixture of hydrocarbons which contains naphthenic constituents, particularly cyclohexane and methylcyclohexane, as well as n-heptane in addition to the benzene hydrocarbons, said process comprising:

separating the starting mixture by a first distillation at normal pressure into a first head product consisting essentially of an azeotrope of cyclohexane and benzene as well as additional small amounts of benzene and into a first sump product containing the main amount of benzene as well as the higher boiling aromatics and n-heptane and methylcyclohexane;

separating said first sump product by a distillation under a superatmospheric pressure of between 2 and 20 atmospheres into a second head product consisting of pure benzene and a second sump product containing higher boiling aromatics as well as n-heptane and methylcyclohexane;

subjecting said first head product to a catalytic reforming treatment for the purpose of substantial conversion of the aliphatics and naphthenes contained in it into aromatics to obtain a reformed product; and

adding the reformed product to additional starting mixture for recovery of the benzene contained therein.

3,261,878

AUTOTHERMAL CRACKING OF LIQUID HYDROCARBONS

Willi Danz and Emil Schmidt, Ludwigshafen (Rhine), Karl Schuhmann, Schriesheim, Bergstrasse, and Karl Wimmer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Feb. 5, 1962, Ser. No. 171,286
Claims priority, application Germany, Feb. 9, 1961, B 61,194
4 Claims. (Cl. 260—683)

1. In a method for the autothermal cracking of liquid hydrocarbons for the production of gaseous olefines in a fluidized bed of oil coke formed by the cracking at temperatures of 630 to 850° C. in the presence of oxygen and steam, the improvement which comprises adding to the oil coke in the fluidized bed from 0.05 to about 6% by weight based on the amount of said oil coke of a compound selected from the group consisting of phosphoric acid, boric acid, a salt of phosphoric acid, a salt of boric acid and mixtures thereof.

3,261,879

OLEFIN DISPROPORTIONATION

Robert L. Banks, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 27, 1963, Ser. No. 312,209
19 Claims. (Cl. 260—683)

1. A disproportionation process which comprises contacting an acyclic monoolefin feed having 3 to 20 carbon atoms per molecule with a catalyst activated in an atmosphere compatible with said catalyst to permit activation for disproporionation, said catalyst consisting essentially of alumina and between 0.5 and 30 weight percent of at least one oxide selected from the group consisting of molybdenum oxide and tungsten oxide under conditions, including conditions of temperature, pressure and contact time, suitable for obtaining a disproportionated product within a temperature range of 150 to 500° F. and a pressure range of 0 to 1500 p.s.i.g., to produce a disproportionated product comprising higher and lower molecular weight acyclic monoolefins similar to said feed, and recovering said disproportionated product.

3,261,880

UNDER-WATER PAINT

Jean Robert Forestier, Versoix, Switzerland, assignor to Dofag Establishment, Vaduz, Liechtenstein, a firm

No Drawing. Filed Oct. 31, 1960, Ser. No. 65,881
Claims priority, application Switzerland, Oct. 31, 1959, 80,121/59; July 22, 1960, 8,428/60
7 Claims. (Cl. 260—736)

1. A paint composition adapted for application to underwater surfaces and consisting essentially of a solvent-soluble film-forming material capable of hardening underwater upon solution of its solvent in water; at least one aliphatic amine having from 13 to 19 carbon atoms per molecule for causing said film to adhere to said surfaces and an organic solvent for said film-forming material consisting of at least two organic liquids, at least one of said liquids being substantially insoluble in water and at least one of said liquids being soluble in water, said organic solvent having a water solubility of at least 0.1 grams per litre, said solvent being capable of dissolving in water slowly enough to allow said film-forming material to form its film in a progressive and controlled manner.

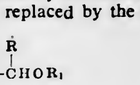
3,261,881

COATING COMPOSITION OF A CARBOXYLIC ACID AMIDE POLYMER AND AN ORGANOPOLYSILOXANE RESIN

Roger M. Christenson and Henry A. Vogel, Gibsonia, Pa., and Harold G. Bittle, Waukesha, Wis., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Continuation of application Ser. No. 270,203, Apr. 3, 1963. This application Aug. 12, 1965, Ser. No. 479,329
16 Claims. (Cl. 260—826)

1. A vehicle for a coating composition comprising (1) a polymer of an unsaturated carboxylic acid amide, said polymer being characterized by containing amide groups having a hydrogen atom replaced by the structure:



where R is selected from the group consisting of hydrogen and alkyl radicals and R_1 is selected from the group consisting of hydrogen and organic radicals derived by removing the hydroxyl group from a monohydric alcohol and (2) an organopolysiloxane resin of the unit formula:

$$R_nSi(OR')_mO_{4-n-m/2}$$

where R is a monovalent organic radical bonded to silicon by a carbon-to-silicon bond, R' is selected from the class consisting of hydrogen, alkyl radicals of 1 to 20 carbon atoms, aryl radicals and acyl radicals of 1 to 8 carbon atoms, the value of n is between 0.5 and 1.9, the value of m is between 0.01 and 2.5, and the value of n plus m is between 0.51 and 3.

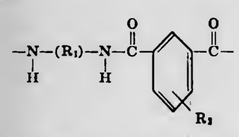
3,261,882

ADHESIVES FROM POLYISOPHTHALAMIDES AND THERMOSETTING EPOXY RESIN SYRUPS

Bert S. Gorton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 2, 1963, Ser. No. 248,892
7 Claims. (Cl. 260—830)

1. An adhesive composition consisting essentially, per 100 parts by weight, of 65–95 parts by weight of a polyamide consisting essentially of recurring groups of the general formula:



wherein R_1 is an alkylene radial having 2–16 carbon atoms and R_2 is a member of the group consisting of hydrogen, C_1–C_5 alkyl radicals, and halogens, said polyamide having a molecular weight of 1,000–35,000, and 5–35 parts by weight of a polyepoxide having at least two epoxy groups per molecule and also having a viscosity of 50–200,000 centipoises at 25° C.

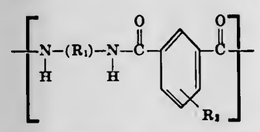
3,261,883

ADHESIVES FROM POLYISOPHTHALAMIDES AND PHENOPLAST OR AMINOPLAST SYRUPS

Bert S. Gorton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 2, 1963, Ser. No. 248,870
6 Claims. (Cl. 260—841)

1. An adhesive composition consisting essentially, per 100 parts by weight, of 65–99 parts by weight of a polyamide consisting essentially of recurring groups of the general formula



wherein R_1 is an alkylene radical having 2–16 carbon atoms and R_2 is a member of the group consisting of hydrogen, C_1–C_5 alkyl radicals, and halogens, said polyamide having a molecular weight of 1,000–35,000, and 1 to 35 parts by weight of a thermosetting phenol-formaldehyde, melamine-formaldehyde, or urea-formaldehyde resin having a viscosity of 50–200,000 centipoises at 25° C.

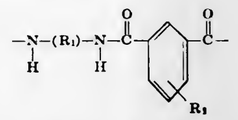
3,261,884

ADHESIVE COMPOSITION COMPRISING A MIXTURE OF A POLYAMIDE AND A NOVOLAC RESIN

Bert S. Gorton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 2, 1963, Ser. No. 248,899
6 Claims. (Cl. 260—841)

1. A thermoplastic adhesive composition consisting essentially, per 100 parts by weight, of 65–99 parts by weight of a polyamide having the recurring group of the formula:



wherein R_1 is an alkylene radical having 2–16 carbon atoms and R_2 is a member of the group consisting of hydrogen, C_1–C_5 alkyl radicals, and halogens, said polyamide having a molecular weight of 1,000–35,000, and 1–35 parts by weight of a novolac having a viscosity of 50–200,000 centipoises at 25° C., not more than about 50% by weight of the phenolic constituent of the said novolac being substituted with an alkyl group containing more than 3 carbon atoms.

4. A structure having two surfaces adhesively joined together with the composition of claim 1.

3,261,885

PRODUCTION OF BLOCK-GRAFT COPOLYMERS FROM POLYOLEFINES AND SYNTHETIC POLYAMIDES

Hans Craubner, Karlsruhe, and Gerhard Illing, Neuleiningen, Pfalz, Germany, assignors, by mesne assignments, to H. Roemmler G.m.b.H., Hesse, Germany

No Drawing. Filed Oct. 6, 1961, Ser. No. 143,292
Claims priority, application Germany, Oct. 7, 1960, B 59,664
7 Claims. (Cl. 260—857)

1. A process for the production of block-graft copolymers which comprises intensely kneading at a shear stress of at least about 1.0×10^3 kg./cm.^{2} at a temperature of about 50° C. to 350° C. a mixture of:

(A) 1 to 99% by weight of a polymer which has a melt index of about 0.05 to 25 g./10 minutes at 190° C. and which is selected from the group consisting of
  (1) homopolymers of 2 to 4 carbon atom monoolefines and styrene, and
  (2) copolymers of said monoolefines and of styrene with up to 50% by weight of other olefinically unsaturated monomers;

(B) 0.95 to 98.95% by weight of a synthetic linear polyamide containing recurring —NHCO— groups in the main chain and having a melt index of about 0.4 to 50 g./10 minutes at 240° C.; and

(C) 0.05 to 10% by weight of a free radical forming catalyst selected from the group consisting of organic peroxides, perbenzoates, azo-bisnitriles and azo-disulfonates,

said percentages being based on the total weight of the mixture.

3,261,886

LIQUID POLYESTER COMPOSITIONS CONTAINING A MAJOR AMOUNT OF METHYL METHACRYLATE

John R. Lowry, Levittown, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed June 11, 1962, Ser. No. 201,327
3 Claims. (Cl. 260—862)

1. A liquid resinous composition which comprises by weight (a) methyl methacrylate in amounts of about 50 to about 80 parts, (b) a condensation product of an α,β-ethylenically unsaturated polycarboxylic acid and a polyhydric alcohol in amounts of about 5 to about 25 parts, and (c) a polymer soluble in (a) from the group consisting of polymethyl methacrylate and copolymers of methyl methacrylate in preponderance and minor amounts of another monomer containing a single vinylidene group copolymerizable therewith, in amounts of about 12 to about 45 parts.

3,261,887

TRANSPARENT GUM PLASTIC COMPOSITION CONTAINING METHYL METHACRYLATE RESIN AND GRAFT COPOLYMER

James U. Mann, Hopatcong, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 14, 1958, Ser. No. 715,208
18 Claims. (Cl. 260—876)

1. A composition which is a hard, tough mixture, characterized by the transmission of at least 50% of the incident radiation of about 7000 Angstrom units wave length through a layer one-sixteenth inch thick, comprising a graft polymer component "G" and a resinous component "R", in which the resinous component "R" is selected from the group consisting of polymethyl methacrylate and copolymers of methyl methacrylate and styrene containing at least 40% of methyl methacrylate, and in which the graft copolymer "G" is the product of the polymerization of a monomeric component "M" selected from the group consisting of styrene, methyl methacrylate, and blends of styrene and methyl methacrylate in a latex of an elastomer "E" selected from the group consisting of polybutadiene and rubbery copolymers of butadiene with a mono-olefinic monomer containing up to 40% by weight of said mono-olefinic monomer; the ratio by weight of said monomeric component "M" to said elastomer "E" being within the range of from 0.1:1 to 2:1 by weight; and the relative amounts of "G" and "R" in said mixture being such that the elastomer "E" comprises from 15% to 35% by weight of said mixture.

17. A composition obtained by polymerizing a polymerizable mixture consisting of 33 to 100 parts by weight of a polymerizable material consisting of methyl methacrylate while in intimate contact with 100 parts by weight of a butadiene homopolymer.

18. A composition obtained by polymerizing 33 to 100 parts by weight of a polymerizable mixture consisting of methyl methacrylate and styrene while in intimate contact with 100 parts by weight of a butadiene homopolymer, said polymerizable mixture containing at least 50% by weight of methyl methacrylate.

3,261,888

CROSS-LINKED TERPOLYMER OF ETHYLENE PROPYLENE AND NON-CONJUGATED DIENE EXHIBITING HIGH TEMPERATURE RESISTANCE TO SOFTENING, STIFFENING OR EMBRITTLEMENT

John A. Cornell, Philadelphia, and Lloyd Raymond Olson, Glenolden, Pa., and John Tremain Howarth, Reading, Mass., assignors, by direct and mesne assignments, to Sartomer Resins, Inc., Essington, Pa., a corporation of Delaware

No Drawing. Filed Nov. 14, 1963, Ser. No. 323,587
15 Claims. (Cl. 260—877)

1. A vulcanized composition of matter consisting essentially of a terpolymer of 33–80 mol percent of ethylene, 1–15 mol percent of non-conjugated diene having at least 6 carbon atoms and the remainder propylene, said terpolymer formed by ionic polymerization of the monomers in an inert solvent selected from the class consisting of hydrocarbon solvents and chlorinated hydrocarbon solvents, said terpolymer being reacted with a heat-resistant organic peroxide in an amount of from 2 to 10 parts peroxide per 100 parts of terpolymer, said organic peroxide being capable of being heated to a temperature of at least 250° F. without substantial decomposition but decomposing rapidly at temperatures of 275–425° F. to react with a cross-linking agent, and a bifunctional cross-linking agent selected from the group consisting of acrylate diesters, methacrylate diesters, vinyl esters of acrylic acid, vinyl esters of methacrylic acid, allyl esters of acrylic acid, allyl esters of methacrylic acid, vinyl esters of aromatic polycarboxylic acids and vinyl esters of aliphatic polycarboxylic acids, said cross-linking agent being present in an amount of from 2 to 30 parts per 100 parts of said terpolymer.

3,261,889

POLYETHYLENE-CONTAINING MATERIAL HAVING AN INCREASED RESISTANCE TO ENVIRONMENTAL STRESS CRACKING

Johan W. F. van 't Wout, Sittard, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Sept. 8, 1965, Ser. No. 485,925
Claims priority, application Netherlands, Jan. 15, 1960, 247,418
6 Claims. (Cl. 260—897)

1. A method of preparing a polyethylene-containing material having an increased resistance to environmental stress cracking, comprising the step of: adding to 100 parts by weight of high pressure polyethylene, 3–30 parts by weight of a member of the group consisting of atactic copolymers of ethylene and propylene; atactic copolymers of ethylene and butene-1, and mixtures thereof, said atactic copolymers being formed in the presence of a catalyst formed by adding at least one compound of a metal of the groups 4–8, inclusive, of the Periodic System to a compound selected from the group consisting of a metal, an alloy, a metal hydride, and an organo-metallic compound of the groups 1–3, inclusive, of the Periodic System.

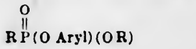
3,261,890

TRANSESTERIFICATION OF PHOSPHORUS ESTERS

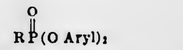
Irving Gordon and Charles F. Baranauckas, Niagara Falls, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,157
12 Claims. (Cl. 260—982)

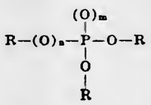
1. A process for preparing diorgano aliphatic phosphonates selected from the group consisting of



and



wherein aryl is of 6 to 18 carbon atoms, and R is selected from the group consisting of alkyl and alkenyl having from 1 to 18 carbon atoms, which comprises reacting a triaryl phosphite with a phosphorus compound of the formula



wherein m and n are from 0 to 1, with the sum thereof equal to 1.

3,261,891

MEMBRANE CORE FOR SOLID PROPELLANT ROCKET MOTORS AND CASTING METHOD USING SAME

Preston S. Craig, Jekyll Island, Ga., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed Mar. 20, 1964, Ser. No. 353,450
5 Claims. (Cl. 264—3)

4. A membrane core assembly comprising a tubular flexible membrane, anchoring means secured to the opposite ends of said membrane, centering means extending through said anchoring means, means for injecting a fluid filler into said membrane and a follower mounted for reciprocal movement on said centering means and adapted to shape said tubular membrane to conform to the shape

of said anchoring means during the injection of the fluid filler into said membrane.

5. A method for forming the cavity configuration in a solid propellant being cast into a motor case for solid propellant rocket motor comprising the steps of inserting a tubular membrane into the motor case, providing a reinforcing means for the membrane, tensioning the membrane to cause the membrane to conform to the shape of the cavity configuration, simultaneously injecting solid propellant into the motor case and a fluid filler into the tubular membrane and maintaining the level of the solid propellant and the fluid filler constant to cause the membrane to retain its preformed configuration during the casting of the solid propellant into the motor case.

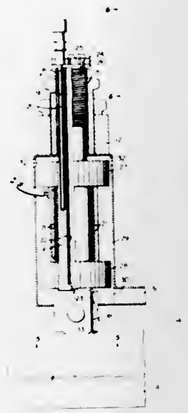


3,261,892
METHOD OF PRODUCING HARDENED BODIES FROM BITUMINOUS MIXES
Albert Sommer, Montagnola, Ticino, Switzerland, and Klaus Schulze, Munich-Pasing, Germany, assignors to Straba Handels-Aktiengesellschaft, Lugano, Switzerland
No Drawing. Filed Apr. 9, 1962, Ser. No. 185,866
Claims priority, application Switzerland, Apr. 11, 1961, 4,241/61
1 Claim. (Cl. 264—29)

A process for the production of carbon electrodes having uniformly distributed air spaces constituting from 5 to 15% by volume of the electrode which comprises mixing granular to pulverulent carbon particles, spraying said particles with liquid bitumen until each particle is individually coated with bitumen, molding the so-obtained mixture at a temperature of between 150° to 170° C. so that mixture of carbon particles and bitumen has uniformly distributed air spaces constituting from 5 to 15% by volume, placing the heated molded article in a heating apparatus at a temperature of about 170° C. whereby an exothermic reaction takes place in the molded article thereby raising the temperature of said article, allowing the temperature to rise to about 300° C. and maintaining the electrode at this temperature by supplying oxygen and baking the electrode at said temperature.

3,261,893
THERMALLY ADJUSTED CASTING BLADE
Everett D. George and William P. Heydorn, Cuyahoga Falls, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Oct. 4, 1962, Ser. No. 228,477
15 Claims. (Cl. 264—40)

1. A control unit for controlling the movement of a casting blade during the production of a film, the control unit comprising an essentially elongate hollow body portion having attachment means located thereon, electrical heating means adjacent the body portion intermediate the ends thereof, heat dissipation means located adjacent the body portion to facilitate cooling thereof, temperature sensing means adapted to sense the temperature of said body portion, and electrical power source means coupled to the heating means, whereby a flow of electrical current through said electrical heating means will heat the body portion of the control unit, thus producing an elongation and discontinuance of current to the electrical heating means will result in cooling of the body portion and consequently a contraction thereof.

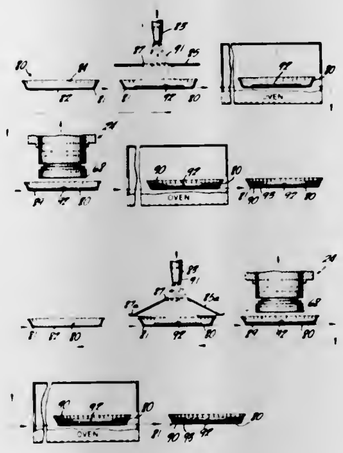


14. The method of automatically adjusting a belt and casting blade used in forming a thin film in conjunction with a revolving drum comprising the steps of detecting film thickness variations with a thickness gauge, conveying the thickness variations in the form of an electrical signal to a plurality of control units, heating the control units by an electrical means to a predetermined temperature as indicated by temperature sensing means, causing an elongation in the body portion of the control unit, thereby moving a portion of the casting blade in closer proximity with respect to the drum surface should the thickness gauge indicate a thick film and directing an airstream around and through the heat dissipation protuberances of the control unit, to cause a contraction in the body portion of the control unit, when the electrical voltage means is inactivated, thereby moving a portion of the casting blade away from the drum surface when the film is too thin.

3,261,894
METHOD OF MANUFACTURING FOAMED SILICATE STRUCTURES
Alois Seidl, Lower Bavaria, Germany, assignor to Wasag-Chemie Aktiengesellschaft, Essen, Germany
No Drawing. Filed Aug. 15, 1962, Ser. No. 216,978
Claims priority, application Germany, Sept. 12, 1961, W 30,680; Sept. 21, 1961, W 30,738; May 19, 1962, W 32,246
The portion of the term of the patent subsequent to May 18, 1982, has been disclaimed
5 Claims. (Cl. 264—43)

1. A method of producing a metal coated silicate particle, which method comprises the steps of:
(a) forming a solution containing in parts by weight, about one part alkali metal silicate, 0.02–0.7 parts of inorganic fibrous silicate, and 2–10 parts water;
(b) heating said solution to about 140–360° C. to eliminate any free water phase;
(c) comminuting said dried mixture to obtain particles of 0.1–10 mm.; and
(d) coating said particles with a layer of molten metal.

3,261,895
METHOD FOR MANUFACTURING RESIN PRODUCTS INCLUDING FOAM PRODUCTS
Samuel W. Strickman, Rego Park, N.Y., assignor to Rosen and Strickman, Newark, N.J., a copartnership consisting of Jacob J. Rosen and Samuel W. Strickman
Filed Oct. 29, 1963, Ser. No. 319,911
20 Claims. (Cl. 264—45)

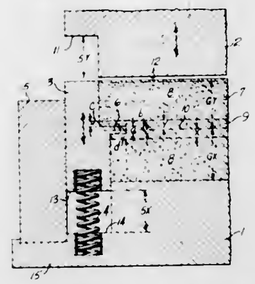


11. A method of forming a crown closure comprising providing a steel crown blank having a substantially flat top panel and a skirt portion, applying a protective coating to the interior surface of the top panel, the protective coating comprising a layer of a vinyl lacquer overlying the surface of the blank and a layer of vinyl plastisol overlying the lacquer, depositing a substantially ring-shaped charge of foamable gasket-forming material to the coated panel adjacent the periphery thereof, the charge being confined to that portion of the inner surface of the top panel which will have minimum contact with container contents, and heating the closure to cause foaming of the charge.

3,261,896
BURNED BRICK PARTICULARLY SUITED FOR USE IN OXYGEN STEELMAKING
Ben Davies and Ernest P. Weaver, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 31, 1965, Ser. No. 444,383
11 Claims. (Cl. 264—65)

1. A process for fabricating ceramically bonded basic refractory brick containing from 2 to 100% free lime, consisting essentially of (1) preparing a refractory brick-making batch by mixing together free lime-containing basic refractory grain and nonaqueous, cokable, carbonaceous, bonding agents (2) forming brick from the batch, (3) arranging the brick only one-high on a flat supporting surface, and (4) subjecting the brick to baking in an essentially desiccated atmosphere in the range 350 to below about 1000° F. for a time period sufficient to obtain a baked brick of sufficient strength to thereafter be capable of being stacked to multiunit heights without fear of collapse or hydration when fired to elevated burning temperatures in a tunnel kiln, (5) allowing the brick to reach a handleable temperature, (6) recovering the brick, (7) restacking the brick more than one brick high, (8) placing the restacked brick in a tunnel kiln, and (9) firing to a burning temperature sufficient to recover a ceramically bonded, basic refractory brick.

3,261,897
METHOD FOR PRODUCING GROOVED MOLDED PARTS
Edmund Munk, Oberstenfeld, Wurttemberg, Germany, assignor to Furnier- und Sperrholzwerk J. F. Werz Jr. K.G., Werzalit-Pressholzwerk, Oberstenfeld, Oberstenfeld, Wurttemberg, Germany
Filed July 11, 1962, Ser. No. 209,083
Claims priority, application Germany, Aug. 31, 1961, F 34,819
2 Claims. (Cl. 264—109)



1. A method of producing molded parts having recesses in their lateral sides comprising the steps of filling a mixture of a finely shredded organic fibrous material and a heat-setting binder into the open upper side substantially to the level of the upper end of a mold cavity in an amount ranging from 4:1 to 10:1 of the size of the molded part, said cavity defined by a stationary bottom and side walls having a shape and capacity in proportion to the size, shape and compressive strength of the part to be molded, and at least one of said side walls comprising a member movable vertically to said bottom and having a projection extending into said mold cavity and of a size and shape in accordance with the size and shape of a recess to be molded in said part, moving an upper die into the open side of said mold cavity for a certain distance in the direction toward said bottom and to a certain level above said projection and thereby compressing said mixture in said mold cavity and around said projection, and then continuing to move said upper die downwardly and simultaneously and equally moving said member with said projection thereon for a distance substantially equal to said first distance, whereby said mixture is compressed to the size, shape, and compressive strength of the desired molded part and a recess is molded by said projection in said molded part, the area at both sides of said recess then having a compressive strength higher than that of the other areas of said molded part.

3,261,898
PRODUCTION OF HOT-PRESSED THREE-DIMENSIONAL FIBER ARTICLES
Philip E. Caron and Gene A. Grove, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Dec. 27, 1961, Ser. No. 162,440
3 Claims. (Cl. 264—122)

1. The method of producing a deep drawn three-dimensioned article from a substantially flat felt, comprising:
depositing wood fibers on a moving conveyor to form a felt containing in substantially uniform distribution added heat soluble resin in proportion of from 10 to 35 parts by weight for 65 parts by weight of oven-dry fiber, said resin consisting of a mixture of thermoplastic and thermosetting resin in kind and quantity such that upon heating said felt the resin is softened to lubricate the fibers to permit movement between the fibers in forming said article and upon compressing the hereinafter-mentioned overlapping portions

of the piece causes said portions to fuse and integrate, compressing said felt to a uniformly thick and dense compressible panel,

shaping the peripheral contour of the panel to provide a V-shaped recess having its vertex inwardly of the outer periphery of the piece, the shape of the recess being such that the length of material at the outer periphery is greater than the dimensions of the outer periphery of the shaped article and the dimension defined by the vertex of said recess is equal to the corresponding dimension of the three-dimensioned article whereby the material adjacent the edges of said recess will overlap in the three-dimensioned article.

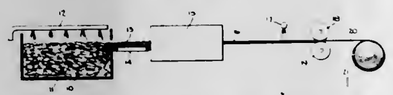
softening the shaped panel by the action of steam to provide a moisture content in the panel of from 10 to 18% based on the oven-dry weight of the fibers,

placing the softened shaped panel over the cavity of a die,

moving said piece into the die by an advancing punch whereby on full entry of the piece into the forming space between the die and punch the material adjacent the recess edges will overlap, and

hot compressing the same between a die and the punch whereby said overlapped portions fuse and integrate to form a uniform consolidated three-dimensional structure.

3,261,899
DRY PROCESS FOR MAKING SYNTHETIC FIBER PAPER
Herbert W. Coates, Fairfax, Ala., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Nov. 27, 1962, Ser. No. 242,865
2 Claims. (Cl. 264—123)

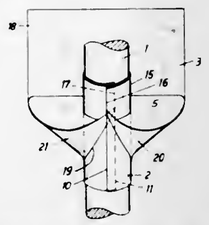


1. A substantially dry process for making paper which comprises: (1) applying from 5% to 40% by weight of a plasticizer selected from the group consisting of esters of polyhydric alcohols, esters of carboxylic acids, organic esters of inorganic acids, alkoxy alkyl esters of inorganic acids, and esters of organic polybasic acids to opened staple fibers composed of an organic acid ester of cellulose having a fiber length exceeding ½ inch; (2) forming a nonwoven web comprising said fibers having the plasticizer thereon; (3) calendering said web at a temperature of from 150° F. to 375° F.; and (4) removing said web from the calender as synthetic paper having a porosity of from 25% to 85%.

3,261,900
METHOD FOR ENHANCING THE CLARITY AND GLOSS OF POLYETHYLENE FILM
Frank W. Spillers, Freeport, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 24, 1962, Ser. No. 232,873
3 Claims. (Cl. 264—140)

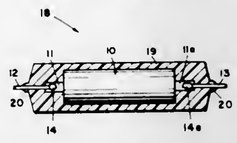
1. A method for enhancing the clarity and gloss of polyethylene film while lowering haze, slip and block comprising admixing raw polyethylene with an antioxidant, of forming said admixed polyethylene into discrete shapes, passing said shapes through two adjacent rolls, said rolls operating at different peripheral speeds at a ratio between 1:1 to 10:1 and at a temperature between −70° C. and the melting point of said polyethylene and with a spacing between the peripheral surface thereof to cause partial flattening of said discrete shapes, subsequently chopping said flattened shapes to produce smaller particles, then mixing said particles with 0.05 to 3% of a metal salt of a member of the group consisting of the saturated and the unsaturated fatty acids, granulating said mixture, and then forming plastic film therefrom.

3,261,901
METHOD OF MOLDING A SHOULDER ON A VERTICAL MANDREL
Georg Kopp, also known as Jörg Kopp, Schaffhausen, Switzerland, assignor to Schweizerische Industrie-Gesellschaft, Neuhausen am Rheinfall, Switzerland
Filed Apr. 1, 1963, Ser. No. 269,676
Claims priority, application Switzerland, Apr. 3, 1962, 4,039/62
9 Claims. (Cl. 264—219)



1. In a method of shaping and molding a forming shoulder for forming strip material into a tube about a cylindrical mandrel: the steps of applying a cylindrical adhesive sleeve to said mandrel to form a support with its axis generally vertical; folding a flexible foil in strip form about the sleeve, bending said foil upwardly from its lower edge into the shape which will be assumed by the strip material being folded to form a mold wall offset from said mandrel axis, such shape including a tubular mold wall portion about said mandrel formed with a bend at the lower end of said tubular portion and formed by bending the foil upwardly, and a flat rear portion inclined upwardly from said bend at an acute angle to the mandrel axis towards said bend, said molds forming a mould cavity between said folded foil and said tubular foil portion; casting a settable composition into said mould cavity to form a cast body; permitting setting of said composition and removing said foil from said cast body to provide a forming shoulder.

3,261,902
METHOD OF MAKING ENCAPSULATED CAPACITOR
Godfrey R. Pearce, Lawrence, and Lawrence R. Sparrow and Jerry Braiman, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 394,838
7 Claims. (Cl. 264—272)



1. A method of encapsulating an electrolytic aluminum capacitor comprising the steps of pre-forming an open-end thermoplastic sleeve substantially equivalent in shape to the contour of a capacitor body to be encased, said capacitor body being impregnated with a suitable liquid non-polymerizable electrolyte, placing said capacitor body inside said pre-formed sleeve so that only the terminal wires of said capacitor body project therefrom, positioning said pre-formed sleeve and said capacitor body within a suitable mold cavity having protuberances at points of lead egress introducing into said mold cavity a molten thermoplastic material having fusion characteristics equivalent to those of said pre-formed sleeve, introducing said molten material in such a physical state whereby complete coalescence with said pre-formed casing is achieved, and flowing said molten material into said protuberances and around the leads to seal the same tightly therein, thereby producing a unitary capacitor capsule adhering to said terminal wires to form a tight seal therewith.

3,261,903
METHOD AND APPARATUS FOR FILM STRETCHING
Vernon R. Carr, Akron, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed July 2, 1963, Ser. No. 292,283
6 Claims. (Cl. 264—289)

1. In combination in a film stretching apparatus having a transverse stretch means, a longitudinal stretch means and a heat-set means the improvement comprising at least one localized heat producing unit located prior to the longitudinal stretch means so that the orifice of the heat unit is directed toward the film, knurled surfaces near the ends of at least one longitudinal stretch roll in said longitudinal stretch means, a plurality of small diameter narrow width rolls that coact with the knurled surfaces of said longitudinal stretch roll so as to force the heated edge of film that is being processed into said knurled surfaces, and at least one heat-set roll adapted to receive



a biaxially oriented film and containing on the surface thereof at least two narrow circumferentially defined knurled surfaces located near the extremities of the roll that are contacted with a series of small rolls to force the film into said knurled surfaces and cause the heat-set roll to hold the film and prevent transverse film shrinkage by containing the film edges within the knurled surfaces of said heat-setting rolls.

ELECTRICAL

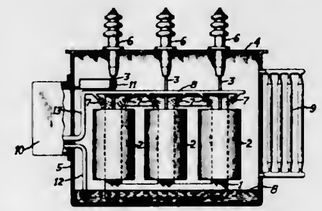
3,261,904
TRANSISTOR MOUNTING AND HEAT TRANSFER APPARATUS WITH ADJUSTABLE PRESSURE DETACHABLE MOUNTING MEANS
Stanley S. Wuic, Rydal, Pa., assignor, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 309,257
9 Claims. (Cl. 174—15)



1. A detachable heat conducting mounting for fastening a transistor housing on a heat sink comprising: a support of high thermal conductivity that is rigidly mounted with respect to the heat sink and having a portion spaced therefrom, a heat conducting member having a low electrical conductivity disposed between the transistor housing and one of the heat sink and spaced portion of said support, and adjustable means for exerting a variable pressure between said housing and the other one of said heat sink and spaced portion of said support to variably increase the surface contact pressure and thermal conductivity between the heat conducting member and the housing.

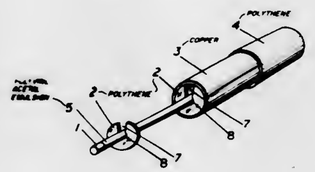
3,261,905
STATIONARY INDUCTION APPARATUS COOLING SYSTEM
Benjamin F. Allen, Rome, Ga., assignor to General Electric Company, a corporation of New York
Filed Dec. 18, 1963, Ser. No. 331,592
8 Claims. (Cl. 174—15)

1. Stationary induction apparatus comprising, in combination, a heat generating core and coil to be cooled, a circulating fluid cooling system for said core and coil, a self-starting fluid pump including a vapor generator and operable in response to input of heat energy for circulating said fluid, and means for supplying heat to said



vapor generator in proportion to the heat generated by said core and coil.

3,261,906
CABLE CONDUCTORS HAVING A MATERIAL BINDER
Frederick Gee-Wah, Francis Bernard Cope, and Robert Arthur Marsh, London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 21, 1964, Ser. No. 397,830
Claims priority, application Great Britain, Nov. 11, 1963, 44,377/63
2 Claims. (Cl. 174—28)

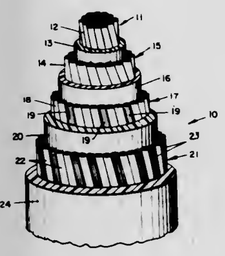


1. An air-spaced coaxial cable which includes a centre conductor having on its outer surface a means for binding to the conductor any portions of conducting material which may otherwise project from the surface of the conductor, comprising a coating of a material which possesses sufficient mechanical strength and a thickness not exceeding 0.0001 inch.

3,261,907
HIGH FREQUENCY POWER CABLE

William F. Morrison, Irvington, N.Y., assignor to Anaconda Wire and Cable Company, New York, N.Y., a corporation of Delaware

Filed Mar. 30, 1964, Ser. No. 355,577
6 Claims. (Cl. 174—115)

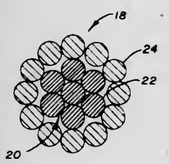


1. A high frequency power cable for a polyphase circuit comprising a center core of concentrically stranded electrically conductive wires, a first continuous layer of dielectric material surrounding said central core, a plurality of electrically conductive wires surrounding said first layer of dielectric material forming a first concentric single layer of conductors for carrying one phase of said circuit, a second continuous layer of dielectric material insulating said first layer of conductors, a plurality of electrically conductive wires surrounding said second layer of dielectric material forming at least one additional concentric single layer of conductors, each of said additional layers of conductors carrying a separate phase for said circuit and being separated from each other by a concentric continuous layer of dielectric material, and an outer jacket of dielectric material covering said layers of conductors, each of said concentric layers of conductors having a predetermined number of electrically conductive wires with a total cross sectional area of the conductors in each layer being approximately balanced by non-electrically conductive wires to produce closely resembled resistances for all phases, each of said layers of dielectric material having sufficient dielectric strength to withstand the voltage between the adjacent layers of conductors.

3,261,908
COMPOSITE ALUMINUM ELECTRICAL CONDUCTOR CABLE

John B. Roche and Alexander N. Shealy, Newark, Ohio, assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Mar. 26, 1964, Ser. No. 354,994
5 Claims. (Cl. 174—128)

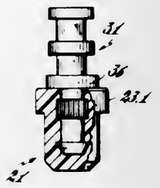


5. In a multi-strand conductor adaptable for electrical power transmission, the combination of a plurality of core strands and a plurality of outer conductor strands, said outer conductor strands consisting of an electrically conductive grade of aluminum and the core strands consisting of the elements, in percent by weight, copper up to 0.10%, iron up to 0.50%, manganese up to 0.03%, zinc up to 0.10%, chromium up to 0.03%, boron up to 0.06%, silicon about 0.50% to 0.90%, magnesium about 0.60% to 0.90%, and the balance aluminum and having an electrical conductivity of at least 52½%, said conductivity percentage based on an equal volume of the International Annealed Copper Standard, the core strands having relatively greater strength and greater elongation than said outer conductor strands and the coefficient of expansion, and corrosion resistance of the outer conductor strands and the core strands being substantially the same.

3,261,909
ELECTRICALLY INSULATING TERMINALS AND METHOD OF FABRICATING THEM

Frank E. Rust, Waltham, and Raymond B. Demeritt, Braintree, Mass., assignors to Cambridge Thermionic Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed June 20, 1962, Ser. No. 203,842
11 Claims. (Cl. 174—153)



1. A method of fabricating an article composed of a dielectric body having a free outer surface and an axial recess, and being preformed to a predetermined outside diameter of a material having the physical characteristics of polyfluoroethylene in solid state, and of a rigid insert having on a stem non-circular and anchor portions, comprising the steps of:

compressing said body at said outer surface in solid state to an outside diameter significantly smaller than said preformed outside diameter of the body;

pressing the insert into said recess of the body while the body remains compressed in said solid state to said smaller diameter, being thus held against distortion of said compressed outer surface during the entire time of fabrication; and

releasing said body after completion of the placement of said insert to regain said free outer surface;

whereby the body material flows into the spaces at and between non-circular and anchor portions, and the outside of the body retains said outside diameter essentially undistorted.

8. A composite article comprising:

a dielectric body made of a material having the physical characteristics of polyfluoroethylenes, having a preformed completely unobstructed free outer surface and having a cylindrical axial recess; and

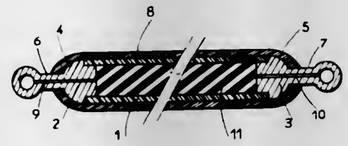
a rigid insert having within said body a stem, at least one anchor portion extending from the stem with a sharply edged taper peripherally terminating in a sharp edge with oblique edge angle, and at least one non-circular stem deformation, said body material filling the spaces at and between said anchor portion and said stem deformation;

whereby said free outer surface of the body remains essentially undistorted, and the sharp edge traps the body material to resist pulling of the insert from the body in the direction opposite to the taper.

3,261,910
ELECTRICAL STRAIN INSULATOR AND METHOD OF MAKING SAME

Michel Jacquier, Paris, France, assignor to Compagnie Generale d'Electricite, Paris, France, a French corporation

Filed Aug. 12, 1964, Ser. No. 389,104
Claims priority, application France, Aug. 20, 1963, 945,145; Jan. 16, 1964, 960,548
7 Claims. (Cl. 174—178)



1. An electrical strain insulator comprising two metallic end pieces each provided with a shoulder forming portion of substantially hemispherical shape, a connecting piece joining said end pieces, said end pieces and connecting piece forming a support element, a fiber glass roving having a strand diameter substantially smaller than the diameter of said connecting piece wound around said support element and forming a wrapping of substantially uniform thickness, said fiber glass having a long pitch spiral and following the geodesic lines on said shoulders for securing together said end pieces and said connecting piece.

3,261,911
TRANSMISSION SYSTEM FOR IMPRINTED INTELLIGENCE

Robert S. Bailey, Waldwick, Andrew Senchak, Wayne, and Stanford B. Silverschotz, Livingston, N.J., and Eric M. S. McWhirter, Rye, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Sept. 25, 1961, Ser. No. 140,415
32 Claims. (Cl. 178—6)

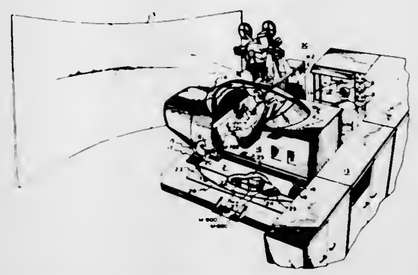


1. A transmission system for imprinted intelligence comprising a first enclosure opaque to first energy and transparent to second energy distinct from said first energy; a first medium imparting a first intensity to said second energy contained in said first enclosure; said first medium having impressed on a surface thereof said imprinted intelligence in the form of a first visible trace imparting a second intensity distinct from said first intensity to said second energy; a first means disposed with respect to said first enclosure to sense through said first enclosure said imprinted intelligence by means of said second energy, said medium and said first trace cooperating to intensity modulate said second energy in accordance with said imprinted intelligence; second means coupled to said first means to convert said intensity modulated second energy into electrical signals representative of said imprinted intelligence; a second enclosure opaque to said first energy and transparent to a third energy distinct from said first energy disposed at a point remote from said second means; a second medium contained within said second enclosure responsive to said third energy to reproduce said imprinted intelligence in the form of a second visible trace on a surface thereof; third means disposed at said remote point to convert said electrical signal into said third energy representative of said imprinted intelligence; and fourth means to couple said electrical signal from said second means to said third means.

3,261,912
SIMULATED VIEWPOINT DISPLACEMENT APPARATUS

Harold S. Hemstreet, Wilton, Conn., assignor to General Precision, Inc., a corporation of Delaware

Application Nov. 6, 1962, Ser. No. 241,098, which is a division of application Ser. No. 500,325, Apr. 11, 1955, now Patent No. 3,101,645, dated Aug. 27, 1963. Divided and this application Apr. 8, 1965, Ser. No. 446,538
3 Claims. (Cl. 178—6.8)



1. Apparatus for altering the apparent perspective of an image of an object having the appearance of an area as viewed from a reference viewpoint located at a reference altitude h_1 to provide an image having the appearance of said area as viewed from a selected viewpoint located at a selected altitude h_2 and displaced laterally in the plane of said reference viewpoint a distance d from said reference viewpoint comprising in combination scanning means having a pair of perpendicularly disposed sweep means for scanning said object to provide video signals, a cathode ray tube connected to receive said video signals to produce a beam modulated in accordance with said signals, said cathode ray tube having a pair of perpendicularly disposed beam deflection means, means for providing an axial relative rotation between said object and said scanning means through an angle β determinable from the expression:

$$\sin 2\beta = \frac{2d}{h_2\left(M_o - \frac{1}{M_o}\right)}$$

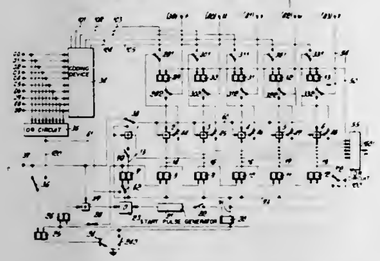
means for providing a variation in the relative sweep amplitudes of said scanning means and said cathode ray tube beam deflection means, one of said beam deflection means being driven with a sweep potential varied in magnitude by a factor of M_a from the sweep potential applied to one of said sweep means and the second of said beam deflection means being driven with a sweep potential varied in magnitude by a factor of M_b from the sweep potential applied to the second of said sweep means, where the ratio M_o between M_b and M_a is determinable from the following expression:

$$M_o^2 - M_o\left[\frac{d^2}{h_1 h_2} + \frac{h_1}{h_2} + \frac{h_2}{h_1}\right]^{+1-0}$$

and means for axially rotating the image produced by said cathode ray tube through an angle δ_b determinable from the following expression:

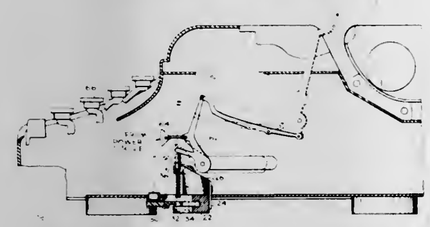
$$\tan 2\delta_b = \frac{2dh_2}{h_1^2 + h_2^2 + d^2}$$

3,261,913
CONVERTING DEVICE
Hugo Reichert, Wilhelmshaven, Germany, assignor to Olympia-Werke A.G., Wilhelmshaven, Germany
Filed Oct. 17, 1962, Ser. No. 231,256
Claims priority, application Germany, Oct. 18, 1961, O 8,309
18 Claims. (Cl. 178—26)



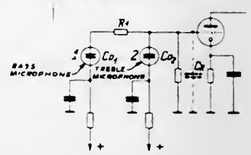
1. A long distance transmission device for digital signals, comprising, in combination:
(a) a clock pulse generator;
(b) a set of AND-circuits having respective first inputs, and having respective second inputs connected together;
(c) switching chain means including a plurality of chain members, said chain means having an input connected with the output of said clock pulse generator, and said chain members having outputs connected with said respective first inputs of said AND-circuits;
(d) a storage register having stages for temporary storage of bits of coded information in parallel representation;
(e) an OR-circuit;
(f) first switch means for selectively connecting the outputs of said set of AND-circuits
(1) as inputs to said OR-circuit and
(2) with respective stages of said storage register; and
(g) second switch means for selectively connecting said respective second inputs with
(1) an input terminal for receiving bits of coded information in series and
(2) with the output of the clock pulse generator.

3,261,914
TYPEWRITER ENCODING ATTACHMENT
William E. Evans, Jr., Los Altos Hills, Calif., assignor to A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Filed Sept. 4, 1962, Ser. No. 221,216
5 Claims. (Cl. 178—81)



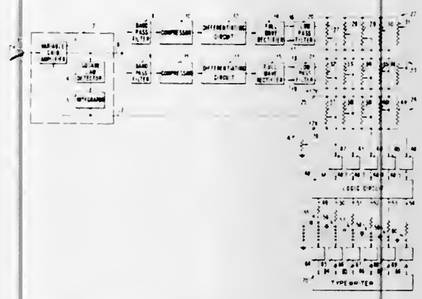
1. An encoding attachment for association with a typewriter wherein the actuation of each different typewriter key produces a different code output, said encoding attachment comprising a plurality of nonmagnetic bobbins, a different one of which is associated with a different one of said typewriter keys, a plurality of conductive lines selectively wound upon each said bobbin in accordance with a predetermined code representation desired for the typewriter key associated with a bobbin, and magnetic means for inducing a voltage in the windings on a bobbin responsive to the actuation of its associated typewriter key whereby said plurality of conductors present a voltage pattern which is the electrical encoding of the character represented by a typewriter key.

3,261,915
DIRECTIONAL SOUND TRANSMITTER
Rudolf Görike and Bernhard Weingartner, Vienna, Austria, assignors to Akustische U. Kino-Geräte Gesellschaft m.b.H., Vienna, Austria, a firm
Filed May 17, 1962, Ser. No. 196,571
Claims priority, application Austria, May 17, 1961, A 3,878/61
5 Claims. (Cl. 179—1)



1. A directional sound transducer comprising, in combination, at least two closely adjacent condenser microphones each including diaphragm means having a front face with a zero degree sound wave incidence and a rear face with a 180° sound wave incidence, the sound waves incident upon the rear face of each microphone being phase displaced with respect to the sound waves incident upon the front face of the respective diaphragm, with the amplitude of phase displacement depending substantially upon the sound detour path which sound waves, incident upon the front face, must travel between the center of the front face and the center of the rear face, each microphone having a respective output; and a common amplifier having an input connected to all of said outputs; at least one of said microphones consisting of a treble condenser microphone, and at least one other of said microphones consisting of a bass condenser microphone; the sound detour path from the center of the front face to the center of the rear face of said diaphragm means being shorter for said treble microphone than for said bass microphone.

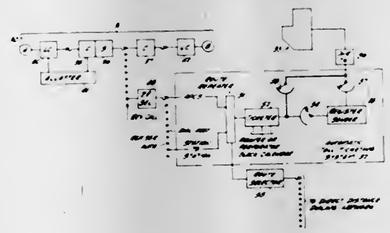
3,261,916
ADJUSTABLE RECOGNITION SYSTEM
Raimo Bakis, Ossining, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 16, 1962, Ser. No. 238,144
9 Claims. (Cl. 179—1)



1. A sound printing system comprising in combination: first means for transforming vocal sounds into representative electrical signals,

second means coupled to said first means for producing first and second output signals representative of the first and second formants of said vocal sounds respectively,
third means coupled to said second means and responsive to said first and second formant signals for producing a plurality of output signals, said output signals being modified combinations of said first and second formant signals arranged as linear functions defining the relationship of said vocal sounds with respect to separate phoneme regions,
logic means responsive to said output signals from said third means representative of said boundary defining functions for producing a plurality of output signals representative of separate phonomes contained in said vocal sounds,
printing means responsive to said output signals from said logic means for translating said output signals into printed indicia representative of said phonemes,
and adjustment means having one side thereof coupled between the output of said third means and the input of said logic means and the other side thereof coupled between the output of said logic means and the input of said printing means and responsive to the output signals from said logic means for modifying the output signals from said third means in accordance with the frequency of occurrence of the separate phonemes.

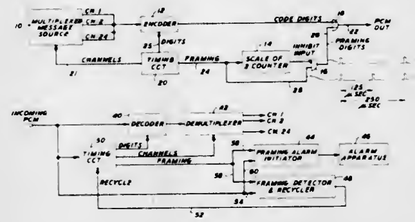
3,261,917
PPCS TOLL TICKETING SYSTEM
James Mowat Blackhall, Chicago, Ill., assignor to International Telephone and Telegraph Corporation
Filed Apr. 29, 1963, Ser. No. 276,350
9 Claims. (Cl. 179—8)



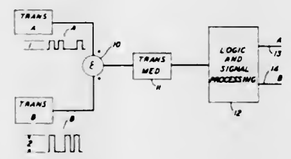
1. An automatic toll ticketing system comprising means for extending person-to-person, collect, and special service toll calls through automatic toll ticketing equipment responsive to the receipt of certain digital information, said equipment comprising a ticketer and an associated register-sender, means responsive to said certain digital information for connecting an operator's trunk to said register-sender, and means for automatically connecting said operator's trunk directly to said ticketer to by-pass said register.

3,261,918
SYNCHRONIZATION OF PULSE COMMUNICATION SYSTEMS
Leo J. Sisti, Methuen, Mass., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 21, 1961, Ser. No. 153,925
2 Claims. (Cl. 179—15)

1. In a binary pulse communication system in which successive frames of a predetermined number of regularly recurring message digits each are transmitted in sequence from a transmitting terminal to a receiving terminal, in which a framing digit is transmitted once each frame in sequence with said message digits, and in which said framing digit is alternately a pulse and a space in successive frames, apparatus at said receiving terminal which comprises a timing circuit for generating an internal framing digit having the repetition frequency and alternate pulse-space pattern of said transmitted framing digit, a normally enabled alarm circuit, a two-input AND gate having one input connected to receive said transmitted message digits and framing digit and the other connected to receive said internal framing digit, and means to disable said alarm circuit only when pulses having a repetition frequency of half the repetition frequency of said transmitted framing digit appear at the output of said AND gate, whereby said alarm circuit is enabled whenever said transmitted framing digit is out of frame with said internal framing digit, whenever there is a failure of said transmitted framing digit, or whenever there is a failure of said internal framing digit.



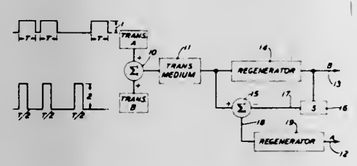
3,261,919
ASYNCHRONOUS PULSE MULTIPLEXING
Marvin R. Aaron, Whippany, and Eric E. Sumner, North Caldwell, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 1, 1961, Ser. No. 156,211
2 Claims. (Cl. 179—15)



1. In a system for asynchronously multiplexing information bearing pulse trains, two pulse transmitters each of which generates an information bearing pulse train which is independent of the pulse train generated by the other transmitter in both phase and frequency relationship but whose pulses have substantially the same pulse width as the pulses generated by the other transmitter with the amplitude of the pulses generated by a first of the pulse transmitters being one-half the amplitude of the pulses generated by the second of the pulse transmitters, means to add the pulse trains so that an overlapping sum of the pulse trains is produced, means to transmit the overlapping sum signal, a receiver to receive the transmitted signal, means at said receiver to generate a pulse at a first output terminal when the received signal is greater than one-half the amplitude of a pulse received from the first of the pulse transmitters but less than the amplitude of a pulse received from the second of the pulse transmitters, means to generate an output pulse at a second output terminal when the received signal is greater in amplitude than the amplitude of a pulse received from the first of the pulse transmitters but less than the amplitude of a pulse received from the second

of the pulse transmitters, and means to generate an output pulse at said first and said second output terminals when the received signal is greater in amplitude than the amplitude of a pulse received from the second of the pulse transmitters.

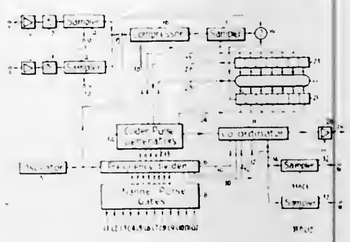
3,261,920
ASYNCHRONOUS PULSE MULTIPLEXING
Marvin R. Aaron, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 1, 1961, Ser. No. 156,242
2 Claims. (Cl. 179—15)



1. In a system for asynchronously multiplexing information bearing pulse trains, two pulse transmitters each of which generates an intelligence bearing pulse train which is independent of the pulse train generated by the other transmitter in both phase and frequency relationship but with the amplitude of the pulses generated by a first of said pulse transmitters being twice the amplitude of the pulses generated by the second of said pulse transmitters and having one-half the pulse width of the pulses generated by the second of said pulse transmitters, means to add the pulse trains generated by said pulse transmitters so that an overlapping sum of said pulse trains is produced, means to transmit said overlapping sum signal over a transmission medium, a receiver to receive the transmitted signal, means at said reciver responsive to the received signal to separate the pulse trains emanating from said pulse transmitters comprising a first regenerator to which the received signal is applied which generates a pulse at a first output terminal when the received signal is greater in amplitude than one and one-half times the amplitude of the pulses received from the second pulse transmitter, a filter having an input terminal, an output terminal and a transmission characteristic identical to that of the transmission medium, said input terminal of said filter being connected to said first output terminal, an analog subtractor having two input terminals and an output terminal the output terminal of said filter being connected to one of said input terminals of said analog subtractor the second input terminal of said subtractor being connected to receive the transmitted signal so that the signal at the output terminal of said subtractor comprises substantially the pulses from said second pulse transmitter, and a regenerator having an input terminal and an output terminal the input terminal being connected to the output terminal of said subtractor to generate an output pulse at its output terminal whenever a pulse is received which is greater in amplitude than one-half the amplitude of a pulse received from said second transmitter.
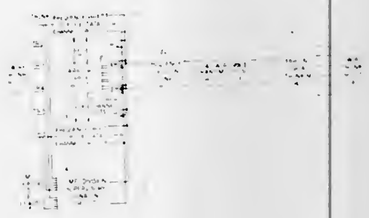
3,261,921
MULTI-CHANNEL COMMUNICATION SYSTEMS
Sahir Sabir Hakim and John Cyril Vines, Coventry, England, assignors to The General Electric Company Limited, London, England, a British company
Filed June 29, 1962, Ser. No. 206,340
8 Claims. (Cl. 179—15)

3. In a multi-channel pulse modulation communication system in which the transmitted signal comprises a pulse sequence representing sampled intelligence information for the various channels combined in time division multiplex, each complete cycle of pulses constituting a frame and a synchronizing signal comprising a regularly repeated pulse pattern, each said pulse pattern occurring in a respective frame, transmitting terminal equipment including



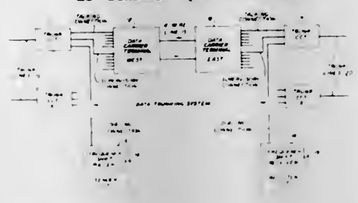
(1) means to impose, in addition to said intelligence information, a service signal comprising pulse service information in periodic service frames and
(2) means to modify the synchronizing signal pulse pattern in a respective frame prior to each said service frame.

3,261,922
FDM DATA TRUNKING SYSTEM HAVING A COMMON TDM SUPERVISORY CHANNEL
James O. Edson, Mansfield Township, Warren County, and Lewis C. Thomas, North Plainfield, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 28, 1962, Ser. No. 248,127
10 Claims. (Cl. 179—15)



1. A multichannel data transmission system comprising
a plurality of data trunking circuits, each presenting a separate switchhook appearance,
a voice-band transmission facility,
means for deriving from said transmission facility a plurality of adjacent narrow-band message channels, one for each of said data trunking circuits,
means for translating the data on each of said trunking circuits to the individual message channels formed by said deriving means,
means for sampling the switchhook appearances of said trunking circuits in time sequence to form a supervisory signal pulse train,
means for further deriving from said transmission facility a narrow-band supervisory signal channel adjacent to said plurality of message channels, and
means for modulating the signal pulse train from said sampling means onto said supervisory signal channel.

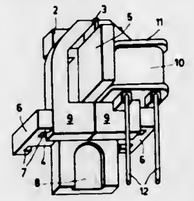
3,261,923
FREQUENCY-SHIFT DIAL PULSING SYSTEM
Lynn T. Anderson, Gahanna, Ohio, and Irwin Dorros, Livingston, James C. Ewin, Colonia, Lawrence J. Gitten, Ocean Township, Monmouth County, Quentin D. Groves, Berkeley Heights, and James R. Harris, Rumson, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 28, 1962, Ser. No. 248,128
15 Claims. (Cl. 179—18)



1. A signaling system for passing subscriber call addresses over a telephone trunk line comprising
a sender at the originating end of said telephone trunk line in which the successive digits of a stored subscriber call address are made available alternately on a pair of parallel lead sets in parallel binary form one digit at a time,
a timing wave source,
encoding means under the control of said timing wave source for sampling said pairs of sender lead sets alternately to form a serial binary data train representing a complete call address, said encoding means furnishing an advance signal to said sender at the end of each digit to set up a new digit on the lead set just sampled,
frequency-shift modulator means keyed by said serial binary data train and having an output connected to said telephone trunk line,
a register at the terminating end of said telephone trunk line in which the successive digits of a subscriber call address are received alternately on a pair of parallel lead sets in parallel binary form,
frequency-shift demodulator means having an input connected to said telephone trunk line for reconstituting said serial binary data train,
means for recovering a timing wave from the reconstituted serial data train,
decoding means under the control of the recovered timing wave for allotting successively to the pairs of lead sets in said register the digits in the subscriber call address, said decoding means furnishing an advance signal to said register at the end of each digit to clear the lead set just allotted a digit to receive the next digit,
means for performing a validity check on each decoded digit, and
means controlled by said check means for signaling said sender circuit over said telephone trunk line to retransmit the complete called number in the event of an invalid digit.

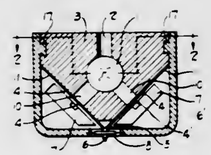
3,261,924
CORE HOLDER FOR OR IN MULTI-TRACK ERASING HEADS
Friedrich Louzil and Alfred Sveceny, Vienna, Austria, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 31, 1960, Ser. No. 53,237
Claims priority, application Austria, Sept. 3, 1959, A 6,389/59
10 Claims. (Cl. 179—100.2)

1. A multi-track magnetic head assembly comprising a plurality of magnetic head core parts, means supporting said core parts in operative relation, said means having a discrete cruciform structure at one end thereof, said structure extending both parallel to the planes of said core



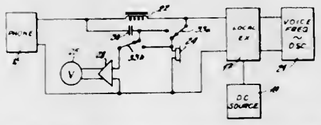
parts for determining the track spacing thereof and at right angles to said planes for defining gap shims for said core parts.

3,261,925
STEREOPHONIC PHOTOELECTRIC TRANSDUCER
Albert B. Smith, Cleveland, Ohio, assignor to A. Bernard Smith Laboratories, Inc., a corporation of Ohio
Filed Oct. 6, 1960, Ser. No. 60,850
16 Claims. (Cl. 179—100.41)



11. A stereophonic phonograph pick-up device comprising in combination, a source of electro-magnetic radiation, means for confining and directing the radiation from said source in two paths disposed normal to each other, a pair of radiation responsive devices for converting said radiation into corresponding electrical signals, movable means intercepting each path and adapted to independently modulate the radiation passing therethrough, stylus means adapted to engage a stereophonically produced record groove operatively coupled for unitary movement with said modulating means, a housing opaque to electromagnetic radiation including the source and modulating means and having a stylus aperture therethrough, and means for resiliently supporting the stylus in said housing aperture for relative motion therein in response to stylus engagement with a stereophonic record groove.

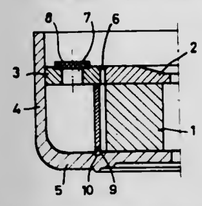
3,261,926
METHOD AND APPARATUS FOR TESTING SUBSCRIBERS' TELEPHONE INSTRUMENTS IN SITU UNDER SERVICE CONDITIONS
James Francis Millward Bryant, Highett, Victoria, and Robert Wymondham Kett, Chadstone, Victoria, Australia, assignors to Commonwealth of Australia
Filed Oct. 29, 1962, Ser. No. 233,699
7 Claims. (Cl. 179—175.1)



4. Apparatus for testing subscribers' telephone sets in situ, comprising means for connecting the apparatus in a telephone line between an exchange and a telephone set, voice frequency alternating current means at the exchange for applying a reference signal to the apparatus, electro-acoustic transducer means in the apparatus for applying

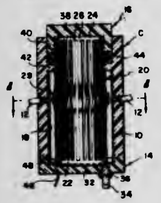
said reference signal to the telephone set during a first instance and for receiving said reference signal from the telephone set during a second instance, alternating voltage measuring means in circuit with said electro-acoustic transducer means for indicating the relative performance of the telephone set during said first and second instance, means for selectively directing said reference signal from the exchange through alternative paths in the testing apparatus during said first and second instance, and switch means in the apparatus for selectively changing said path of said reference signal thereby determining the receiving ability of the telephone set during said first instance and determining the sending ability of the telephone set during said second instance.

3,261,927
ELECTROACOUSTIC TRANSDUCER COMPRISING A MAGNETIC SYSTEM WITH ANNULAR AIR GAP AND A RESONATOR
Walter Paul and Adolf Adam, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Jan. 22, 1962, Ser. No. 167,838
Claims priority, application Germany, Feb. 10, 1961, S 72,477
10 Claims. (Cl. 179—180)



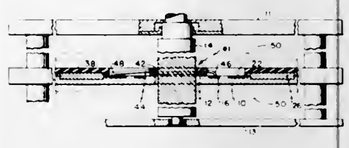
1. An electroacoustic transducer, comprising a magnet system having a bottom wall, side walls, a central magnet of inexact diameter, and an annular pole ring concentric with the magnet and disposed parallel with the bottom wall, with the inner edge of said ring defining an edge of an annular air gap, a partition wall disposed concentrically about said magnet and. with said walls and said pole ring, defining a single resonator space of exact radial dimension independent of the magnet diameter, said resonator space being separated and acoustically sealed from the air gap and said magnet by said partition wall, said pole ring having at least one resonator opening formed therein.

3,261,928
RECIPROCABLE LEAF-TYPE SWITCH WITH ROTATABLE AND COMPRESSIBLE LEAF SPRING CONTACTS
Bernard Edward Schlesinger, Jr., 3906 Bruce Lane, Annandale, Va.
Filed Oct. 4, 1965, Ser. No. 492,595
19 Claims. (Cl. 200—8)



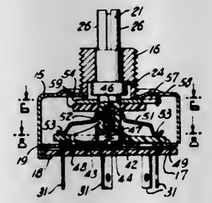
1. A reciprocable type switch comprising
(a) a housing,
(b) said housing including a plurality of chambers in connected series having at least one electrical contact member mounted in the wall of each chamber,
(c) a flexible spring contact member extending through each chamber in said series and having one end relatively stationary and the other end movable in a longitudinal direction only with respect to said relatively stationary end,
(d) said flexible spring contact member being substantially flat throughout its operating length,
(e) said flexible spring contact member when positioned in said housing having a contact bow in each series chamber in the direction of the electrical contact member in each series chamber, and
(f) an operator engaging the movable end of said spring contact member whereby when the movable end of such spring contact member is moved by said operator, the contact bows of said spring contact member expand or contract until said spring contact member engages or disengages said electrical contact members thereby to operate electrical circuits.

3,261,929
SUB-MINIATURE SELECTOR DEVICE WITH ECCENTRICALLY DISPLACED CONTACT WIPER APPARATUS
George J. Neff, Jr., Erlanger, Ky., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Feb. 17, 1964, Ser. No. 345,259
6 Claims. (Cl. 200—11)



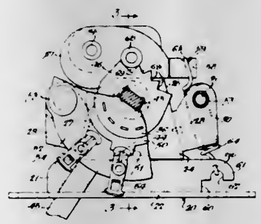
1. The combination comprising:
a thin wafer of insulating material having an aperture therethrough;
a shaft rotatable on an axis extending through said aperture;
printed electrical circuitry on one surface of said wafer, said circuitry including first and second annular races of printed contacts, said races being positioned concentrically with the axis of said shaft and having first and second diameters, respectively;
a nonconductive spacer overlying and affixed to said surface of said wafer, said spacer having a circular aperture with a diameter at least as great as the greater of said two races, whereby said races are exposed in a circular recess defined by the circular aperture of said spacer;
an elongated contact carrier positioned within said recess, the ends of said elongated contact carrier comprising the arcs of a circle having a diameter slightly less than the diameter of said recess, said contact carrier being angularly fixed to said shaft but axially movable thereon;
a substantially circular spring contact bridging and fixedly supported from between the ends of said carrier, said spring contact being curved along one of its diameters toward and into contact with said surface, said diameter of said spring contact intersecting the axis of said shaft at a point spaced from the center of the spring contact, the diameter of the spring contact being dimensioned so that one end thereof is at a distance from said axis equal to the radius of one of said races and the other end thereof is at a distance from said axis equal to the other of said races; and
means for axially confining and urging said circular spring contact against said races, said last-named means comprising an inwardly extending flange on said spacer, said flange being spaced from said surface and overlying said carrier for providing an annular raceway for said carrier.

3,261,930
ROTARY SELECTOR SWITCH WITH IMPROVED SPRING BIASING STRUCTURE
Wesley T. Sorenson, West Hartford, Conn., assignor to Carling Electric, Inc., West Hartford, Conn., a corporation of Connecticut
Filed Nov. 6, 1964, Ser. No. 409,364
11 Claims. (Cl. 200—11)



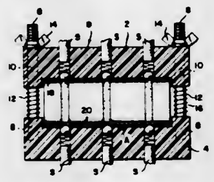
1. A rotary multiple selector switch comprising a housing, a base connected to said housing, a plurality of spaced apart electrical circuit contacts arrayed in a circle on said base, a common contact on said base located centrally of said circular array of circuit contacts, a rotatable shaft mounted in said housing, an electrically conductive contact arm mounted on said shaft and rotated thereby, said arm being yieldably coupled and angularly movable relative to said shaft, first biasing means on said shaft yieldably urging a portion of said contact arm into electrical connection with said common contact, and second biasing means on said shaft yieldably urging another portion of said contact arm to make electrical connection selectively with any one of said circuit contacts.

3,261,931
LEVER SWITCH DETENT APPARATUS
Bernard J. Golbeck, Crystal Lake, and Raymond F. Lewandowski and Wilhelm A. Streuer, Mount Prospect, Ill., assignors to Oak Electro/Netics Corp., a corporation of Delaware
Filed Jan. 21, 1965, Ser. No. 426,809
14 Claims. (Cl. 200—11)



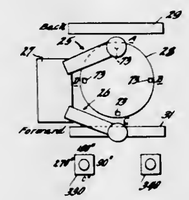
1. An electric switch comprising: a frame, means for fixedly mounting a switch stator on said frame; a manually operable lever pivotally mounted on said frame and having tapered sides; switch rotor means associated with said lever and cooperating with said switch stator to define a plurality of switching stations; a detent lever pivotally mounted on said frame; cooperating detent portions on the external periphery of said manually operable lever and said detent lever for releasably retaining said rotor in a desired switching station; spring means biasing said cooperating portions into engagement with one another; and abutment means on said frame for limiting the pivotal movement of said lever, said abutment means including spaced walls on said frame inclined with respect to one another and each adapted to be engaged by one tapered side of said manually operable lever to limit the movement of the same in one direction.

3,261,932
MULTIPLE CONTACT SWITCH WITH SINUSOIDAL WAVE FORM OPERATOR
Bernard Edward Shlesinger, Jr., 906 Bruce Lane, Annandale, Va.
Filed Mar. 5, 1965, Ser. No. 437,409
45 Claims. (Cl. 200—18)



1. A multiple contact switch comprising
(a) a switch block,
(b) said switch block including a pair of opposed pressure plates defining an opening therebetween,
(c) at least one of said pressure plates being axially movable on its central axis with respect to the other plate of said pair,
(d) spaced electrical circuit connectors mounted in said switch block,
(e) means connected to said block for moving at least said one plate axially relative to said other plate,
(f) a relatively stiff flexible operator in the opening in said block and mounted at all times under compression between and contacting both plates of said pair for selectively exerting biasing pressure against certain of said circuit connectors,
(g) said operator including a U shaped bend,
(h) the base of said U shaped bend abutting one of said plates and the base of the legs of said U shaped bend abutting the other of said plates,
(i) whereby when said plates are brought axially together, the bases of the legs of said U shaped bend move away from each other thereby selectively shifting the biasing pressure in said opening with respect to certain circuit connectors to make or break a circuit.

3,261,933
ROTARY POSITIONING APPARATUS
Peter A. Lajoie, Oley, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Original application Sept. 24, 1962, Ser. No. 225,792, now Patent No. 3,198,311. Divided and this application May 10, 1965, Ser. No. 464,262
6 Claims. (Cl. 200—18)



1. In a rotary positioning apparatus,
a first rotatable member having an extending member,
means for urging said rotatable member to rotate,

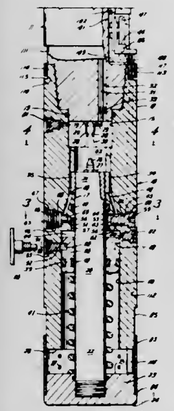
means selectively operable for engaging said extending member to prevent rotation of said first rotatable member and for disengaging said extending member to allow rotation of said first rotatable member, said means including a plurality of electromechanical devices spaced equiangularly with respect to the axis of rotation of said first rotatable member, and normally positioned to engage said extending member,

a second member rotated by said first rotatable member having a plurality of contact means thereon which number one less than the number of said electromechanical devices and arranged angularly on said second rotatable member to correspond to the angular arrangements of said electromechanical devices, leaving one electromechanical device without a contact means,

brush means to selectively connect a combination of said contact means to said electromechanical devices such that each combination of contact means corresponds to a fixed angular displacement from said extending member, and

means for energizing a combination of one or more of said contact means to energize one or more of said electromechanical devices whereupon said urging means is rendered effective to rotate said rotatable member until it is engaged by a now unenergized electromechanical device.

3,261,934
PRESSURE BALANCED HYDRAULIC TIME-DELAY BOREHOLE SWITCH
James W. Kisling III, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Dec. 4, 1963, Ser. No. 327,972
6 Claims. (Cl. 200—34)



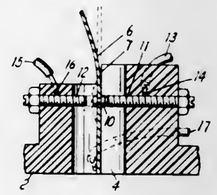
1. A downhole switching assembly for borehole instruments comprising: a housing adapted for dependent coupling to a borehole instrument, said housing having a chamber receiving a fluid; means for displacing said fluid from said chamber including a piston member slidably mounted in said chamber for travel therein between spaced positions relative to said housing; means external of said housing and engageable with an obstruction in a borehole for moving said piston member from one of said positions to the other of said positions to displace said fluid; flow-restriction means regulating the displacement of fluid out of said chamber for retarding the travel of said piston member; selectively-operable electrical switch means on said housing; means responsive to travel of said piston member for operating said switch means; and means transmitting pressure external of said housing into said chamber for pressure-balancing said piston member.

3,261,935
SNAP SWITCH HAVING MEANS FOR MOVING A SECOND CONTACT TOWARDS A FIRST CONTACT PRIOR TO ENGAGEMENT THEREOF
Donald J. Rogers, Lancaster, Pa., assignor to Hamilton Watch Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Sept. 25, 1964, Ser. No. 399,205
13 Claims. (Cl. 200—67)



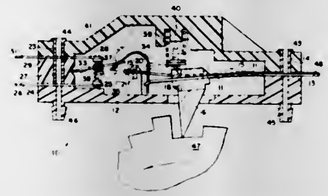
1. A snap closure switch for a unidirectional drive comprising drive means and a driven member, one-way clutch means including a first movable contact coupling said drive means to said driven member, a second contact positioned in the path of movement of said first contact, and means for moving said second contact toward said first contact just prior to engagement of said contacts.

3,261,936
SNAP ACTION SWITCH HAVING CONTACT MOUNTED ON CONCAVO-CONVEX PORTION OF SNAP BLADE
Alven A. Cayo, 241 W. May St., Benton Harbor, Mich.
Filed Dec. 22, 1964, Ser. No. 420,462
19 Claims. (Cl. 200—67)



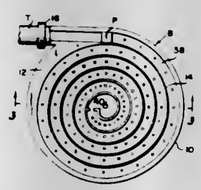
3. A switch assembly comprising a body member of non-current conducting material and having a chamber therein open at its outer end, there being opposed grooves in the wall of the chamber extending longitudinally thereof, an elongated switch member of relatively thin springably resilient sheet metal stock of substantially uniform thickness and width from end to end thereof disposed with portions of its longitudinal edges in supported engagement with said grooves and having an outer portion of substantial length projecting outwardly from said body member, said switch member having a springably yieldable extruded concavo-convex portion extending from edge to edge thereof the edges of which engaged in said grooves, said body member having a stop for said switch member extending outwardly at one side of said grooves, switch contact members supportedly mounted on said body member with their inner ends projecting into said chamber substantially in alignment with the center of said concavo-convex portion of said switch member, said switch member having switch contacts mounted thereon at the apex of said concavo-convex portion thereof, and means for actuating said switch member coacting with the projecting end thereof.

3,261,937
THREE POSITION SNAP SWITCH UTILIZING INTERFERENCE BLADE MEANS
Richard E. McVicker, Indianapolis, Ind., assignor to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware
Filed Mar. 4, 1965, Ser. No. 437,234
8 Claims. (Cl. 200—67)



8. A snap action switch comprising: a housing; a plurality of discrete arms retained in said housing in spaced relationship; a movable contact carrying arm disposed between said spaced apart contact arms; an actuator means having one portion retained by said housing and a second portion coupled to said movable arm by a biasing means, said biasing means for snapping said movable arm toward one of said discrete contact arms; follower means coupled to said actuator means for actuating said movable arm to predetermined positions through displacement of said actuator means and said biasing means; an interference means retained by said housing and positioned in the path of movement of said movable arm, said interference means providing a rest position for said movable arm; and means coupled to said follower means and responsive to the movement thereof for actuating said interference means to thereby allow said movable arm to move from said rest position to an engaged position with one of said discrete contact arms with a snap action motion.

3,261,938
FLUID PRESSURE OPERATED PROGRAMMING SWITCH MULTIPLE TYPE
Bernard Edward Shlesinger, Jr., 906 Bruce Lane, Annandale, Va.
Filed June 15, 1964, Ser. No. 375,003
25 Claims. (Cl. 200—81)



1. A multiple contact programming system including a switch comprising:

(a) a contact block,

(b) a uniform tube-like passageway in said block,

(c) a fluid driven pellet having a cross sectional configuration substantially that of said passageway and movable axially in said passageway,

(d) contact means in said block operated by said pellet and mounted in the wall of said passageway and said switch including means permitting said pellet to pass said contact means when said pellet is moved in said passageway,

(e) means for supplying fluid pressure to one end of said passageway, and

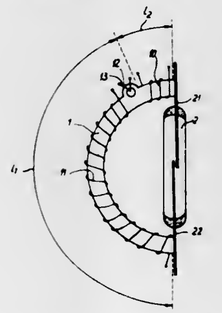
(f) means for removing fluid pressure from the other end of said passageway, whereby when said fluid is supplied to said passageway, said pellet is forced by said fluid to travel in the direction of said fluid thereby flow causing operation of said contact means.

3,261,939
ENCAPSULATED CIRCUIT CONTROLLING DEVICE
Katharine B. Prival, Croton-on-Hudson, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 20, 1962, Ser. No. 246,193
6 Claims. (Cl. 200—87)



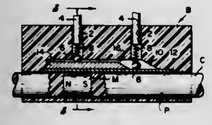
2. A controlling device comprising an elongated tubular container sealed on both ends having a first contact, a swinger member and a tube sealed in its ends, said tube having a deformable portion and a second contact contained therein, said swinger comprising a reed-type main portion having a free end and an auxiliary cantilever leaf juxtaposedly secured to said portion at a point distant from said free end, said leaf being spaced from said portion at all times, said second contact being in electrical continuity with the free end of said leaf, said swinger member located between said second contact and said first contact and spaced from said last named contact, and actuating means operably moving said swinger between said first and second contacts.

3,261,940
ELECTRICALLY CONTROLLED SWITCHING DEVICE
Karl Polasek, Hagersten, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Oct. 29, 1963, Ser. No. 319,812
Claims priority, application Sweden, Dec. 7, 1962, 13,197/62
2 Claims. (Cl. 200—87)



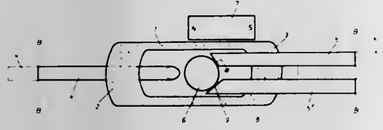
1. A switching device comprising first and second reed-like contact members of magnetic material disposed in normally spaced adjacent relationship to define a contact gap therebetween, a single elongated core of magnetically soft material having a substantially rectangular hysteresis loop, said core having first and second end portions magnetically connected to said first and second contact members respectively, a first winding disposed about a first length portion of said core, a second winding disposed about a second length portion of said core, said core being provided with an aperture in the region thereof between said first and second length portions, and a sense winding passing through said aperture for determining the state of magnetization of the region of said core adjacent said aperture and consequently the connection state of said contact members.

3,261,941
MAGNETIC MULTIPLE CONTACT PROGRAMMING SWITCH SYSTEM
Bernard Edward Shlesinger, Jr., 906 Bruce Lane, Annandale, Va.
Filed Nov. 12, 1963, Ser. No. 322,659
32 Claims. (Cl. 200—87)



1. A multiple contact switch comprising:
a. an insulated block
b. a non-magnetic length of cable supported by said block and movable with respect thereto
c. means for moving said cable
d. said block including switching means for opening and closing a circuit including at least one magnet attracting means
e. at least one specifically positioned magnet attracting means carried by said non-magnetic cable, and
f. at least one of said magnet attracting means including a permanent magnet whereby when said cable is moved, said magnet attracting means in said block and said magnet attracting means in said cable will magnetically react with each other so as to open or close said switching means.

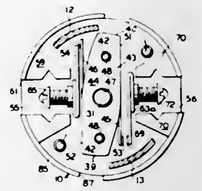
3,261,942
REED CONTACT WITH BALL-SHAPED ARMATURE
Gerhard Wessel, Kornwestheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed May 19, 1964, Ser. No. 368,535
3 Claims. (Cl. 200—87)



1. A glass reed type contact assembly comprising an elongated glass envelope having a pair of rods sealed into each end of the envelope, each of said rods being oriented to provide a pair of spaced parallel rods inside the envelope, the ends of said rods forming four separate electrical contacts outside the envelope, a ball-shaped armature inside the envelope positioned to roll between said four electrical contacts, and means comprising a permanent magnet outside said envelope to control the position of said ball armature wherein the contact ends of said rods are chamfered to provide tangential surfaces for touching said ball when it makes contact therewith, the contact ends of said rods being chamfered at different angles to cause said ball armature to rotate during the switching process.

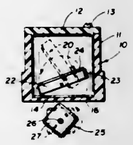
3,261,943
ELECTROMAGNETIC RELAY
Robert E. Prouty, Logansport, Ind., assignor to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan
Filed Apr. 7, 1965, Ser. No. 446,153
5 Claims. (Cl. 200—87)

1. An electromagnetic relay comprising:
a base member of insulation material;
a substantially U-shaped magnetic frame carried by said base member, said frame having a pair of spaced leg portions extending toward and fixedly secured to said base member to space the bight portion of the frame from the base member;
a magnetic core mounted on said bight portion of the frame and extending toward said base member;
a coil on said core disposed between said leg portions of the frame;
a magnetic armature interposed between said base member and said core;
means rotatably supporting said armature on said base member so that the ends of said armature are rotatable adjacent to said leg portions of the frame;



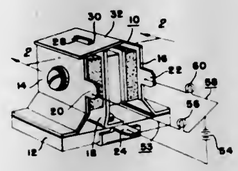
a pair of stationary contacts carried by said base member and positioned on opposite sides of said armature;
and a bridging contact member carried by said armature and having a pair of resilient contact arms lying on opposite sides of said armature, one of said contact arms having a free end engaging one of said stationary contacts to bias said armature away from said leg portions, the other of said contact arms having a free end extending toward the other of said stationary contacts for switching action therewith.

3,261,944
MAGNETIC SWITCH
John F. Sherwood, 7801 W. 39th Ave., Wheat Ridge, Colo.
Filed Apr. 12, 1965, Ser. No. 447,502
10 Claims. (Cl. 200—87)



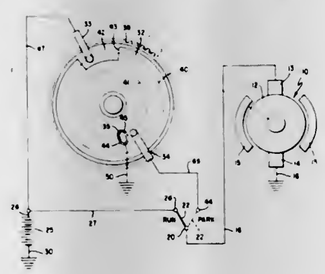
1. A magnetic switch for electrical circuits comprising
(a) a housing made of insulating material,
(b) a pair of stationary contact members mounted in the housing,
(c) a connector in contact with each stationary contact member connecting the contacts in circuit,
(d) a permanently magnetic freely movable contactor engaging said stationary contacts, said movable contactor having opposite side surfaces one of which is an electrical conductor and the other of which is non-conductive,
(e) a magnetic control member located outside of the housing, and
(f) means for reversing the polarity of the control member to repel the movable contactor in the housing and cause the contactor to turn over from one side to the other to alternately open or close the electrical circuit.

3,261,945
TEMPERATURE RESPONSIVE MAGNETIC SWITCH
Richard S. Gaugler, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,832
12 Claims. (Cl. 200—88)



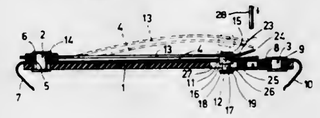
1. In a temperature responsive switch the combination of, a first pair of pole pieces and a second pair of pole pieces, a selectively magnetizable switching element arranged between at least one pair of said pole pieces, permanent magnet means associated with said magnetizable switching element and coacting therewith to produce a first predetermined differential flux pattern in said first and second pair of pole pieces, movable armature means responsive to said predetermined differential flux pattern to be drawn toward one of said pair of pole pieces, said switching element having a low magnetization below a predetermined temperature and a high magnetization immediately above the critical temperature, said switching element upon sensing the critical temperature producing a reversal in said first predetermined flux pattern to cause said movable armature means to be attracted to the other of said pair of pole pieces.

3,261,946
PARKING SWITCH FOR WINDSHIELD WIPER
William Diello, Syracuse, N.Y., assignor to Eltra Corporation, Brooklyn, N.Y., a corporation of New York
Filed Aug. 21, 1964, Ser. No. 391,155
6 Claims. (Cl. 200—92)



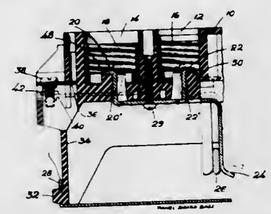
1. In a parking switch for an electric windshield wiper, an electric motor for driving the wiper blades having a rotatable armature, a rotatable element in driving relation driven by said armature, a conducting element attached to the rotatable element to be rotated thereby, a pair of fixed contact members adapted to contact the conducting element at different circular paths during the rotation thereof, a pair of cut-away portions in the conducting element to break the electrical circuit between the conducting element and the contact members, and a grounded element cooperating with one of the cut-away portions to ground one of the contact members at a predetermined position.

3,261,947
BIMETALLIC SWITCH CUTOUT
Pieter Hendrik Johannes Brouwer, Drachten, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 27, 1964, Ser. No. 385,152
5 Claims. (Cl. 200—113)



1. A bimetallic switch cutout comprising an elongated support having a fixed contact adjacent one end, a similarly elongated bimetallic strip and leaf spring, means connecting one end of each said strip and spring on said support in overlapping spaced relation, said spring being stressed for elevating the other end of said strip and spring above said contact, a locking pin adjacent said one end, said locking pin being connected with said strip, an aperture in said spring, said locking pin extending freely through said spring aperture and projecting beyond said spring, a collar on said pin at said projecting end, and means connected with said support for latching with said collar upon movement of said strip and spring into position adjacent said support and in engagement with said contact; movement of said bimetallic strip unlocking said pin upon reaching a determined temperature whereby said contact is reopened.

3,261,948
MULTIPOSITION FUSE CARRIER
Herman H. Kobryner, Forest Hills, and Alexander R. Norden, New York, N.Y., assignors to Murray Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed Jan. 10, 1964, Ser. No. 336,948
10 Claims. (Cl. 200—114)

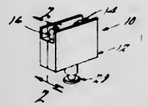


7. A line contact element for a multiposition carrier having receptacles for fuses of the threaded periphery bottom button type comprising a unitary structure including two arms, the ends of which are flared outwardly from each other and a common base flexibly coupling the other two ends, said flared ends normally being spaced a distance corresponding to the distance between apertures located at the bottom of adjacent receptacles and means for spreading of said arms upon insertion of the flared ends into the corresponding apertures for preventing retrograde thereof.

3,261,949
CIRCUIT BREAKER
Gordon A. Roberts, Ann Arbor, Mich., assignor to Mechanical Products, Inc., Jackson, Mich., a corporation of Delaware
Filed Nov. 18, 1963, Ser. No. 324,266
1 Claim. (Cl. 200—116)

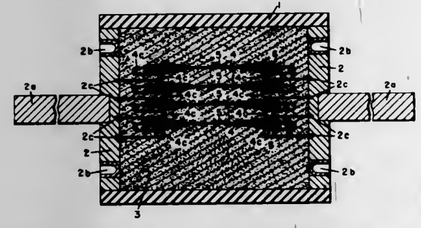
In an electric circuit breaker having a pair of separable contacts and a releasable operating mechanism for effecting separation of said contacts, an improved trip device

for effecting release of the operating mechanism comprising a pair of current responsive wires disposed in generally parallel relationship, an electrically conductive lever supported for rotation about an axis extending between said wires, adjacent end portions of said wires being electrically and mechanically connected to said lever on opposite sides of the pivotal axis thereof, respectively, means fixedly supporting the other end portion of one of said wires, means supporting the other end portion of the other of said wires being movable upon elon-



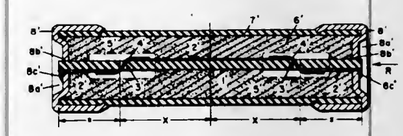
gation of said wires an amount equal to the additive elongation of said wires to effect release of the operating mechanism of the circuit breaker, the adjacent end portions of said wires being connectable to one side of an electrical circuit and the other end portions of said wires being connectable to the opposite side of an electrical circuit whereby said wires are mechanically connected in series relationship to maximize the output characteristic thereof and electrically connected in parallel relationship to maximize the current carrying capacity thereof.

3,261,950
TIME-LAG FUSES HAVING HIGH THERMAL EFFICIENCY
Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Nov. 30, 1964, Ser. No. 414,750
8 Claims. (Cl. 200—120)



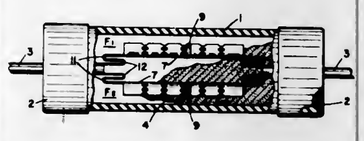
1. An electric time-lag fuse comprising in combination:
(a) a tubular casing of insulating material;
(b) a pair of electroconductive terminal elements each arranged at one of the ends of said casing;
(c) a pulverulent arc-quenching medium inside said casing; and
(d) a plurality of ribbon fuse link means of a current-limiting metal inside said casing submersed in said medium conductively interconnecting said pair of terminal elements, said plurality of fuse link means including radially inner fuse link means and radially outer fuse link means sandwiching said radially inner fuse link means, said fuse link means having axially inner portions provided with transverse lines of perforations defining points of minimum cross-sectional area substantially less than the maximum cross-sectional area of said axially inner portions, said axially inner portions supporting link-severing overlays of a metal having a relatively low fusing point, said fuse link means including axially outer portions having a cross-sectional area larger than said minimum cross-sectional area but less than said maximum cross-sectional area, said axially outer portions being folded to form loops substantially in the shape of the letter S and substantially in the shape of the inverted letter S.

3,261,951
MIDGET POWER FUSE HAVING COPPER-CLAD SUPPORT FOR FUSIBLE ELEMENT
Philip C. Jacobs, Jr., Newtonville, Mass., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Feb. 15, 1965, Ser. No. 432,750
2 Claims. (Cl. 200—120)



1. A midget electric fuse capable of withstanding a predetermined voltage across the gap formed upon fusion of the fusible element thereof, said fuse comprising in combination:
(a) a tubular casing of insulating material having a predetermined inner diameter;
(b) a pair of terminal elements closing the ends of said casing;
(c) a strip of insulating material arranged inside said casing, said strip having substantially the same width as said predetermined inner diameter of said casing and substantially the same length as said casing, said strip having a bore extending transversely across said strip;
(d) a fusible element in wire-form projecting through said bore and having ends situated outside said bore; and
(e) a pair of copper layers arranged on opposite sides of said strip, integral with said strip, each conductively connected to one of the ends of said fusible element and to one of said pair of terminal elements, said pair of copper layers being coextensive with said strip except in the region of said bore, and the juxtaposed edges of said pair of copper layers being spaced sufficiently far from said bore in a direction longitudinally of said strip to preclude flash-over between said pair of copper layers in the presence of said predetermined voltage across said pair of copper layers.

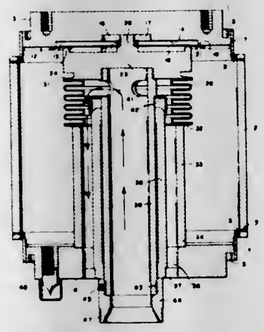
3,261,952
TIME-LAG FUSE WITH RIBBON FUSE LINK HAVING TWO SYSTEMS OF BENDS
Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.
Filed Nov. 30, 1964, Ser. No. 414,630
5 Claims. (Cl. 200—131)



1. An electric fuse comprising in combination:
a tubular casing of insulating material; electroconductive terminal elements arranged at the ends of said casing; a pulverulent arc-quenching filler inside of said casing; a ribbon fuse link of a current-limiting metal inside said casing, submersed in said filler, conductively interconnecting said terminal elements, said fuse link including a perforated center portion having a predetermined maximum cross-sectional area and a predetermined minimum cross-sectional area, said center portion being folded transversely to define a duct extending in a direction longitudinally of said casing, a link severing overlay of a metal having a fusing point lower than the fusing point of

said current-limiting metal supported by said center portion of said fuse link; said fuse link further including a pair of connector tabs each at one of the axially outer ends of said center portion, each of said pair of connector tabs having a substantially smaller cross-sectional area than said maximum cross-sectional area of said center portion and having a larger cross-sectional area than said minimum cross-sectional area of said center portion, and each of said pair of connector tabs being folded twice in a direction longitudinally of said casing to form a pair of loops both extending substantially in a direction longitudinally of said casing.

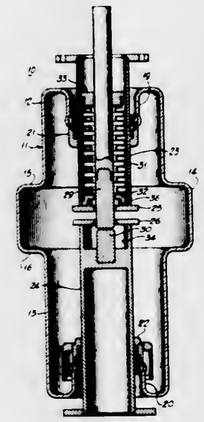
3,261,953
HIGH POWER RF RELAY INCORPORATING HEAT-SINK AND FLUID COOLING
Ted N. Tilman and Richard H. Winslow, San Jose, Calif., assignors to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware
Filed Oct. 10, 1963, Ser. No. 315,232
10 Claims. (Cl. 200—144)



1. A high power RF relay comprising an hermetically sealed envelope including a tubular dielectric envelope portion, an end plate closing each opposite end of the tubular dielectric envelope portion and constituting a terminal electrode of the relay, one of said end plates having a recessed central face portion and an annular peripheral surface area protruding out beyond said recessed portion within the envelope and all within the same general locus of said one end plate and constituting an annular fixed contact, a movable contact assembly mounted on the other end plate and including a contact support block having a face area adjacent and smaller than the recessed face portion with the annular fixed contact, an axially extending flange adjacent its outer periphery and a resilient metallic contact plate mounted on said face of the contact support block and having a plurality of circumferentially spaced radially extending slits defining resilient contact fingers extending radially outward beyond said axially extending flange for contact with said annular fixed contact, said axially extending flange abutting the underside of said resilient metallic contact plate between its outer periphery and the roots of said slits therein.

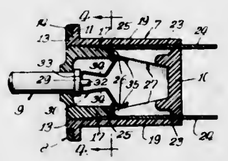
3,261,954
CURRENT INTERRUPTION AND SEPARATION ELECTRODE STRUCTURE FOR VACUUM SWITCHING APPARATUS
Edward H. Yonkers, Glencoe, Ill., assignor to Joslyn Mfg. and Supply Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 11, 1965, Ser. No. 425,684
8 Claims. (Cl. 200—144)

1. A vacuum switching apparatus comprising a dielectric evacuated envelope, a pair of confronting current interruption electrodes in said envelope having confronting faces defining extended arcing surfaces, said current interruption electrodes being fixed in predetermined spaced apart relation, and a pair of relatively movable arc separation electrodes in said envelope proximately positioned to said interruption electrodes and movable between a



closed position and an open position wherein each of said separation electrodes lies behind the confronting face of one of said interruption electrodes so that any arc initiated by said separation electrodes is transferred to the spaced apart interruption electrodes.

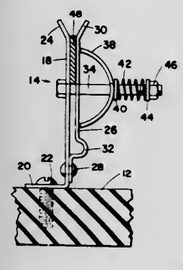
3,261,955
SWITCHES EMBODYING SPRING LOADED ACTUATING BUTTON MEANS
Joseph A. Martin, Norridge, Ill., assignor to Mayfair Molded Products Corporation, Schiller Park, Ill., a corporation of Illinois
Filed Feb. 19, 1964, Ser. No. 345,932
3 Claims. (Cl. 200—159)



1. A push button switch comprising a housing, a pair of electric terminals mounted in fixed spaced apart and insulated relation with respect to each other in said housing, a push button mounted for movement inwardly toward the rear of said housing and outwardly of the front of said housing, opposed guide surfaces in said housing lying in planes converging angularly with respect to each other from the front to the rear of said housing, contact means within said housing carried by said push button for electrically connecting said terminals in the outermost position of said push button and disconnecting said terminals upon movement of said push button inwardly of said housing, said contact means having divergent leaf spring arms provided with end portions in guiding engagement with said guide surfaces, said planes of said guide surfaces having a point of planar confluence lying between said end portions of said leaf spring arms, and said leaf spring arms being placed under compression by engagement of said end portions with said guide surfaces upon movement of said push button inwardly of

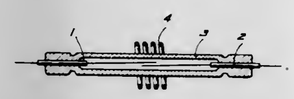
said housing to an extent so that upon the release of said push button the compressed spring leaf arms solely effect outward movement of said push button.

3,261,956
SPRING PRESSURED ELECTRICAL CONTACT MEANS
Irving Mines and Samuel Mines, Trenton, N.J., assignors to General Plating Company, Trenton, N.J., a partnership
Filed Oct. 2, 1964, Ser. No. 401,017
9 Claims. (Cl. 200—162)



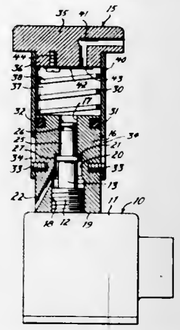
1. An electrical contact means comprising a first electrically-conductive contact prong and a second electrically-conductive contact prong, said prongs being connected to each other to provide an electrical path therebetween, means for connecting said prongs to a support base, corresponding apertures in said prongs, a guide rod extending through said apertures, said rod being fixed to said first prong, said second prong being slidable on said rod, a bridge member slidably mounted on said rod and in abutment with that surface of said second prong which is remote from said first prong, a spring mounted on said rod in a position to apply resilient pressure on said bridge member, an adjusting nut threadedly engaged with said rod in a position to hold said spring under adjustable compression, said spring being electrically insulated from said bridge member and said nut, and a loop in said second prong, said loop being positioned between the connection of the two prongs to each other and the bridge member.

3,261,957
REED-TYPE SWITCHING DEVICE
Hermann Theodor Theobald, Bandhagen, Sweden, assignor to Telefonaktiebolaget L M Ericsson, Stockholm, Sweden, a corporation of Sweden
Filed Sept. 22, 1964, Ser. No. 398,448
Claims priority, application Sweden, Sept. 24, 1963, 10,412/63
6 Claims. (Cl. 200—166)



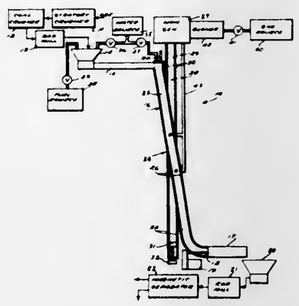
1. In a switching device of the kind including a closed tubular envelope, a pair of resilient contact reeds of magnetizable material extending into said envelope gas-tight sealed thereto and having parts within the envelope overlapping each other in spaced-apart relationship, and a coil disposed outside said envelope to flex said contact reeds into contact-making engagement upon excitation of the coil, the improvement comprising a gas mixture of an inert gas and oxygen contained in said envelope, the oxygen component in said mixture being less per volume unit than the oxygen content of atmospheric air.

3,261,958
IMPULSE ACTUATOR
Charles W. Bittner, Cherry Hill, N.J., assignor to Precision Parts Company, Inc., Pennsauken, N.J., a corporation of New Jersey
Filed Apr. 13, 1965, Ser. No. 447,685
7 Claims. (Cl. 200—172)



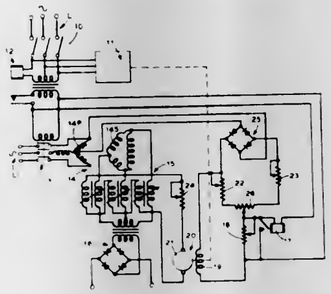
1. An impulse actuator for a push-button switch or the like, said actuator comprising an inner cylinder adapted to be fixed to a switch casing and movably receiving the switch button, a piston freely movable in said inner cylinder and adapted to be engageable with said switch button to depress and release the latter, an outer cylinder mounted on said inner cylinder for movement between actuating and deactuating positions and combining with said inner cylinder to define a chamber pneumatically communicating with one side of said piston, said chamber contracting and expanding upon outer-cylinder movement to its respective actuating and deactuating positions to move said piston for respective depression and release of said switch button, and resilient means urging said outer cylinder to its deactuating position expanding said chamber and releasing the switch button, said chamber having a constricted vent opening for gradually releasing pneumatic pressure from said chamber when the latter is contracted, whereby movement of said outer cylinder to and continual retention in its actuating position results in only temporary switch-button depression.

3,261,959
APPARATUS FOR TREATMENT OF ORE
Lawrence H. Connell, Indialantic, Fla., and Lowell A. Moe, Minneapolis, Minn., assignors to F. H. Peavey & Company, Minneapolis, Minn., a corporation of Minnesota
Filed Feb. 20, 1962, Ser. No. 174,561
9 Claims. (Cl. 219—10.55)



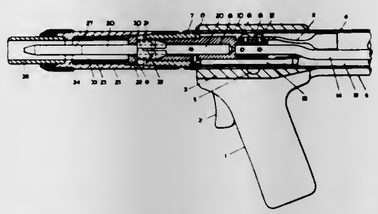
1. In apparatus for treating ore, means for supporting ground ore in a treatment region, a microwave generator at one end of said region, and divergently tapered wave guide means for transmitting microwave energy from said generator longitudinally through said region to cause internal heating of ore in said region by maximum absorption of energy within the ore, said wave guide means being coincident with the treatment region over a distance greater than one-half wave length of the microwave energy.

3,261,960
APPARATUS FOR REGULATING WELDING CURRENT
Günther Lehnert, Auf dem Limbrinke 27, Hannover-Bothfeld, Germany
Filed Oct. 21, 1965, Ser. No. 499,431
8 Claims. (Cl. 219—60)



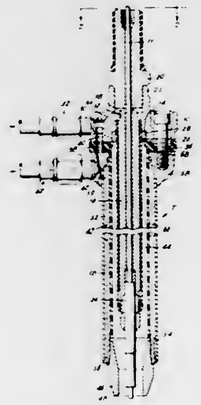
1. For use with an arc welder which welds seams in a workpiece drawn by a draw-off device past a welding electrode means, apparatus for supplying welding current to the welding electrode means in accordance with the velocity of draw-off of the workpiece comprising: A.C. reactor coil means including an input winding means adapted to receive alternating current, output winding means for delivering welding current to the welding electrode means and D.C. control winding means for receiving a direct current whose amplitude controls the amplitude of the welding current delivered by said output winding means; a source of direct current whose amplitude is a function of the velocity of draw-off comprising a tach-generator mechanically driven by said draw-off device and including an exciter circuit and an armature circuit; means including first resistor means for connecting said armature circuit to said D.C. winding means; and means including second resistor means for electrically energizing said exciter circuit for linearizing the welding current versus draw-off velocity characteristic curve and for permitting the adjustment of the base and the slope of said curve.

3,261,961
APPARATUS FOR ARC WELDING AND SIMILAR PROCESSES
Ronald Francis Spark, London, England, assignor to The British Oxygen Company Limited, a British Company
Filed Dec. 7, 1964, Ser. No. 416,551
5 Claims. (Cl. 219—75)



1. In gas shielded arc welding apparatus having a tubular member in the form of a barrel surrounding the welding electrode and terminated by a nozzle, for directing shielding gas around a welding arc established at the tip of the electrode, the improvement which comprises means operative to cause at least a portion of the shielding gas to flow along a circuitous path in contact with the tubular member in an annular space between the tubular member and an inner liner before being directed around the welding arc.

3,261,962
METAL ARC WELDING TORCH
Donald W. Carkhuff, Jamesburg, Thaddeus J. Wojciak, Clark, Harry C. McGinty, Belleville, and Robert C. Deitrich, Maplewood, N.J., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 24, 1964, Ser. No. 413,565
6 Claims. (Cl. 219—130)

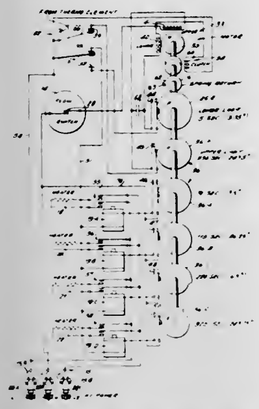


6. A gas shielded arc welding torch comprising, in combination, a nozzle, means providing a tubular shielding gas passage of substantially constant cross-section throughout the length thereof leading to said nozzle, a body having an annular cavity facing the gas inlet end of such passage, said body also having a relatively small high velocity gas inlet leading to such cavity, and a gas diffuser fitting in such cavity, said gas diffuser being composed of porous material, for receiving gas delivered thereto by such inlet and uniformly distributing such gas at a relatively low velocity throughout the annular gas inlet portion of the passage, whereby the gas flows through such passage and out of the nozzle in a coherent stream.

3,261,963
AUTOMATIC ELECTRIC FLUID HEATING APPARATUS
Richard Weinstein, Huntington, N.Y., assignor, by mesne assignments, to Commercial Factors, Ltd., Montreal, Quebec, Canada
Filed Dec. 6, 1963, Ser. No. 328,634
5 Claims. (Cl. 219—309)

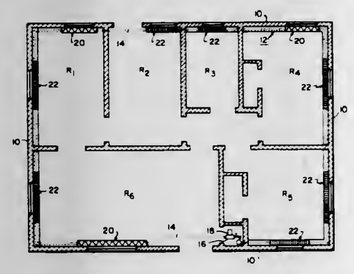
1. An automatic electrical fluid heating apparatus comprising, a conduit to receive the fluid therethrough, a plurality of electrical resistors within the conduit for heating the fluid as it flows through the conduit, a temperature sensitive transducer within the conduit for producing a mechanical movement proportional to the temperature of the fluid in the conduit, for maintaining the fluid temperature at a predetermined value, a reversible motor connected to a source of electrical power, a cam shaft, a magnetic clutch coupling the said cam shaft to the motor, a plurality of cams secured to the shaft a first set of electrical switching contacts responsive to the movement of the transducer for reversing the motor when the temperature rises above a predetermined value, a

second set of normally open contacts operatively positioned with respect to the cams, means to couple the second contacts to the electrical resistors for sending current through the said resistors, said cams being arranged for sequential operation of the second set of contacts



whereby the number of resistors receiving current is proportional to the angular movement of the shaft and switch means responsive to the flow of the fluid to deactivate the magnetic clutch and return the cams to a non-operating position by resilient means.

3,261,964
ELECTRIC BASEBOARD HEATING SYSTEM
John S. Grossinger, Johnstown, Pa., assignor to Crane Co., Johnstown, Pa., a corporation of Illinois
Filed Mar. 10, 1965, Ser. No. 449,353
12 Claims. (Cl. 219—365)



1. A baseboard heating system for heating a plurality of separate zones in a building comprising,

A. a conduit forming a closed circuit and extending through each of said zones,

B. a pump for circulating fluid through said conduit,

C. separate electric resistance heating elements in at least two of said zones and positioned on the external surface of said conduit in heat exchange relationship therewith,

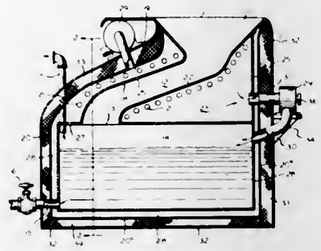
D. means for supplying electric current to said resistance elements,

E. a thermostatic control in each zone having a heating element and responsive to the air temperature in that zone to control the supply of current to the heating element in the same zone,

F. heat distributing members spaced along said conduit in heat exchange relationship with said conduit to transfer heat by radiation and convection from said fluid in said conduit to air circulating around said members, and

G. enclosures for said heating elements and conduit which direct air convection currents to flow around said elements and conduit in heat exchange relationship therewith and to flow through the zones in which said heating elements are positioned.

3,261,965
SNOW MELTING DEVICE
Edward R. Kerznar, 11940 W. Cold Spring Road, Greenfield, Wis., and Silas L. Schultz, 3854 S. Massachusetts, Milwaukee, Wis.
Filed May 27, 1964, Ser. No. 370,524
2 Claims. (Cl. 219—420)



1. A snow melting device comprising:

a hopper to receive snow, said hopper having upper and lower walls with the inside surfaces thereof defining a tunnel, apertures extending through at least one of said walls;

a tank having a top wall with an opening communicating with said tunnel;

outlet means associated with the bottom of said tank for removal of liquid from said tank;

a first heating chamber formed in part by the outside surface of said upper wall and extending around said snow device, said first heating chamber communicating with said tank via an aperture in the wall of said tank;

a second heating chamber formed in part by the outside surface of said lower wall, said first and second heating chambers being in communication with each other;

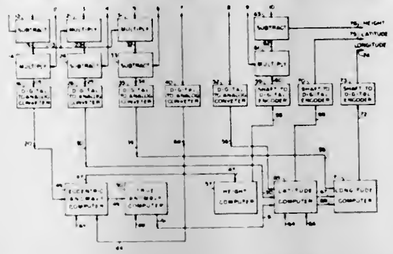
heating elements disposed in said heating chambers;

at least one vent extending from the inside of said tank to the outside of said snow device; and

a first blower associated with said snow melting device to draw air into one of said chambers whereby said heating elements heat the air and the heated air circulates throughout said heating chambers and through said apertures to cause snow to be melted in said tunnel and said tank, said heated air going into said tank departing from said tank via said vent.

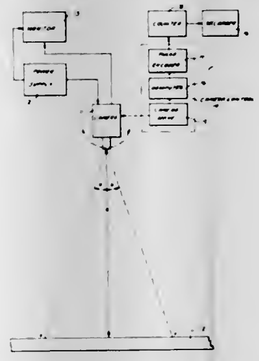
3,261,966
ORBIT COMPUTER FOR A SATELLITE POSITION DISPLAY
Harvey G. Talmadge, Jr., Forest Heights, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 30, 1962, Ser. No. 213,553
8 Claims. (Cl. 235—150.271)

1. A tracking satellite computer comprising; a digital storage means for storage of orbital elements and initial conditions of a satellite, digital computing means for obtaining products and remainders of stored orbital elements and initial conditions accurately, said digital storage means connected to said digital computing means, said digital computing means including a first means to convert the digital output into shaft rotation, second means to convert digital storage information into shaft rotation, said digital storage means connected to said second means, analog computing means for producing indications of height, latitude and longitude in shaft rotation, said first and second means connected to said analog



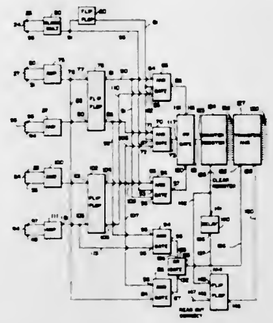
means, and a third means for converting the shaft rotation indicative of height into digital form, said analog means connected to said third means, said third means connected to said digital computing means for producing a signal representative of height.

3,261,967
DIMENSION MEASURING ARRANGEMENT
Seymour Rosin, Massapequa Park, and Charles D. Bryant, Brooklyn, N.Y., assignors to Uniscan Electronics Corporation, a corporation of New York
Filed Sept. 5, 1961, Ser. No. 136,079
6 Claims. (Cl. 235—151)



6. The method of measuring the diameter of an object having an arcuate surface and a circular cross-section formed by said arcuate surface, comprising the steps of positioning a television camera in operative proximity to said object; connecting a television monitor arrangement to said camera to provide a visual indication of an object seen by said camera; mounting said camera for pivotal movement about a fixed pivot point; rotating said camera about said fixed pivot point thereby to scan said object along the arcuate surface of said object; converting the mechanical rotation of said camera to an electrical signal proportional at any instant to the angle of movement of said camera from a predetermined reference line; solving a selected trigonometric equation consisting of selected components having predetermined values and having other values depending upon selected trigonometric functions of the angles of movement of said camera from said reference line to other preselected reference lines related to said object and to said camera and producing an output signals having a magnitude corresponding to the magnitude of the diameter of said object; representing said output signal as the magnitude of the diameter of said object; and recording said represented magnitude.

3,261,968
ANGLE ENCODER
Bernard M. Gale, Clearwater, Fla., assignor to Honeywell Inc., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,600
8 Claims. (Cl. 235—154)



1. Apparatus of the class described comprising:

a drum rotatable about an axis and having a first, a second, a third, and a fourth signal producing means thereon, the surfaces traced by said first, second, third and fourth signal producing means describing first, second, third and fourth signal tracks respectively when said drum rotates about said axis, said first and second signal producing means being substantially colinear in a line parallel to the axis of the drum and said third and fourth signal producing means being substantially colinear in a line parallel to the axis of said drum, and said third and fourth signal producing means being displaced 180° around the periphery of said drum from said first and second signal producing means;

a first signal responsive means mounted in a fixed relationship to said first signal track whereby said first signal responsive means delivers a signal when said first signal producing means is in proximity thereto;

a third signal responsive means mounted in a fixed relationship to said third signal track, and displaced substantially 180° around the periphery of said drum from said first signal responsive means, whereby said third signal responsive means delivers a signal when said third signal producing means is in proximity thereto;

second and fourth signal responsive means rotatably mounted around said axis in proximity to said second and fourth signal tracks respectively and movable with respect to said first and third signal responsive means whereby said second signal responsive means delivers a signal when said second signal producing means is in proximity thereto, and said fourth signal responsive means delivers a signal when said fourth signal producing means is in proximity thereto, said second and fourth signal responsive means being displaced substantially 180° from each other;

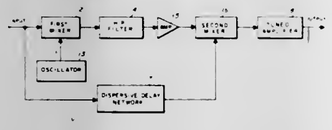
pulse generating means for generating pulses at a particular frequency;

pulse counting means; and

gating means interconnecting said pulse generating means and said pulse counting means and operable in response to the signals from said first, second, third and fourth signal responsive means to cause said pulse counting means to count one-half the pulses from said pulse generating means during the time between the signals from said first and third signal responsive means, all of the pulses from the pulse generating means between the signals from said third

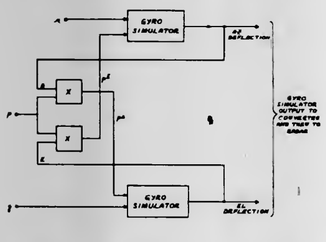
and second signal responsive means and one-half the pulses from said pulse generating means between the signal from said second and fourth signal responsive means.

3,261,969
DISPERSIVE DELAY LINE
Claude C. Routh, 3345 29th St., San Diego 4, Calif.
Filed Mar. 7, 1962, Ser. No. 178,528
6 Claims. (Cl. 235—181)



1. An autocorrelation system comprising in combination, a first mixer having a pair of inputs and an output with one of said inputs being responsive to an intelligence signal, an oscillator having an output connected to the other input of said pair of first mixer inputs, a high pass filter coupled to the output of said first mixer, a second mixer having a pair of inputs and an output with one of said inputs effectively coupled to the output of said high pass filter, a tuned amplifier connected to the output of said second mixer, and means interconnecting said one input of said first mixer which is responsive to said intelligence signal and the other input of the aforesaid second mixer for shifting the phase of said intelligence signal in accordance with a predetermined inverse function of the frequency thereof.

3,261,970
COMPUTING GYRO SIMULATOR
Ralph W. Snyder, Cuyahoga Falls, Ohio, assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 10, 1962, Ser. No. 208,970
3 Claims. (Cl. 235—184)



1. A device for simulating the operation of gyroscopic instrument situated in a moving vehicle, when supplied with simulated signal information representing; range coil current I_R, net azimuth offset coil current I_A, net elevation offset coil current I_E, aircraft angular velocity about the yaw axis r, aircraft angular velocity about the roll axis p, and aircraft angular velocity about the pitch axis q, the magnitudes of these signals being proportional to the information represented, comprising:

servo means, having the range coil current as its input, and having an output shaft whose position is proportional to its input, for providing a shaft output position which is proportional to the range coil current I_R;

azimuth amplifier means, having the net azimuth offset coil current signal I_A as its input, coupled to said servo means output shaft, for providing an output signal proportional to I_A/I_R;

azimuth kinematic lead angle amplifier means, coupled to said servo means output shaft, and having a first input signal coupled thereto, the aircraft angular velocity about the yaw axis signal r, and having a second input signal coupled thereto, $-pA_E$, for providing an output signal proportional to

$$\frac{r-pA_E}{I_R^2}$$

first summing means coupled to the output of said azimuth amplifier means and said azimuth kinematic lead angle amplifier means, for summing both said azimuth amplifier means output, in correct proportion, to obtain an output signal A_A proportional to

$$\frac{K_2 I_A}{I_R}+\frac{K_2(r-pA_E)}{I_R^2}$$

which is proportional to the azimuth output of the gyroscope;

elevation amplifier means, having the net elevation offset coil current I_E as its input, coupled to said servo means output shaft, for providing an output signal proportional to I_E/I_R;

elevation kinematic lead angle amplifier means, which is coupled to said servo means output shaft, and having a first input signal coupled thereto, the aircraft angular velocity about the pitch axis signal q, and having a second input signal coupled thereto, $+pA_A$, for providing an output signal proportional to

$$\frac{q+pA_A}{I_R^2}$$

second summing means, coupled to the outputs of said elevation amplifier means and said elevation kinematic lead angle amplifier means, for summing both said elevation amplifier means output, in correct proportion, to obtain an output signal A_E proportional to

$$\frac{K_1' I_E}{I_R}+\frac{K_1'(q+pA_A)}{I_R^2}$$

which is proportional to the elevation output of the gyroscope;
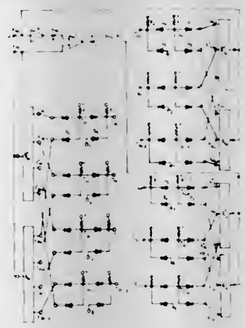
first multiplying means, having its output coupled to the azimuth's kinematic lead angle amplifier's means second input, and having a first and second input, the first input being coupled to the output of said second summing means, and the second input having the signal representing aircraft angular velocity p about the roll axis as its input for providing the azimuth kinematic lead angle amplifier mean's second input, $-pA_E$; and

second multiplying means having its output coupled to the elevation's kinematic lead angle amplifier's means second input, and having a first and second input, the first input being coupled to the output of said first summing means, and the second input having the signal representing aircraft angular velocity p about the roll axis as its input, for providing the elevation kinematic lead angle amplifier mean's second input $+pA_A$.

3,261,971
MULTIVARIATE INTERPOLATING FUNCTION GENERATORS
Amos Nathan, Dept. of El. Engg., Technion, Israel Inst. of Technology, Haifa, Israel
Filed Feb. 7, 1963, Ser. No. 256,867
7 Claims. (Cl. 235—197)

1. An interpolating function generator for use with an n-dimensional co-ordinate system having a plurality of grid points in the region of interest, comprising first means for introducing n input signals, including first and second input signals, to the function generator, each

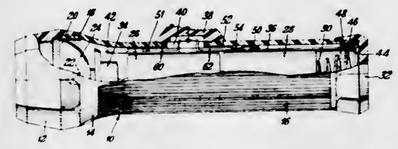
of said input signals having a magnitude representing a variable in a separate one of said n dimensions where n is greater than one, second means for introducing to said function generator a plurality of first offset signals having predetermined constant magnitudes representing offsets of reference points in said co-ordinate system in said first one of said n dimensions, third means for introducing to said function generator a plurality of second offset signals having predetermined constant magnitudes representing offsets of said reference points in said co-ordinate system in said second one of said n dimensions, fourth means for receiving said first and second input signals and said first and second offset signals and for generating a plurality of first and second composite signals, each of said first and second composite signals having a magnitude which is a substantially linear function of one of said first and second input signals and of one of said first and second offset signals, fifth means responsive to said first and second input signals for generating a plurality of third composite signals each having a magnitude which is substantially equal to a linear function of a third



variable and of one of a plurality of third offset quantities, wherein the magnitude of said third variable is substantially equal to the difference of said first and second variables and each of said third offset quantities is substantially equal to the difference between one of said plurality of first offset signals and one of said plurality of second offset signals, sixth means responsive to said first and second input signals for generating a plurality of fourth, fifth and sixth composite signals such that the respective sums of respective ones of said first and fourth, second and fifth and third and sixth composite signals are substantially constant, seventh means for accepting a constant signal, maximum and minimum selecting eighth means responsive to said plurality of composite signals and to said constant signal for making successive maximum and minimum selections therefrom and for generating a plurality of selected signals, whereby there is one of said selected signals per grid point, and means responsive to said plurality of selected signals for generating a final output signal having a magnitude substantially proportional to the desired function of said variables.

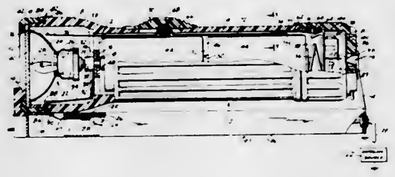
3,261,972
FLASHLIGHT
Francis Stahl, St. Albans, Vt., assignor to Union Carbide Corporation, a corporation of New York
Filed Mar. 16, 1964, Ser. No. 351,926
1 Claim. (Cl. 240—10.66)

A long life flashlight comprising a hollow substantially thin plastic casing constituting a handle adapted to contain batteries and having a forwardly facing reflector and cooperable lamp assembly at its forward end, a switch slide member guided for axial movement in a slot in said casing and being permanently secured by mechanical fastening means to an inner contact strip which is adapted to engage said lamp assembly for providing the on-off feature of said flashlight; a wearproof attachment disposed adjacent to the inside wall of said casing about said slot and comprising a long thin metallic wear plate shaped to the curvature of said casing, said wearproof



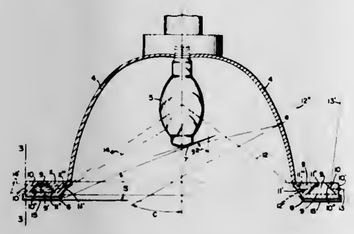
attachment having a detent and outwardly extending ears extending through and engaging the ends of said slot in said casing, said detent being aligned with said contact strip and cooperating with same for providing an audible click and lock-on, lock-off positions for said switch slide member.

3,261,973
FLASHLIGHT WITH RECHARGEABLE BATTERIES
Herbert Kott, River Edge, N.J., assignor to Bright Star Industries, Inc., Clifton, N.J., a corporation of Delaware
Filed Mar. 23, 1964, Ser. No. 353,974
2 Claims. (Cl. 240—10.66)



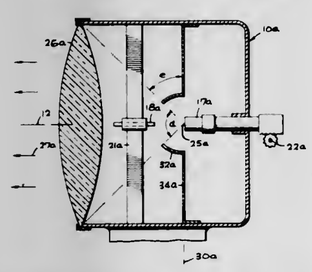
1. In a rechargeable battery flashlight-holder combination, said flashlight comprising a casing comprising a front portion carrying a bulb, a rear portion, and an intermediate portion having a battery-receiving chamber, and means for producing an electrical circuit through said bulb and the batteries adapted to be received in said chamber; the improvement which comprises first and second terminal means opening into said chamber adjacent front and rear ends thereof respectively and adapted to make electrical connection with rechargeable batteries in said chamber independently of said bulb, a conductive strip on said front portion and accessible at the exterior of said portion substantially completely therearound, means electrically connecting said strip and said first terminal means, a conductive element on and accessible at the exterior of the end of said rear portion, and means electrically connecting said conductive element and said second terminal means, said front portion of said flashlight casing being provided with an axially facing lip, said bracket being adapted to receive said flashlight and comprising a base, first and second arms extending up from opposite ends of said base, at least one of said arms being resilient, said first arm having a lip extending toward said second arm and removably engaging said lip on said flashlight, said second arm having a pin extending toward said first arm and removably engaging and making contact with said conductive element at the exterior of the end of said rear portion of said casing, a spring contact on said base removably engaging said strip on the exterior of said flashlight, and electrical connections to said spring contact and said pin, whereby said contact and pin function as terminals making electrical connection with rechargeable batteries in said flashlight and said lip and pin function to retain said flashlight in position on said bracket.

3,261,974
WEATHER CONTROLLED LIGHTING FIXTURE
Isaac Goodbar, New York, N.Y.
(93—02 211th St., Queens Village 28, N.Y.)
Filed Nov. 15, 1963, Ser. No. 324,096
4 Claims. (Cl. 240—25)



1. A lighting fixture for roadways and the like comprising a shielding element open at the bottom thereof to project light downwardly, a lamp, means for mounting said lamp within said element in a position located above a lower edge of said shielding element to produce an effective shielding angle which in clear weather normally obscures the lamp from the view of drivers of oncoming vehicles, and a receptacle supported by said element extending along and below said lower edge of the shielding element, said receptacle having light transmitting walls disposed to receive and accumulate precipitation, said light transmitting walls including a prismatic wall extending vertically below the lower edge of said shielding element and another wall etxending outwardly and upwardly from the bottom of the reservoir to form a trough, said prismatic wall sides being at such angles that light entering a first side is refracted to contact the second side where it is reflected upwardly.

3,261,975
LIGHT DIRECTING STRUCTURE
Wendell S. Miller, 1341 Comstock Ave.,
Los Angeles, Calif.
Original application Aug. 15, 1962, Ser. No. 217,092. Divided and this application June 9, 1965, Ser. No. 462,543
2 Claims. (Cl. 240—41.3)



1. A radiation directing structure defining an axis, said structure comprising a solid electrode, material in a condensed state on one end of the said electrode and on said axis adapted to be electrically excited to emit radiation from its surface, said material defining a plane therethrough perpendicular said axis, a refracting structure of positive optical power optically co-axial with said axis and having a focal point at said material, said refracting structure lying in a direction from said plane into which said material may emit radiation, a reflecting structure comprising a mirror in the form of a portion of a sphere extending outwardly from said plane in the same direction as lies said refracting structure, said spherical mirror being centered on said focal point of said refracting structure and being provided with an axial opening through which said refracting structure may be seen from said material.

3,261,976
FLUID FLOW MEASUREMENT METHOD USING A RADIOACTIVE TRACER MATERIAL
Donald E. Hull, San Rafael, Calif., assignor to Chevron Research Company, a corporation of Delaware
No Drawing. Filed Dec. 1, 1961, Ser. No. 156,499
1 Claim. (Cl. 250—43.5)

The method of determining the flow rate of a fluid stream, which comprises determining F, the counting efficiency of a radioactivity counter expressed in counts/unit time per unit radioactivity/unit volume, introducing a quantity A units of radioactive material into said fluid stream, withdrawing and collecting a sample of said fluid from said fluid stream at a point downstream from the point of introduction of said radioactive material, the withdrawal being at a constant rate and continuing for a time T, which includes the time during which the introduced radioactive material passes the withdrawal point, determining the number of counts per unit time R, of the collected sample detected by said radioactivity counter, and determining the flow rate Q of said fluid stream according to the formula:

$$Q=AF/RT$$

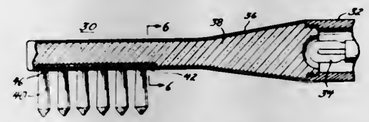
3,261,977
STEREOSCOPIC OPTICAL VIEWING SYSTEM WITH A SHUTTER ELEMENT ADJACENT THE OBJECT LENS
Cornelius G. J. M. Van Der Velden, Framingham, Mass., assignor, by mesne assignments, to Laboratory For Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Aug. 25, 1961, Ser. No. 133,938
5 Claims. (Cl. 250—60)



1. An optical apparatus comprising, a viewing screen; means for presenting in alternate time sequence left and right hand view images of an object on said viewing screen; an object lens arranged to form an image of said viewing screen; a field lens in axial alignment with said object lens, said field lens and said object lens being arranged to form an exit pupil having a diameter sufficiently large to include within it both the left and right hand eyes of an observer; a shutter element disposed intermediate said object lens and said field lens, said shutter element being formed with an opaque portion adapted to mask one-half of said object lens, means for operating said shutter to alternately mask the left and right hand halves of said object lens, said means for presenting images being operated in conjunction with said shutter element such that left hand images are presented only when said shutter is masking one half of said object lens and right hand images are presented only when said shutter is masking the other half of said object lens.

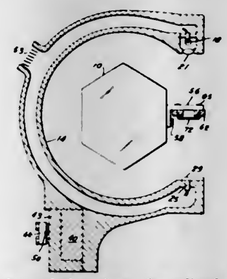
5. Apparatus for providing a stereoscopic X-ray image of an object comprising, an image forming screen; first and second X-ray sources, said first X-ray source being disposed to project on said image screen an X-ray image of said object projected from the right, said second X-ray source being adapted to project on said image screen an X-ray image projected from the left of said object; an object lens adapted to form an image of said image screen; a field lens disposed with respect to said object lens in such a fashion as to provide an exit pupil having a diameter sufficiently large to include within it both the eyes of the observer; a shutter element disposed intermediate said object lens and said field lens, said shutter element having an opaque portion adapted when in one position to mask the left hand half of said object lens and when in another position to mask the right hand half of said object lens; means for alternately actuating said first and said second X-ray sources to alternately present left and right hand X-ray images to said image forming screen; means for operating said shutter member to alternately mask said left and said right hand half of said object lens, said shutter operating means and said X-ray source actuating means being operated in conjunction such that such shutter member is masking said right hand half of said object lens when said first X-ray source is actuated and said shutter member is masking said left hand half of said object lens when said second X-ray source is being actuated.

3,261,978
DENTAL CLEANING APPARATUS
Henry S. Brenman, Medical Tower Bldg.,
Philadelphia 3, Pa.
Filed May 27, 1963, Ser. No. 283,154
2 Claims. (Cl. 250—86)



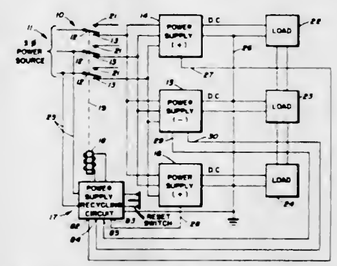
1. A toothbrush comprising an elongated handle portion, a head portion, said head portion having bristles secured to one face thereof, said head portion being substantially smaller in mass than said handle portion, said head portion being sufficiently small to be used in the mouth of a person for brushing teeth, a source of ultraviolet light mounted in said elongated handle portion, said elongated handle portion comprising a light transmitting element, a filter mounted on said head portion adapted to have ultraviolet light transmitted therethrough from said source, and said filter being adapted to pass ultraviolet light of only one particular wavelength therethrough.

3,261,979
AUTOMATIC SET-UP FOR PHOTO ELECTRIC BACK GAUGE SPACER
Carl Thumim, Lombard, Ill., assignor to Miehle-Goss-Dexter, Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 7, 1962, Ser. No. 171,728
19 Claims. (Cl. 250—222)



1. In a device of the class described, a support means for holding a series of spaced signal elements for programming the back gauge of a paper cutting machine; signal elements carried by said support means and comprising members of wire material, in spaced array thereon, and sensing means for detecting the presence of said signal elements, said supporting means and said sensing means having relative motion with respect to each other, said members being U-shaped staples having legs, said support means comprising a pair of spaced elongated parallel elements of a material pierceable by legs of said staples.

3,261,980
ELECTRICAL RECYCLING CIRCUIT FOR CONTROLLING AND PROTECTING FUNCTIONAL EQUIPMENT
William B. McCartney, Jr., Glen Burnie, and Edward O. Uhrig, Catonsville, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 17, 1962, Ser. No. 245,332
11 Claims. (Cl. 307—86)

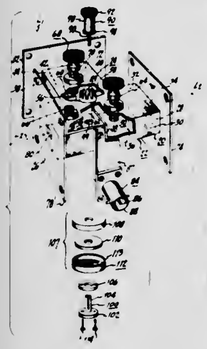


1. In a circuit for supplying electrical power to a load, the combination comprising:
- a source of alternating current;
- a switching circuit connected to the output of said source of alternating current;
- a plurality of power supplies connected to one side of said switching circuit so that alternating current from said source of alternating current is applied to said plurality of power supplied through said switching circuit;
- coupling means within each of said plurality of power supplies to couple a signal indicating an overload current in any of said power supplies;
- each of said coupling means being connected into the output of its respective power supply and being adapted to de-energize said power supply when an overload current appears therein;
- said plurality of power supplies having a predetermined number of positive polarity power supplies and a predetermined number of negative polarity power supplies;
- a plurality of loads electrically connected to said plurality of power supplies to receive direct current from said power supplies; and
- recycling means electrically connected to said plurality of power supplies to disconnect all of said plurality of power supplies from said source of alternating current when a short circuit appears in any one of said plurality of loads.

3,261,981
PARAMETRIC AMPLIFIER FREQUENCY UP-CONVERTER
Leopold A. Harwood and Tomomi Murakami, Haddonfield, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 11, 1962, Ser. No. 193,935
6 Claims. (Cl. 307—88.3)

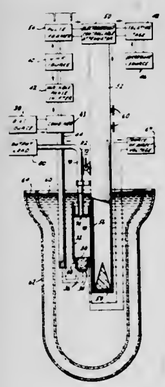
1. A high frequency structure comprising in combination:
- a T-shaped chassis compartment made of a conductive material and comprised of a cross-arm section and a leg section;

a first conductive partition mounted within said cross-arm section to separate said cross-arm section into a first cavity resonator and a second cavity resonator;
a second conductive partition mounted at the junction of said cross-arm and leg sections to transform said leg section into a third cavity resonator;
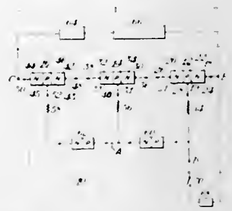


said first and second conductive partitions defining an iris between said first, second and third cavity resonators adjacent the junction of said cross-arm and leg sections; and
means for mounting a nonlinear device within said compartment in the space formed by said iris.

3,261,982
FREQUENCY SHIFTER USING DOPPLER REFLECTION OF MICROWAVES FROM MOVING PLASMA BOUNDARY IN SEMICONDUCTOR
Om P. Gandhi, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 27, 1962, Ser. No. 212,973
16 Claims. (Cl. 307—88.3)



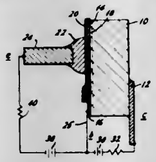
3. Apparatus for shifting the frequency of an electromagnetic wave from a frequency f_1 to a higher frequency f_2, comprising:
a body of semiconductive material containing a magnetoplasma characterized by a plasma frequency f_p and by a cyclotron frequency f_c both higher than said frequency f_2, the lower of said frequency f_c and said frequency f_p being sufficiently close to said frequency f_2 that the phase velocity v_{p2} in said magnetoplasma at said frequency f_2 is substantially lower than the velocity of light in free space and substantially lower than the phase velocity v_{p1} in said magnetoplasma at said frequency f_1,
a wave-reflective depletion zone located in said body immediately adjacent said magnetoplasma so that an edge region of said depletion zone substantially coincides with a boundary of said magnetoplasma, said depletion zone being controllable to vary the extension of said edge into said magnetoplasma and thus to vary correspondingly said boundary of said magnetoplasma,
means for applying waves of said frequency f_1 to said body so that said waves of frequency f_1 enter and traverse said magnetoplasma and are then incident upon and reflected by said depletion-zone edge region,
means for varying the position of said edge region of said depletion-zone with a velocity having a component in the direction of said reflected wave thereby to shift the frequency of said reflected wave to said frequency f_2, and
means for abstracting said reflected wave at said frequency f_2 from said magnetoplasma.

3,261,983
TRANSISTOR SWITCH EMPLOYING DIODES FOR VOLTAGE PROTECTION
Takao Miki, Himeji, Japan, assignor to Mitsubishi Denki Kabushiki-Kaisha, Tokyo, Japan, a corporation of Japan
Filed Feb. 21, 1961, Ser. No. 90,693
Claims priority, application Japan, Feb. 26, 1960, 35/6,249
7 Claims. (Cl. 307—88.5)



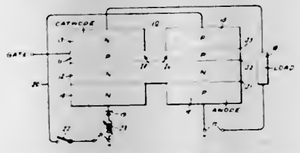
1. A transistor switch device having opposite terminals and comprising a plurality of transistors connected in series cascade between said terminals, each transistor having an emitter electrode, a collector electrode and a base electrode, the emitter electrode of the first transistor in the series being connected to one said terminal and the collector electrode of the last transistor in the series being connected to the other said terminal, means for connecting a source of electric power to be switched and a load in series across said terminals, and a common base circuit for controlling all of said transistors, said common base control circuit comprising means for supplying direct current for controlling said transistors, a control switch, a common control line, means connecting said control current supply means and said control switch in series between said common control line and one of said terminals with said control current supply means connected in a direction to supply base current to said transistors to make them conductive, means including a resistor connecting the base electrode of each of said transistors to said common control line to provide a connecting circuit between the base electrodes of successive transistors in the series, and at least one semiconductive diode in each said connecting circuit between the base electrodes of successive transistors in the series to permit the supply of control current to each base electrode but to block the flow of current in the opposite direction, whereby said transistors act together as a single transistor to conduct current through the circuit containing said power source and load when said control current supply means is connected and to block the load current when said control current supply means is disconnected and whereby the voltage in said blocking condition is divided among said transistors to avoid subjecting an individual transistor to excessive voltage.

3,261,984
TUNNEL-EMISSION AMPLIFYING DEVICE AND CIRCUIT THEREFOR
Ruth F. Schwarz, Abington, and James P. Spratt, Yeadon, Pa., assignors, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Mar. 10, 1961, Ser. No. 94,902
5 Claims. (Cl. 307—88.5)



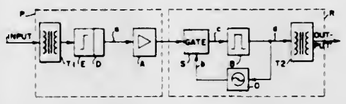
1. Signal-translating apparatus comprising:
a body of N-type semiconductive material,
a metal film on a surface of said body, said film forming a surface-barrier connection to said surface, said surface barrier having a height ϕ_c in electron-volts,
a non-metallic film on a surface of said metal film remote from and opposite said body,
a conductive connection to a surface of said non-metallic film remote from and opposite said metallic film,
said non-metallic film being sufficiently thin to support across it a voltage greater than ϕ_c/q where q is the charge of an electron, and to pass a substantial tunnel current of high-energy electrons from said conductive connection to said metal film in response to said voltage,
means for applying between said conductive connection and said metal film a voltage poling said conductive connection negative with respect to said film and having a value greater than ϕ_c/q, thereby to cause said non-metallic film to pass a substantial tunnel current of high-energy electrons, and
means for applying between said metal film and said body a voltage poling said body positive with respect to said metal film, thereby to reverse-bias said surface-barrier connection,
said metal film being sufficiently thin to permit a substantial number of said high-energy electrons to pass through said metal film and past said reverse-biased surface-barrier connection.

3,261,985
CROSS-CURRENT TURN-OFF SILICON CONTROLLED RECTIFIER
Istvan Somos, Drexel Hill, Pa., assignor to General Electric Company, a corporation of New York
Filed Dec. 21, 1962, Ser. No. 246,446
9 Claims. (Cl. 307—88.5)



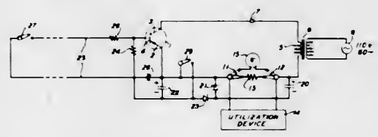
1. A semiconductor translating device comprising:
(a) a circular semiconductor single crystal silicon wafer having a main P type conductivity zone and a contiguous main N type conductivity zone in flat face to flat face contact,
(b) the exterior flat face of each of said main zones being provided with a radially centrally disposed zone of one type conductivity and a surrounding concentric annular zone of the opposite type conductivity to constitute
(1) a PNPN semiconductor device with the terminal P and N zones constituting an anode and a cathode respectively and
(2) a PPNN semiconductor device having terminal electrodes and a PN junction in common with the middle junction of said PNPN semiconductor device,
(c) one of said main zones of said PNPN device being provided with means for receiving a pulse of firing current to initiate conduction through said PNPN device, and
(d) means for supplying a voltage to said terminal electrodes of said PPNN device to cause a reverse current through said PPNN device when said PNPN device is conducting to remove injected carriers from said common junction to terminate conduction through said PNPN device.

3,261,986
DIGITAL CODE REGENERATIVE RELAY TRANSMISSION SYSTEM
Masao Kawashima, Yokohama-shi, and Tsukumo Higeta, Isao Fudemoto, and Atushi Miki, Kawasaki-shi, Japan, assignors to Fujitsu Limited, Kawasaki, Japan, a corporation of Japan
Filed Apr. 19, 1963, Ser. No. 274,287
6 Claims. (Cl. 307—88.5)



1. A regenerative relay system for transmitting digital code pulses comprising an input transformer for noise-affected code pulses, a differentiating pulse pre-shaping circuit connected to said input transformer and having a pulse output characteristic of the differentiated orthogonal type and having a slope having a differential cosine-squared characteristic, an output transformer, a wave-shape regenerating stage connecting said output transformer with sadi pulse pre-shaping circuit and including a timing circuit, and means for supplying to said timing circuit a timing wave of a given phase relation to the pulses to be regenerated.

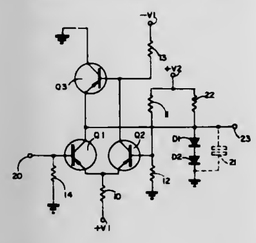
3,261,987
LATCH CIRCUIT UTILIZING SINGLE TRANSISTOR AND ENERGIZED BY ALTERNATING CURRENT
Daryl M. Chapin, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 6, 1963, Ser. No. 285,992
4 Claims. (Cl. 307—88.5)



1. A latch circuit for providing a continuing indication in response to a momentary signal which comprises
a transistor having an emitter electrode, a collector electrode and a base electrode, and proportioned to adopt an OFF state characterized by a high internal

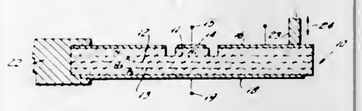
emitter-to-collector resistance in the absence of an external bias applied to its base electrode and to adopt an ON state characterized by a low internal emitter-to-collector resistance in the presence of a bias voltage Δv applied to its base electrode,
a source of alternating voltage, a load, and a first unidirectionally conducting device connected in series between the emitter electrode and the collector electrode,
a circuit path connected in shunt with said load including a first capacitor and a second unidirectionally conducting device interconnected in series and proportioned to develop a voltage of a magnitude dependent on the resistance of the load and the magnitude of the transistor current,
a second capacitor and a third unidirectionally conducting device interconnected in series between the emitter electrode of said transistor and the interconnection of said first capacitor and said second unidirectionally conducting device for transferring at least a substantial fraction of the voltage developed across said load,
and conductive means extending from the interconnection of said second capacitor and said third unidirectionally conducting device to said base electrode for applying to said base electrode said transferred voltage as a bias of polarity to promote collector-to-emitter conduction,
the magnitude of the load resistance being such that the product of the ON state transistor current by the load resistance is at least several times said bias voltage Δv, whereby, upon the momentary application of a conduction-promoting bias to said base electrode, the voltage developed across said load acts to maintain said bias and thus to sustain the flow of transistor current through said load.

3,261,988
HIGH SPEED SIGNAL TRANSLATOR
Charles P. Johnson, Long Beach, Calif., assignor to North American Aviation, Inc.
Filed Dec. 23, 1963, Ser. No. 332,740
3 Claims. (Cl. 307—88.5)



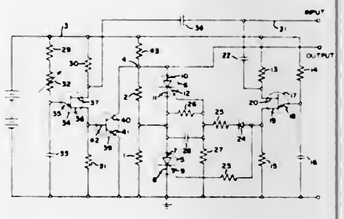
3. In combination,
first and second transistors having a common emitter bias resistor connected to a source of bias potential of a given polarity,
a third transistor having its emitter and collector connected in series between a source of reference potential and the collector of said first transistor, and having its base connected to the collector of said second transistor, said transistor being conductive when said first transistor is conductive and non-conductive when said first transistor is non-conductive,
a resistor connecting the collector of said second transistor to a source of bias potential opposite said given polarity,
a resistor connecting the emitter of said third resistor to a source of bias potential of said given polarity,
means for biasing the base of one of said first and second transistors to a selected threshold level,
means for coupling a signal source to the base of the other of said first and second transistors, and
means for coupling a load circuit to the emitter of said third transistor.

3,261,989
FOUR-LAYER SEMICONDUCTOR DEVICE STRAIN SWITCH
Harold Weinstein, Van Nuys, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Jan. 17, 1964, Ser. No. 338,470
4 Claims. (Cl. 307—88.5)



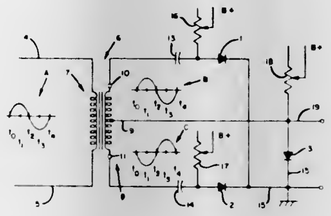
2. A strain switch comprising a wafer of semiconductor material having four layers of alternate conductivity types forming three junctions; the upper layer of said four layers being divided into a first and second portion; said first and second portions having a first main electrode and a gate electrode respectively connected thereto; the bottom layer of said four layers having a second main electrode connected thereto, and bias circuit means connected between said first main electrode and said gate electrode for reverse biasing the junction formed between said second portion of said upper layer and the layer of said four layers adjacent said upper layer; and means for applying a mechanical strain to said last mentioned junction; said bias being normally insufficient to cause conduction between said first and second main electrodes, said device being fired responsive to the application of a predetermined strain to said device.

3,261,990
STAIRCASE WAVE GENERATOR USING SILICON CONTROLLED RECTIFIERS
Thomas L. Huang, Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 7, 1964, Ser. No. 388,222
5 Claims. (Cl. 307—88.5)



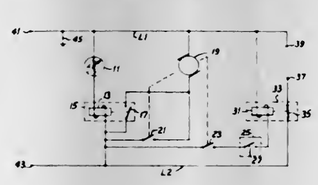
1. A staircase wave generator comprising:
a source of unidirectional potential,
a plurality of resistors serially connected across said source,
a plurality of current control devices, each having a pair of terminals between which substantially no conduction occurs at one voltage thereacross and between which substantial conduction occurs at another voltage substantially lower than said one voltage, each of said devices connected across a respective resistor,
means for rendering each of said devices conductive in sequence in response to a respective pulse of voltage in a sequence of pulses of voltage,
means in circuit across said plurality of serially connected controlled devices for dropping the voltage thereacross to a value less than the value which maintains conduction therethorugh at the completion of the sequence of rendering said devices conductive.

3,261,991
FREQUENCY DOUBLER
Thomas E. Lash, Sunnyvale, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 21, 1964, Ser. No. 391,188
4 Claims. (Cl. 307—88.5)



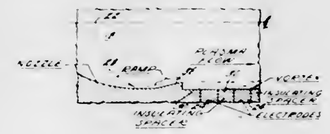
4. A frequency doubler comprising
a rectifier comprising
rectifying elements each responsive to an input signal for generating an output signal and each having a conduction characteristic having a conduction region defined by a square law relationship and a conduction region defined by a linear relationship, and
means for initially biasing said rectifying elements for operation in the square law region,
output generating means responsive to the output signals of said rectifying elements, said output generating means having a conduction characteristic having a conduction region defined by a square law relationship and a conduction region defined by a linear relationship,
means for initially biasing said output generating means in said linear conduction region, and
means for coupling an input signal to said rectifier for varying conduction of said rectifying elements and said output generating means between said linear and square law conduction regions for generating an output whose frequency is twice the frequency of the input signal.

3,261,992
ELECTRICAL LOAD BALANCING CONTROL SYSTEM
Robert L. Coe, 48 Arundel, Clayton, Mo.
Filed Oct. 21, 1965, Ser. No. 507,602
27 Claims. (Cl. 307—117)



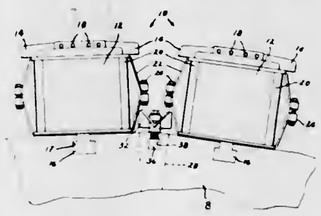
1. A control system for selectively disconnecting an electrical load device from a source of electrical power, said control system comprising circuit means including first and second switches each having first and second positions for connecting said load device to said source when either of said switches is in its respective second position, a sequence timer including an electrical motor electrically connected to said power source for actuating said first switch to its first position for a predetermined time period during each of a plurality of sequential 24-hour intervals, and temperature sensing means responsive to atmospheric temperatures for actuating said second switch to its first position when said atmospheric temperature reaches a preselected temperature level, whereby said load device is disconnected from said source during periods when both of said switches are in their respective first positions.

3,261,993
MHD WALL VORTEX GENERATION
Stephen J. Keating, Jr., East Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 24, 1963, Ser. No. 297,402
8 Claims. (Cl. 310—11)



8. In a magnetohydrodynamic generator, a duct having an axis and a duct wall, means to establish a magnetic field across said duct perpendicular to said axis, at least one electrode positioned in opposite walls of said duct, means to pass plasma through said duct and hence across said magnetic field to establish an electrical potential between said electrodes, a ramp positioned in said duct wall upstream of said electrodes and shaped to blend with said wall at the ramp forward end and to smoothly and progressively project into said duct and terminating in a blunt after end, said ramp being shaped to cause substantially isentropic compression of the plasma flowing thereover to establish stream-wise vortices downstream thereof and across said electrodes without, however, inducing excessively high heat flux to the electrode and duct wall.

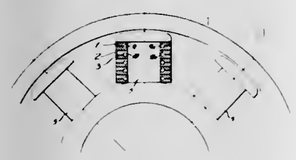
3,261,994
AIR COOLING ARRANGEMENT FOR SALIENT POLE ROTORS
Joseph P. Franz, Ballston Lake, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 27, 1963, Ser. No. 326,530
8 Claims. (Cl. 310—61)



1. A salient pole rotor comprising:
a magnetic core supporting a multiplicity of field poles having windings thereon and air ducts extending radially from the inner portions of the rotor into the interpolar spaces,
a deflector secured exclusively to the rotor surface and positioned between each pair of adjacent poles,
said deflector comprising a baffle spaced from the rotor surface by spacers and located over the rotor air ducts,

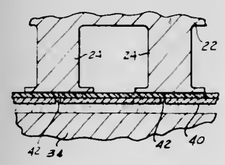
whereby air flowing through the air ducts is diverted by the deflector into contact with the field windings prior to being discharged from the machine.

3,261,995
COOLING SYSTEM FOR ELECTRICAL MACHINES
Stéphane Kohn, Saint-Cloud, France, assignor to Société Anonyme dite: Forges et Ateliers de Constructions Electriques de Jeumont, Paris, France
Filed Mar. 1, 1963, Ser. No. 261,989
Claims priority, application France, Mar. 7, 1962, 890,319; Mar. 27, 1962, 892,401
11 Claims. (Cl. 310—64)



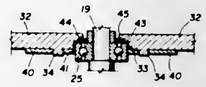
1. In a cooling system for rotating field windings of electrical machines with salient magnetic cores each being surrounded by superposed turns of heavy conductor bars of substantially rectangular cross-section, the combination comprising a distinct network formed by a plurality of separate tubular cooling ducts elastically assembled in good thermal, but not in electrical contact with said turns, said ducts being prefabricated in the form of loops having each at least two branches, each of said loops being closely attached to said field winding alongside at least one of said turns and located laterally with respect to said magnetic core; input and output headers for liquid coolant circulating in said loops, and interconnections between said loops and said headers to establish coolant circulation paths of limited length with a mutual reversal of the respective directions of coolant in all adjacent branches.

3,261,996
HYSTERESIS MOTOR
Moharram M. Fawzy, Monroe, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed July 29, 1963, Ser. No. 298,245
2 Claims. (Cl. 310—86)



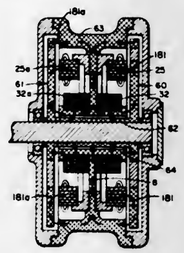
2. A hysteresis motor including in combination a stator having a plurality of poles, a rotor comprising hardened magnetic steel, means mounting said rotor and said stator for relative movement with an air gap therebetween, a sleeve of high permeability material provided with a plurality of axially-extending circumferentially-spaced slots dividing said sleeve into a number of elements which differs from the number of stator poles, and means mounting said sleeve in said air gap in spaced relationship to said stator.

3,261,997
SHAFT BEARING MOUNTING MEANS FOR MOTORS AND OTHER MECHANISMS
Arthur W. Seyfried, Cleveland, Ohio, assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Aug. 2, 1965, Ser. No. 476,327
11 Claims. (Cl. 310—90)



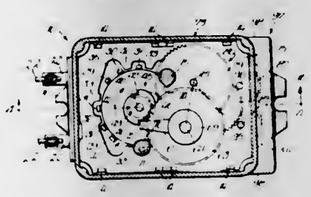
1. Shaft bearing mounting means comprising
(a) a ball bearing for a rotated shaft, said bearing having a cylindrical peripheral surface,
(b) a supporting member provided with a bearing receiving bore larger in diameter than and radially spaced from the periphery of the ball bearing to be mounted therein,
(c) a bearing supporting plate consisting of a thin metal stamping provided with a central opening equal in diameter to the ball bearing, said ball bearing being located in said opening in peripheral engagement with the edge of the plate defining said opening, and
(d) means on the supporting member cooperating with the bearing supporting plate to locate and retain the plate on the supporting member in concentric relationship to the bearing bore in said supporting member.

3,261,998
AXIAL AIRGAP DYNAMOELECTRIC MACHINE
George B. Bosco, Jr., Whittier, and Howard E. Corbitt, Arcadia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Aug. 12, 1960, Ser. No. 56,080
19 Claims. (Cl. 310—126)



19. A brushless dynamoelectric machine having a disc-type winding-free rotor provided with portions of magnetic materials juxtaposed to a stationary armature including an armature winding and magnetic core material, said armature winding having terminals for connection with equipment external of the machine, an axial air gap being formed between the disc face of the rotor and said armature core material, said armature winding containing conductors which extend transversely across a concentric circle passing through them so that said armature conductors can be cut by a rotating flux, there being a closed flux path through the armature and the disc, said armature core material extending continuously and concentrically around the axis of rotation of the rotor and having a face which faces the rotor disc, the rotor having at least two members of magnetic material of opposite polarity magnetically separated and angularly spaced from each other, each member extending for a substantial distance circumferentially around the axis of rotation of the rotor and having a face which faces the face of the armature core material and providing a uniform axial air gap between the disc member and the face of the armature core material, there being a stationary field winding wound around said axis of rotation to create the flux through said flux path, whereby when said field winding is electrically energized, magnetic flux is created through said path, said flux entering said armature core from one of said rotor members passes through an angular distance through said core to leave said armature core to pass to another of said rotor members, and the flux between said disc and armature across said uniform air gap rotates with rotation of the rotor and thereby cuts said armature winding.

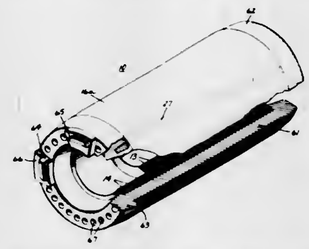
3,261,999
ELECTRIC MOTOR CONSTRUCTION
William P. Gallagher, Coral Gables, and Richard J. Dykinga, Miami, Fla., assignors to International Register Company, Chicago, Ill., a corporation of Illinois
Filed May 22, 1964, Ser. No. 369,412
15 Claims. (Cl. 310—164)



1. An electric motor construction comprising: a magnetic field structure including: a rectangular mounting plate having upstanding generally parallel sides along one pair of opposite edges and providing a flat bottom U-shape, a core extending upwardly from and secured at its lower end to said flat bottom of said mounting plate intermediate said sides, an inner field plate secured to the upper end of said core and having a plurality of pole tips extending at right angles away from said core in spaced relation along a circle whose diameter is less than the distance between said sides of said mounting plate, and an outer field plate interconnecting the distal edges of said sides of said mounting plate, forming therewith a housing having a rectangular cross section, and having radially inwardly extending pole tips interspersed among said pole tips on said inner field plate along said circle; a shaft extending axially of said core and of said circle along which said pole tips are located, a permanent magnet rotor on said shaft rotatable within said pole tips and having a plurality of magnetic poles along its periphery, a cam rotatable with said rotor and having a radially extending shoulder, a pinion rotatable with said rotor, a gear driven by said pinion, an arm rotatable about the axis of rotation of said gear and having frictional engagement therewith, a detent carried by said arm for engagement with said shoulder on rotation of said rotor in a reverse direction to prevent continued rotation thereof in said reverse direction, and a winding on said core between said mounting plate and said inner field plate adapted to be connected for energization to a source of alternating current.

3,262,000
DYNAMOELECTRIC MACHINE ROTOR
Alvin L. Rediger, Zeeland, and Julius Slager, Holland, Mich., assignors to General Electric Company, a corporation of New York
Original application May 14, 1962, Ser. No. 194,540. Divided and this application Sept. 16, 1965, Ser. No. 487,712
4 Claims. (Cl. 310—261)

1. A rotor for use in an induction type dynamoelectric machine comprising a stack of laminations having a central bore counterbored at one end for receiving rotor supporting means, a plurality of conductor slots disposed radially beyond said bore in skewed axial register through the stack, conductors of nonmagnetic electrically conducting material cast in said slots and interconnected at each end of the stack by end rings to form a cast squirrel-cage winding, spaced apart mounting studs integrally provided on at least one of said end rings, and a plurality of angularly spaced apart recesses surround casting sprues disposed angularly around the end



ring, at least one of said recessed sprues being positioned between the studs, balance weight means secured to said mounting studs adjacent an end ring without interference from said sprues, more than one angularly spaced apart shallow weld formed along a periphery of the stack at least in the region of the counterbored portion thereof prior to the casting of the conductors whereby said welds and winding conjointly hold said laminations together in the counterbored region of the stack.

3,262,001
ELECTRIC LAMP
Josephus Franciscus Rijckeart, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 8, 1964, Ser. No. 336,399
Claims priority, application Netherlands, Jan. 28, 1963, 288,232
1 Claim. (Cl. 313—49)

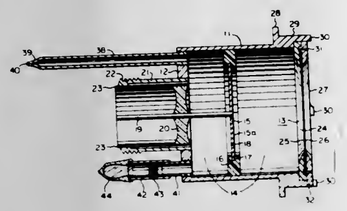


An electric lamp comprising a bulb having at least one projection thereon, a filament, first means mounting said filament within said bulb, a lamp cap, and second means mounting one end of said bulb in said lamp cap, said second means including two strip-shaped parts positioning said one end of the bulb in spaced relationship with the inner side of said lamp cap, one of said strip-shaped parts being provided with an aperture through which the projection of said bulb protrudes, said strip-shaped parts being provided with bent tongues in adjacent pairs that abut each other and are secured together.

3,262,002
CONVERTIBLE X-RAY DETECTOR
Robert W. Kreplin, Fort Washington Forest, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 17, 1961, Ser. No. 124,737
18 Claims. (Cl. 313—52)

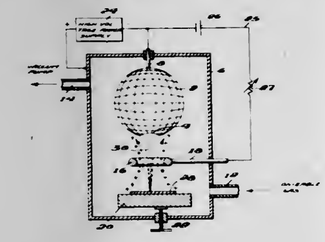
8. An X-ray detector capable of being converted from an ionization chamber operable within a surrounding at atmospheric pressure to a vacuum photocell during operation within a substantially reduced atmospheric pressure comprising an envelope, an anode and a cathode within said envelope, said cathode having a photoelectric

surface which is sensitive in the spectral region of from about 1 to about 100 Angstroms, a filling of a photoionizable gaseous medium, a window opposite said cathode capable of transmitting radiation in the spectral region of from about 1 to about 100 Angstroms, and means



for allowing said gaseous medium to escape from said envelope when said detector is within a surrounding of reduced atmospheric pressure to change the mode of operation of said detector to that of a vacuum photocell.

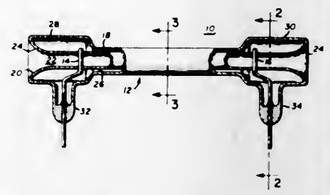
3,262,003
PERFORATED HOLLOW CATHODE DISCHARGE DEVICE
Richard J. Allen III, Hugo L. L. Van Paassen, and Emil C. Muly, Jr., Baltimore, Md., assignors to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
Filed May 25, 1962, Ser. No. 197,649
10 Claims. (Cl. 313—207)



1. An electronic discharge device comprising in combination
means for generating a narrow electron beam in an ionizable gas having a low subatmospheric pressure, said generating means including a hollow cathode body defining a generally spherical cavity and having a perforated wall portion containing an aperture;
and means for dispersing upon perforated portions of the body remote from the aperture the ions generated by and in conjunction with the electron beam which are attracted to the cathode, whereby the number of ions entering the cathode cavity through the aperture is reduced.

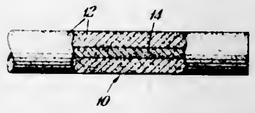
3,262,004
FLASH DEVICE
Charles H. Keller, Sunnyvale, Calif., assignor to Pek Labs, Inc., Sunnyvale, Calif., a corporation of California
Filed Mar. 19, 1963, Ser. No. 266,303
8 Claims. (Cl. 313—220)

1. A low pressure discharge device comprising: an elongated envelope having an elongated cavity, said envelope being formed of an outer and inner tubular member having opposite ends sealed to one another to define an elongated space therebetween suitable for pressurizing, the inner bore of said inner tubular member defining said elongated cavity open at least at one end; a pair of ring-shaped electrodes disposed in said space and substantially surrounding said inner tubular member and spaced from each other a selected distance defining the



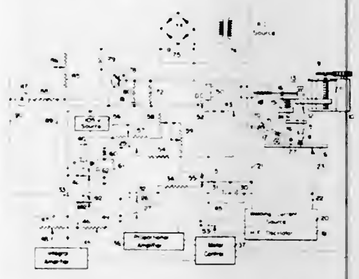
active length of said device; and conductor means connected to said electrodes and sealed to said envelope for applying electrical energy to said electrodes to produce a flash upon discharge extending through said active length.

3,262,005
HIGH INTENSITY CARBON ELECTRODE
Marvin R. Riek, Fostoria, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Aug. 26, 1963, Ser. No. 304,637
7 Claims. (Cl. 313—311)



2. A high intensity arc carbon positive electrode comprising a core consisting predominantly of a carbonaceous material and flame material, and a shell consisting predominantly of carbonaceous material and containing between 0.1 and 6% by weight of at least one oxide of the metals zirconium and titanium, said percent by weight being computed as metal dioxide based on the weight of said shell without said oxide.

3,262,006
WELDING CONTROL SYSTEM
Albert M. Sciaky, Palos Park, and Eugene P. Vilkas, Chicago, Ill., assignors to Welding Research, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 27, 1963, Ser. No. 333,809
9 Claims. (Cl. 314—63)



1. In a welding system of the type in which a nonconsumable welding electrode is held in a position adjacent to a work piece to produce an arc therebetween, and wherein the electrode is held in a welding torch which is supported by an automatic welding head having driving means for positioning the electrode in accordance with an error voltage applied thereto, the combination including, first and second voltage supply means for producing first and second reference voltages, control means

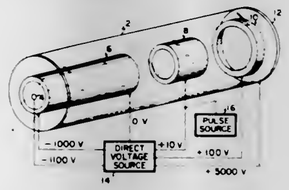
responsive to the arc voltage between the welding electrode and the work piece for producing a first error voltage representing the difference of said arc voltage from said first reference voltage, radiation sensing means responsive to the intensity of the welding arc radiation for producing a voltage which varies with such radiation, said radiation sensing means including a portion in engagement with the work piece to position said sensing means with respect to the welding arc, means producing a second error voltage representing the difference of said voltage produced by said sensing means from said second reference voltage, and switch means for initially applying said first error voltage to said driving means, said switch means including time delay means causing operation of said switch means to apply said second error voltage to said driving means after a predetermined time.

3,262,007
SINGLE GUN COMPATIBLE COLOR REPRODUCTION TUBE
R. Lee Hollingsworth, 266 Maple Place, Mineola, N.Y.
Filed July 26, 1963, Ser. No. 297,814
24 Claims. (Cl. 315—14)



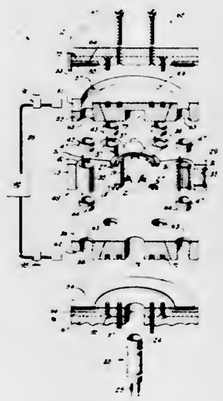
1. In a television cathode ray tube equipped with an electron gun and a fluorescent screen positioned for impingement by a beam of electrons emanating from said gun; said screen comprising a plate member provided on the surface thereof facing said electron gun with a plurality of discrete parallel grooves of uniform size and shape, each of said grooves having its entire surface area covered by an electrically conductive layer of metal, each of said layers having superposed over its entire surface area a quantity of a phosphor adapted to emit light when impinged upon by said beam of electrons, and an electrical terminal provided in each of said grooves at one end thereof in electrical contact with the respective layer of metal, said terminals being adapted for electrical connection to circuitry so as to be operative in controlling said beam of electrons.

3,262,008
BISTABLE DEVICE
George W. Goodrich, Oak Park, Mich., assignor to The Bendix Corporation, Southfield, Mich., a corporation of Delaware
Filed Nov. 12, 1963, Ser. No. 322,741
5 Claims. (Cl. 315—12)



1. A bistable device comprising
means for producing particles,
a dynode disposed to receive the particles,
said dynode having secondary electron emissive properties,
means for applying a first pulse to the dynode to produce secondary electrons upon receipt of the particles, said last means for applying a second pulse to the dynode to stop production of secondary electrons,
and a collector disposed to receive the secondary electrons produced by the dynode.

3,262,009
MAGNETRON TUNABLE BY HYDRAULICALLY VARYING THE CAVITY PENETRATION OF CONDUCTIVE MATERIAL WITHIN A MAGNETIC FIELD PERMEABLE TUBE
Robert C. Sibley, Williamsport, Pa., assignor, by mesne assignments, to Litton Industries, Inc., Beverly Hills, Calif., a corporation of Delaware
Filed Feb. 27, 1963, Ser. No. 261,380
9 Claims. (Cl. 315—39.55)

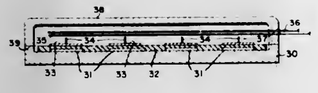


1. In a tunable magnetron having an anode structure formed to provide a plurality of evacuated resonator cavities opening into an axial bore wherein a cathode is longitudinally positioned and substantially centrally spaced, cavity tuning means comprising:
a plurality of magnetic field permeable pressure-tight tubes extending through at least some of said resonator cavities;
electrically conductive tuning material movably contained within said tubes; and
fluid pressure means operatively connected to said tuning material to provide movement thereof within said tubes to achieve like frequency tuning of said resonator cavities.

3,262,010
ELECTRICAL DISPLAY APPARATUS INCORPORATING ELECTROLUMINESCENT AND GAS DISCHARGE DEVICES
Benjamin Kazan, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Aug. 31, 1960, Ser. No. 53,109
12 Claims. (Cl. 315—63)

8. An electrical display panel, comprising: a transparent electrical insulating support; a plurality of spaced, substantially parallel, transparent, electrical conducting strip electrodes disposed on one face of said member; a layer of electroluminescent material disposed on said one face over said electrodes; a plurality of plate electrodes

arranged in rows extending at an angle to said strip electrodes, the plate electrodes of the respective rows being individually aligned with respective strip electrodes in positions electrically contacting said electroluminescent material; a gas discharge tube at each row of plate electrodes including a main electrode spaced a predetermined distance from said plate electrodes and an ionizing elec-

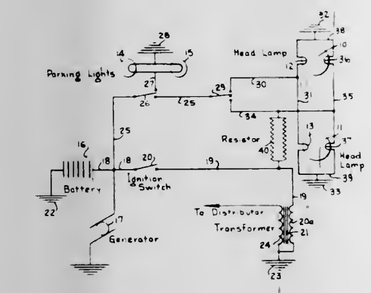


trode substantially coextensive with and spaced from said main electrode; means applying an ionization sustaining voltage to said ionizing electrode; and means applying a voltage to at least one of said strip electrodes and said main electrode of a level below that required to sustain ionization.

3,262,011
HEADLAMP FOR BOTH DAY AND NIGHT DRIVING

Van Buren Cones, Indianapolis, Ind., assignor of fifty percent to Ben Cones, Indianapolis, Ind.

Filed July 2, 1963, Ser. No. 292,345
2 Claims. (Cl. 315—82)



1. In a vehicle having an ignition system, a headlamp having both high and low beam filaments, a source of electrical energy, and circuits between said source, said filaments, and said system, the combination therewith of

a filament control switch in one of said circuits including said filaments wherein the switch selectively may set up an open circuit condition in respect to said energy source and both of said filaments, a closed circuit condition in respect to the energy source and the high beam filament only, and a closed circuit condition in respect to said source and the low beam filament only;

an ignition switch in another of said circuits controlling said ignition system and being in the circuit between said source and said system; and

a resistor interconnecting said low beam filament circuit with said ignition system circuit between said control switch and the low beam filament and between said ignition switch and the ignition system respectively;

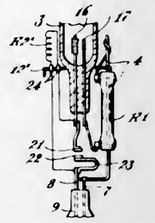
providing energization of the low beam filament only through said resistor when the ignition switch is closed and the filament control switch is in said open circuit condition said resistor causing the low beam filaments to provide a diminished illumination.

3,262,012
ELECTRIC DISCHARGE DEVICE HAVING A THERMOSTATICALLY OPERATED SWITCH CONNECTED TO A MAIN ELECTRODE

Frederick Koury, Lexington, and John F. Waymouth, Marblehead, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Dec. 31, 1963, Ser. No. 334,883
7 Claims. (Cl. 315—100)

1. An alternating current electric discharge device comprising an envelope containing a vaporizable, positively ionizable material, at least two electrodes enclosed

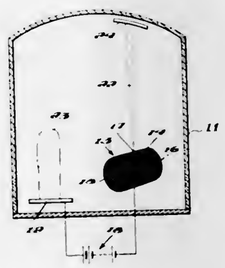


by said envelope, said electrodes and material providing an electric arc discharge path within the envelope, for each electrode a terminal exterior of the envelope for applying high voltage discharge current thereto, electric impedance means of the same order of ohmic value as the operating impedace of said arc discharge path connected between one said terminal and electrode in series with said discharge path, and thermostatic switch means of substantially negligible resistance connected in parallel with said impedance means and responsive to heat from said arc to shunt said resistance out of series with said path while said arc is discharging continuously.

3,262,013
PERFORATED HOLLOW CATHODE DISCHARGE DEVICE

Richard J. Allen III and Hugo L. L. van Paassen, Baltimore, Md., assignors to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed Feb. 2, 1962, Ser. No. 170,697
15 Claims. (Cl. 315—326)



1. A gas discharge device comprising

a housing;

an ionizable gas in said housing, said gas being at a subatmospheric pressure;

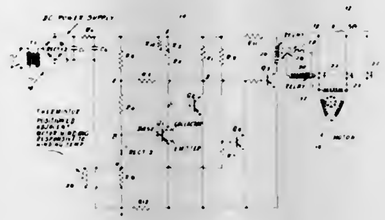
an anode and a cathode positioned in spaced relationship in said housing, said cathode containing a cavity and having a portion provided with at least one aperture and with a plurality of perforations adjacent to said aperture,

said aperture and said perforations opening into said cavity; and means for establishing a potential difference between said cathode and said anode to cause emission of a narrow beam of negatively charged particles outwardly from said aperture.

3,262,014
EQUIPMENT PROTECTION MEANS

Leonard Eugene Conner, Overland, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware

Filed Feb. 5, 1962, Ser. No. 171,038
7 Claims. (Cl. 317—13)

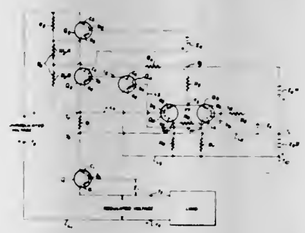


1. A condition responsive circuit for controlling the the energization and de-energization of an electrical device in response to predetermined changes in a preselected condition comprising a pair of transistor amplifier stages each having input and output circuits, condition sensing means responsive to said condition coupled in the input circuit of one of said stages to control the output thereof in response to changes in said condition, means coupling the input circuit of the other of said stages to the output circuit of said one stage to control the output thereof in response to the output of said one stage, feedback circuit means coupled between the output circuit of said other stage and the input circuit of said one stage to provide positive feedback between said stages, circuit means responsive to the output of said other stage connected to said electric device to effect operation of said electric device in response to the output of said other stage, and another transistor amplifier stage having an input circuit and an output circuit, the input circuit of said another stage being coupled to said sensing means, the output of said another stage being coupled to said circuit means and being responsive to a predetermined condition of said sensing means to effect de-energization of said electric device upon the occurrence of said predetermined condition of said sensing means independently of said other stage.

3,262,015
OVERLOAD PROTECTION CIRCUIT

Bernard F. McNamee, Altadena, and Richard C. Johnson, Temple City, Calif., assignors to Dressen-Barnes Electronics Corporation, Pasadena, Calif., a corporation of California

Filed June 11, 1962, Ser. No. 201,447
5 Claims. (Cl. 317—20)
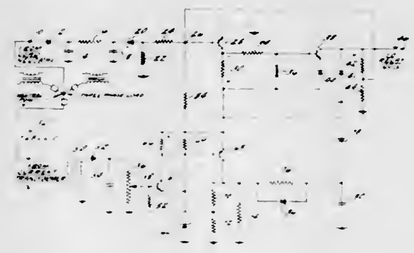


3. In an overload protective circuit for a current carrying line: at least two overload protective transistors each having an on state and an off state; means serially coupling the protective transistors to the line; circuit means for each protective transistor biasing the corresponding transistor to its on state; a circuit responsive to the intensity of current in the line for counteracting the biasing circuit of one of the protective transistors for switching said one protective transistor to its off state; impedance means shunting said one protective transistor; means responsive to increase in level of current in the shunting impedance means corresponding to line overload, for counteracting the biasing circuit of the second protective transistor for switching it off; and a relay having a coil normally paralleling said protective transistors for energization when said protective transistors assume their off states, said relay having contact means for disconnecting the shunting impedance means when the relay operates.

3,262,016
LOAD PROTECTOR

Henry E. Martin, Wapping, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Aug. 21, 1962, Ser. No. 218,264
6 Claims. (Cl. 317—33)



1. A protector circuit for a three-phase circuit having a neutral point,

sensing means connected to the neutral point of said three-phase circuit for sensing the unbalance of said circuit and producing a first A.C. signal,

means responsive to said first A.C. signal for producing a first D.C. signal whose magnitude is representative of and proportional to said first A.C. signal,

means for sensing the current of one phase to produce a second A.C. signal representative of and proportional to said phase current,

rectifying means receiving said second A.C. signal to derive a second D.C. signal proportional to said second A.C. signal,

a first circuit means responsive to either said first or second D.C. signals for producing an output signal, and

positive feedback means connected between the output and the input of said first circuit means.

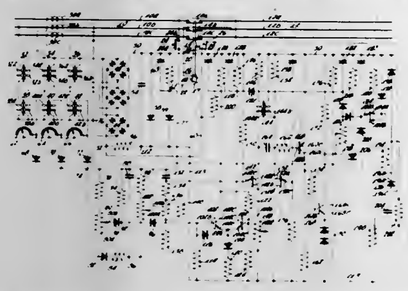
3,262,017
STATIC OVERCURRENT TRIPPING DEVICE

Harry B. Ashenden, Cambridge, and Charles P. Goeller, Quincy, Mass., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Nov. 1, 1962, Ser. No. 234,820
7 Claims. (Cl. 317—33)

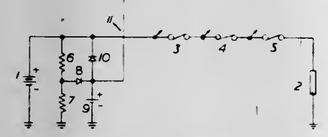
1. In a control system for a circuit breaker which protects an electrical circuit, in combination, means for providing a signal in response to an overcurrent in said circuit, tripping means energizable by said signal to trip said circuit breaker, and static relay means energized by said signal and responsive thereto to control said tripping means, said static relay means comprising capacitor means chargeable in response to said signal and being dischargeable to effect energization of said tripping means when charged to a predetermined level, said static relay means

further comprising trigger means responsive to the magnitude of said signal to control charging and discharging of said capacitor means to prevent said capacitor means



from effecting energization of said tripping means in the event the magnitude of said signal is below a predetermined level.

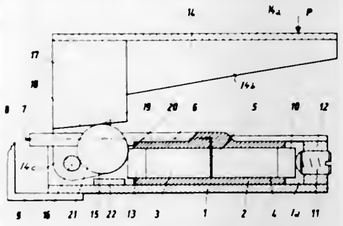
3,262,018
FUSE PROTECTION SYSTEM WITH AN AUXILIARY HIGH CURRENT VOLTAGE SOURCE FOR SELECTIVE DISCONNECTION OF LOADS UNDER FAULT CONDITIONS
Renaat Frans Bogaerts and Joseph Marie Gerlachus Vanderheyden, Antwerp, Belgium, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 6, 1963, Ser. No. 263,185
Claims priority, application Netherlands, Mar. 21, 1962, 276,219
8 Claims. (Cl. 317—40)



1. A power supply system comprising a low current power source, at least one load circuit supplied by said low current power source, fuse means in said load circuit, said fuse means requiring more current to operate than is supplied by said low current source, a high current power source normally not connected to said load circuit, means responsive to an overload condition at said load circuit for connecting said high current power source to said fuse to operate said fuse to remove said overloaded circuit from said system, and means for charging said high current source from said low current source when said high current source potential falls below a predetermined value.

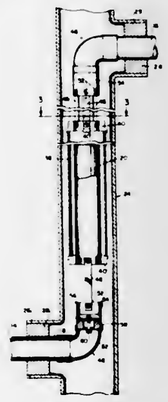
3,262,019
PIEZOELECTRIC DEVICE
Wolfgang Maltner, Oberstedten, Taunus, and Otto Holfeld, Dudenhofen, Germany, assignors to Heinrich Maltner G.m.b.H., Offenbach (Main), Germany
Filed Sept. 14, 1964, Ser. No. 396,073
Claims priority, application Germany, Sept. 25, 1963, M 58,333
14 Claims. (Cl. 317—96)

1. A piezoelectric device comprising supporting means; piezoelectric crystal means disposed on said supporting means and having one end abutting said supporting means; a manually operated member movably mounted on said supporting means; and a force transmitting member loosely touching said manually operated member, said supporting means, and the other end of said piezoelectric crystal means at three spaced points thereof, said force transmitting member having such a shape as to be wedged between said supporting means and said piezoelectric crystal means when a force is applied thereto by said manually operated member whereby a greater force is transmitted by said force transmitting member to said



piezoelectric crystal means than is exerted on said force transmitting member by said manually operated member and a voltage is created by said piezoelectric crystal means.

3,262,020
HEAT TRANSFER DEVICE
James Anderson and Carl Arsen Klobassa, Dallas, Tex., assignors to Continental Electronics Manufacturing Company, Dallas, Tex., a corporation of Texas
Filed Nov. 20, 1963, Ser. No. 324,954
6 Claims. (Cl. 317—100)

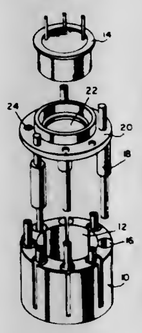


1. A heat transfer system, comprising means for radiating heat, a vertically extending sleeve open at both ends spaced from and encircling said heat radiating means, a container spaced from and encompassing said heat radiating means and sleeve, means for supplying liquid to said container, said sleeve and said heat radiating means defining a space therebetween in liquid connection at the upper and lower ends of said sleeve with said container, whereby heat radiated from said heat radiating means changes liquid, supplied to said space into gas, thus creating a fluid flow past said heater means.

3,262,021
PANEL MOUNTED INDICATOR LIGHT
Herbert Towne, Roslyn, N.Y., assignor to Dialight Corporation, Brooklyn, N.Y., a corporation of New York
Filed Mar. 20, 1963, Ser. No. 266,680
4 Claims. (Cl. 317—101)

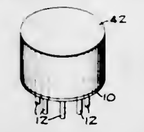
3. A panel light indicator assembly comprising:
(1) a first cylindrical insulating body having a central counterbore sized to snugly receive a transistor;
(2) a plurality of annularly arranged counterbores surrounding said central counterbore, substantially coextensive therewith, for snugly receiving passive

circuit elements, said plurality of counterbores opening through one end of said body to their full diameter and opening through the other end of said body in a relatively smaller diameter;
(3) a plurality of passive circuit elements mounted in said plurality of counterbores;
(4) a first insulating substantially washer-shaped member having inside and outside diameters substantially the same as said first insulating body, and having an annularly arranged series of openings therethrough equal in number to said plurality of counterbores and positioned concentrically therewith, in contact with said first body member to retain said plurality of electrical components therein;
(5) a transistor inserted through said washer-shaped insulating member and received within said central counterbore in said first insulating body;
(6) a second substantially washer-shaped insulating member having an annular arranged series of openings therethrough corresponding in spacing and diameter to those in said first washer-shaped insulating member, positioned adjacent said first insulating washer-shaped member in parallel relationship thereto;
(7) connector means arranged on said second insulating member and establishing electrical connections between said passive circuit elements and said transistor;



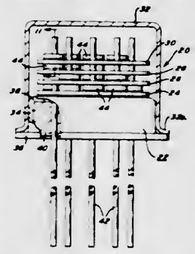
(8) a gaseous diode having its leads connected to said connector means for establishing electrical connection thereto and for supporting said gaseous diode on said assembly;
(9) a third washer-shaped insulating member positioned concentrically with said first insulating body and at the end thereof remote from said second insulating member, said third insulating member carrying on one surface connections between the opposite ends of said passive circuit elements for completing the electrical circuit between said diode, said transistor and said passive circuit elements;
(10) a plurality of connector pins extending axially from said third washer-shaped insulating member, said pins being connected at their inner ends to the said connections on said third insulating member and affording connection of electrical voltages for operation of said gaseous diode through said passive circuit elements and said transistor;
(11) an insulating sleeve snugly receiving and surrounding at least said first and second insulating members;
(12) and a metallic housing for receiving said assembly said housing including a transparent portion surrounding said gaseous diode and further including means for retaining said assembly within said housing.

3,262,022
PACKAGED ELECTRONIC DEVICE
Edward A. Caracciolo, Santa Clara, Calif., assignor to General Micro-Electronics Inc., a corporation of Delaware
Filed Feb. 13, 1964, Ser. No. 344,741
11 Claims. (Cl. 317—101)



1. A packaged electronic device comprising a glass body of insulating material formed with a cavity therein, a plurality of leads imbedded within said body with portions thereof projecting out of said body, a bed of glass insulating material meltable at a temperature lower than the melting temperature of said body, said bed being disposed within said cavity and being fused into said body to form a homogeneous glass mass, a surface of said bed being planar with the surface of said body surrounding said cavity, an electronic device embedded in said bed, and an interconnecting conductor lead array adhering to said leads and said electronic device for establishing electrical connections therebetween.

3,262,023
ELECTRICAL CIRCUIT ASSEMBLY HAVING WAFERS MOUNTED IN STACKED RELATION
Frank J. Boyle, Pitman, N.J., assignor to International Resistance Company, Philadelphia, Pa.
Filed Mar. 19, 1964, Ser. No. 353,055
1 Claim. (Cl. 317—101)



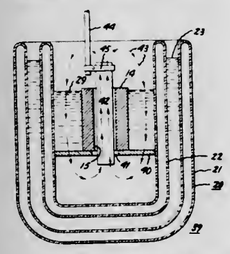
An electrical circuit assembly comprising a header having a plurality of spaced parallel terminal wires extending therethrough and secured thereto,
a plurality of flat wafers of an electrically insulating material,
each of said wafers having a plurality of holes therethrough equal in number to the number of said terminal wires,
at least one electrical element on each of said wafers,
interconnecting strips of an electrically conductive material coated on a surface of each of said wafers,
each of said strips extending from an electrical element to a separate one of the holes in the wafer and having a terminal pad surrounding the hole,
said wafers being mounted in stacked relation on said header with the terminal wires extending through the holes in the wafers,
metal washers sandwiched between said wafers and firmly supporting the wafers in spaced relation, each of said washers surrounding a separate terminal wire and being seated on a terminal pad of an adjacent wafer, additional metal washers surrounding the ter-

minal wires and seated on the terminal pads on the uppermost of the wafers,

each of said washers having a layer of solder coated on its inner surface and its surface which is seated on a terminal pad, and

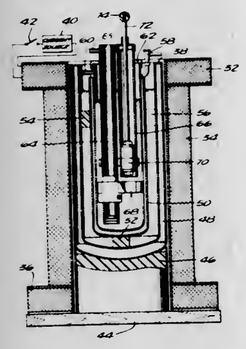
the washers being bonded by said solder to the terminal wires and terminal pads so as to mechanically secure the wafers to the terminal wires and electrically connect the electrical elements to the terminal wires.

3,262,024
SUPERCONDUCTIVE DEVICE
Paul S. Swartz, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 2, 1961, Ser. No. 149,591
3 Claims. (Cl. 317—158)



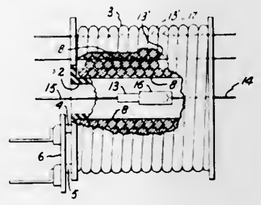
1. An apparatus comprising a solid high field superconductive body having an aperture therethrough, a permanent magnet positioned in the aperture of said body producing a magnetic field generally parallel to the axis of said aperture within said aperture, and means to cool said body below its critical temperature.

3,262,025
MAGNETIC-FLUX PUMP
Alvin F. Hildebrandt, La Crescenta, Daniel D. Elleman, La Canada, and Frank C. Whitmore, Altadena, Calif., assignors to California Institute Research Foundation, Pasadena, Calif., a corporation of California
Filed Nov. 29, 1961, Ser. No. 155,596
4 Claims. (Cl. 317—158)



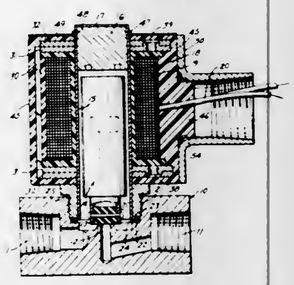
1. A magnetic-flux pump comprising walls defining a first and second cavity separated by a slot, said walls being made of a material having superconducting properties when below a critical temperature, a body having a first portion made of a material having superconducting properties when below a certain temperature and a second portion made of a ferromagnetic material, said first and second portions of this body each being sufficiently large to substantially fill said first cavity and to be slidably insertable thereinto, means for supporting said first and second portions of said body adjacent one another for successive insertion of said second portion into said first cavity before cooling below said critical temperature and for insertion of said first portion into said first cavity after cooling below said critical temperature.

3,262,026
SUPERCONDUCTIVE SOLENOIDS HAVING A FIELD PROBE MOUNTED THEREIN
Carl H. Rosner, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 1, 1964, Ser. No. 379,635
5 Claims. (Cl. 317—158)



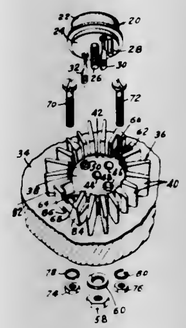
1. In apparatus for generating a magnetic field including a superconductive coil having an internal surface the combination therewith of a field probe sensitive to magnetic fields, said probe being permanently mounted adjacent said internal surface and positioned to sense a magnetic field generated by said superconductive coil and being electrically insulated from said coil.

3,262,027
SOLENOID STRUCTURE AND MOUNTING MEANS THEREFOR
Michael J. Zaleske, Union, and Alan W. Churchill, Caldwell, N.J., assignors to Automatic Switch Company, Florham Park, N.J., a corporation of New York
Filed Apr. 6, 1964, Ser. No. 357,453
17 Claims. (Cl. 317—165)



1. In a solenoid, a non-magnetic core tube, a spool encircling said tube and supporting a solenoid coil, a magnetic armature within said tube, and a magnetic yoke enveloping said spool and completing a magnetic circuit through said armature, said yoke comprising a U-shaped peripheral wall and double-ply end walls, the curve of the U extending around the spool in substantially concentric relation thereto and the arms of the U defining side walls on opposite sides of the spool, respectively, each side wall having integral wings extending across the spool axis at the opposite spool ends respectively, adjacent wings being in overlapping relation to define said double-ply end walls, said end walls being provided with aligned openings through which the opposite end portions of said tube extend.

3,262,028
ELECTRICAL COMPONENT MOUNTING DEVICE
Harold B. Hermann, 3036B N. San Gabriel Blvd., South San Gabriel, Calif.
Filed Apr. 17, 1962, Ser. No. 188,061
2 Claims. (Cl. 317—234)



1. A device for mounting on a receiving surface of a wall a transistor having conductor leads and a mounting stud extending outwardly from a mounting surface thereof, comprising:

a disk-like body having first and second parallel surfaces displaced from each other a distance greater than the length of said transistor mounting stud,

said body being provided with passageways therethrough extending perpendicularly from one of said body surfaces to the other,

one of said body surfaces being arranged for the intimately adjacent reception of said transistor mounting surface with said transistor mounting stud extending through one of said passageways and said conductor leads through others of said passageways and spaced from the walls thereof,

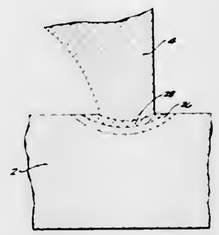
said body defining a recessed well extending partially thereinto from the other of said body surfaces and at least in part along the axis of said one of said passageways,

said well providing sufficient space for the reception of means to cooperate with said transistor mounting stud to secure said transistor to said body;

and means for securing said body to said wall with said other of said body surfaces intimately adjacent said receiving surface of said wall.

3,262,029
LOW NOISE MICROWAVE DIODE
Sverre T. Eng, Tustin, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed July 24, 1962, Ser. No. 212,101
3 Claims. (Cl. 317—234)

1. A microwave frequency semiconductor device having a tunneling characteristic substantially in the reverse direction only and comprising a body of degenerate N-type germanium having a resistivity of between 0.001 and 0.004 ohm-centimeter, and a lead of acceptor material bonded to said germanium body and forming thereat a P-type region in said body, the capacitance between said lead and said N-type germanium body extending up to



and including about 0.20 micromicrofarads, and a non-rectifying connection to another portion of said germanium body.

3,262,030
ELECTRICAL SEMICONDUCTOR DEVICE
Werner Theodor Reuscher, Nurnberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed July 16, 1963, Ser. No. 295,331
Claims priority, application Germany, July 27, 1962, St 19,531
2 Claims. (Cl. 317—234)



1. A semiconductor mounting structure, comprising:

an insulating ring having two holes therethrough, at least one of said holes being eccentric;

a pair of metal rings positioned on each side of said insulating ring, each of said metal rings having a hole therethrough in alignment with the other of said holes through said insulating ring, said metal rings being secured to said insulting ring as a unitary structure;

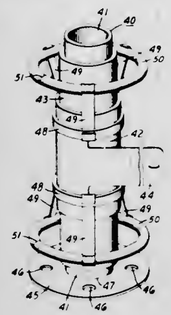
a semiconductor element having at least two electrodes positioned within said eccentric hole, one of said electrodes being directly secured to one of said metal rings and the other electrode being connected to the other metal ring; and

an insulated mounting bolt through said aligned holes.

3,262,031
TUBULAR CAPACITOR HAVING CORONA PREVENTION MEANS
Marvin G. Schaeffer, Farmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 2, 1964, Ser. No. 379,957
5 Claims. (Cl. 317—242)

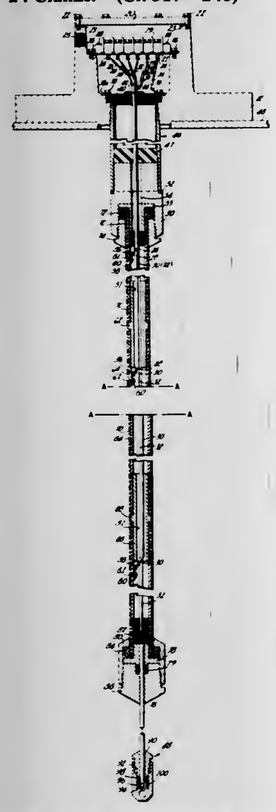
2. A capacitor means structure, comprising, in combination, an inner tubular member having terminal mounting provision thereon, a continuous tubular layer of solid dielectric rubbery material of less axial length than said inner tubular member and concentrically surrounding said inner tubular member, an outer metal portion of less axial length than both that of said inner tubular member as well as that of said dielectric rubbery material and centrally exposed for lead connection, and a pair of corona ring

means each concentric as to said inner tubular member as well as said layer of solid dielectric rubbery material



and each being mounted on said outer metal portion axially on opposite sides thereof.

3,262,032
CAPACITANCE TYPE, DEPTH MEASURING APPARATUS FOR CONDUCTIVE LIQUIDS
Robert J. Levine, Briarcliff Manor, and Richard D. Levine, Purdys, N.Y., assignors to Magnetic Instruments Co. Div. of Polymetric Devices Co., Inc., Jenkintown, Pa.
Filed Apr. 1, 1964, Ser. No. 356,496
24 Claims. (Cl. 317—246)



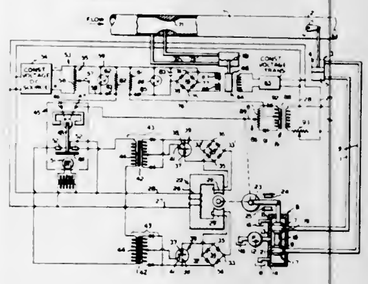
20. A capacitive probe for measuring the depth of a conductive liquid comprising:
(a) a plurality of separable, electrically conductive probe sections;
(b) electrically conductive connection means interposed between pairs of said probe sections to releasably join said probe sections in a particular sequence; and
(c) a single length, electrically non-conductive casing enclosing said probes in the assembled condition in a tight fitting relationship.

3,262,033
VARIABLE CAPACITOR
John H. Culbertson, Blue Mill Road, Morristown, N.J.
Filed Sept. 5, 1963, Ser. No. 306,793
6 Claims. (Cl. 317—253)



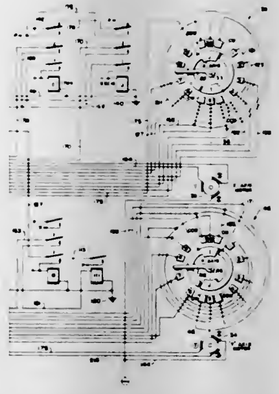
1. A rotor for a multi-blade air capacitor, said rotor being made of a single piece of metal and comprising,
(a) a lower portion in the form of a shaft which terminates in an enlarged-diameter shoulder portion,
(b) an axially-spaced upper portion in the form of a head having a slot formed therein,
(c) an intermediate portion having a mono-planar surface extending between the said shoulder portion and the said head, and
(d) a plurality of axially-spaced blades extending from the said intermediate portion and lying in planes normal to the said mono-planar surface, each blade having a straight edge lying in the plane of said mono-planar surface.

3,262,034
PROPORTIONAL SPEED FLOATING CONTROLLER
John C. Thoresen, Warwick, R.I., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed June 7, 1963, Ser. No. 286,274
6 Claims. (Cl. 318—18)



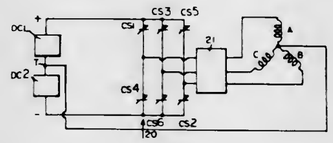
2. A proportional speed floating controller comprising
(a) a final control member movable in opposite directions to vary a condition in reverse senses;
(b) operating means capable of being energized in opposite senses for moving the final control member in said opposite directions;
(c) controlling means, having a member movable in opposite directions from a neutral position, for energizing the operating means in said opposite senses, the rate at which the operating means moves the final control member being dependent upon the distance the movable member of the controlling means is shifted from its neutral position;
(d) an error-detecting circuit;
(e) means in said circuit for establishing a reference voltage;
(f) means in said circuit and responsive to said condition for establishing a second voltage proportional to the magnitude of the condition;
(g) means in said circuit and responsive to movement of the movable member of the controlling means for establishing a third voltage variable in magnitude with the position of said movable member and in polarity with the direction in which that member moves from said neutral position;
(h) means associated with said last mentioned means for varying the rate of change of magnitude of the third voltage in response to movement of the movable member of the controlling means;
(i) a reversible electric motor connected to drive the movable member of the controlling means;
(j) a motor actuating circuit connected with the motor and including switching means having one condition in which it causes the motor to move in one direction, and another condition in which it causes the motor to move in the opposite direction; and
(k) error detecting means in said error detecting circuit and connected with said switching means, the error-detecting means being responsive to the difference between the reference voltage and the algebraic sum of the second and third voltages for causing the switching means to assume that condition which will eliminate said difference.

3,262,035
POSITIONAL CONTROL SYSTEM
George L. Gough, 3955 W. Lake Ave., Glenview, Ill.
Filed May 24, 1961, Ser. No. 120,837
21 Claims. (Cl. 318—19)



1. In an automatic machine control system for moving a movable element along a path with respect to X and Y axes, means for providing input data in terms of said movement with respect to said X and Y axes, and means in said system for translating said input data into a predetermined number of electrical connections including a commutator associated with each axis and comprising a plurality of inner sectors and a plurality of pairs of outer segments, corresponding ones of said pairs of outer segments being electrically coupled, the sum of the number of said inner sectors and said pairs of outer segments being equal to the smallest sum of two factors of said predetermined number, and means controllable by said electrical connections for moving said movable element with respect to said X and Y axes.

3,262,036
MEANS FOR SMOOTHLY VARYING THE SPEED OF A STAR-CONNECTED POLYPHASE INDUCTION MOTOR
Christopher D. Clarke and David A. Jones, Loughborough, England, assignors to Brush Electrical Engineering Company Limited, Falcon Works, Loughborough, England
Filed Sept. 19, 1962, Ser. No. 224,768
Claims priority, application Great Britain, Sept. 21, 1961, 33,779/61
7 Claims. (Cl. 318—230)

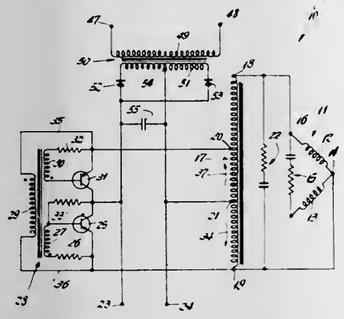


3. A variable frequency D.C. link inverter means for supplying a star-connected polyphase induction motor such that its speed can be varied smoothly from zero to very high speeds and such that it develops substantially smooth torque at all speeds within its range, comprising an inverter having a number of output phases equal to the number of phases of the motor, said inverter including switching elements for sequentially connecting its said output phases to said motor phases respectively, two D.C. voltage supplies for said inverter, a common terminal to which said D.C. voltage supplies are connected together, one of said D.C. voltage supplies having a positive voltage with respect to said common terminal and the other of said D.C. voltage supplies having a negative voltage with respect to said common terminal, a connection between said common terminal and the star point of said motor, a circuit for smoothly and repeatedly varying the voltages of said supplies from zero to maximum inversely and in synchronism, a circuit for varying the frequency at which the voltage variations occur, said switching elements adapted sequentially to connect one motor phase during a period in each half cycle to be supplied from said inverter with an increasing current derived from the one of said variable voltage D.C. supplies whose voltage is increasing, and in the same period to connect another motor phase to be supplied from said inverter with a decreasing current derived from the other of said variable voltage D.C. supplies whose voltage is decreasing, and means for synchronizing the variation in voltage of said D.C. supplies with the switching action of said inverter.

3,262,037
ALTERNATIVE A.C. OR D.C. SUPPLY FOR AN A.C. MOTOR
Owen J. McCabe, Bristol, and Allen R. Perrins, Cheshire, Conn., assignors to The Superior Electric Company, Bristol, Conn., a corporation of Connecticut
Filed May 23, 1963, Ser. No. 282,658
5 Claims. (Cl. 318—231)

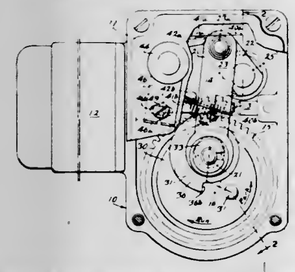
1. For use with an electric motor of the type having a two-phase field winding operable by alternating current, an electrical transducer for producing the alternating current of a specific frequency and voltage from a

unidirectional power source having a different voltage to operate the motor, said transducer comprising a pair of input terminals connectible to the source of unidirectional power, an autotransformer having a pair of output terminals across which the alternating current appears and first, second and third taps defining two substantially equal winding portions, a pair of transistors having their collectors connected to one input terminal, means connecting the other input terminal to the second tap, means connecting the emitter of one transistor to the first tap and the emitter of the other transistor to the third tap, a transformer having a primary winding and two secondary windings, means connecting the primary winding to the first and third taps, means connecting one second-



ary winding between the base and emitter of one transistor and the other secondary winding between the base and emitter of the other transistor, whereby said transistors are caused to alternately conduct in their emitter-collector path to produce said alternating current for said motor, said transistors each being of the type having a protruding portion and its collector common with a mounting base, and means for containing said electrical transducer and including a relatively thick heat sink portion formed from electrical and heat conducting metal, said heat sink portion being formed with a pair of recesses with the protruding portion of each transistor being positioned within a recess and its mounting base being secured to the heat sink portion.

3,262,038
WINDSHIELD WIPER MECHANISM
James W. Smith, Columbus, Miss., assignor to American Bosch Arma Corporation, Garden City, N.Y., a corporation of New York
Filed Dec. 12, 1962, Ser. No. 244,217
8 Claims. (Cl. 318—265)



1. A windshield wiper mechanism comprising a frame for containing said mechanism, a rotatable member adapted to be coupled to and driven by a motor in rotational movement about an axis of rotation relative to the frame, oscillating crank means supported on the frame for driving a windshield wiper back and forth through an arc by means of repetitive oscillatory movement, an actuating link for translating the rotation of the rotatable member into the oscillatory movement of the crank, said link being pivotally connected at one end to the crank and at the other end to the rotatable member at a radius from the axis of rotation, a parking switch supported by the frame including a pair of switch contacts connectable to the motor, actuator means for opening the contacts of the parking switch to deenergize the motor, said parking switch being rotatable relative to the actuator means to change the point at which the actuator means opens the parking switch, said pivotal connection between the link and the rotatable member including means to change the effective radius from the axis of rotation of the pivotal connection for inducing movement of the actuator means to open the contacts thereby deenergizing the motor.

3,262,039
DIRECT CURRENT GENERATOR
Isamu Ohno, Tokyo, Japan, assignor to Kabushikikaisha Yokogawa Denki Seisakusho (Yokogawa Electric Works Ltd.), Tokyo, Japan, a corporation of Japan
Filed Feb. 14, 1963, Ser. No. 258,435
Claims priority, application Japan, Feb. 26, 1962 (utility model), 37/8,454; July 13, 1962, 37/29,575
7 Claims. (Cl. 318—327)
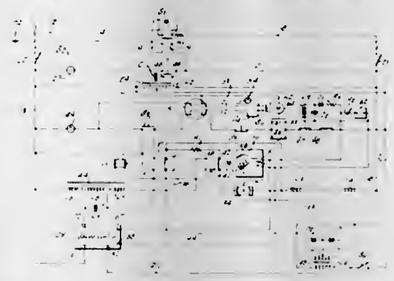


1. A direct current generator comprising a Hall plate having current terminals and voltage terminals, a coil, a rotoary magnet for establishing rotating magnetic field, said Hall plate and said coil being arranged with a desired electrical phase angle relation in said rotating magnetic field, a network including a reactance element, both ends of said coil being connected through said network to said current terminals of said Hall plate, and a low-pass filter circuit, the input terminals of said low-pass filter circuit, being connected to said voltage terminals of said Hall plate, thereby obtaining a direct current in proportion to a desired function of the revolution speed of said rotary magnet from the output terminals of said filter circuit.

3,262,040
SPEED CONTROL SYSTEM FOR CENTRIFUGE MOTORS AND THE LIKE
Alfred L. Jackson and James P. Fay, Norwalk, Conn., assignors to Ivan Sorvall, Inc., Norwalk, Conn., a corporation of Connecticut
Filed Sept. 23, 1963, Ser. No. 310,816
4 Claims. (Cl. 318—327)

1. A motor control system comprising a series brush commutated motor, a saturable reactor having a saturation control winding, a first source of alternating current, means to impress said first source of alternating current on said motor and said reactor in series relation, a speed sensing alternating voltage generator coupled to said motor, rectifying means to convert the output of said generator into a direct potential approximately proportional to the speed of said motor, an adjustable source of direct current speed controlling reference potential, a grid controlled gas discharge tube having a plate, a grid, and a cathode, a second source of alternating current,

first circuit means connecting said gas discharge tube, said reactor control winding and said second alternating current source in series relation, and second circuit means for applying a potential which is a function of the difference between said speed proportional potential and said reference potential to the control grid of said grid controlled gas discharge tube, said adjustable reference



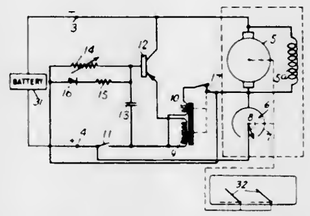
potential source including a first zener diode to maintain a first positive reference potential with respect to said cathode, a second zener diode to maintain a second negative reference potential with respect to said cathode, and potentiometer means to select an intermediate potential between said first positive and second negative zener reference potentials.

3,262,041
ZERO SPEED SWITCH
Cornelis B. A. Wickenhagen, Lawndale, Calif., assignor, by mesne assignments, to Emerson Electric Co., a corporation of Missouri
Filed May 14, 1962, Ser. No. 194,262
14 Claims. (Cl. 318—369)



7. In a control circuit for a reversible motor: a starting relay having a first set of relay contacts for energizing the motor for a normal direction of rotation; a plugging relay having a second set of relay contacts for reverse energization of the motor; an energization circuit for the starting relay including, in series, a normally open manually operable start switch, a normally closed manually operable plug stop switch, and normally closed interlock contacts operated by the plugging relay; holding contacts operated by the starting relay for paralleling said first start switch; an energization circuit for the plugging relay including, in series, a normally open manually operable plug stop switch operatively associated with said normally closed manually operable plug stop switch, normally closed interlock contacts operated by the starting relay, and normally open speed sensing contacts; holding contacts for paralleling said normally open plug stop switch; a control relay for said speed sensing contacts; means operated by said motor for producing an alternating electromotive force, the amplitude and frequency of which are functions of the speed of the machine; a series circuit including a resistor and an inductive reactor connected across said electromotive force producing means so that the voltage across said resistor is substantially a linear function of speed at low speed and substantially constant at high speed; and means connecting said control relay across at least a portion of said resistor for opening said speed sensing contacts and interrupting the circuit for said plugging relay when the motor speed approaches zero.

3,262,042
ELECTRICAL OPERATING CIRCUITS FOR VEHICLE WINDSCREEN WIPERS
John Charles Amos, Solihull, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Sept. 24, 1962, Ser. No. 225,540
Claims priority, application Great Britain, Oct. 6, 1961, 35,983/61
8 Claims. (Cl. 318—443)

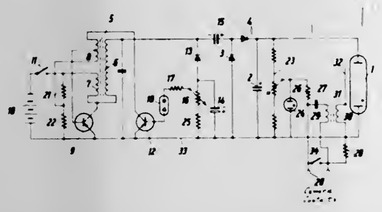


3. An electrical operating circuit for vehicle windscreen wipers which normally occupy a parking position when they are not operating, including an electric motor for driving the wipers, a rotary switch in series with and driven by the motor, said rotary switch occupying an open position when the wipers are in said parking position but at other times occupying a closed position in which it completes a circuit to the motor, a relay having a relay coil and a normally open relay contact in series with said motor, a manually operable switch in series with said relay contact, closing of said manually operable switch completing a circuit to the motor through said relay contact, a capacitor, means for charging said capacitor when said manually operable switch is closed, means operable when said capacitor is charged for energising said relay coil to close said relay contact and complete a circuit to the motor through said manually operable switch so that the wipers are operated and the rotary switch is moved from its open to its closed position, means providing a discharge path for said capacitor when said motor is energised, means whereby said relay becomes de-energised when the capacitor has discharged so that said relay contact opens and the motor is energised solely through the rotary switch and will be stopped when the wipers reach said parking position, whereafter the motor remains de-energised for a period of time during which said capacitor is charged again.

3,262,043
ELECTRONIC PHOTOFLASH APPARATUS
Frank-Armin Heinrich, Berlin-Kreuzberg, Germany, assignor to Robert Bosch Elektronik G.m.b.H., Berlin-Wilmersdorf, Germany
Filed July 14, 1964, Ser. No. 382,608
Claims priority, application Germany, Aug. 8, 1963, B 73,049
20 Claims. (Cl. 320—1)

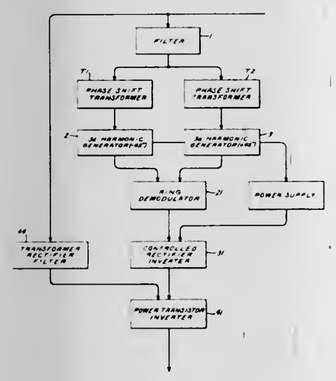
1. In an electronic photoflash apparatus with a discharge circuit including a gas discharge tube and a storage capacitor dischargeable across the gas discharge tube, in combination, electric energy supply means including direct current converter means furnishing in response to direct current energization an alternating voltage of predetermined elevated amplitude for charging the storage capacitor and comprising an oscillatory circuit with at least one controlling circuit portion therein for producing

said alternating voltage depending upon the operativeness of said controlling circuit portion; and regulator circuit means for automatically interrupting the alternating voltage output of said direct current converter means when said storage capacitor is charged to a predetermined potential and including auxiliary capacitor means connected with said direct current converter means for being charged thereby simultaneously with but independently from said storage capacitor, and discharge circuit means connected with said auxiliary capacitor means and including means



for rendering said discharge circuit means conductive only when said auxiliary capacitor means is charged to a predetermined potential, said discharge circuit means being also operatively connected with said controlling circuit portion of said direct current converter means and rendering said controlling circuit portion inoperative as long as a discharge of said auxiliary capacitor means down to a predetermined minimum potential through said discharge circuit means takes place, and restarting automatically thereafter the operativeness of said converter means.

3,262,044
ELECTRIC CONVERTING SYSTEM
Fred W. Kelley, Jr., Media, Pa., assignor to General Electric Company, a corporation of New York
Filed Apr. 29, 1963, Ser. No. 276,402
9 Claims. (Cl. 321—7)



1. An electric converting system comprising in combination,
(1) a first generator for generating a first square wave voltage having a predetermined frequency,
(2) said generator having an output transformer provided with a secondary winding having a center tap,
(3) a second generator for generating a second square wave voltage synchronously related to said first voltage, angularly displaced in phase therefrom and having the same predetermined frequency,
(4) said second generator having an output transformer provided with a secondary winding having a center tap and
(5) means for converting said first and second square wave voltages to a higher frequency harmonic square wave voltage at said center taps comprising a ring demodulator interconnecting said secondary windings.

3,262,045
REGULATED D.C. POWER SUPPLY
Aloysius J. Hauck, Milwaukee, Wis., assignor to Basic Products Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed July 19, 1962, Ser. No. 210,988
4 Claims. (Cl. 321—16)

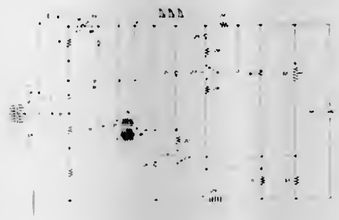


1. In a circuit for controlling output voltage in response to a plurality of input signals, the combination including an A.C. input, an output, silicon controlled rectifier means connected between said A.C. input and said output, a network for supplying gating pulses for said silicon controlled rectifier means including a regulated D.C. voltage source directly connected through a resistance network to charging capacitor means, means for introducing a plurality of input signals directly connected to said resistance network for controlling the charging rate of said charging capacitor means, and unijunction transistor means connected to said resistance network, said charging capacitor means and to said silicon controlled rectifier means, said unijunction transistor firing when said charging capacitor means reaches a predetermined level and generating a gating pulse at a predetermined time in the cycle for controlling said silicon controlled rectifier means.

3,262,046
REGULATED RECTIFIER SYSTEM
Patrick W. Clarke, Jackson Heights, N.Y., and Jack A. Henz, Metuchen, and John K. Mills, Morristown, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 28, 1962, Ser. No. 206,069
6 Claims. (Cl. 321—18)

1. A regulated rectifier comprising a controlled rectifier having anode, cathode and gate electrodes, a load, a source of pulsating potential, means for serially connecting said source, the anode and cathode electrodes of said controlled rectifier and said load, a capacitor, a transistor having base, emitter and collector electrodes, a source of reference potential, a transformer having at least first and second windings, means responsive to load voltage variations for determining the charging rate of said capacitor, means for connecting the base electrode of said transistor to said load voltage responsive means and to said capacitor, means for serially connecting the

emitter electrode of said transistor, said source of reference potential, said capacitor and the base electrode of said transistor, means including said first winding of said transformer for connecting the collector and emitter electrodes of said transistor, means including said sec-



ond winding of said transformer for connecting the gate and cathode electrodes of said controlled rectifier, and means including an asymmetrically conducting device for serially connecting said capacitor and the anode and cathode electrodes of said controlled rectifier.

3,262,047
RECTIFYING CIRCUITS USING PHOTOELECTRIC DEVICES
Frederick Hochberg, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 24, 1962, Ser. No. 225,532
8 Claims. (Cl. 321—43)



1. A circuit for rectifying alternating current signals comprising first and second input terminals,
means for applying an alternating current signal across said first and second input terminals,
first unidirectional photoemissive means coupled to said first input terminal for producing illumination in response to said alternating current flowing in a first direction,
second unidirectional photoemissive means coupled to said second input terminal for producing illumination in response to said alternating current flowing in a direction opposite said first direction,
first photoconductive means connected to said first input terminal for conducting portions of said alternating current in response to said illumination from said first unidirectional photoemissive means occurring when said alternating current is flowing in said first direction,
second photoconductive means connected to said second input terminal for conducting portions of said alternating current in response to said illumination from said second unidirectional photoemissive means occurring when said alternating current is flowing in a direction opposite said first direction,
and output means connected to said first and second photoconductive means for receiving the portions of said alternating current signal therefrom for providing a relatively direct current output signal.

3,262,048
FREQUENCY MULTIPLIER CIRCUIT INCLUDING A SEQUENTIAL PULSING CIRCUIT
Dallas H. Lien, Indianapolis, Ind., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 2, 1962, Ser. No. 191,848
11 Claims. (Cl. 321—68)

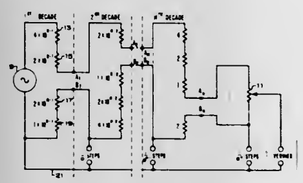


3. A frequency multiplier circuit for providing a composite output signal having a frequency that is a multiple of the frequency of a square wave input signal having positive and negative half cycles of equal amplitude, which comprises:
a series of sequentially arranged, bistable magnetic memory devices;
first and second control means for applying magnetizing forces having opposite polarities to the memory devices in response to the application of the input signal thereto, each control means being connected to the source and including a control winding wound on each memory device in the same winding direction and one which is opposite to that of the control windings of the other control means, the first control means being so arranged that a greater magnetizing force is applied to each succeeding memory device in the series in response to the application of any given input signal to the first control means, the second control means being so arranged that equal magnetizing forces are applied to all memory devices in the series in response to the application of any given input signal to the second control means;
a capacitor connected in series with the first control windings for progressively decaying the current in all of those control windings during each half cycle of the input signal so that a differential magnetizing force sufficient to drive the memory devices from one stable state to the other is applied to succeeding ones of the memory devices during each half cycle of the input signal, the memory devices being sequentially driven from primary stable states to secondary stable states during one half cycle of the input signal and being driven in the same sequence back to the primary stable states during the next half cycle of the input signal; and
an output conductor so wound on the memory devices that an output signal is induced therein each time a memory device is driven from one stable state to the other to induce in the output conductor a series of output signals equal in number to the number of memory devices during each half cycle of the input signal, the output signals being all one polarity during one half cycle and being all of the opposite polarity during the next half cycle.

3,262,049
SIGNAL DIVIDERS
Robert Elden Watson and Don A. Wick, Loveland, Colo., assignors to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 12, 1963, Ser. No. 308,451
4 Claims. (Cl. 323—80)

1. Signal apparatus comprising:
impedance means having a normalized impedance value of one;

at least first and second sets of impedances, each set including not more than four impedances having normalized values related by integer multiples to the normalized impedance value of said impedance means;
first and second input terminals and first and second output terminals for each of said sets of impedances;
means serially connecting a selected number of the impedances in the second set between the first input and output terminals of the second set;
means serially connecting the remaining impedances in the second set between the second input and output terminals of the second set;
means connecting said impedance means between the



first and second output terminals of said second set;
means serially connecting a selected number of the impedances in said first set between the first input and output terminals of the first set;
means serially connecting the remaining impedances in the first set between the second input and output terminals of first set;
means connecting the first and second input terminals of the second set to the corresponding first and second output terminals of the first set, the first and second input terminals of the first set being connected to receive an applied signal; and
means connected to one of the output terminals of the second set for providing an output signal with respect to the first input terminal of the first set.

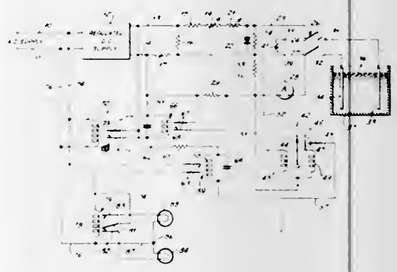
3,262,050
GUARD ELECTRODE TYPE METHOD AND APPARATUS FOR LOGGING BOREHOLES WITH SWITCH MEANS FOR ALTERING THE EFFECTIVE DEPTH OF PENETRATION OF THE CURRENT FROM THE MEASURING ELECTRODE
Philip Threadgold and Godfrey Stuart Thomas, Sunbury-on-Thames, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
Filed Feb. 20, 1963, Ser. No. 259,999
Claims priority, application Great Britain, Feb. 28, 1962, 7,829/62, 7,830/62
9 Claims. (Cl. 324—10)

1. A method of measuring, at various penetration depths, the electrical resistivities of earth formations traversed by a borehole containing an electrically conductive fluid, which comprises the steps of
locating within the borehole a symmetrical vertical structure including a measuring electrode flanked by a pair of guard electrodes and by at least one pair of electrodes spaced outside the guard electrodes,
connecting said measuring electrode and each of said guard electrodes to one terminal of a source of electric current whereby they are at substantially equipotential and all emit current to said ground formations
and then selectively during different periods of time,
connecting said pair of further electrodes to said one terminal of said source to cause said further electrodes also to emit current,
connecting said pair of further electrodes to the opposite terminal of said source to cause said further electrodes to receive current and
leaving said further pair of electrodes unconnected to cause them to be quiescent,
thereby to alter the effective penetration depth into said earth formations of the thin focussed electric



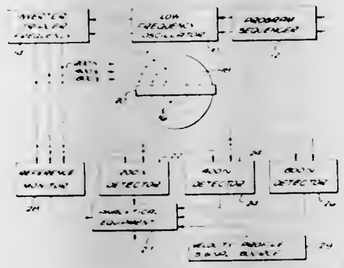
current sheet from said measuring electrode during said different periods of time and
measuring the respective values of the current emitted via said measuring electrode in each of said different periods of time to obtain a plurality of resistance measurements each for a different penetration depth of said current sheet.

3,262,051
METHOD AND APPARATUS FOR DETERMINING AND CONTROLLING THE CONCENTRATION OF NITRIC ACID IN A SOLUTION CONTAINING THE SAME
John H. Payne, Jr., Ladue, Mo., assignor to Monsanto Company, a corporation of Delaware
Filed Feb. 26, 1960, Ser. No. 11,300
21 Claims. (Cl. 324—29)



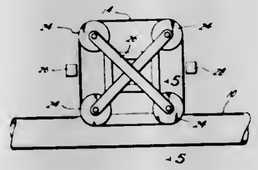
12. An apparatus useful for indicating the fall below a selected minimum of the nitric acid concentration of an aqueous solution comprising nitric acid and phosphoric acid, which apparatus comprises in combination a pair of electrodes, means for operatively providing a substantially constant current between said electrodes for at least a selected interval of operation, means cooperating with said means for providing current to automatically repeatedly interrupt said current for a selected time interval to thereby operatively provide a plurality of successive test periods during each of which a substantially constant current is established between said electrodes, and means for detecting a sudden variation in voltage across said electrodes during any one of said test periods.

3,262,052
CONDUCTIVITY PROFILE METER ARRANGEMENT
Allen E. Fuhs, Palos Verdes Estates, Calif., assignor to The Aerospace Corporation, Los Angeles, Calif., a corporation of California
Filed Jan. 2, 1962, Ser. No. 163,485
10 Claims. (Cl. 324—34)



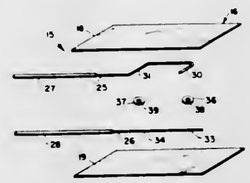
1. A meter arrangement for indicating the velocity-conductivity profile of matter moving in a region adjacent thereto comprising:
means establishing a magnetic flux field throughout the region under surveillance;
a plurality of nested sensing coil means each of a different diameter each deriving a signal in response to the disturbance of the flux field at a predetermined and different distance into the flux field; and
means coupled to and receiving the signals from the sensing means and providing an ouput signal indicative of the profile of the velocity-conductivity characteristics of the moving matter.

3,262,053
METHOD OF AND APPARATUS FOR MAGNETICALLY DETECTING FLAWS IN FERROMAGNETIC OBJECTS BY SUPERIMPOSING MAGNETIC TAPES OR ROLLERS THEREON
Nadim E. Nasir and John C. Allred, Houston, Tex., assignors, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Feb. 27, 1961, Ser. No. 91,751
9 Claims. (Cl. 324—37)



7. A method of magnetically testing ferromagnetic objects for flaws, comprising
progressively laying an unmagnetized portion of a magnetizable medium on a surface area of a magnetized ferromagnetic object, said medium being continuously lengthwise laid on said object;
removing said laid magnetizable medium portion; and
scanning simultaneously along the transverse and longitudinal dimensions of said removed medium portion for defects recorded thereon along the longitudinal and transverse dimensions, by passing said removed magnetizable medium portion near at least two moving magnetic detectors disposed to sense longitudinal and transverse defects recorded in said magnetizable medium;
one of said magnetic detectors having a scanning surface relatively moving substantially parallel to the length of said magnetizable medium and another of said detectors having a scanning surface relatively moving substantially transverse to the length of said magnetizable medium.

3,262,054
MEASURING APPARATUS AND METHOD FOR DETERMINING THE DURATION OF THE APPLICATION OF PRESSURE IN A ROTARY PRESS
Leonard R. Lefkowitz, Troy, N.Y., assignor to Huyck Corporation, Stamford, Conn., a corporation of New York
Filed July 17, 1962, Ser. No. 210,456
17 Claims. (Cl. 324—68)

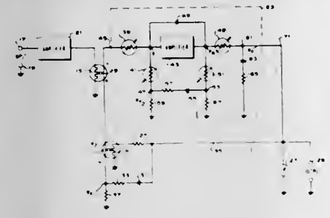


6. Apparatus for measuring the duration of the application of pressure to a papermakers' felt as it passes through the nip between two rollers comprising, in combination, an elongated substantially flat envelope of flexible dielectric material, a first and a second electrically conductive switch element positioned in spaced relationship with each other within said envelope, each of said switch elements having spaced-apart contact portions thereon, insulating means interposed between the contact portions on one of said switch elements and those on the other of said switch element, said insulating means including a pair of spaced apertures to enable movement of the contact portions on one of said switch elements into sequential engagement with corresponding contact portions on the other said switch element in response to the application of pressure greater than a predetermined pressure to said envelope, means for advancing said envelope and said papermakers' felt through the nip between said rollers to move corresponding contact portions into and out of engagement with each other, each of the contact portions on said one switch element engaging the corresponding contact portion on said other switch elemet at a particular, discrete point, means releasably connected to said switch elements for supplying an alternating current signal thereto, and means connected in series with said switch elements for detecting changes in the amplitude of said signal, to enable measurement of the time at least one pair of corresponding contact portions are in engagement and the time between the engagement of successive pairs of corresponding contact portions.

3,262,055
TRUE R.M.S. VOLTMETER HAVING TIME-SHARED STABILIZING FEEDBACK CIRCUITS UTILIZING A THERMOCOUPLE INPUT AND PHOTOELECTRIC MODULATOR-DEMODULATOR AMPLIFIER
Gregory Justice, Mountain View, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Aug. 20, 1962, Ser. No. 217,832
4 Claims. (Cl. 324—106)

1. An electronic voltmeter comprising first and second elements, each having a heater and each producing a voltage related to the temperature thereof, a first pair of switching elements adapted to be alternately conductive and non-conductive, a second pair of switching elements adapted to be alternately conductive and non-conductive in opposite phase relation to said first pair of switching elements, an amplifier having an input and

an output, one switching element in each of said pairs being connected to said input, the other switching element in each of said pairs being connected to said output, means including the first pair of switching elements and forming a first feedback path between the input and output of said amplifier, means including said second pair of switching elements and said first and second elements serially connected in polarity opposition and forming a



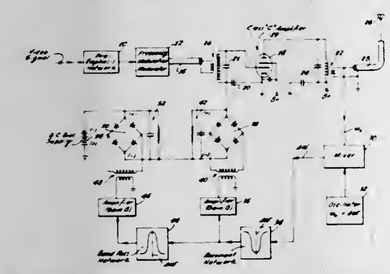
second feedback path between the input and output of said amplifier, means to apply the signal to be measured to the heater of said first element, means to apply the signal appearing at a point along said second feedback path intermediate said second pair of switching elements to the heater of said second element, and means to derive an indication of said signal to be measured from said point on said second feedback path.

3,262,056

VARIABLE POWER LEVEL FREQUENCY MODULATION TRANSMITTER

Wayne R. Johnson, Woodland Hills, and Flavio S. C. Branco, Van Nuys, Calif., assignors to Winston Research Corporation, Los Angeles, Calif., a corporation of California

Filed May 24, 1963, Ser. No. 282,982
2 Claims. (Cl. 325—145)



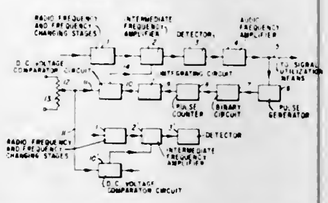
1. A transmission system including: a frequency modulator circuit for developing at the output thereof a modulated signal having a selected carrier frequency; a further circuit coupled to the input of said frequency modulator circuit for introducing modulating signals to said frequency modulator circuit; a power amplifier circuit coupled to the output of said modulator circuit for amplifying a modulated signal developed thereby; a control system coupled to said power amplifier circuit and responsive to an applied control signal for applying a direct current bias potential to said amplifier to control the power level thereof; means including heterodyne mixer means coupled to one of the aforesaid circuits, for heterodyning the modulated signal to a reduced carrier frequency as compared with said selected carrier frequency, said means coupled to the output of said amplifier; a first frequency selective circuit means tuned to pass said reduced carrier frequency intercoupling said mixer to said control system for applying the control signal to said control system; further circuit means coupled to said control system for developing a direct current bias potential in response to an applied signal and for utilizing the same to adjust the aforesaid direct current bias potential; a second frequency selective circuit means having a reciprocal characteristic with respect to said first frequency selective circuit means and coupled to said first frequency selective circuit means for applying a signal to said further circuit means to cause said direct current bias potential of said further circuit means to vary in a manner to substantially eliminate variations in the amplitude of the signal from said control system resulting from amplitude variations of the signal from said heterodyne mixer means.

3,262,057

GAIN CONTROL SYSTEMS

William Francis Miller, Great Baddow, and Frank Colston Bennett, Little Baddow, England, assignors to The Marconi Company Limited, a company of London

Filed Jan. 11, 1961, Ser. No. 82,124
Claims priority, application Great Britain, Jan. 11, 1960, 915/60
2 Claims. (Cl. 325—305)



1. In combination, a plurality of receivers for receiving signals which are present for only a relatively small part of the time; and an automatic gain control system for maintaining the gain of the receivers substantially constant and the same, said system comprising means responsive to noise peaks exceeding a predetermined amplitude occurring in the receiver outputs for generating pulses of a number per unit of time proportional to the number of such peaks occurring in that time, means for counting and integrating the generated pulses for producing a direct current potential dependent on the number of generated pulses per unit of time, means providing reference direct current potential the same for each of said receivers, means for comparing the produced direct current potentials with said reference direct current potential, and means for utilizing the resultants of said comparing for automatically adjusting the gains of said receivers.

3,262,058

NONLINEAR DEVICES UTILIZING $LiNbO_3$

Albert A. Ballman, Woodbridge, Gary D. Boyd, Murray Hill, and Robert C. Miller, Summit, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 27, 1964, Ser. No. 414,366
18 Claims. (Cl. 330—4.5)



1. Device comprising a crystalline body consisting essentially of $LiNbO_3$, together with means for introducing a beam of coherent plane polarized electromagnetic radiation of a first frequency into the said body and means for extracting from the said body a beam of coherent electromagnetic radiation of a second frequency, the said body being positioned so that the angle defined by the said incoming beam and the optic axis is such that an ordinary wave of one of the said frequencies within the said body is phase-matched to an extraordinary wave of another of the said frequencies within the body.

14. Device comprising a piezoelectric crystal characterized by values of birefringence and dispersion such that ordinary and extraordinary rays of different frequency coherent electromagnetic radiation may be phase-matched within the said crystal, together with means for introducing into the said crystal a plane polarized first beam of coherent electromagnetic radiation, and means for extracting from the said crystal a second beam of coherent electromagnetic radiation, the said second beam containing a component having a frequency different from any contained within the said first beam, and together with thermal means for effecting phase-matching of different frequency coherent electromagnetic radiation by changing the relative values of birefringence and dispersion within the said crystal.

3,262,059

AMPLIFIER OR GENERATOR OF OPTICAL-MODE WAVES IN SOLIDS

John B. Gunn, Yorktown Heights, and Peter J. Price, New York, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Aug. 29, 1962, Ser. No. 220,320
6 Claims. (Cl. 330—5)



1. Wave translating apparatus comprising:
(a) a body of crystalline material containing mobile charge carriers;
(b) said body having internal optical mode lattice vibrations which propagate in said body at a phase velocity V_p;
(c) means connected to said body for applying a voltage across said body to produce current flow through said body and cause said charge carriers to flow in said body at a drift velocity V_0 which is greater than said phase velocity V_p;
(d) said charge carriers flowing at said drift velocity V_0 exchanging energy with said optical mode lattice vibrations to amplify said optical mode lattice vibrations;
(e) and internal means within said body of crystalline material through which said optical mode vibrations propagate for radiating an electromagnetic output from said body.

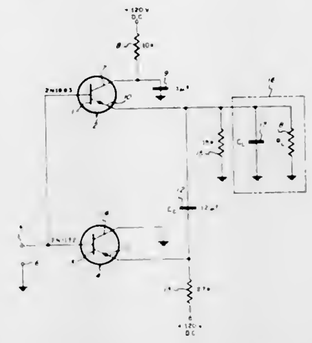
3,262,060

COMPLEMENTARY PUSH-PULL CAPACITIVE LOAD DRIVER

Howard M. Gorlin, Bayside, N.Y., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Sept. 19, 1963, Ser. No. 309,958
4 Claims. (Cl. 330—13)

1. A circuit comprising
first and second transistors of opposite conductivity type,
the bases of said transistors being directly connected together to receive an input signal,
means biasing said transistors into conduction,
means consisting solely of capacitive means coupling the emitters of said transistors to each other with respect to alternating input signal frequencies but isolating said emitters from each other with respect to bias levels,



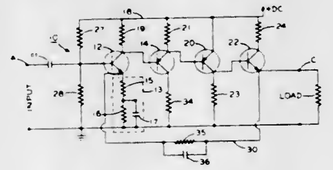
and a capacitive load connected to the emitter of one of said transistors,
the capacitance of said capacitive means being at least 10 times greater than the capacitance of said load.

3,262,061

DIRECT COUPLED TRANSISTOR AMPLIFIER INCLUDING NEGATIVE FEEDBACK

Manfred Kahn, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Jan. 28, 1963, Ser. No. 254,173
5 Claims. (Cl. 330—17)



1. An amplifier circuit comprising four direct coupled transistors, the first transistor and the third transistor of said transistors being in common emitter configuration, the second transistor and the fourth transistor of said transistors being in common collector configuration, said transistors being of complementary polarity with said third transistor being of opposite polarity from said fourth transistor, and an overall negative feedback loop from the emitter of said fourth transistor to the emitter of said first transistor.

3,262,062

DIRECT CURRENT AMPLIFIER OF THE TYPE COMPRISING TWO CASCADED TRANSISTORS IN SERIES WITH A THIRD TRANSISTOR

Marion J. Langan, Cincinnati, Ohio, assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

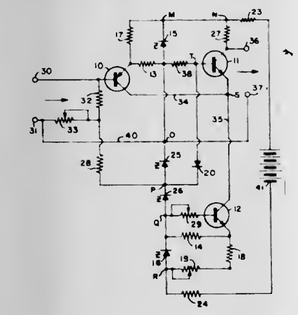
Filed Apr. 10, 1963, Ser. No. 272,041
8 Claims. (Cl. 330—17)

1. In a direct current amplifier, the combination of:
a first transistor of one conductivity type;
a second transistor of the complementary conductivity type;
a third transistor of the same conductivity type as the second;
each of said transistors having a base and an emitter and a collector;
conductive connections between the collector of the

first transistor and the emitter of the second transistor and the collector of the third transistor, whereby the electrical path defined by the emitter and collector of the first transistor and the electrical path defined by the collector and emitter of the second transistor are in series with the electrical path defined by the collector and emitter of the third transistor, so that the first and third transistors are in complementary symmetry;

means for providing energy comprising a potential divider having end terminals of opposite polarity and a reference potential tap and a first intermediate potential tap;

first and second resistors connected between the bases of the first and second transistors, respectively, and said reference potential tap;



a third resistor connected between the base of the third transistor and said intermediate potential tap;

fourth and fifth resistors respectively connecting the emitter of the first transistor and the collector of the second transistor to one of said end terminals;

and a sixth resistor connecting the emitter of the third transistor to the other of said end terminals;

said first intermediate potential tap being located between the reference potential tap and said other of said end terminals;

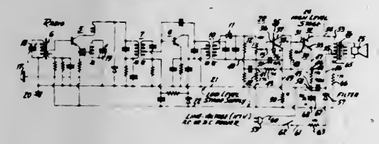
the base of said first transistor and said reference potential tap providing a signal input circuit, and the collector of said second transistor and said reference potential tap providing a signal output circuit, so that the first and second transistors are in the common-emitter to common-base cascade arrangement.

3,262,063

LINE VOLTAGE ENERGIZED TRANSISTOR SIGNAL AMPLIFIER INCLUDING A HIGH VOLTAGE STAGE AND A LOW VOLTAGE STAGE

Henry M. Kleinman, Somerville, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Feb. 25, 1963, Ser. No. 260,696
19 Claims. (Cl. 330—19)



1. In a signal translating system of the alternating current line voltage power-operated type, a high level signal amplifier and power supply circuit for operation directly on line-voltage power applied to said system, comprising in combination,

a high-voltage power transistor exhibiting a collector to emitter breakdown voltage greater than the voltage of the alternating current line voltage and a high-gain low-voltage driver transistor exhibiting a collector to emitter breakdown voltage that is lower than that of said high voltage power transistor for driving said high voltage power transistor, each of said transistors having an input element, an output element and a common element,

circuit means direct current coupling the output and common electrodes of said driver transistor to the input and common electrodes of said high voltage transistor for signal translation and amplification,

means including a high-voltage power-supply circuit for energizing the power transistor connected between the output and the common elements thereof from rectified line current, said power-supply circuit developing a voltage at least one half the peak voltage of said alternating current voltage, and

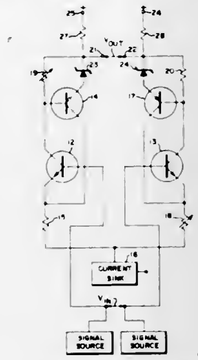
means including a low-voltage supply circuit connected to said driver transistor and for energizing the driver transistor from said alternating current line voltage power, and said last named means including a low-wattage resistance-capacitance filter means connected between the high-voltage power supply circuit and said low-voltage supply circuit for developing a voltage substantially lower than that developed by said high-voltage power supply circuit.

3,262,064

TEMPERATURE-STABLE DIFFERENTIAL AMPLIFIER

David F. Hilbiber, Los Altos, Calif., assignor to Fairchild Camera and Instrument Corporation, Syosset, Long Island, N.Y., a corporation of Delaware

Filed Dec. 3, 1962, Ser. No. 241,617
6 Claims. (Cl. 330—23)



1. A method for reducing the temperature sensitivity of a two-channel differential amplifier having at least one transistor in each channel, said transistors having a base, a collector, and an emitter, which comprises:

setting the collector currents I_{c1} and I_{c2} so that they are approximately related by the equation

$$I_{c1}=nI_{c2}$$

wherein

$n=e^{(K_o-K)q/k}$

q=the charge on an electron,

k=Boltzmann's constant,

K is between about 0 to $0.75K_o$, and

K_o is the initial temperature input drift factor of the amplifier measured with substantially equal collector currents, and
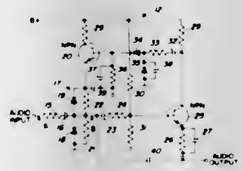
setting the emitter currents so that ΔV_{out} equals a predetermined value when ΔV_{in} equals a predetermined value.

3,262,065

TWO POLARITY AUTOMATICALLY VARIABLE AUDIO NOISE LIMITER

Dennis L. Fredrickson, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Dec. 31, 1962, Ser. No. 248,665
10 Claims. (Cl. 330—24)



1. A two polarity audio noise limiter having a variable clipping level for both polarities of the detected audio envelope with the clipping levels varying for both polarities substantially at the audio rate and substantially at the audio signal level, including: an audio signal input terminal; first and second diodes, each having a cathode and an anode, and having unlike poles coupled to said input terminal; first and second voltage dropping means connected in shunt with said first and second diodes, respectively; a first voltage reference source connected to the other pole of said first diode; a second voltage reference source connected to the other pole of said second diode; a first transistor coupled to the common junction of said first and second diodes and said first and second voltage dropping means; said first transistor having an output electrode; rectifying means coupled to said output electrode; a second transistor with a control electrode connected to said rectifying means, a second electrode connected to a voltage supply, and a third electrode connected to said other pole of the first diode as said first voltage reference source; output signal path circuit means from the common junction of said first and second diodes to an output terminal of said noise limiter for passing a signal output from said noise limiter; and including capacitive means and resistive means coupled between said control electrode of said second transistor and said second voltage reference source having circuit time constant characteristics providing variation of voltage applied to said control electrode of said transistor, and variation of voltage developed at the third electrode of said second transistor following signal variations at substantially the audio rate.

3,262,066

AMPLIFIER CIRCUIT

Theodore R. Trilling, 15 Hunt Road, Levittown, Pa.

Filed June 28, 1962, Ser. No. 206,107
4 Claims. (Cl. 330—69)

1. An amplifier circuit, comprising in combination:

first differential amplifier means,

second differential amplifier means,

first conductor means directly coupling said first differential amplifier means to said second differentiai amplifier means,

input terminal means connected to said first differential amplifier means,

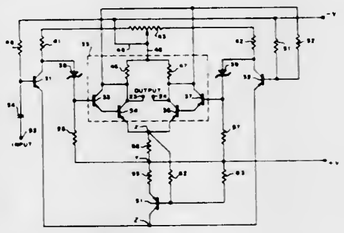
voltage supply means,

resistor means connected between a common point of said second differential amplifier means and said voltage supply means,

constant current generating means having a first terminal connected to a common point of said first differential amplifier means and a second terminal connected to said voltage supply means,

means for applying the potential at the common point of said second amplifier means to said constant current generating means,

whereby common-mode voltage across said resistor



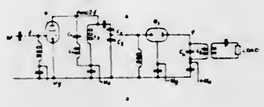
means proportionally controls the current generated by said constant current generating means to thereby prevent shift in the operating point of the amplifier circuit due to common-mode effects.

3,262,067

CLASS B BIASED LINEAR AMPLIFIER WITH AN EFFICIENCY COMPARABLE TO A CLASS C AMPLIFIER

Erich Heinecke, Berlin-Tempelhof, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 1, 1963, Ser. No. 269,458
Claims priority, application Germany, Apr. 26, 1962, St 19,163
7 Claims. (Cl. 330—126)



1. A linear amplifier having high efficiency comprising:

a source of input signal to be amplified having a given fundamental frequency;

circuitry coupled to said source to produce a first signal at said given fundamental frequency and a second signal at a given harmonic of said given fundamental frequency and to combine said first and second signals to produce a composite signal having a positive portion covering substantially less than one half a cycle of said composite signal; and

a first class B biased amplifier stage coupled to said circuitry for substantially linear amplification of said composite signal with an efficiency comparable to a class C amplifier;

said first amplifier stage including

an electron discharge device having at least an anode, a cathode and a control grid,

means coupling said cathode to said circuitry to have impressed said composite signal on said cathode,

ground potential,

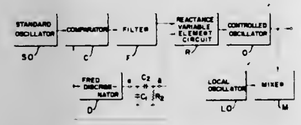
means coupling said control grid to said ground potential to ground said control grid with respect to said composite signal, and

a first tuned circuit connected to said anode resonant at said given fundamental frequency to provide an output signal by extracting said given fundamental frequency from said amplified composite signal.

3,262,068
AUTOMATIC PHASE CONTROL CIRCUIT

Kunio Kawai and Hiroyasu Nakamura, Yokohama-shi, and Takeo Nishimura, Tokyo-to, Japan, assignors to Kabushiki Kaisha Hitachi Seisakusho, Tokyo-to, Japan, a joint-stock company of Japan

Filed Oct. 9, 1964, Ser. No. 402,734
Claims priority, application Japan, Oct. 18, 1963, 38/54,958
2 Claims. (Cl. 331—11)

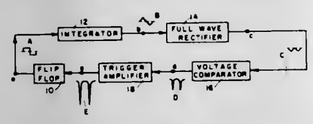


1. In a control circuit wherein there are provided a phase comparator, a reactance variable element circuit, and a self-excited type oscillator, and the oscillator is controlled by deriving, by means of the phase comparator, a voltage corresponding to the phase difference between a reference frequency and the oscillation frequency of the oscillator and applying said voltage to the reactance variable element circuit, a positive feedback circuit comprising a frequency discriminator, a resistance capacitance differentiating circuit, and a capacitor of capacitance C_1 which satisfies the relationship expressed mathematically by $C_1R_1<T_2(K-1)$, (where R_1 is the internal resistance of the frequency discriminator, T_2 is the time constant of the said differentiating circuit, and K is the product of the discrimination sensitivity of the frequency dicriminator and the reactance modulation sensitivity of the reactance variable element circuit), said positive feedback circuit being provided between the oscillator and the reactance variable element circuit, thereby to form an automatic phase control circuit.

3,262,069
FREQUENCY GENERATOR FOR PRODUCING ELECTRIC SIGNALS OF PREDETERMINED WAVE FORM

Remo Stella, Syosset, N.Y., assignor to Servo Corporation of America, Hicksville, N.Y., a corporation of New York

Filed July 10, 1963, Ser. No. 293,977
11 Claims. (Cl. 331—57)



1. A circuit arrangement for triggering a bistable circuit from one state to another comprising

means for receiving a first signal wave of a given frequency,

means for rectifying said wave to produce a second wave having a frequency twice that of said given frequency,

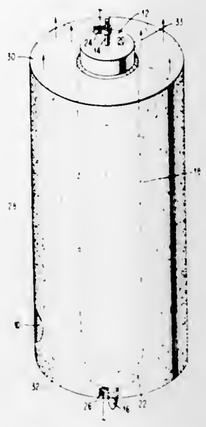
single means for comparing the amplitude of said second wave with a reference potential, said single means having conductive and non-conductive states and an output coupled to said bistable circuit,

said single means being normally non-conductive and being rendered conductive in response to said second wave when the amplitude of said second wave bears a predetermined relationship to the amplitude of said reference potential, said single means producing in said output a triggering pulse each time the same is rendered conductive, whereby said bistable circuit is changed from one of its bistable states to the other.

3,262,070
VACUUM ENCAPSULED EXPLODING WIRE RADIANT ENERGY SOURCES AND LASER EMBODYING SAME

Wilhad Reuter, Mahopac, and Mirek J. Stevenson, Briarcliff Manor, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 26, 1962, Ser. No. 182,242
13 Claims. (Cl. 331—94.5)



1. A radiant energy source comprising:

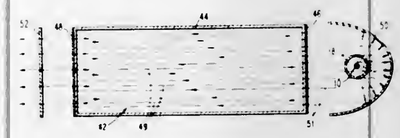
(a) a pumping source including a wire encapsulated in a vacuum and means for exploding said wire in said vacuum so as to produce intense output radiations therefrom at optical frequencies and

(b) a negative temperature medium disposed to intercept said output radiations; said output radiations at said optical frequencies including pumping frequencies for said negative temperature medium.

3,262,071
RADIANT ENERGY SOURCE EMPLOYING EXPLODING GRAPHITE ROD

Wilhad Reuter, Mohapac, Mirek J. Stevenson, Briarcliff Manor, and John C. Webber, New Hamburg, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 26, 1962, Ser. No. 182,250
5 Claims. (Cl. 331—94.5)



1. The method of generating radiant energy of predetermined optical frequency comprising the steps of:

(a) providing a graphite rod having electrical terminals connected thereto and supporting a doping material intermediate to said terminals;

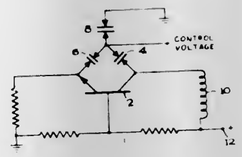
(b) said doping material having the characteristic that upon explosion it is excited to emit radiation of said predetermined optical frequency;

(c) and applying a voltage to said terminals having a magnitude sufficient to explode said rod and said doping material to thereby excite said doping material so as to produce radiation of said predetermined frequency.

3,262,072
HIGH FREQUENCY VOLTAGE CONTROL TRANSISTOR OSCILLATOR CIRCUIT

Milton A. Crandall, Flushing, N.Y., assignor to Simmonds Precision Products, Inc., Tarrytown, N.Y., a corporation of New York

Filed July 17, 1964, Ser. No. 383,388
2 Claims. (Cl. 331—117)

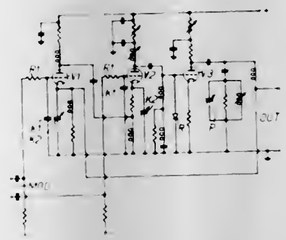


1. A grounded-base transistor for producing oscillations comprising a base-collector circuit including an inductance for tuning said circuit and a collector-emitter feedback circuit having a plurality of capacitance voltage divider means arranged in a Y configuration such that the collector, emitter and ground constitute end terminals of said Y configuration, said voltage divider means comprises varactors having a common connection to which a voltage is applied for varying the frequency of oscillation.

3,262,073
FREQUENCY MODULATED OSCILLATOR WITH CARRIER FEEDBACK CONTROL

Robin Rex Willett, Chelmsford, Essex, England, assignor to The Marconi Company Limited, London, England, a British company

Filed Nov. 4, 1963, Ser. No. 321,085
Claims priority, application Great Britain, Sept. 11, 1963, 35,849/63
4 Claims. (Cl. 332—18)

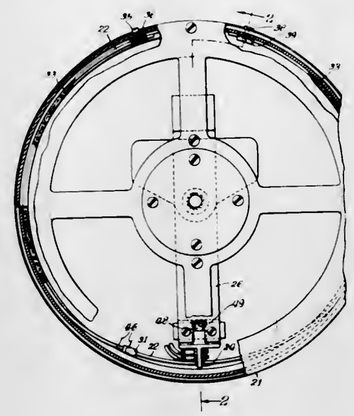


1. A frequency modulated oscillator circuit arrangement including, a carrier frequency oscillator circuit having an output for a frequency modulated signal containing third order non-linearity, feedback coupling electronic valve means connected to said output and having an output electrode, a feedback circuit connected between said output electrode and said oscillator circuit for the maintenance of carrier oscillations, means connected to said oscillator circuit to apply modulating potentials thereto to vary the frequency of oscillation of said oscillator circuit in dependence upon the amplitude of said potentials, the improvement comprising a frequency-dependent phase varying circuit connected in said feedback circuit to introduce therein a second order frequency-dependent phase variation of such magnitude to approximately cancel third order non-linearity produced in the oscillator itself.

3,262,074
VARIABLE DELAY LINE WITH VIBRATION ABSORBING TERMINATION

Marvin E. Cox, Oak Lawn, and Willard A. Schooley, Cicero, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Feb. 10, 1964, Ser. No. 343,602
9 Claims. (Cl. 333—30)

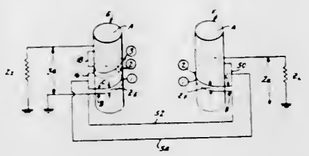


1. In a delay line wherein the delay is established by propagating a stress wave along a wire, the combination including, a supporting structure having a groove thereon, a wire positioned within said groove, said wire having end portions not used for establishing the delay, and means damping said wire including resilient means filling the portion of said groove containing said end portions and substantially surrounding said end portions for absorbing the energy of the stress wave and preventing reflections of the stress wave from said end portions.

3,262,075
IMPEDANCE MATCHING TRANSFORMER

Allen F. Podell, Wilton, Conn., assignor to Anzac Electronics, Inc., Cannondale, Conn., a corporation of Connecticut

Filed Nov. 7, 1961, Ser. No. 150,697
19 Claims. (Cl. 333—32)

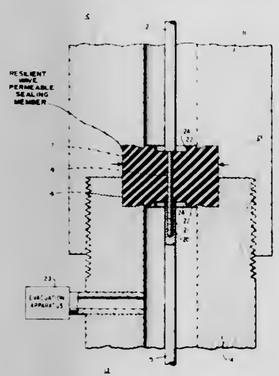


1. An autotransformer comprising a plurality of conductor turns, an input connection across one section thereof, and an output connection across all the turns thereof, in which the impedance between adjacent operative turns varies in accordance with the formula $Z_x=Z_L/n(n_T)$, where n_T is the number of a given operative turn counting from the high impedance end of the transformer, Z_x is the impedance between that given turn and the operative turn next adjacent thereto in a direction away from said high impedance end of the transformer, n is the total number of consecutive operative turns in the transformer measured from one end to the other in one rotative direction, and Z_L is a predetermined impedance.

3,262,076
HERMETIC SEAL FOR COAXIAL CABLES WITH RESILIENT WAVE PERMEABLE SEALING MEMBER

Michiyuki Uenohara, Scotch Plains, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 28, 1964, Ser. No. 363,125
5 Claims. (Cl. 333—96)



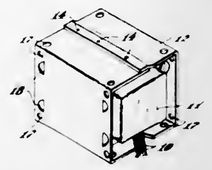
1. In combination:
a substantially low-loss, low-distortion transmission line for propagating electromagnetic waves comprising first and second metal coaxial cable sections;
the first coaxial cable section comprising a first outer conductor surrounding a first inner conductor one end of which is threaded;
the second coaxial cable section comprising a second outer conductor surrounding a second inner conductor;
one end of the first outer conductor being threadedly engaged with one end of the second outer conductor;
means for maintaining a substantial vacuum in one cable section while maintaining atmospheric gas pressures in the other cable section comprising a cylindrical, resilient electromagnetic-wave permeable sealing member having a threaded central aperture through which the threaded end of the first inner conductor extends;
the treaded end of the first conductor being threadedly engaged with the second inner conductor;
said sealing member being contained within a recessed portion in the inner surfaces of the abutting ends of the first and second outer conductors;
the unstressed outer diameter of the sealing member being larger than the diameter of the recessed portion, and the unstressed diameter of the central aperture of the sealing member being smaller than the diameter of the threaded end of the first inner conductor, whereby the first and second outer conductors and the first inner conductor exert substantial radial compressive stresses on the sealing member.

3,262,077
ELECTROMAGNETIC INDUCTOR

Theodore Wroblewski, Danvers, Mass., assignor to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Filed Mar. 26, 1962, Ser. No. 182,315
4 Claims. (Cl. 336—61)

1. An electromagnetic inductor comprising a multi-leg core comprising at least two butt-jointed members forming a magnetic circuit, a coil encircling at least one of the core legs, said core having two, spaced, substantially parallel faces and peripheral surfaces extending between the faces, said coil extending a predetermined distance beyond and substantially normal to said core faces, and a single, magnetic metal sheet of substantial thermal conductivity wrapped around and secured end to end in stressed condition in continuous contact with said peripheral surfaces of said core and providing the



sole means of supporting said members and holding said members in tightly butt-jointed relation, said sheet having an integral mounting means forming means to mount the inductor and extending beyond at least one of said core faces substantially the same distance as said coil thereby magnetically to shield the coil.

3,262,078
COMBINED ENCLOSURE AND FLUX RETURN MEANS FOR POTTED COILS

James A. Foerster, Fort Wayne, Ind., assignor to Wabash Magnetics, Inc., Wabash, Ind., a corporation of Indiana

Filed Sept. 3, 1964, Ser. No. 394,140
3 Claims. (Cl. 336—67)

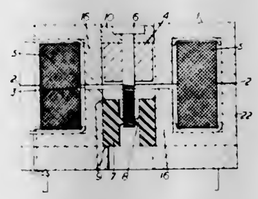


1. A coil arrangement comprising a bobbin having an aperture therethrough, a coil on said bobbin; encapsulating material surrounding said coil and bobbin; a mounting element formed of ferrous material in the shape of an encircling strip extending around said encapsulating material, said encapsulating material being flame resistant and of high impact resistance, said strip being fixed to said encapsulating material and providing a pair of return flux paths for the coil, said encapsulating material being exposed on the opposite sides of said strip, said strip having a generally constant width and a sufficiently less thickness than width that it is capable of being bent to angles approximating 90 degrees without fracture of the strip; an internally threaded collar fixed to said strip, said collar having an internal shoulder against which an externally threaded conduit can be tightly screwed; and lead wires extending from said coil through said encapsulating material, strip and collar; said encapsulating material, strip and collar shielding and protecting said lead wires.

3,262,079
ADJUSTABLE INDUCTOR

William Frank Glover and Jack George Bendall, both of London, England, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 27, 1964, Ser. No. 370,619
Claims priority, application Great Britain, July 5, 1963, 26,830/63
3 Claims. (Cl. 336—136)

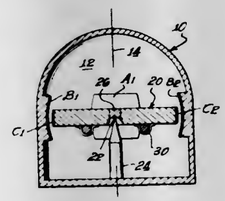


1. An adjustable conductor comprising two half cores of magnetic material fixed relative to each other, forming therebetween an air gap, each half core having central bores;
a slug of magnetic material positioned within the central bore of one of said half cores and adapted to move within said bores;
a bush of plastic material positioned within the central bore of the other of said half core, said bush having an axial bore therethrough and a portion intermediate the ends of said axial bore to present a constriction thereat; and
means carried by said slug and cooperating with said constriction for axially adjusting the position of said slug relative to the air gap.

3,262,080
ELECTRICAL TRANSDUCER

Arthur Thornton Hubbard, Pasadena, Calif., assignor, by mesne assignments, to Swedlow, Inc., Los Angeles, Calif., a corporation of California

Original application Dec. 21, 1961, Ser. No. 161,046, now Patent No. 3,162,832, dated Dec. 22, 1964. Divided and this application June 22, 1964, Ser. No. 377,026
4 Claims. (Cl. 338—13)

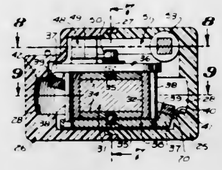


1. Pickoff means for an instrument having an output element movable in a fluid tight chamber,
said pickoff means comprising a substantially nonaqueous solution of a lower alcohol and a salt selected from the group consisting of zinc chloride and zinc acetate,
mutually spaced cooperating electrode means mounted respectively on the element and in fixed relation to the chamber and exposed to the liquid and having working surfaces of metallic zinc,
and circuit means connected to said electrode means for deriving an electrical signal responsive to movement of said element.

3,262,081
CURRENT-VARYING DEVICE

Everitt E. Fairbanks, Pacoima, Calif.

Filed Nov. 3, 1964, Ser. No. 408,700
8 Claims. (Cl. 338—155)

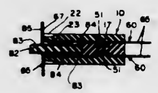


1. A control means, comprising:
a. a housing defining a chamber having a central axis and axially displaced circular surfaces facing toward each other;
b. a wobble ring within said chamber and including a circular magnetic element, and a concentric means for engaging said surfaces at diametrically opposite sides;
c. magnetic circuit means including a magnet, a pair of diametrically disposed and axially displaced pole tips at opposite ends of said magnet positioned to tilt said wobble ring to cause one side of said engaging means to roll on one of said circular surfaces and the diametrically opposite side of said engaging means to roll on the other of said circular surfaces;
d. and means for turning said pole tips about the axis of said housing to roll said engaging means progressively on said circular surfaces.

3,262,082
ELECTRICAL CONNECTOR FOR PRINTED CIRCUIT BOARD

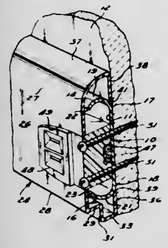
Walter A. Gammel, Sr., Minneapolis, Minn., assignor, by mesne assignments, to G. T. Schjeldahl Company, a corporation of Minnesota

Filed Oct. 10, 1963, Ser. No. 315,194
9 Claims. (Cl. 339—17)



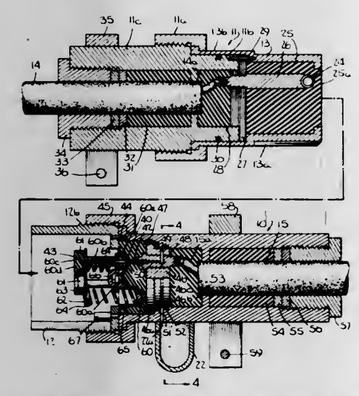
1. In a combination with an electrical connector having a socket and a contact therein and means serving as a plug having a terminal for engagement with said contact upon relative movement in a certain direction between said connector and said plug and toward one another,
a lug on said plug extending outwardly from said terminal in a direction normal to the direction of movement between said plug and connector and having a free end thereon,
a lug issuing outwardly from said contact and extending in the same direction as said first named lug and having a free end lying adjacent the free end of said first named lug when said socket and said plug are assembled, and
a fused joint between said lugs only at the free ends thereof.

3,262,083
APPARATUS FOR ELECTRICAL RACEWAY AND DECORATIVE MOULDING
Gale A. Gooding, Middlefield, Ohio, assignor to Johnson Plastic Corporation, Chagrin Falls, Ohio, a corporation of Ohio
Filed Oct. 8, 1965, Ser. No. 498,202
10 Claims. (Cl. 339—23)



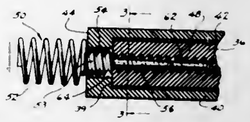
1. A raceway comprising a wall, an extruded substantially uniform wall thickness elongated retaining clip having a flat central section mounted on said wall and formed with opposed laterally extending smoothly curved semi-circular projections cooperating with said wall to form opposed retaining grooves adjacent said wall, said curved projections blending with said central section and terminating in opposed edges spaced a distance substantially equal to the width of said central section, a uniform wall thickness extruded cover member having a generally channeled shape and opposed co-planar lips positioned in said retaining grooves locking said cover member against said wall on both sides of said retaining clip, electric conductors extending along said retaining clip, and electrical outlets extending through said cover member having a back face with a vertical height less than the width of said central section, said outlets being secured to said central section by means independent of said cover member.

3,262,084
CONNECTOR
Malcolm Armstrong, Short Hills, N.J., assignor to Proteus, Inc., Morris, N.J., a corporation of New Jersey
Filed Aug. 5, 1964, Ser. No. 387,669
15 Claims. (Cl. 339—96)



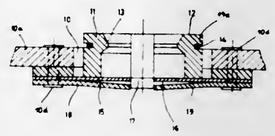
1. A connector comprising a first body having a first face; a second resilient body having a second face, said first and second faces being flushly matable to form an interface between said first and second bodies; a first electrical contact buried within said first body; a second electrical contact buried within said second body; said second electrical contact including a needle-shaft portion having a longitudinal passageway therein terminating in an orifice at the pointed end thereof, said pointed end being directed toward said second face; means for selectively supplying flow of a viscous semi-solid to said passageway for egress from said orifice; and means for engaging said bodies into flush contact along said matable faces so as to cause relative movement between said needle-shaft portion and said interface until said needle-shaft portion enters said first body and engages said first contact therein.

3,262,085
TERMINAL MEANS FOR IGNITION CABLES
Fred S. Slick, Rockford, Ill., assignor to Slick Electro Incorporated, Rockford, Ill., a corporation of Illinois
Filed Sept. 21, 1964, Ser. No. 397,691
2 Claims. (Cl. 339—100)



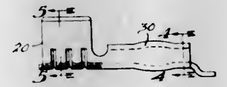
1. A terminal means for a cable, said cable having a helical conductor surrounded by a sheath of insulating material, in combination a sleeve of semi-rigid insulating material having a first axial bore to receive said sheath, said bore terminating in an abutment, said sleeve terminating axially beyond said abutment in a face, and having a second axial bore of a diameter less than that of said first bore extending from said abutment to said face, a terminal anchor pin comprising a tapered shank of a mean diameter approximating that of the inner diameter of said helical conductor and having a body co-axial with, and integral with said shank, said body portion having an external thread, and a helical terminal having a plurality of axially-spaced major coils axially abutting said face and terminating in a plurality of minor coils, said minor coils being threadedly engaged to said body portion within said second bore.

3,262,086
MINIATURE LAMP AND RECEPTACLE THEREFOR
Karl Herrmann and Wolfgang Ott, Augsburg, Germany, assignors to Patent-Freuhand-Gesellschaft für Electrische Glühlampen m.b.H., Munich, Germany
Filed Mar. 27, 1964, Ser. No. 355,367
Claims priority, application Germany, Apr. 3, 1963, P 31,500
5 Claims. (Cl. 339—176)



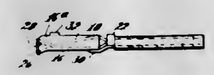
1. An electric lamp, more particularly a miniature photoflash lamp, with elongated tubular bulb and molded glass flare made as the lamp base, characterized in that at the transition of molded glass base and bulb there is formed an annular shoulder, said base having a protuberance integral therewith projecting outwardly from the end surface of the base in the direction of the lamp axis, and said protuberance having a non-circular cross-section providing side flanks extending in planes chordal to the tubular configuration of the lamp and establishing a declivity bounded at one side by said flanks and at another side by said end surface of the base, and current in-leads projecting from said base at a location contiguous to said flanks of the protuberance and entirely in said declivity for protection thereby from damage and disruption.

3,262,087
PIN CONNECTOR
Lloyd Mancini, Hershey, Pa., assignor to Berg Electronics, Inc., New Cumberland, Pa., a corporation of Pennsylvania
Filed Apr. 27, 1964, Ser. No. 362,575
2 Claims. (Cl. 339—256)



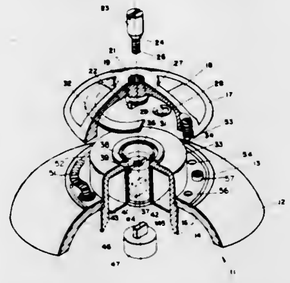
1. An electrical connector formed from an integral piece of thin sheet metal to provide a ferrule for crimping onto an electrical conductor and an elongated socket for telescopically receiving and yieldably holding an essentially square pin terminal, said socket comprising aligned spaced square sleeve portions solely interconnected by oppositely disposed and longitudinally extending spring portions extending between corresponding aligned sides of said sleeve portions, said sleeve portions having an inner cross section matching that of the pin terminal, said spring portions being inwardly bowed toward each other intermediate their ends so as to provide single curvature contact surfaces presented toward the axis of the socket and more closely spaced than the corresponding inner surfaces of said sleeve portions for engagement with the flat sides of the pin terminal, said contact surfaces having a width greater than that of said pin, said spring portions being more flexible than said sleeve portions whereby insertion of the pin in the socket flexes said spring portions apart so as to move said sleeve portions apart longitudinally.

3,262,088
CONNECTOR AND JACK THEREFOR
Warren H. West, Seabrook Beach, N.H., assignor to Cambridge Thermionic Corporation, Cambridge, Mass., a corporation of Massachusetts
Filed May 19, 1964, Ser. No. 368,586
8 Claims. (Cl. 339—258)



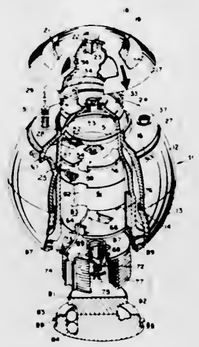
1. A jack adapted to receive a blade, the jack comprising as elements of an integral sheet metal structure:
- a pair of essentially flat plate portions joined by a fold in the sheet metal and together forming a two-thickness body;
- a first jaw extending from one of said plate portions; and
- a second jaw extending from the other of said plate portions;
- the two plate portions lying close together and the two jaws being oppositely divergent at their base portions;
- one of said jaws then extending substantially parallel to but offset perpendicularly from the plate portion from which it extends and being provided with lateral flanges and being essentially flat between said flanges;
- the other of said jaws approaching the flat portion of the flanged jaw to bear against a blade inserted flatwise against the flat portion of the flanged jaw.

3,262,089
SEPARABLE DEPTH SELECTION DRIVE TRAIN
Richard D. J. Proctor, Nashua, and Samuel S. Ballard, Hollis, N.H., assignors to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Mar. 26, 1964, Ser. No. 354,943
11 Claims. (Cl. 340—2)



3. A depth selection control cap release and a separable drive train for a sonobuoy's depth selection mechanism comprised of:
- (A) a depth selection control cap having a male drive element and an opening passing through said cap and said male drive element,
- (B) a retaining member mounted within said opening and cooperating with a locking means mounted partially within said opening to move said locking member into a locking position when said retaining member has been inserted in said opening,
- (C) said locking means coacting with said sonobuoy when said locking member is in said locking position to thereby secure said depth selection control cap to said sonobuoy.

3,262,090
SONOBUOY DEPTH SELECTION MECHANISM
Everett W. Farmer, Reeds Ferry, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Mar. 26, 1964, Ser. No. 354,945
19 Claims. (Cl. 340—2)



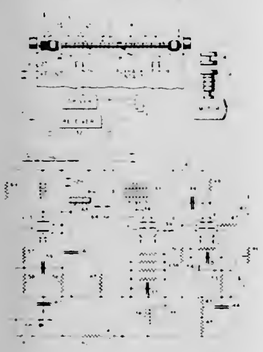
3. A depth selection device for underwater suspension of a component at different depths from a floatable support housing comprised of:
- A. a depth selection control means located externally of said support housing for manual manipulation and movable between a first and second setting,
- B. said floatable support housing having a detent mechanism mounted therein,

C. said depth selection control means cooperating with said detent mechanism to hold said control means in one of said settings,

D. a suspension cable supply mounted in said floatable support housing and having an end of said cable connected to said floatable support housing and the remaining end connected to a unit to be suspended at said different depths, and

E. suspension cable supply release means movable between two positions to allow when in a first position corresponding to said first setting the release of a portion of said suspension cable and said connected unit to a predetermined depth.

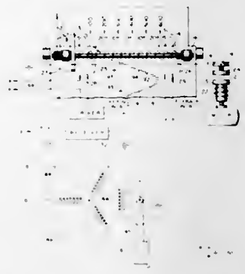
3,262,091
SOUND RANGE RECORDER
James R. Richards, Cheverly, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 3, 1951, Ser. No. 235,081
7 Claims. (Cl. 340—3)



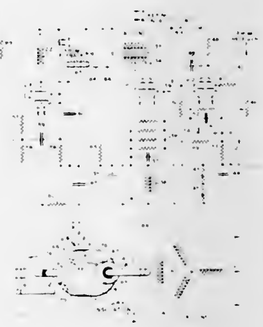
6. In a control circuit for an underwater sound range recording system of the type having a time base recording device biased to zero reading and an electrically actuated control means operable during energization to maintain progressive operation of the time base device and upon deenergization to permit the time base device to return to zero reading, the combination with said electrically actuated control means and said time base device of a gas tube controlling the said electrically actuated time base control means, said tube having an anode, cathode and control grid, means for extinguishing the tube at a given point in the progressive operation of said time base device, a condenser-resistance time constant circuit charged during conductive operation of the tube for maintaining the tube blocked for a given time after extinguishment, manually controlled means for maintaining the tube blocked independently of said time constant circuit, and manually operated means for momentarily applying a positive voltage to the grid to fire the tube.

3,262,092
RANGE AND BEARING RECORDER
James R. Richards, Cheverly, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 3, 1951, Ser. No. 235,082
9 Claims. (Cl. 340—3)

9. In a pulse echo system wherein a stylus holder is constrained to move over a given path, means to bias said stylus holder for movement along said path in one direction to an initial end thereof, motor means to drive said stylus holder along said path opposite to said one direction, stylus means carried by said stylus holder and responsive to timing signals to mark the position of said stylus along said path, a directional transducer to generate and receive a search signal along a narrow beam, directing means to vary the angular position of said



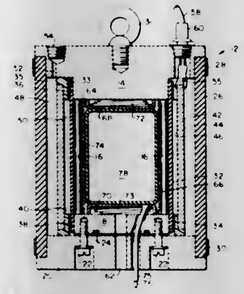
beam from a reference position, active means to simultaneously energize said motor means and said transducer means, range circuit means to generate a first timing pulse upon receipt of an echo of said search signal, bearing circuit means to generate a second timing pulse for



each said search signal, timing means to delay said second timing pulse for a period proportional to the angular displacement of said beam from said reference position, and means to apply said first and second timing signals to said stylus means.

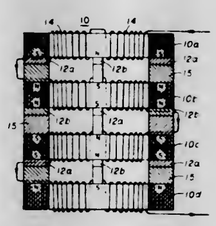
3,262,093
PRESSURE COMPENSATED SONIC TRANSDUCER
Miguel C. Junger, Belmont, and Klaus Kleinschmidt, Cambridge, Mass., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 14, 1961, Ser. No. 152,257
9 Claims. (Cl. 340—10)

1. A deep, submersible acoustic transducer comprising, in combination, an annular element made of a material possessing piezoelectric properties, a pair of rigid end plates connected to the opposite rim portions of said annular element and sealing off the interior thereof, an expansible, contractible bladder positioned within the interior of said annular element, said bladder being inflated with a gaseous substance such that when said transducer is at the surface said bladder fills a major portion of the interior of said annular element, a passageway cut through one of said end plates for establishing fluid communication between the exterior of said bladder and the



fluid medium whereby the volume of said bladder varies in accordance with the depth at which said transducer is operated.

3,262,094
DISCONTINUOUS HOLLOW CYLINDRICAL TRANSDUCER
Leon W. Camp, Santa Monica, Calif., assignor to The Bendix Corporation, North Hollywood, Calif., a corporation of Delaware
Filed June 28, 1962, Ser. No. 205,952
4 Claims. (Cl. 340—11)



1. A transducer for immersion in a liquid medium for translating sound waves in said medium into electrical waves in an electric circuit, and vice versa, comprising:

a plurality of axially aligned, spaced-apart, electromechanically responsive, radially vibratile rings and means electrically coupling said rings to said circuit for vibration in phase with each other, said rings being of magnetostrictive material;

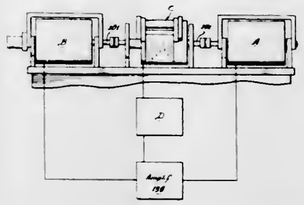
polarizing means for producing a polarizing flux in said rings comprising an even number of circumferentially spaced connecting elements extending longitudinally between each pair of adjacent rings;

each element comprising a permanent magnet, and next adjacent elements being oppositely poled with respect to each other;

a set of windings individual to each ring, the respective windings on each ring being circumferentially located between said connecting elements whereby each winding is associated with a ring section in which the polarizing flux is of a single polarity;

and means connecting all of said windings in said circuit in such polarity that the flux generated by every winding in the ring section it encompasses has the same polarity relative to the polarizing flux in that section.

3,262,095
METHOD AND APPARATUS FOR SIGNAL COMPOSITING AND RECORDING
Melvin J. Wells, Torrance, Calif., and Booth B. Strange, Shreveport, La., assignors to Western Geophysical Company of America, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 1, 1964, Ser. No. 356,386
17 Claims. (Cl. 340—15.5)



1. The method of increasing the signal-to-noise ratio of composite seismic signals comprising:

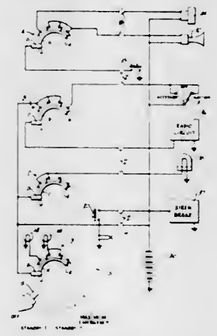
transmitting from a playback apparatus a plurality of seismic signals;

rejecting from said seismic signals an initial time-scale portion of predetermined ones of said plurality of seismic signals, said initial time-scale portion being variable by a preselected amount for each of said predetermined ones of said plurality of seismic signals;

recording said plurality of seismic signals; and

adding said plurality of said seismic signals in time-scale alignment to obtain a composite signal.

3,262,096
CONTROL UNIT AND SYSTEM FOR EMERGENCY VEHICLES
Ewing D. Nunn, Jr., 2430 Terraza Place, Fullerton, Calif.
Filed July 9, 1965, Ser. No. 473,902
9 Claims. (Cl. 340—75)



1. Circuit selector means for an emergency vehicle having an electric current source, separate siren and horn circuits alternatively energizable through normally open switch means, and a warning light circuit, said circuit selector means comprising:

(A) switch means including a plurality of multi-position switch elements, each comprising

(1) a contact member having a plurality of spaced apart contacts,

(2) a contactor member cooperable with the contacts on the contact member, and

(3) means mounting said members for movement of one of them relative to the other along a defined path, between a normal off position and a defined limit position through a defined inter-

mediate position, said mounting means so disposing the members that in the course of movement of the movable member between its normal and its limit positions the contactor member has successive engagement with the several contacts on the contact member,

(B) a manual actuator movable substantially linearly in opposite directions between normal off and defined limit positions through a defined intermediate position so as to be positionable at its limit position by a rapid movement of the hand unaided by sight;

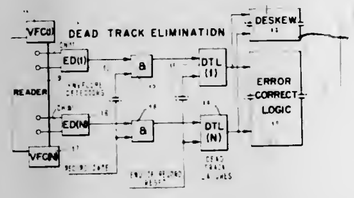
(C) means so connecting the movable member of each of said multi-position switch elements with the manual actuator as to constrain the several movable members to move to their normal off, limit and intermediate positions in unison with movement of the actuator respectively to its normal off, limit and intermediate positions;

(D) circuit means including conductor means connected with certain of said contacts and connectable with the current source, the normally open switch means and the horn circuit to provide for energization of the horn circuit when the actuator is in its normal position and in an intermediate position;

(E) circuit means including conductor means connected with other of said contacts and connectable with the current source, the normally open switch means and the siren circuit to provide for energization of the siren circuit by closure of said normally open switch means when the actuator is at its limit position; and

(F) circuit means including conductor means connected with still others of said contacts and connectable with the current source and the warning light circuit to provide for energization of the warning light circuit when the actuator is in said intermediate and limit positions.

3,262,097
DEAD TRACK HANDLING
Earl W. Miller, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1962, Ser. No. 248,352
7 Claims. (Cl. 340—146.1)



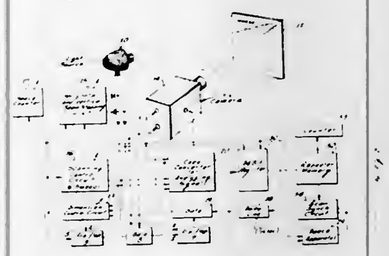
1. A record reading system of the binary erasure channel type in which data bits, forming a data byte, are presented on separate tracks in parallel but more or less out of synchronism at the reading level and are separately assembled in a multi-track multi-bit electronic deskewing mechanism as a byte for further processing by circuits which may include error correction mechanism, characterized by provision, for each track, in addition to the normal data flow path and variable frequency clock, of dead track mechanism comprising:

(a) "subminimal signal identification" means, connected to the signal source for the track at the reading level, to scan the data bit signal presentation and respond to a subminimal quality of signal envelope with a (subminimal signal identification) signal;

(b) "dead track error signal producing" means settable by the (subminimal signal identification) signal, to provide to the electronic deskewing mechanism and any error correction mechanism a continuous (error) signal when set; and

(c) "dead track definition" means connecting said "subminimal signal identification" means (a) to said "dead track error signal producing" means (b), for determining the reset of said "dead track signal producing" means (b) to end said continuous (error) signal.

3,262,098
PATTERN DATA CONVERTER EMPLOYING BANDWIDTH FILTERS
Don Lebell, Sherman Oaks, Calif., assignor to Don Lebell Associates, Sherman Oaks, Calif., a corporation of California
Filed Mar. 1, 1960, Ser. No. 12,137
25 Claims. (Cl. 340—146.3)



1. A data converter for converting input signals representing input patterns having two-dimensional variations with time to digital signals, including, means for converting the input signals to digital signals occurring in a particular pattern representing particular characteristics of the input patterns, means coupled to the converting means for repeating the digital signals for a number of times and for simultaneously providing indications of the repeated digital signals, a matching arrangement having a number of matching components for receiving the indications from the repeating means and for providing different signals occurring in particular patterns representing the different matches between the matching components and the indications from the repeating means, means coupled to said matching arrangement for simultantously cross-correlating the particular pattern of the digital signals to determine which matching component provides for the best match, and means coupled to said cross-correlating means for providing digital signals representing the determined matching component.

3,262,099
FLOW TABLE LOGIC PATTERN RECOGNIZER
Edward J. Skiko, Poughkeepsie, N.Y., and Paul R. Low, Palo Alto, Calif., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 31, 1960, Ser. No. 66,299
10 Claims. (Cl. 340—146.3)

1. An automatic organizing pattern recognizer comprising:

(a) a processor for defining a plurality of organization cycles and a plurality of recognition cycles and for producing, during a first such organization cycle, a series of patternette signals, sequence marking signals, and organization rank signals;

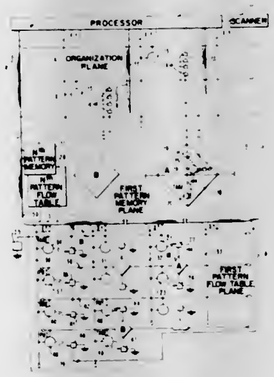
(b) an organization plane of multiple-selection switching devices connected to said processor, each subject to selection by said patternette and sequence marking signals;

(c) first and second ranks of organization coupling devices grouped about said multiple-selection switching devices, subject to conditioning by said switching devices to conduct the appropriate organization rank signal;

(d) a first memory plane of variable resistance conditioning devices coupled to respective multiple-selection switching devices of said organization plane by said first rank of organization coupling devices;

(e) a first pattern recognition flow table plane for responding to a first sequence of patternette signals, having a multiplicity of quiescent flow table logic circuits each including a variable resistance means electrically connected to activate a flow table logic switching type or bistable type circuit when conditioned, and included in the respectively related variable resistance conditioning devices of said first memory plane, and a first pattern recognition output means;

(f) a second memory plane of variable resistance conditioning devices coupled to respective multiple-selection switching devices of said organization plane by said second rank of organization coupling devices;

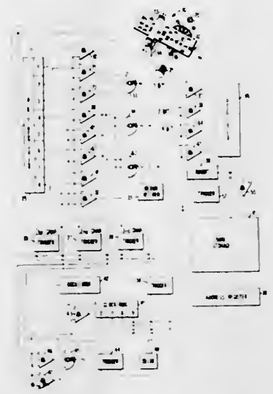


(g) a second pattern recognition flow table plane for responding to a second sequence of patternette signals, having a multiplicity of quiescent flow table logic circuits each including a variable resistance means electrically connected to activate a flow table logic switching type or bistable type circuit when conditioned, each coupled to the respectively related variable resistance conditioning devices of said second memory plane, and a second pattern recognition output means;

(h) a scanner connected to said processor, and through said processor to said first and second pattern recognition flow table planes in the form of a sequence of patternette signals;

whereby, during first and second organization cycles, said first and second pattern recognition flow table planes are each organized to respond to a particular sequence of patternette signals by conditioning the respective recognition output means; and, thereafter, during a recognition cycle, said first and second pattern recognition flow table planes are subjected to a sequence of patternette signals which, if corresponding to the setting of one of said pattern flow table planes, triggers a recognition signal at the related output means.

3,262,100
DATA PROCESSING APPARATUS
Stephen Bespalko, Vestal, N.Y., Estol C. Lamb, Rockville, Md., and Walter S. Schaffer, Vestal, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 28, 1961, Ser. No. 162,710
13 Claims. (Cl. 340—172.5)



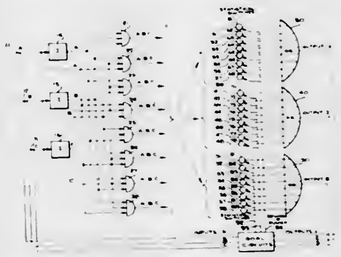
1. Data processing apparatus comprising:

a data register having a predetermined number of bit positions;

a data source connected to said register to provide real and dummy data bits thereto to facilitate loading said register with all real bits in one instance and with a combination of real and dummy bits in other instances where said real bits represent data according to a plurality of different codes and said dummy bits fill those bit positions of said data register unoccupied by real bits; and

means connected to said register to develop a multiple character address according to a predetermined code from both the real and dummy bits to facilitate addressing a particular predetermined position in an addressable storage.

3,262,101
GENERALIZED SELF-SYNTHESIZER
Peter H. Halpern, Falls Church, Va., assignor to Melpar, Inc., Falls Church, Va., a corporation of Delaware
Filed Jan. 31, 1962, Ser. No. 170,059
6 Claims. (Cl. 340—172.5)



1. Apparatus adaptive to form m selected logical functions of n binary input variables, where m and n are integers greater than one, comprising, in combination:

a maximum of m groups of 2^n statistical switch elements, each group associated with the formation of a separate one of said m logical functions,

each switch element having a plurality of possible operating states corresponding to respective distinct and different levels of probability of being open or closed during any given interval of time, whereby the probability that input logic applied into any switch element will be supplied as output logic therefrom corresponds to the level of probability set by the operating state of that switch element during the interval of application of said input logic;

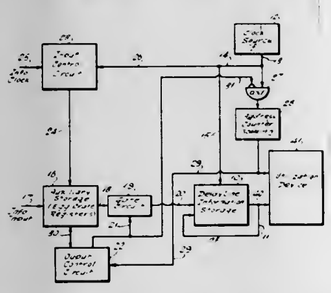
means responsive to said input variables for generating non-redundant functions thereof as input logic to selected ones of the switch elements of each group;

m means, each associated with a respective separate one of said groups of switch elements, for performing arithmetic operations on the output logic supplied by its associated group of switch elements to provide *m* logical output functions of said output logic;

means for identifying a correspondence or a lack of correspondence between each of said *m* selected logical functions and respective ones of said *m* logical output functions and for generating training signals indicative of said correspondence or lack of correspondence,

and means for applying said training signals to said switch elements to control the states thereof and thereby to enhance the probability that the output logic supplied by said switch elements to said means for performing arithmetic operations will result in the generation of said *m* selected logical functions as outputs therefrom.

3,262,102
INFORMATION BUFFER INPUT CIRCUIT
Andrew Gabor, Port Washington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Dec. 3, 1962, Ser. No. 241,763
3 Claims. (Cl. 340—172.5)



1. An information buffer input circuit comprising in combination;

first information storage means having an input means and an output means,

said first storage means being adapted to circulate data bits coupled to said input means back to said input means after a predetermined interval,

second information storage means having an input means and an output means,

means including said second storage input means for storing data bits at a first rate in said second information storage means,

means for periodically generating a control signal,
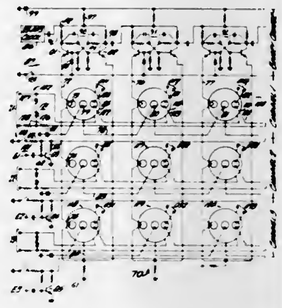
means responsive to said control signal for periodically removing from said second storage means a group of data bits stored therein and for coupling said group of data bits serially to the input means of said first information storage means at a second predetermined rate which exceeds said first rate,

said means for periodically generating a control signal including means responsive to the last bit in said data bit group,

said control signal generating means generating a control signal after a predetermined delay following said last bit coupled, and

said predetermined delay being equal to an integral number of said predetermined intervals plus the interval of said second rate.

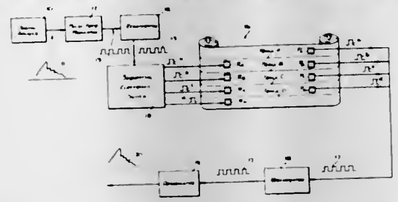
3,262,103
TIME OF EVENT RECORDER
Barry G. Coetsee, Palo Alto, Calif., assignor to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Sept. 6, 1962, Ser. No. 221,752
9 Claims. (Cl. 340—174)



9. A time of event recording circuit comprising a rectilinear coordinate array of magnetic core devices, means comprising a pulse driven circuit for individually pulsing a selected row of said cores when an event corresponding to said row occurs, means for changing the magnetic state of a core device at the intersection of any of said columns and rows that are pulsed, means for providing a readout signal responsive to the magnetic states of said devices thereby indicating the time when an event occurred, each of said core devices having a plurality of apertures, means including a first winding associated with a first aperture on each of said core devices for blocking said core, means including a second winding associated with a second aperture on each of said cores for setting the associated core, means including a third winding associated with a third aperture on each of said core devices for interrogating the core, means including a fourth winding also associated with said third aperture for giving either of two output signals depending on whether the core is set or blocked, each of said columns being formed by a series of said second windings, each of said rows being formed by a series of said first windings, means for pulsing a series of said third windings on a per row basis for non-destructively reading out information stored in the pulsed row, and means responsive to another command signal for pulsing said first windings on a per row basis to erase all said stored information.

3,262,104
MULTI-TRACK DATA RECORDING SYSTEM
Manfred E. Clynes, Orangeburg, N.Y., assignor, by mesne assignments, to Technical Measurement Corporation, North Haven, Conn., a corporation of Delaware
Filed July 11, 1961, Ser. No. 123,272
5 Claims. (Cl. 340—174.1)

1. A high-frequency recording arrangement comprising means to convert a signal into a train of pulses whose repetition rate varies as a function of signal amplitude, a multiple track recording system having a recording element and a reproducing element operatively coupled to each track therein, means sequentially and cyclically to apply said train of pulses to the recording elements in said system to cause the number of pulses recorded on each



track to be equal to the total number of pulses in the train divided by the number of tracks, and means coupled to the reproducing elements to combine the pulses derived from said tracks to recreate said train.

3,262,105
CONDITION RESPONSIVE ELECTRICAL SYSTEM
Raymond C. Bell, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Jan. 3, 1961, Ser. No. 80,485
5 Claims. (Cl. 340—203)

1. An incremental position measuring system, comprising:

drive means;

a screw coupled to and rotated by said drive means;

a member in threaded engagement with said screw for movement axially of said screw when said screw is rotated;

incremental displacement detector means including a rotary transducer coupled to and rotated by said screw, for producing discrete electrical signals with each predetermined angular increment of displacement of said screw and for producing a separate electrical signal once each revolution of said screw;

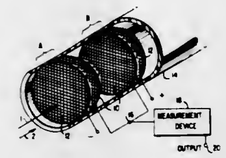
switch means disposed in the path of movement of said member and operated thereby to produce a switch signal when said member is in a predetermined position;

circuit means coupled to said switch means and to said incremental displacement detector means and responsive to said switch signal and said separate electrical signal for producing a control signal;

and counter means coupled to said circuit means and to said incremental displacement detector means to count said discrete electrical signals under the control of said control signal.

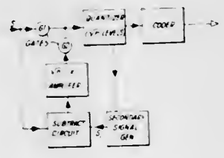
3,262,106
GASEOUS HAZARD DETECTOR SYSTEM AND APPARATUS
Robert B. P. Crawford, 5102 Beachcomber, Oxnard, Calif., and Mark Hurowitz, 773 Christine Drive, Palo Alto, Calif.
Filed Jan. 21, 1963, Ser. No. 252,902
10 Claims. (Cl. 340—237)

2. Apparatus for electrically determining a hazard by incipient changes in an environmental medium, comprising means for causing a stream of ambient air to pass through a pair of electrical conductivity cells in sequence, the cells of said pair being identical and having equal electrical potentials applied thereto, means for simultaneously measuring the electrical conductivity of the air in



each cell, and means for comparing the measured conductivities with a slight time differential resulting from the sequential passage of the air stream to determine the rate of change of conductivity of the ambient air.

3,262,107
SIGNAL AMPLITUDE CODERS
Donald Robert Barber, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 6, 1963, Ser. No. 307,200
Claims priority, application Great Britain, Sept. 14, 1962, 35,183/62
4 Claims. (Cl. 340—345)



1. Apparatus for quantizing and coding individual amplitude samples of a signal wave comprising:

a source of said individual amplitude samples having a predetermined time interval between adjacent ones of said individual samples;

an amplitude quantizer means;

a first timed coupling means to couple the output of said source to the input of said quantizer means during a first portion of said time interval to render said quantizer means responsive to each of said samples to produce a first quantized signal at one of a given plurality of discrete amplitude levels;

a subtraction means coupled to said source and the output of said quantizer means to produce a difference signal proportional to the difference between the magnitude of said each of said samples and the magnitude of the associated one of said first quantized signal;

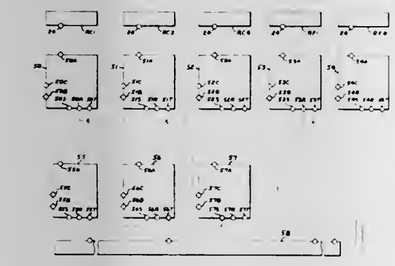
an amplifier means coupled to the output of said subtraction means having an amplification proportional to the number of said discrete amplitude levels capable of being produced by said quantizer means;

a second timed coupling means to couple the input of said quantizer means to the output of said amplifier means during a second portion of said time interval sequentially related to said first portion to render said quantizer means responsive to said amplified difference signal to produce a second quantized signal at one of said amplitude levels in sequence after producing said first quantized signal;

said first timed coupling means decoupling the output of said source from the input of said quantizer means during said second portion and said second timed coupling means decoupling the input of said quantizer means from the output of said amplifier means during said first portion; and

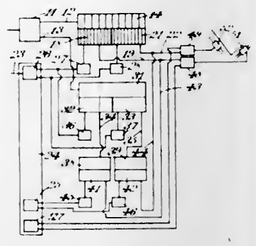
coder means coupled to the output of said quantizer means to code in sequence said first quantized signal and said second quantized signal and thereby produce a coded output for said each of said amplitude samples.

3,262,108
ANALOG TO DIGITAL CONVERTER
Ralph H. Schuman, Cleveland, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed June 13, 1961, Ser. No. 116,764
23 Claims. (Cl. 340—347)



1. In an electrical system, a pair of terminals to be energized in accordance with input voltages each having upper and lower levels indicative of two digit values, said terminals having applied thereto at any given time one of four combinations of input voltage levels, a first electroresponsive valve having a first control electrode and a pair of first main electrodes, said first control electrode being connected for energization in accordance with voltage applied to one of said terminals, a second electroresponsive valve having a second control electrode and a pair of second main electrodes, circuit means connecting said second control electrode to one of said first main electrodes and to the other of said terminals, said circuit means being arranged to apply to said second control electrode a first control voltage having a first level for one combination of said input voltage levels and having a second level for the other three combinations of said input voltage levels, a first output terminal connected to one of said second main electrodes having applied thereto a first output voltage having one level for said one combination of the input voltage levels and having another level for said other three combinations of the input voltage levels, a third electroresponsive valve having a third control electrode and a pair of third main electrodes, additional circuit means connecting said third control electrode to one of said first main electrodes to one of said second main electrodes, and to said other terminal, said additional circuit means being arranged to apply to said third control electrode a second control voltage having a first level for one pair of combinations of said input voltage levels and having a second level for the other pair of combinations of the input voltage levels, a second output terminal connected to one of said third main electrodes and having applied thereto a second output voltage having a first level for one pair of combinations of the input voltage levels and having a second level for the other pair of combinations of said input voltage levels, and means for applying energizing potentials to each of said circuit means and said first, second and third valves.

3,262,109
DIGITAL RESOLVERS
Roy Thurston Swale and Terence Ronald Jones, London, England, assignors to Decca Limited, London, England, a British company
Filed Apr. 10, 1963, Ser. No. 272,093
Claims priority, application Great Britain, Apr. 10, 1962, 13,861/62 (provisional)
5 Claims. (Cl. 340—347)



5. A digital resolver for resolving digital information as represented by an incremental pulse train into a resolved sine component represented by a pulse output proportional in accordance with the angular setting of an input control member, said resolver comprising:

an input and an output, said input being coupled to receive said incremental pulse train;

first and second binary scaling means coupled to said input, each binary scaling means having a first stage for giving output pulses for each alternate input pulse and a plurality of serially arranged successive stages for giving output pulses from each alternator pulse from the preceding stage;

first and second gating means coupled to receive the outputs from said first and second binary scaling means;

a first angular encoder coupled to said input control member;

said first angular encoder having a plurality of positions corresponding to coarse steps of angle within a quadrant;

flip-flop means coupled to said resolver input and feeding alternate input pulses to said first and second binary scaling means;

diode matrix means coupled to said first angular encoder and conditioning said first gating means to pass to said resolver output a proportion of the number of received pulses corresponding to the sine of a first coarse angular step next below said input angle and conditioning said second gating means to pass a proportion of the number of received pulses corresponding to the difference between the sines of the two coarse angular steps on either side of said input angle, the sine of said first coarse angular step being less than that of said input angle;

a second angular encoder coupled to said first angular encoder;

said second angular encoder having a plurality of positions corresponding to fine steps of angle within a coarse step as represented by said first angular encoder, said first and second angular encoders being coupled to said input member such that the sum of their angular indications represents said input angle;

third gating means coupled to the output of said second gating means;

further diode matrix means coupled to said second angular encoder and to said third gating means;

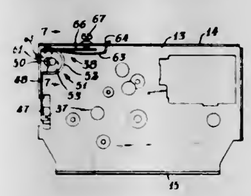
said further diode matrix means conditioning said third gating means to pass to said output a fraction of the pulses from said second gating means, said fraction being linearly related to the setting of said second encoder; whereby the number of pulses at said output

is proportioned, with respect to said incremental pulse train in accordance with the sine of said input angle;

polarity control means coupled to said resolver output; and

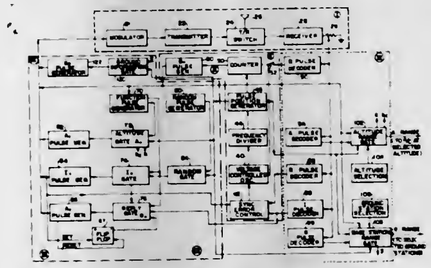
quadrant sensing means sensing the quadrant of said input angle and controlling said polarity control means to provide output pulses of a selected polarity corresponding to the sign of the sine of said input angle.

3,262,110
ELECTRIC TIMER PROVIDED WITH BUZZER CONSTRUCTION
Alfred W. Gardes, Evanston, Ill., assignor to International Register Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 12, 1963, Ser. No. 301,464
6 Claims. (Cl. 340—392)



1. For combination with a magnetic field structure of an electric motor energized by alternating current and having a hammer contacting part, a buzzer construction comprising front and rear frame plates in parallel spaced relation, said rear frame plate having said motor mounted thereon with said hammer contacting part spaced rearwardly of said rear frame plate, a support stud secured at one end to one of said frame plates and extending toward the other frame plate; and a buzzer member of magnetic material of generally L-shape having a hammer at the outer end of one leg extending at right angles thereto toward said hammer contacting part to engage the same to generate an audible signal, and a U-shaped yoke at the outer end of the other leg with the arms extending at right angles thereto parallel to and between said frame plates with the arm of said yoke adjacent the frame plate to which said stud is secured being journaled thereon and the other arm of said yoke being guided on the distal end of said stud.

3,262,111
SYNCHRONIZED COMMUNICATIONS SYSTEM
Walton Graham, Roslyn, N.Y., assignor, by mesne assignments, to Control Data Corporation, South Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 6, 1963, Ser. No. 328,655
46 Claims. (Cl. 343—7.5)



1. A system for synchronizing the production of first signals at two stations comprising at each station,

means for producing said first signals,

means for measuring the difference in time between the production of said first signals at each station,

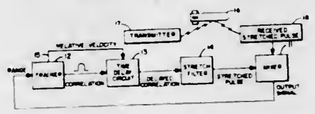
and means responsive to a measured difference in time for changing the time of production of said first signals to a time approximately half way between the time difference measured.

45. A method of synchronizing the production of first signals at all stations of a group of stations comprising the steps of:

synchronizing the production of first signals at any pair of stations in the group,

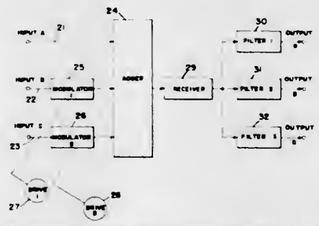
and successively synchronizing the production of the first signals of other pairs of stations in the group of stations.

3,262,112
TIME COMPENSATION FOR DOPPLER FREQUENCY
Herman J. Yost, Ellicott City, and Bernard L. Harris and John W. Taylor, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Mar. 31, 1964, Ser. No. 356,332
8 Claims. (Cl. 343—14)



1. A radar system comprising in combination a mixer having a first input, a second input and an output; said first input being connected to a source of received signals; a tracker having a first output, a second output and an input; said input of the tracker being connected to the output of said mixer; the first output of said tracker being a signal to be correlated with the received signals in the mixer; the second output of said tracker being responsive to the output of the mixer to produce a signal which is proportional to changes in said mixer's output; a time delay circuit having a first input, a control input and an output; means connecting the first output of said tracker to the first input of said delay circuit; means connecting the output of said delay circuit to the second input of said mixer; and means connecting the second output of the tracker to the control input of said delay circuit.

3,262,113
THRU-CHANNEL MONOPULSE RADAR DIRECTIONAL CONTROL SYSTEM
Murray Hefter, Far Rockaway, and Judd Blass, Bayside, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Aug. 25, 1961, Ser. No. 136,133
1 Claim. (Cl. 343—16)



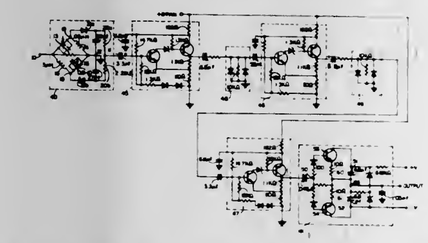
In a monopulse radar directional control system, the combination of, means for receiving monopulse signal radiation and deriving therefrom a range sum signal and azimuth and elevation difference signals in three separate signal channels, means connected with each of the difference-signal channels for modulating the signals there-

in at different frequencies, the signals in the sum-signal channel being unmodulated, means connected with the signal output ends of said three channels for receiving and adding the modulated and unmodulated signals therefrom, a single signal receiver connected to derive and translate said added signals from said last-named means to an output terminal therefor, means connected with said output terminal for deriving therefrom a control signal representing the sum signal and an indication of the range traversed by received monopulse radiation signals, and means including band-pass filters connected with said output terminal and tuned each to one of said different modulating frequencies for deriving therefrom two control signals representing said difference signals and azimuth and elevation corrections in the directional control of said system.

3,262,114
AUTOMATIC ELECTRONIC FREQUENCY CONTROL

Eugene F. Laporte, Chino, Calif., assignor to North American Aviation, Inc.

Filed June 12, 1964, Ser. No. 374,728
16 Claims. (Cl. 343—17.1)



15. In an automatic frequency controller for a pulsed energy system having a radar transmitter of pulsed A.-C. energy, a local oscillator, an intermediate frequency receiver response to said transmitted energy and said local oscillator, and a microwave mixer responsive to both said pulsed A.-C. energy and the output of said local oscillator for providing an intermediate frequency signal, the combination comprising

A frequency discriminator for providing a D.-C. signal having a sense corresponding to the frequency difference between said intermediate frequency signal and a selected reference frequency and comprising an L-C bridge responsive to said mixer, and summing responsively coupled to said L-C bridge having first and second oppositely-poled unidirectionally conductive summing impedance branches;

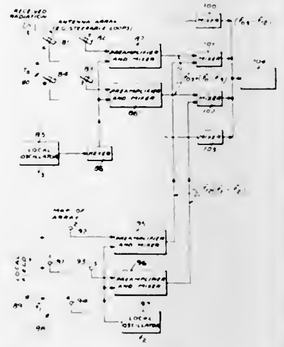
Means for limiting the response of said discriminator to harmonics of said selected reference frequency and comprising a resistive impedance connected across the input of said L-C bridge and bi-polar signal limiting means coupled across the output of said signal summing means of said frequency discriminator; and

Bi-polar pulse-integrating means responsive to the limited output of said discriminator for providing a D.-C. control signal for frequency control of one of said local oscillator and radar transmitter, and comprising an input terminal coupled to said discriminator, a first and second series-interconnected capacitor connected across a D.-C. voltage source, the interconnection of said capacitors forming an output terminal, a first and second mutually complementary switching means having control terminals commonly coupled to said input terminal, and arranged for discharging a selected one of said capacitors corresponding to a preselected polarity of a pulsed input applied to said input terminal.

3,262,115
PHASE AND AMPLITUDE CONTROL OF ANTENNA ARRAY

William W. Macalpine, East Orange, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Apr. 15, 1963, Ser. No. 273,109
10 Claims. (Cl. 343—100)

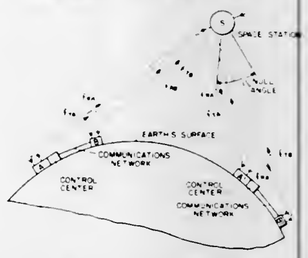


1. A control system for an antenna array comprising:
a replica of said antenna array,
a source of energy for producing an electromagnetic field,
means coupling said replica array to said electromagnetic field; and
means responsive to the output of said replica array to control the transmission and reception of signals by said antenna array.

3,262,116
SATELLITE AND SPACE COMMUNICATIONS SYSTEMS

Henry P. Hutchinson, Ridgewood, and Paul R. Arendt, Eatontown, N.J., assignors to Satellite and Space Communications Systems, Inc.

Filed Jan. 16, 1964, Ser. No. 338,179
30 Claims. (Cl. 343—100)



7. The method of communicating signal intelligence to a body in space where said body includes a directional antenna having at least one null orientation with respect to radio signals received from any predetermined direction, the method comprising the steps of:

(a) transmitting said intelligence simultaneously in the form of modulated carrier radio waves from at least two geographically widely spaced stations whose spacing is sufficient in relation to the distance of said body that said antenna can have a null orientation with respect to at most one of said radio waves;

(b) and responding at said body in space to only the stronger of the waves received from said two transmitting stations.

17. The method of communicating signal intelligence between two widely spaced stations on earth via a body in space, comprising the steps of transmitting from one of said stations simultaneously different carrier frequency waves each modulated according to the intelligence to be transmitted, receiving at said body in space the several carrier waves impinging thereon, demodulating at said body in space the strongest of the several received carrier waves to thereby obtain a signal containing said intelligence, transmitting from said body in space another carrier frequency wave modulated according to said intelligence signal received from the strongest carrier, and receiving and demodulating at the other of said stations the modulated signal received from said body in space.

23. A system for communicting electromagnetic intelligence signals between bodies in space, said signals while being radiated between said bodies being subject to space propagation phenomena including spin fading, amplitude scintillation, frequency scintillation, polarization fading, signal reflection, signal ducting, and signal black-out, said system comprising, means on said one body including a first directive antenna means transmitting a first signal in a highly directive beam toward the other said body in space, and signal direction finding means on said one body responsive to a signal transmitted from said other body which is subject to said space propagation phenomena substationally the same as said first signal for continuously controlling the direction of transmission of said directive antenna means in both azimuth and elevation to maximize the intensity of signal reception at said other body, said direction finding means including at least one antenna means having a single axis of directivity and means responsive to coincidence of said axis with the direction of signal reception from said other body for controlling said directivity of transmission.

3,262,117
DIGITAL OMNIRANGE SYSTEM OF HIGHER ACCURACY THAN EXISTING OMNIRANGE SYSTEMS

Harris A. Stover, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Oct. 14, 1963, Ser. No. 315,899
20 Claims. (Cl. 343—106)

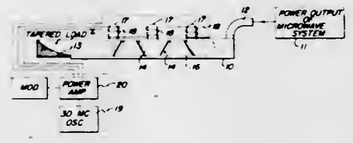


1. A digital omnirange navigation system comprising a transmitter site and a receiving station; said transmitter site comprising a fixed antenna means, further antenna means displaced from said fixed antenna means, means for rotating said further antenna means about said fixed antenna means at a predetermined rate, a transmitter, switching means connected between the output from said transmitter and said fixed and rotating antenna means, said switching means being adapted to affect selective connection between said transmitter and said fixed and rotating antenna means, phase code modulation means and timing means whereby during a predetermined rotational sequence of said rotating antenna means about said fixed antenna means a predetermined transmission sequence is effected; said transmission sequence comprising a first interval of phase reference defining transmission from said fixed antenna means, a second interval comprised of successive transmissions from said fixed antenna means of a predetermined permutation of signals having retarded and advanced phase with respect to said phase reference, and a third interval comprised of alternate transmissions from a predetermined pair of those antennas of which said fixed and rotating antenna means are comprised of a signal having said reference phase; said second transmission interval being terminated upon the line between said predetermined pair of antennas being in correspondence with a reference azimuth; said receiving station comprising phase detection means, bit detection means responsive to the output from said phase detection means to develop therefrom a binary stream of information bits corresponding to the relative phase of the received signal as compared to said reference phase, a digital counter, logic means effecting an advance of said counter in response to each successive information bit occurring during said third transmission interval from a starting count defined by said second transmission interval, and means responsive to two successive like formation bits occurring during said third transmission interval to stop said counter, said counter thereby displaying the azimuth of said receiving station from the transmitter site.

3,262,118
SCANNING ANTENNA WITH GASEOUS PLASMA PHASE SHIFTER

Roger C. Jones, North Springfield, Va., assignor, by mesne assignments, to Melpar, Inc., Falls Church, Va., a corporation of Delaware

Filed Apr. 28, 1959, Ser. No. 809,448
4 Claims. (Cl. 343—701)



1. A system for providing a scanning radiation pattern, said system including a plurality of radiators, a constant frequency source of radio frequency energy, means coupling said source of radio frequency energy to said radiators, at least one plasma resonance phase advance device arranged to provide a phase advance of radio frequency energy of extent determined by amplitude of excitation of said plasma, said at least one plasma resonance phase advance device being included in said means coupling said source of radio frequency energy to said radiators, and a source of control energy coupled in exciting relation to said plasma resonance phase advance device, said source of control energy being of such amplitude and frequency as to excite the electrons of said plasma into resonance, and means for continuously varying the amplitude of said control energy.

3,262,119
CAVITY BACKED SLOT ANTENNA WITH ROTATABLE LOOP FEED

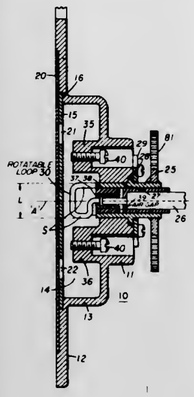
Austin R. Sisson, Canoga Park, Calif., assignor to The Bendix Corporation, a corporation of Delaware

Continuation of application Ser. No. 129,180, Aug. 3, 1961. This application July 30, 1965, Ser. No. 477,088
12 Claims. (Cl. 343—703)

1. A slot antenna comprising:
a conductive body defining a cylindrical cavity,
one portion of said body defining an end wall of the cavity including a pair of substantially parallel slot apertures positioned on opposite sides of the longitudinal axis of the cylindrical cavity for coupling electromagnetic energy between the walls of the cavity and the external medium,

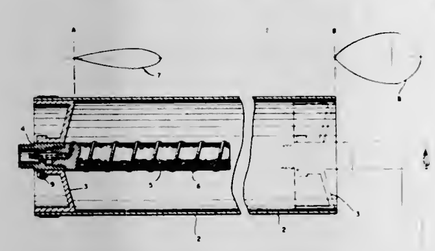
a conductive loop extending through the opposite end wall of said body into the cavity,

said conductive loop extending symmetrically with respect to the said cavity axis, and



means mounting said conductive loop for rotation about the said cavity axis to change the coupling efficiency between the slot apertures and said conductive loop.

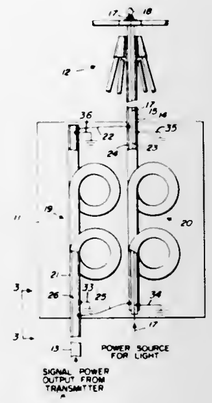
3,262,120
VARIABLE BEAMWIDTH ANTENNA
Kurt Ikrath, Elberon, and Wilhelm A. Schneider, Fair Haven, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed Nov. 8, 1962, Ser. No. 236,460
6 Claims. (Cl. 343—785)



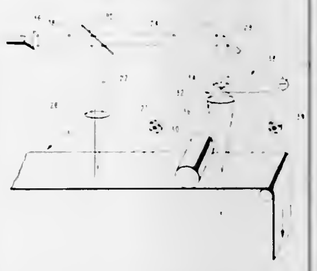
1. A microwave antenna of adjustable beamwidth comprising a helical radiator mounted within and coaxially with a thin-walled cylindrical dielectric tube, said helical radiator being adapted to slide along the axis of said tube, said helical radiator being dimensioned to radiate in the axial or beam mode, said dielectric tube being approximately pi times the diameter of said helical radiator and of such length as to produce a radiation pattern of substantially less beamwidth than that of said helical radiator.

3,262,121
ANTENNA FEED POINT CROSSOVER
Jesse C. Holloway, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed May 6, 1963, Ser. No. 278,347
4 Claims. (Cl. 343—859)

1. A high-frequency feed point crossover comprising, a balun transformer having first and second coaxial terminals, each terminal having an inner and an outer conductor, the outer conductors of each terminal being at common reference ground potential, balun transformer means for gradually transforming impedance between said first and second coaxial terminals so that the impedance of the outer conductor of said first terminal is gradually increased with reference to ground as the second of said terminals is approached and the impedance of the outer conductor of said second terminal is gradually increased with reference to ground as the first of said terminals is approached, the outer conductor of said first terminal being connected to the inner conductor of said second terminal at one end of said terminals, the outer conductor of said second terminal being connected to the inner conductor of said first terminal at the other end of said terminals, the inner conductor of at least one of said terminals being hollow to form a shielded duct, and an auxiliary power line running through said duct.



3,262,122
THERMOPLASTIC MEMORY
Harold Fleisher, Thomas J. Harris, and Eugene Shapiro, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 1, 1963, Ser. No. 277,233
15 Claims. (Cl. 346—1)



1. A method for recording information in a thermoplastic medium in the form of depressed discrete areas therein comprising:

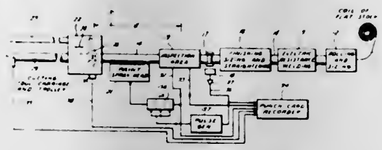
providing a continuous wave laser light beam;

providing a thermoplastic medium having a surface uniformly capable of contracting to form a depression in the surface when it is locally heated in a discrete area to the melting point of the thermoplastic;

applying said beam onto said surface of the thermoplastic medium through a variable focus lens; and

varying the said variable focus lens by a high voltage in formation source whereby the beam is directed to said thermoplastic surface in focus causing melting and contracting of the said medium at that point or in defocus which causes no physical change in said medium.

3,262,123
METHOD FOR TESTING AND GRADING ELONGATE MEMBERS
Alfred E. Crouch, Houston, Tex., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Original application July 31, 1963, Ser. No. 298,870, now Patent No. 3,197,781, dated July 27, 1965. Divided and this application Feb. 12, 1965, Ser. No. 432,315
8 Claims. (Cl. 346—1)



1. A method of grading an elongate member for defects comprising the steps of:

effecting relative axial movement of said elongate member past a defect detecting means positioned adjacent thereto,

producing electrical defect signals in response to defects detected during said movement,

producing first electrical signals when said defects are above a preselected level,

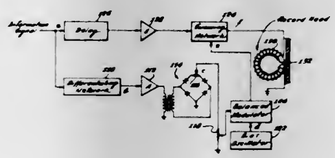
progressively transferring said first signals through a sequence of electrical signal storage elements to a final electrical signal storage position,

retaining said transferred first signals in said final position for predetermined first intervals,

then utilizing said transferred first signals to produce electrical output signals,

applying said output signals to a recording means to record the occurrence of defects detected by said detecting means during said predetermined first intervals.

3,262,124
TRANSDUCING SYSTEM
Wayne R. Johnson, Los Angeles, and Richard V. Roelofs, Granada Hills, Calif., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed July 24, 1962, Ser. No. 212,071
5 Claims. (Cl. 346—74)



1. In combination for use with a recording system for recording on a medium an information signal having a variable frequency and for compensating for the progressively decreasing response of the medium to progressively increasing frequencies of the information signal,

first means responsive to the information signal for detecting the frequency of the information signal,

second means operatively coupled to the first means for developing a control signal having characteristics in accordance with the frequency of the information signal,

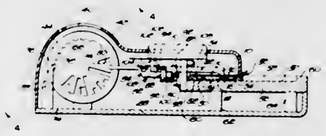
third means for developing a bias signal having a particular frequency,

fourth means operatively coupled to the second means and responsive to the control signal for varying the characteristics of the bias signal in accordance with the characteristics of the control signal to compensate for the progressively decreasing response of the medium to progressively increasing frequencies of the information signal,

fifth means operatively coupled to the fourth means and responsive to the information signal for mixing the information signal and the bias signal with the variable characteristics to obtain a resultant signal, and

sixth means operatively coupled to the fifth means for obtaining a recording of the information signal on the medium.

3,262,124½
IDENTIFICATION VERIFYING PRODUCT AND DEVICE
Peter J. Albiani, Weston, Mass., assignor to Veri-Kard Corporation, Boston, Mass., a corporation of Massachusetts
Filed May 24, 1961, Ser. No. 112,391
1 Claim. (Cl. 235—61.7)

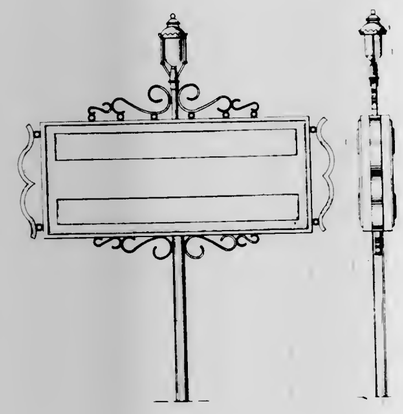


A device for verifying the identity of the holder of a token, said token presenting coded indicia designating ciphered information and raised alphanumeric indicia designating known information, said device including a housing having an exterior portion and an interior portion providing a chamber, seating means for receiving said token, said seating means being movable between a first position at said exterior portion and a second position in said chamber, selecting means presenting selective alphanumeric indicia designating coded information, said selecting means including a larger diameter portion and a smaller diameter portion, said selective alphanumeric indicia being on the periphery of said larger diameter portions, said smaller diameter portion, having radial slots, a plurality of code readout fingers selectively actuated by said coded indicia when said seating means is at said second position in said chamber, said selecting means including a plurality manually rotatably alphanumeric indicia periphery, printing means when actuated for imprinting a record of said raised alphanumeric indicia, said code readout fingers projecting into said radial slots when said coded indicia designating ciphered information and said selective alphanumeric indicia correspond, interlocking means for enabling actuation of said printing means when said coded indicia and said selective alphanumeric indicia correspond and for preventing actuation of said printing means when said coded indicia and said selective alphanumeric indicia do not correspond, and detent means limiting movement of said selecting means to incrementally discrete angular positions.

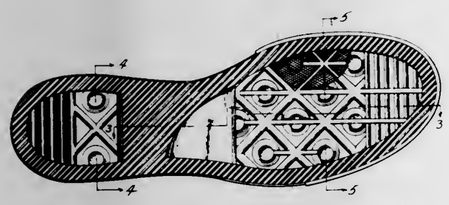
DESIGNS

JULY 19, 1966

205,279
ILLUMINABLE SIGN
Robert T. P. Kane, Casper, Wyo., assignor to Convenient Food Mart, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 16, 1965, Ser. No. 87,030
Term of patent 14 years
(Cl. D1—12)



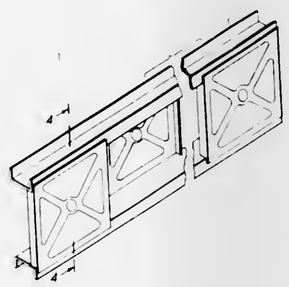
205,280
ATHLETIC SHOE
Robert B. Wolf, 9046 E. Washington Blvd., Pico Rivera, Calif.
Filed June 1, 1965, Ser. No. 85,539
Term of patent 14 years
(Cl. D7—5)



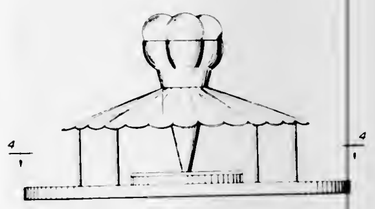
205,281
DISPOSABLE TOOTH BRUSH
Lois C. Cutler, 216 Winding Way, Merion, Pa., and Estelle Manfred, 326 Derwyn Road, Drexel Hill, Pa.
Filed Oct. 13, 1965, Ser. No. 87,450
Term of patent 14 years
(Cl. D9—2)



205,282
BEAM
Geoffrey Benjamin Hern, Byecroft, Bircher, near Leominster, England
Filed Dec. 1, 1964, Ser. No. 82,865
Claims priority, application Great Britain Oct. 2, 1964
Term of patent 14 years
(Cl. D13—1)



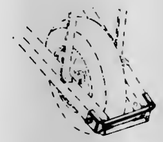
205,283
BUILDING FOR DISPENSING ICE CREAM
Wilfred E. Kohner, 7034 S. Chappel, Chicago, Ill.
Filed Sept. 20, 1965, Ser. No. 87,074
Term of patent 14 years
(Cl. D13—1)



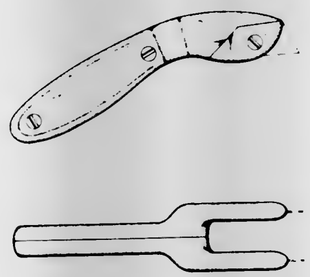
205,284
RECEPTACLE CART
Tony J. Bongiorno, 7 Munson Lane, West Sayville, N.Y.
Filed Apr. 6, 1965, Ser. No. 84,625
Term of patent 14 years
(Cl. D14—3)



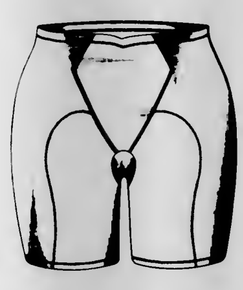
205,285
WHEELBARROW NOSE PIECE
Roger R. Tonelli, 1708 N. Oak Park Ave., Chicago, Ill.
Filed June 22, 1965, Ser. No. 85,854
Term of patent 14 years
(Cl. D14—3)



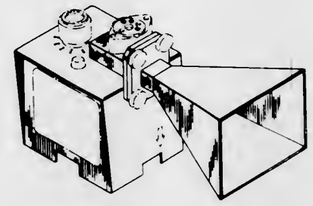
205,286
RUG KNIFE OR SIMILAR ARTICLE
Glen C. Dyment, 47C Washington St., Concord, N.H., and John E. Martin, Box 171, Andover, N.H.
Filed Apr. 28, 1965, Ser. No. 85,008
Term of patent 14 years
(Cl. D22—3)



205,287
PANTY GIRDLE
Larry L. Krieger, 2110 Inwood Road, Wilmington, Del.
Filed Jan. 6, 1965, Ser. No. 83,299
Term of patent 14 years
(Cl. D20—2)



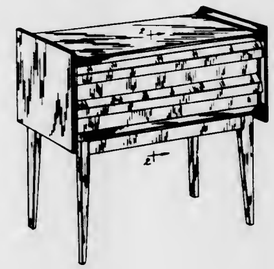
205,288
ELECTROMAGNETIC RADIATION APPARATUS
Stanley H. Gartman and Edward F. Meyers, Roslyn Heights, and Tore Anderson, Brookville, N.Y., assignors to The Welch Scientific Company, Skokie, Ill., a corporation of Illinois
Filed Aug. 20, 1964, Ser. No. 81,379
Term of patent 14 years
(Cl. D26—1)



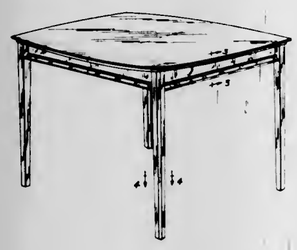
205,289
FISHING ROD HOLDER OR THE LIKE
Frederick S. Ring, 717 S. Roswell Road, Marietta, Ga.
Filed Feb. 23, 1965, Ser. No. 83,941
Term of patent 7 years
(Cl. D31—4)



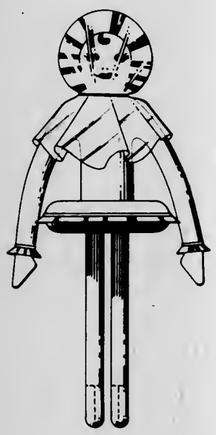
205,290
NIGHT STAND
Bert J. Klein and Andre Bus, Altavista, and John B. Thorn, Lynchburg, Va., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Apr. 19, 1965, Ser. No. 84,864
Term of patent 14 years
(Cl. D33—14)



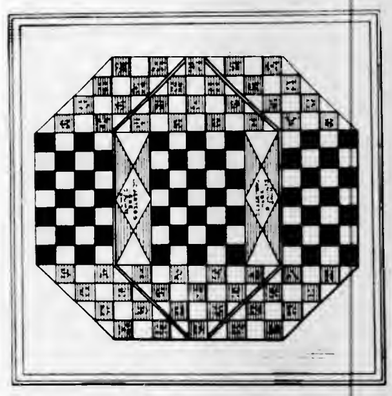
205,291
TABLE
Bert J. Klein and Andre Bus, Altavista, and John B. Thorn, Lynchburg, Va., assignors to The Lane Company, Inc., Altavista, Va., a corporation of Virginia
Filed Apr. 19, 1965, Ser. No. 84,870
Term of patent 14 years
(Cl. D33—14)



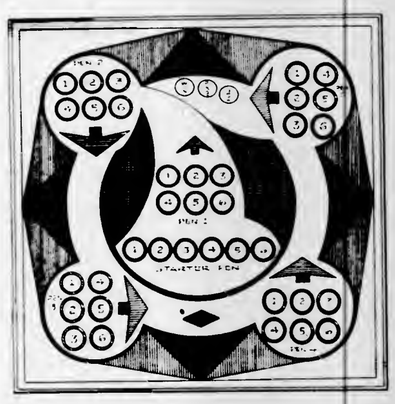
205,292
DOLL
Emily P. Manero, 13735 NW. 3rd Ave., Miami, Fla.
Filed July 12, 1965, Ser. No. 86,130
Term of patent 14 years
(Cl. D34—4)



205,293
GAMEBOARD
Humbert Robertson, 965 Tinton Ave., Bronx, N.Y.
Filed June 7, 1965, Ser. No. 85,598
Term of patent 14 years
(Cl. D34—5)



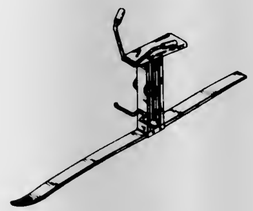
205,294
GAMEBOARD
Humbert Robertson, 965 Tinton Ave., Bronx, N.Y.
Filed June 7, 1965, Ser. No. 85,599
Term of patent 14 years
(Cl. D34—5)



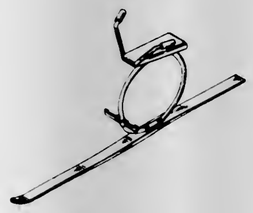
205,295
VELOCIPEDE
Harald R. Hoffmann, Cleveland, Ohio, assignor to The M.T. & D. Company, a corporation of Ohio
Filed Feb. 20, 1964, Ser. No. 78,714
Term of patent 14 years
(Cl. D34—15)



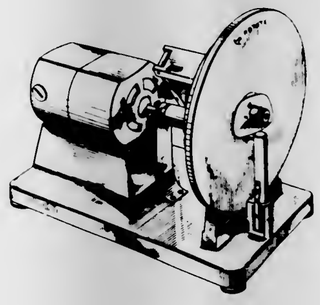
205,296
RIDING TYPE SKI
Felix Cohen, 2465 S. Kearney St., Denver, Colo. 80222
Filed May 3, 1965, Ser. No. 85,130
Term of patent 14 years
(Cl. D34—15)



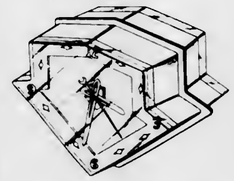
205,297
RIDING TYPE SKI
Felix Cohen, 2465 S. Kearney St., Denver, Colo. 80222
Filed May 17, 1965, Ser. No. 85,309
Term of patent 14 years
(Cl. D34—15)



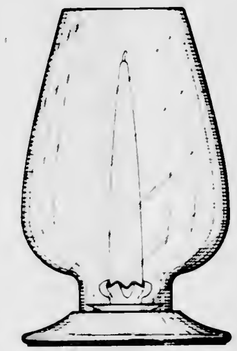
205,298
LENS BLANK PERIPHERY GRINDER
Edwin Earl Milner, Jr., Kingston, N.Y., assignor to Kirk Optical Lens Co., Inc., New York, N.Y., a corporation of New York
Filed June 29, 1964, Ser. No. 80,617
Term of patent 14 years
(Cl. D37—1)



205,299
CLOCK OR SIMILAR ARTICLE
Conrad J. Escalante, 1251 W. Gaylord St., Los Alamitos, Calif.
Filed Mar. 8, 1965, Ser. No. 84,131
Term of patent 14 years
(Cl. D42—7)



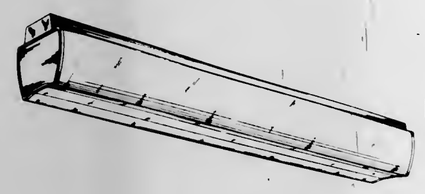
205,300
COMBINED CANDLE HOLDER AND CANDLE THEREFOR
David Douglas, Manitowoc, Wis., assignor to East Wisconsin Trustee Company of Manitowoc, Manitowoc, Wis., a corporation of Wisconsin
Filed June 4, 1964, Ser. No. 80,283
Term of patent 14 years
(Cl. D48—2)



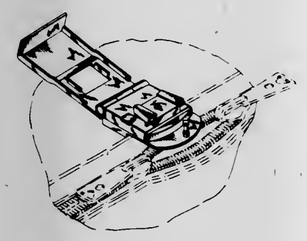
205,301
LAMP BASE
Norman Bennett, 9900 E. Bexhill Drive, Kensington, Md.
Filed Oct. 12, 1965, Ser. No. 87,447
Term of patent 14 years
(Cl. D48—20)



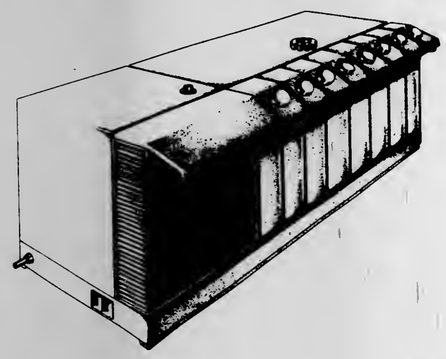
205,302
LUMINAIRE
Vearl S. Wince, Newark, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 7, 1965, Ser. No. 85,181
Term of patent 14 years
(Cl. D48—23)



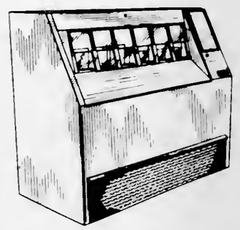
205,303
LUGGAGE LOCK
Joseph Pelavin, Brooklyn, and Julius Sheiman, North Woodmere, N.Y., assignors to Lark Luggage Corp., New York, N.Y., a corporation of New York
Filed Sept. 15, 1965, Ser. No. 87,016
Term of patent 14 years
(Cl. D50—7)



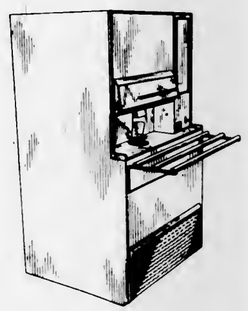
205,304
MULTI-PRODUCT DISPENSER FOR TOILETRIES
Melvin Rudin, Mountain View, Calif., assignor to Dynatek, Santa Clara, Calif., a partnership
Filed June 7, 1965, Ser. No. 85,602
Term of patent 7 years
(Cl. D52—2)



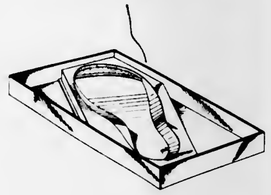
205,305
PRODUCT DISPENSING MACHINE
Boley A. Andrews, Mission, Kans., and Le Roy D. Gore, Independence, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed June 10, 1965, Ser. No. 85,654
Term of patent 7 years
(Cl. D52—3)



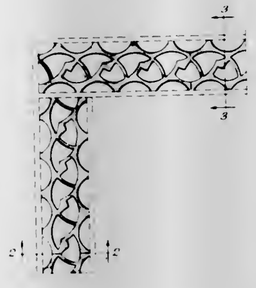
205,306
BEVERAGE DISPENSING MACHINE
José Arturo Conde, Independence, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed June 10, 1965, Ser. No. 85,656
Term of patent 7 years
(Cl. D52—3)



205,307
FOOT GAUGE
Bernard John Marriott, Bristol, England, assignor to G. B. Britton & Sons (Holdings) Limited, Bristol, England, a British company
Filed June 17, 1965, Ser. No. 85,782
Claims priority, application Great Britain Apr. 26, 1965
Term of patent 14 years
(Cl. D52—6)



205,308
ARCHITECTURAL FRETWORK
Jacob G. Braun, 3025 Old Glenview Road, Wilmette, Ill.
Filed Mar. 16, 1965, Ser. No. 84,290
Term of patent 14 years
(Cl. D54—2)



205,309
HITCH PIN
Ted L. Cline, P.O. Box 38, Rush Springs, Okla.
Filed Aug. 2, 1965, Ser. No. 86,378
Term of patent 14 years
(Cl. D54—9)

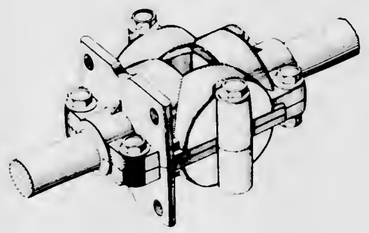
205,310
SPOON OR SIMILAR ARTICLE
Johann Brokate, Whitesboro, N.Y., assignor to Utica Cutlery Company, Utica, N.Y., a corporation of New York
Filed Sept. 10, 1965, Ser. No. 86,924
Term of patent 14 years
(Cl. D54—12)



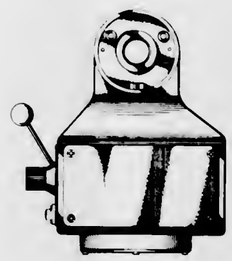
205,311
SPOON OR SIMILAR ARTICLE
Johann Brokate, Whitesboro, N.Y., assignor to Utica Cutlery Company, Utica, N.Y., a corporation of New York
Filed Sept. 10, 1965, Ser. No. 86,930
Term of patent 14 years
(Cl. D54—12)



205,312
DIFFERENTIAL TRANSMISSION UNIT
Orly Musgrave, Springfield, Ohio, assignor to Mast-Foos Manufacturing Co., Inc., Springfield, Ohio, a corporation of Ohio
Filed July 8, 1965, Ser. No. 86,074
Term of patent 14 years
(Cl. D55—1)



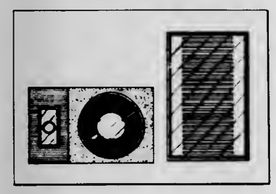
205,313
MILL TABLE FEED DEVICE
Francis L. Moseley, 700 Flintridge Drive, Pasadena, Calif.
Filed Aug. 13, 1965, Ser. No. 86,580
Term of patent 14 years
(Cl. D55—1)



205,314
PAIR OF SPECTACLES OR THE LIKE
Steve Boxer 4414 Woodman Ave., Sherman Oaks, Calif.
Filed Oct. 4, 1965, Ser. No. 87,297
Term of patent 14 years
(Cl. D57—1)



205,315
COMBINED CHIME KIT AND DISPLAY PACKAGE THEREFOR
Norman William Stevenson, Macclesfield, England, assignor to V. & E. Friedland Limited, Macclesfield, England, a company of Great Britain
Filed Aug. 7, 1962, Ser. No. 71,206
Claims priority, application Great Britain Feb. 7, 1962
Term of patent 14 years
(Cl. D58—2)



205,316
SPRAY DISPENSING BOTTLE
Donald F. Armour, Bloomfield, Conn., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
Filed Sept. 16, 1964, Ser. No. 81,753
Term of patent 14 years
(Cl. D58—8)



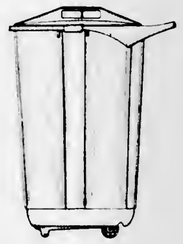
205,317
COIN WRAPPER
Alfred S. Colella, 1310 S. Glendora Ave., West Covina, Calif.
Filed Apr. 29, 1965, Ser. No. 85,019
Term of patent 14 years
(Cl. D58—12)



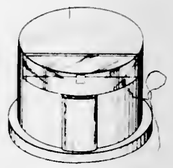
205,318
CONTAINER FOR PAINTS OR THE LIKE
Harry Meth, Cincinnati, Ohio, assignor to Rainbow Crafts, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 28, 1964, Ser. No. 81,901
Term of patent 14 years
(Cl. D58—17)



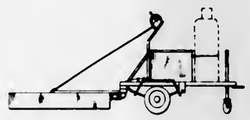
205,319
REFUSE RECEPTACLE
Max Klein, 8915 Northend Ave., Detroit, Mich.
Filed Apr. 28, 1965, Ser. No. 85,003
Term of patent 14 years
(Cl. D58—17)



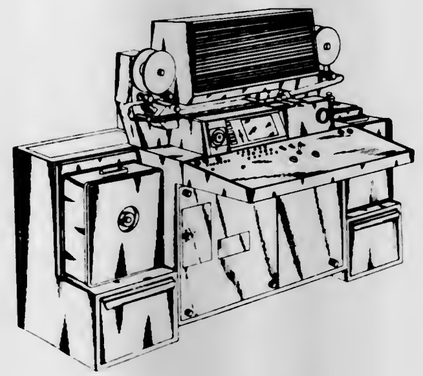
205,320
DISPLAY CAP FOR A PRESSURIZED CAN
Neil S. Waterman, Stamford, Conn., assignor to Alberto-Culver Company, Melrose Park, Ill., a corporation of Delaware
Filed Oct. 1, 1964, Ser. No. 82,307
Term of patent 14 years
(Cl. D58—26)



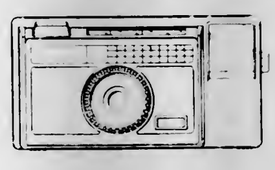
205,321
ASPHALT PENETRATION HEATER
Anton H. Heller, Levittown, N.Y., assignor to United Suffolk Corp., Hauppauge, N.Y., a corporation of New York
Filed Sept. 7, 1965, Ser. No. 86,892
Term of patent 14 years
(Cl. D60—1)



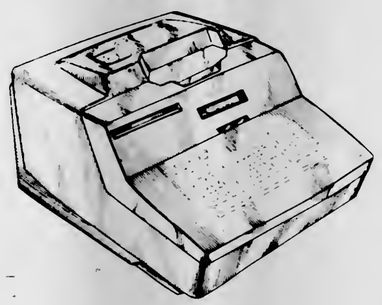
205,322
PHOTOGRAPHIC PRINTER
Ralph M. Vigna, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 8, 1965, Ser. No. 85,616
Term of patent 14 years
(Cl. D61—1)



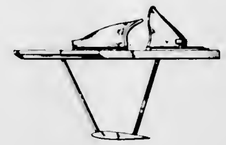
205,323
PHOTOGRAPHIC CAMERA
Hermann Claar, Kurt Steisslinger, and Ernst Lieser, all of Stuttgart-Hedelfingen, Germany, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 11, 1965, Ser. No. 85,675
Claims priority, application Germany Feb. 8, 1965
Term of patent 14 years
(Cl. D61—1)



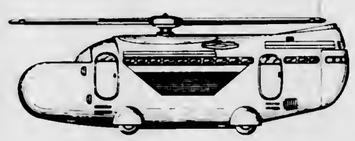
205,324
CASING FOR A CALCULATING MACHINE OR SIMILAR ARTICLE
Richard Hollerith, Jr., Upper Montclair, and Terry L. Barner, Orange, N.J., assignors to Monroe International Corporation, Orange, N.J., a corporation of Delaware
Filed June 17, 1965, Ser. No. 85,789
Term of patent 14 years
(Cl. D64—11)



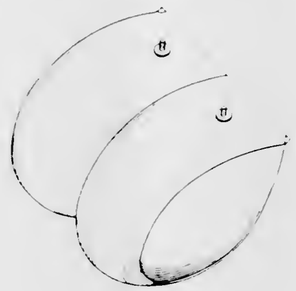
205,325
HYDROFOIL WATER SKI
John M. Diehl, 5729 Elder Place, and Rudolph J. Kamenick, 5815 Raymond Road, both of Madison, Wis.
Filed Sept. 28, 1964, Ser. No. 81,886
Term of patent 14 years
(Cl. D71—1)



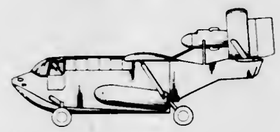
205,326
COMBINED HELICOPTER AND AUTOMOBILE
Steven Postelson-Apostolescu, 415 W. 35th St., New York, N.Y.
Filed Jan. 4, 1965, Ser. No. 83,265
Term of patent 14 years
(Cl. D71—1)



205,327
ARM SWIM FLOAT
Konstantin B. Lukas, 300 SW. 18th Ave., Fort Lauderdale, Fla.
Filed Feb. 8, 1965, Ser. No. 83,715
Term of patent 14 years
(Cl. D71—1)



205,328
MULTIPLE PURPOSE VEHICLE
Frederick D. Henry, Torrance, and John R. Clifton, Rolling Hills Estates, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Sept. 8, 1965, Ser. No. 86,904
Term of patent 14 years
(Cl. D71—1)



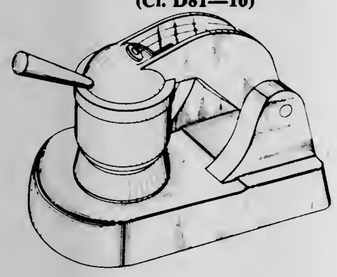
205,329
COMBINED SIGNAL LIGHT AND YARN HOLDER
Irving Kasher, 57 Water St., Perth Amboy, N.J.
Filed Apr. 30, 1965, Ser. No. 85,037
Term of patent 14 years
(Cl. D72—1)



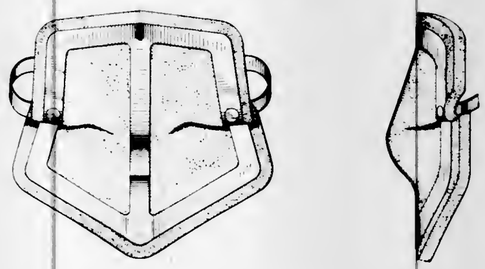
205,330
MARKING INSTRUMENT
John P. Capezzuto, Cambridge, Mass., assignor to The Carter's Ink Company, Cambridge, Mass., a corporation of Massachusetts
Filed June 21, 1965, Ser. No. 85,819
Term of patent 14 years
(Cl. D74—17)



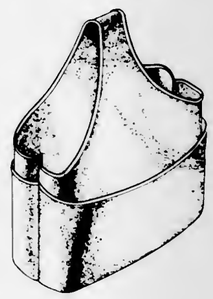
205,331
SANDWICH TOASTER
Fay J. Sawaya, 4299 Vallejo Drive, Salt Lake City, Utah
Filed May 5, 1965, Ser. No. 85,122
Term of patent 14 years
(Cl. D81—10)



205,332
ORONASAL FILTER MASK
James E. Nelson, Williamsville, N.Y., assignor to Scott Aviation Corporation, Lancaster, N.Y.
Filed Aug. 30, 1965, Ser. No. 86,771
Term of patent 7 years
(Cl. D83—1)



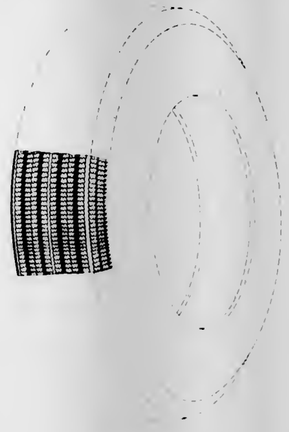
205,333
SATCHEL OR THE LIKE
Dona G. Cain, 2564 N. Fleetwood Drive, Mobile, Ala.
Filed Mar. 29, 1965, Ser. No. 84,498
Term of patent 14 years
(Cl. D87—3)



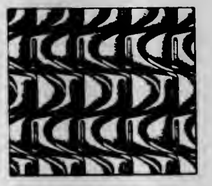
205,334
TIRE
Marco Maxemovich, Warren, and John W. Taylor, Grosse Pointe Farms, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 2, 1965, Ser. No. 86,384
Term of patent 14 years
(Cl. D90—20)



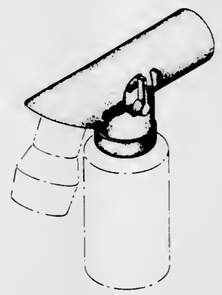
205,335
TIRE
Robert F. Busch, St. Clair Shores, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 4, 1965, Ser. No. 87,314
Term of patent 14 years
(Cl. D90—20)



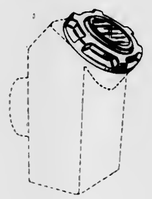
205,336
CARPET UNDERLAY
Donald G. Rowland, Woodbridge, William F. Conway, Huntington, and James M. Green, Naugatuck, Conn., assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Oct. 14, 1963, Ser. No. 76,952
Term of patent 14 years
(Cl. D92—4)



205,337
SPRAY HEAD
Garland L. Sheldall, Los Angeles County, Calif. (9063 Nagle Ave., Panorama, Calif.)
Filed Oct. 24, 1965, Ser. No. 87,899
Term of patent 14 years
(Cl. D91—3)



205,338
COMBINED CLOSURE AND GAUGE FOR A FLUID SYSTEM
Eugene L. Kilbourn, Marshall, Mich., assignor to Progressive Dynamics, Inc., Marshall, Mich.
Filed July 12, 1965, Ser. No. 86,117
Term of patent 14 years
(Cl. D91—1)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 19TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Ahlbrandt, Andreas, to Walter Durbeck Papiersackfabriken G.m.b.H. Folding, flattened tubes. Re. 26,062, 7-19-66, Cl. 93—20.

All-Steel Equipment Inc.: *See*—
Buhrmaster, Bruce O. Re. 26,061.

Bond, Robert W., H. G. Markey, J. H. Ladd, R. L. Roberts, Jr., and G. R. Keller (by North American Aviation Inc.). Autopilot. Re. 26,064, 7-19-66, Cl. 244—77.

Buhrmaster, Bruce O., to All-Steel Equipment Inc. Method of making a chair base. Re. 26,061, 7-19-66, Cl. 29—150.

Dick, A. B., Co.: *See*—
Kabell, Louis J. Re. 26,067.

Durbeck, Walter, Papiersackfabriken G.m.b.H.: *See*—
Ahlbrandt, Andreas. Re. 26,062.

Huston, Elmo F., to The Ohio Brass Co. Potheads and cable terminals. Re. 26,066, 7-19-66, Cl. 174—73.

Kabell, Louis J., to A. B. Dick Co. Solid state light to electrostatic charge image transducer. Re. 26,067, 7-19-66, Cl. 346—74.

Keating, Richard T. High velocity oven. Re. 26,063, 7-19-66, Cl. 126—21.

Keller, George R.: *See*—
Bond, Robert W., Markey, Ladd, Roberts, Keller, and North American Aviation Inc. Re. 26,064.

Ladd, John H: *See*—
Bond, Robert W., Markey, Ladd, Roberts, Keller, and North American Aviation Inc. Re. 26,064.

Markey, Harold G.: *See*—
Bond, Robert W., Markey, Ladd, Roberts, and Keller, (by North American Aviation Inc.). Re. 26,064.

Marvel, Carl S., and H. A. Vogel, to University of Illinois Foundation. Polybenzimidazoles and their preparation. Re. 26,065, 7-19-66, Cl. 260—47.

North American Aviation Inc.: *See*—
Bond, Robert W., Markey, Ladd, Roberts, Keller, and North American Aviation Inc. Re. 26,064.

Ohio Brass Co., The: *See*—
Huston, Elmo F. Re. 26,066.

Roberts, Roy L., Jr.: *See*—
Bond, Robert W., Markey, Ladd, Roberts, Keller, and North American Aviation Inc.). Re. 26,064.

University of Illinois Foundation: *See*—
Marvel, Carl S., and Vogel. Re. 26,065.

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Alberto-Culver Co.: *See*—
Waterman, Neil S. 205,320.

Anderson, Tore: *See*—
Gartman, Stanley H., Meyers, and Anderson. 205,288.

Andrews, Boley A., and L. D. Gore, to The Vendo Co. Product dispensing machine. 205,305, 7-19-66, Cl. D52—3.

Armour, Donald F., to Monsanto Co. Spray dispensing bottle. 205,316, 7-19-66, Cl. D58—8.

Bennett, Norman. Lamp base. 205,301, 7-19-66, Cl. D48—20.

Bongiorno, Tony J. Receptacle cart. 205,284, 7-19-66, Cl. D14—3.

Boxer, Steve. Pair of spectacles or the like. 205,314, 7-19-66, Cl. D57—1.

Braun, Jacob G. Architectural fretwork. 205,308, 7-19-66, Cl. D54—2.

Britton, G. B., & Sons (Holdings) Ltd.: *See*—
Marriott, Bernard J. 205,307.

Brokate, Johann, to Utica Cutlery Co. Spoon or similar article. 205,310, 7-19-66, Cl. D54—12.

Brokate, Johann, to Utica Cutlery Co. Spoon or similar article. 205,311, 7-19-66, Cl. D54—12.

Bus, Andre: *See*—
Klein, Bert J., Bus, and Thorn. 205,290.
Klein, Bert J., Bus, and Thorn. 205,291.

Busch, Robert F., to United States Rubber Co. Tire. 205,335, 7-19-66, Cl. D90—20.

Cain, Dona G. Satchel or the like. 205,333, 7-19-66, Cl. D87—3.

Capezzuto, John P., to The Carter's Ink Co. Marking instrument. 205,330, 7-19-66, Cl. D74—17.

Carter's Ink Co., The: *See*—
Capezzuto, John P. 205,330.

Claar, Hermann, K. Steissiinger, and E. Lieser, to Eastman Kodak Co. Photographic camera. 205,323, 7-19-66, Cl. D61—1.

Clifton, John R.: *See*—
Henry, Frederick D., and Clifton. 205,328.

Cline, Ted L. Hitch pin. 205,309, 7-19-66, Cl. D54—9.

Cohen, Felix. Riding type ski. 205,296, 7-19-66, Cl. D34—15.

Cohen, Felix. Riding-type ski. 205,297, 7-19-66, Cl. D34—15.

Colella, Alfred S. Coin wrapper. 205,317, 7-19-66, Cl. D58—12.

Conde, Jose A., to The Vendo Co. Beverage dispensing machine. 205,306, 7-19-66, Cl. D52—3.

Convenient Food Mart, Inc.: *See*—
Kane, Robert T. P. 205,279.

Conway, William F.: *See*—
Rowland, Donald G., Conway, and Green. 205,328.

Cutler, Lois C., and E. Manfred. Disposable tooth brush. 205,281, 7-19-66, Cl. D9—2.

Diehl, John M., and R. J. Kamenick. Hydrofoil water ski. 205, 325, 7-19-66, Cl. D71—1.

Douglas, David, to East Wisconsin Trustee Co. of Manitowoc. Combined candle holder and candle therefor. 205,300, 7-19-66, Cl. D48—2.

Dyment, Glen C., and J. E. Martin. Rug knife or similar article. 205,286, 7-19-66, Cl. D22—3.

Dynatek: *See*—
Rudin, Melvin. 205,304.

East Wisconsin Trustee Co. of Manitowoc: *See*—
Douglas, David. 205,300.

Eastman Kodak Co.: *See*—
Claar, Hermann, Steissiinger, and Lieser. 205,323.
Vigna, Ralph M. 205,322.

Escalante, Conrad J. Clock or similar article. 205,299, 7-19-66, Cl. D42—7.

Fern, Geoffrey B. Beam. 205,282, 7-19-66, Cl. D13—1.

Friedland, V. & E., Ltd.: *See*—
Stevenson, Norman W. 205,315.

Gartman, Stanley H., E. F. Meyers, and T. Anderson, to The Welsh Scientific Co. Electromagnetic radiation apparatus. 205,288, 7-19-66, Cl. D26—1.

Goodrich, B. F., Co., The: *See*—
Rowland, Donald G., Conway, and Green. 205,336.

Gore, Le Roy D.: *See*—
Andrews, Boley A., and Gore. 205,305.

Green, James M.: *See*—
Rowland, Donald G., Conway, and Green. 205,336.

Heller, Anton H., to United Suffolk Corp. Asphalt penetration heater. 205,321, 7-19-66, Cl. D60—1.

Henry, Frederick D., and J. R. Clifton, to Northrop Corp. Multiple purpose vehicle. 205,328, 7-19-66, Cl. D71—1.

Hoffmann, Harald R., to The M. T. & D. Co. Velocipede. 205,293, 7-19-66, Cl. D34—15.

Hollerith, Richard, Jr., and T. L. Barner, to Monroe International Corp. Casing for a calculating machine or similar article. 205,324, 7-19-66, Cl. D64—11.

Holophane Co., Inc.: *See*—
Wince, Vearl S. 205,302.

Kane, Robert T. P., to Convenient Food Mart, Inc. Illuminable sign. 205,279, 7-19-66, Cl. D1—12.

Kasher, Irving. Combined signal light and yarn holder. 205,329, 7-19-66, Cl. D72—1.

Kilbourn, Eugene L., to Progressive Dynamics, Inc. Combined closure and gauge for a fluid system. 205,338, 7-19-66, Cl. D91—1.

Kirk Optical Lens Co., Inc.: *See*—
Milner, Edwin E., Jr. 205,298.

Klein, Bert J., A. Bus, and J. B. Thorn, to The Lane Co., Inc. Night stand. 205,290, 7-19-66, Cl. D33—14.

Klein, Bert J., A. Bus, and J. B. Thorn, to The Lane Co., Inc. Table. 205,291, 7-19-66, Cl. D33—14.

Klein, Max. Refuse receptacle. 205,319, 7-19-66, Cl. D58—17.

Kohner, Wilfred. Building for dispensing ice cream. 205,283, 7-19-66, Cl. D13—1.

Krieger, Larry L. Panty girdle. 205,287, 7-19-66, Cl. D20—2.

Lane Co., Inc., The: *See*—
Klein, Bert J., Bus, and Thorn. 205,290.
Klein, Bert J., Bus, and Thorn. 205,291.

Lark Luggage Corp.: *See*—
Pelavin, Joseph, and Sheiman. 205,303.

Lieser, Ernst: *See*—
Claar, Hermann, Steissiinger, and Lieser. 205,323.

Lukas, Konstantin B. Arm swim float. 205,327, 7-19-66, Cl. D71—1.

M. T. & D. Co., The: *See*—
Hoffmann, Harald R. 205,295.

Manero, Emily P. Doll. 205,292, 7-19-66, Cl. D34—4.

Manfred, Estelle: *See*—
Cutler, Lois C., and Manfred. 205,281.

Marriott, Bernard J., to G. B. Britton & Sons (Holdings) Ltd. Foot gauge. 205,307, 7-19-66, Cl. D52—6.

Martin, John E.: *See*—
Dyment, Glen C., and Martin. 205,286.
Mast-Foos Mfg. Co., Inc.: *See*—
Musgrave, Orly. 205,312.
Maxemovich, Marco, and J. W. Taylor, to United States Rubber Co. Tire. 205,334, 7-19-66, Cl. D90—20.
Meth, Harry, to Rainbow Crafts, Inc. Container for paints or the like. 205,318, 7-19-66, Cl. D58—17.
Meyers, Edward F.: *See*—
Gartman, Stanley H., Meyers, and Anderson. 205,288.
Milner, Edwin E., Jr., to Kirk Optical Lens Co., Inc. Lens blank periphery grinder. 205,298, 7-19-66, Cl. D37—1.
Monroe International Corp.: *See*—
Hollerith, Richard, Jr., and Barner. 205,324.
Monsanto Co.: *See*—
Armour, Donald F. 205,316.
Moseley, Francis L. Mill table feed device. 205,313, 7-19-66, Cl. D55—1.
Musgrave, Orly, to Mast-Foos Mfg. Co., Inc. Differential transmission unit. 205,312, 7-19-66, Cl. D55—1.
Nelson, James E., to Scott Aviation Corp. Oronasal filter mask. 205,332, 7-19-66, Cl. D83—1.
Northrop Corp.: *See*—
Henry, Frederick D., and Clifton. 205,328.
Pelavin, Joseph, and J. Sheiman, to Lark Luggage Corp. Luggage lock. 205,303, 7-19-66, Cl. D50—7.
Postelson-Apostolescu, Steven. Combined helicopter and automobile. 205,326, 7-19-66, Cl. D71—1.
Progressive Dynamics, Inc.: *See*—
Kilbourn, Eugene L. 205,338.
Rainbow Crafts, Inc.: *See*—
Meth, Harry. 205,318.
Ring, Frederick S. Fishing rod holder or the like. 205,289, 7-19-66, Cl. D31—4.
Robertson, Humbert. Gameboard. 205,293, 7-19-66, Cl. D34—5.
Robertson, Humbert. Gameboard. 205,294, 7-19-66, Cl. D34—5.
Rowland, Donald G., W. F. Conway, and J. M. Green, to The B. F. Goodrich Co. Carpet underlay. 205,336, 7-19-66, Cl. D92—4.
Rudin, Melvin, to Dynatek. Multi-product dispenser for toiletries. 205,304, 7-19-66, Cl. D52—2.
Sawaya, Fay J. Sandwich toaster. 205,331, 7-19-66, Cl. D81—10.
Scott Aviation Corp.: *See*—
Nelson, James E. 205,332.
Sheiman, Julius: *See*—
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Sheldall, Garland L. Spray head. 205,337, 7-19-66, Cl. D91—3.
Stevenson, Norman W., to V. & E. Friedland Ltd. Combined chime kit and display package therefor. 205,315, 7-19-66, Cl. D58—2.
Taylor, John W.: *See*—
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Thorn, John B.: *See*—
Klein, Bert J., Bus, and Thorn. 205,290.
Klein, Bert J., Bus, and Thorn. 205,291.
Tonelli, Roger R. Wheelbarrow nose piece. 205,285, 7-19-66, Cl. D14—3.
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Busch, Robert F. 205,335.
Maxemovich, Marco, and Taylor. 205,334.
United Suffolk Corp.: *See*—
Heller, Anton H. 205,321.
Utica Cutlery Co.: *See*—
Brokate, Johann. 205,310.
Brokate, Johann. 205,311.
Vendo Co., The: *See*—
Andrews, Boley A., and Gore. 205,305.
Conde, Jose A. 205,306.
Vigna, Ralph M., to Eastman Kodak Co. Photographic printer. 205,322, 7-19-66, Cl. D61—1.
Waterman, Neil S., to Alberto-Culver Co. Display cap for a pressurized can. 205,320, 7-19-66, Cl. D58—26.
Welch Scientific Co., The: *See*—
Gartman, Stanley H., Meyers, and Anderson. 205,288.
Wince, Vearl S., to Holophane Co., Inc. Luminaire. 205,302, 7-19-66, Cl. D48—23.
Wolf, Robert B. Athletic shoe. 205,280, 7-19-66, Cl. D7—5.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 19TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Aaron, Marvin R., and E. E. Sumner, to Bell Telephone Laboratories, Inc. Asynchronous pulse multiplexing. 3,261,919, 7-19-66, Cl. 179—15.
Aaron, Marvin R., to Bell Telephone Laboratories, Inc. Asynchronous pulse multiplexing. 3,261,920, 7-19-66, Cl. 179—15.
Abe, Toshio, M. Kanazawa, and T. Ohashi, to Tokyo Shibaura Electric Co., Ltd. Method of removing silicon from germanium ingots. 3,261,681, 7-19-66, Cl. 75—84.
Able, Edward T., and W. Krieger, to B. K. Sweeney Mfg. Co. Impact wrench checkers. 3,261,198, 7-19-66, Cl. 73—1.
Abner, Thomas L., G. R. Grooks, and E. M. Williston, to Weyerhauser Co. Fastening means for supporting siding panels. 3,261,136, 7-19-66, Cl. 52—471.
Abolins, Andrew. Semi-automatic horizontal container coupler. 3,261,070, 7-19-66, Cl. 24—221.
Acme Appliance Mfg. Co.: *See*—
Brydolf, Robert, and Kellems. 3,261,129.
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Vachon, Hubert J. 3,261,045.

Boudouresques, Bernard, E. Maillet, and J. Peice, to Commissariat a l'Energie Atomique. Fuel element for nuclear reactor. 3,261,759, 7–19–66, Cl. 176—81.

Bowdy, Frederick E., to The Boeing Co. Aircraft universally jointed retractable landing gear. 3,261,574, 7–19–66, Cl. 244—102.

Boulton Paul Aircraft Ltd.: *See*—
Lomnicki, Zbigniew A. 3,261,227.

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Schroder, Herman M., and Bots. 3,261,076.

Bowers, Albert, and O. Halpern, to Syntex Corp. 6-keto-Δ-5(10)-19-nor-derivatives of cortical hormones. 3,261,830, 7–19–66, Cl. 260—239.55.

Bowman, Edward W. Annealing and decorating lehrs. 3,261,596, 7–19–66, Cl. 263—8.

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Ballman, Albert A., Boyd, and Miller. 3,262,058.

Boyle, Frank J., to International Resistance Co. Electrical circuit assembly having wafers mounted in stacked relation. 3,262,023, 7–19–66, Cl. 317—101.

Bradlee, Charles R., and A. M. Putetti, to Textron, Inc. Method for making hollow articles. 3,261,196, 7–19–66, Cl. 72—343.

Bradley, George S. Mattress depressor and auxiliary means. 3,261,034, 7–19–66, Cl. 5—317.

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Pearce, Godfrey R., Sparrow, and Braiman. 3,261,902.

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Branco, Flavio S. C.: *See*—
Johnson, Wayne R., and Branco. 3,262,056.

Brauchli, Herbert C.: *See*—
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Brenman, Henry S. Dental cleaning apparatus. 3,261,978, 7–19–66, Cl. 250—86.

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Bright Star Industries, Inc.: *See*—
Kott, Herbert. 3,261,973.

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Guillermic, Andre J. F. 3,261,502.

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Threadgold, Philip, and Thomas. 3,262,050.

Britton Corp., The: *See*—
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Brockelmann, Otto, E. Hatje, and R. Asel, to Beteiligungs- und Patentverwaltungs-gesellschaft mit beschrankter Haftung and Rheinisch-Westfalische Kalkwerke Aktiengesellschaft. Method and device for effecting heat exchange. 3,261,106, 7–19–66, Cl. 34—20.

Brodie, George R., to John C. Motter Printing Press Co. Liquid distributing apparatus. 3,261,287, 7–19–66, Cl. 101—350.

Brois, Stanley J.: *See*—
Wellman, William E., Brois, and Rutkowski. 3,261,862.

Bronstien, Edward L., Sr., to The United States Bedding Co. Mattress holding means. 3,261,036, 7–19–66, Cl. 5—345.

Broschard, John L., and T. A. Harris, to SKF Industries, Inc. Transmission bearing. 3,261,234, 7–19–66, Cl. 74—801.

Broschke, Heinrich, to Ernst Leitz G.m.b.H. Photographic camera with built-in exposure meter. 3,261,273, 7–19–66, Cl. 95—10.

Brouwer, Pieter H. J., to North American Philips Co., Inc. Bimetallic switch cutout. 3,261,947, 7–19–66, Cl. 200—113.

Brown, Clarence K., to Hi-Shear Corp. Separable fastener assembly. 3,261,261, 7–19–66, Cl. 89—1.

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Brown, Delmont D., to The D. S. Brown Co. Method for forming tubular pipe coupling. 3,261,735, 7–19–66, Cl. 156—158.

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Spence, Gerald M., and Bryan. 3,261,700.

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Bryant, James F. M., and R. W. Kett, to Commonwealth of Australia. Method and apparatus for testing subscribers' telephone instruments in situ under service conditions. 3,261,926 7–19–66, Cl. 179—175.1.

Brydolf, Robert, and K. K. Kellems, to Acme Appliance Mfg. Co. Panel hardware. 3,261,129, 7–19–66, Cl. 49—411.

Buchhold, Theodor A., to United States of America, National Aeronautics and Space Administration. Superconductive accelerometer. 3,261,210, 7–19–66, Cl. 73—517.

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Burbig, Henry. Aerated eye cup with air storage vessel. 3,261,355, 7–19–66, Cl. 128—249.

Burnett, Richard T., and J. L. Turak, to The Bendix Corp. Brake. 3,261,429, 7–19–66, Cl. 188—73.

Burton, Robert V., to Honeywell Inc. Fluid control element. 3,261,372, 7–19–66, Cl. 137—81.5.

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Foster, Lawrence H., and Bush. 3,261,394.

Bushnell, James S., J. L. Ehrler, and H. N. Weinberg, to Esso Research and Engineering Co. Solvent recovery process. 3,261,778, 7–19–66, Cl. 208—321.

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Caille, Eugene H., and O'Brien. 3,261,050.

Caille, Eugene H., and R. H. O Brien, to C-K Air Conditioning Inc. Control devices for ultraclean facilities. 3,261,050, 7–19–66, Cl. 15—311.

Cairns, Edward L., and E. O. Kleinfelder, to E. I. du Pont de Nemours and Co. Process for the production and separation of titanium tetrachloride from crystalline ferrous chloride. 3,261,664, 7–19–66, Cl. 23—87.

Calabretta, Peter T., to United States of America, Atomic Energy Commission. Adapter valve. 3,261,483, 7–19–66, Cl. 214—18.

California Institute Research Foundation: *See*—
Hilderbrandt, Alvin F., Elleman, and Whitmore. 3,262,025.

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Cambridge Thermionic Corp.: *See*—
Rust, Frank E., and Demeritt. 3,261,909.
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Camp, Leon W., to The Bendix Corp. Discontinuous hollow cylindrical transducer. 3,262,094, 7–19–66, Cl. 340—11.

Campbell, Andrew H., and J. T. Kane. Apparatus for assembling closures. 3,261,314, 7–19–66, Cl. 113—19.

Campbell, Gardner L., J. A. Danvic, J. E. McEvoy, and M. Panich, to Bailey Meter Co. Motor operated control drive. 3,261,218, 7–19–66, Cl. 74—89.

Campbell, George T. R., and N. V. Laskey, to Algonquin Shipping and Trading Ltd. Automatic self-tensioning winch. 3,261,591, 7–19–66, Cl. 254—172.

Campbell Soup Co.: *See*—
Kaplan, John J., and Kaplan. 3,261,054.

Campbell, William J. Latches for doors. 3,261,629, 7–19–66, Cl. 292—169.

Cancrinus, Hendrik, to Inpower Works (Proprietory) Ltd. Inertia fluid torque transmitter. 3,261,233, 7–19–66, Cl. 74—774.

Capucio, Eugene. Dispensing container having a closure flap. 3,261,501, 7–19–66, Cl. 221—305.

Caracciolo, Edward A., to General Micro-Electronics Inc. Packaged electronic device. 3,262,022, 7–19–66, Cl. 317—101.

Cardiosonics Medical Instruments Corp.: *See*—
Parks, Samuel T., and Levasseur. 3,261,250.

Carkhuff, Donald W., T. J. Wojciak, H. C. McGinty, and R. C. Deitrich, to Union Carbide Corp. Metal arc welding torch. 3,261,962, 7–19–66, Cl. 219—130.

Carling Electric, Inc.: *See*—
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Carman Laboratories Inc.: *See*—
Carman, Justice N. 3,261,075.

Caron, Philip E., and G. A. Grove, to Weyerhauser Co. Production of hot-pressed three-dimensional fiber articles. 3,261,898, 7–19–66, Cl. 264—122.

Carr, Jackson O., to Conch International Methane Ltd. Method for removal of contaminants from gas. 3,261,167, 7–19–66, Cl. 62—12.

Carr, Vernon R., to The Goodyear Tire & Rubber Co. Method and apparatus for film stretching. 3,261,903, 7–19–66, Cl. 264—289.

Carrier Corp.: *See*—
Foster, Theodore G., and Shaw. 3,261,395.

Carrier Mfg. Co.: *See*—
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Carter, Giles F., to E. I. du Pont de Nemours and Co. Process for diffusion coating metals. 3,261,712, 7–19–66, Cl. 117—114.

Carter, Ronald J., R. H. Cousens, and D. W. J. Osmond, to Imperial Chemical Industries Ltd. Dispersion polymerization of monomer in presence of block or graft copolymer and film-forming resin. 3,261,788, 7–19–66, Cl. 260—4.

Casavant Freres Limitee: *See*—
Lemieux, Gilbert. 3,261,252.

Case, J. I., Co.: *See*—
Schaible, Aaron M. 3,261,436.

Casey, Cullen. Thermoelectric heater for liquid concentrating still. 3,261,764, 7–19–66, Cl. 202—187.

Cash, Stanley M., and L. J. Strafaci, to Continental Can Co., Inc. Decoration of plastic containers. 3,261,289, 7–19–66, Cl. 101—426.

Cass, Kenneth A. Change bag. 3,261,387, 7–19–66, Cl. 150—37.

Cassidy, Irwin B. Adjustable dial dispenser. 3,261,503, 7–19–66, Cl. 222—42.

Cassidy, John D.: *See*—
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Cohn, Eugene, and Catallo. 3,261,184.

Caterpillar Tractor Co.: *See*—
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Catomance Ltd.: *See*—
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Cave, Robert L., to Buckeye Bait Corp. Food containers. 3,261,530, 7–19–66, Cl. 229—2.5.

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Glick, Robert L., and Caveny. 3,261,255.

Caylor, Ollie R., and J. M. Feighery, to Tex Del Corp. Fringe-forming machine. 3,261,311, 7–19–66, Cl. 112—64.

Cayo, Alven A. Snap action switch having contact mounted on concavo-convex portion of snap blade. 3,261,936, 7–19–66, Cl. 2—67.

Celanese Corp. of America: *See*—
Coates, Herbert W. 3,261,899.

Celeste, Jack R., and S. Selde, to E. I. du Pont de Nemours and Co. Photopolymerizable compositions and elements. 3,261,686, 7–19–66, Cl. 96—115.

Cellco, Aktiebolaget: *See*—
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Central Research Laboratories, Inc.: *See*—
Haaker, Lester W., Jelatis, and Jennrich. 3,261,460.
Haaker, Lester W., Jelatis, and Jennrich. 3,261,480.

Centre Electronique Horlonger S.A.: *See*—
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Cermak, Warren C., and A. P. Limbach, to Union Carbide Corp. Molded body support. 3,261,037, 7–19–66, Cl. 5—351.

Chamberlin, Coleman R. Flexible paper fastener. 3,261,066, 7–19–66, Cl. 24—153.

Chambers, Worthy L.: *See*—
Ponczek, George M., Chambers, and Ritter. 3,261,107.

Chambersburg Engineering Co.: *See*—
Weyer, Henry A. 3,261,197.

Champion Papers Inc.: *See*—
Davies, John A., and Hutchins. 3,261,787.

Champion, William M., and S. C. Sanders, to E. I. du Pont de Nemours and Co. Method of uniting polyethylene terephthalate apparel stays to fabrics. 3,261,313, 7–19–66, Cl. 112—265.

Champlain Co., Inc.: *See*—
Auer, Frederick G., and Houghton. 3,261,522.

Chandler Evans, Inc.: *See*—
Schofield, John J., and Schierberl. 3,261,294.

Chang, Stephen S., and P. X. Hoynak, Jr., to Rutgers Research and Educational Foundation. Method of preparing a frozen salt containing meat product. 3,261,692, 7–19–66, Cl. 99—194.

Chapin, Daryl M., to Bell Telephone Laboratories, Inc. Latch circuit utilizing single transistor and energized by alternating current. 3,261,987, 7–19–66, Cl. 307—88.5.

Chase-Shawmut Co., The: *See*—
Jacobs, Philip C., Jr. 3,261,951.
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Kozacka, Frederick J. 3,261,952.

Chemische Fabriek L. van der Grinter N.V.: *See*—
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Schneider, August. 3,261,472.

Chen, Chung C., to E. I. du Pont de Nemours and Co. Process for producing linear quinacridones. 3,261,836, 7–19–66, Cl. 260—279.

Chenoweth, Dean B., N. M. Clark, and L. W. Johnson, to Gold Bond Stamp Co. Beverage dispenser. 3,261,506, 7–19–66, Cl. 222—134.

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Hull, Donald E. 3,261,976.
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Sullivan, Eugene F. 3,261,847.

Chew, Dewey H., to Schlage Lock Co. Holdback lock. 3,261,630, 7–19–66, Cl. 292—169.

Chiba, Toshio, M. Izuka, and N. Tsuji, to Fuji Photo Film Co., Ltd. Process for preparing polycarbonates. 3,261,810, 7–19–66, Cl. 260—47.

Chicago Bridge & Iron Co.: *See*—
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Chicago Lock Co.: *See*—
Kerr, William J. 3,261,188.

Chicago Roller Skate Co., The: *See*—
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Chidsey, Francis A., Jr., to Container Corp. of America. End wall arrangement for seal end carton. 3,261,534, 7–19–66, Cl. 229—31.

Chirico, Anthony N., to Chicago Bridge & Iron Co. Conspherical vessel for crystallization. 3,261,670, 7–19–66, Cl. 23—273.

Cholos, Dale D. J., to The Upjohn Co. Method for reducing serum cholesterol. 3,261,752, 7–19–66, Cl. 167—65.

Christenson, Roger M., H. A. Vogel, and H. G. Bittle, to Pittsburgh Plate Glass Co. Coating composition of a carboxylic acid amide polymer and an organopolysiloxane resin. 3,261,881, 7–19–66, Cl. 260—826.

Churchill, Alan W.: *See*—
Zaleske, Michael J., and Churchill. 3,262,027.

Ciba Ltd.: *See*—
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Cincinnati Butchers' Supply Co., The: *See*—
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Citron, Edward M.: *See*—
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Claas, Reinhold. Hurdle-type straw shaker for combine harvesters. 3,261,362, 7–19–66, Cl. 130—26.

Clark Equipment Co.: *See*—
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Clark, Neil M.: *See*—
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Clark, Wayne C., 45% to W. C. Foracre, Sr., and 10% to P. C. Wolman, Jr. Toy roundabout. 3,261,604, 7–19–66, Cl. 272—31.

Clarke, Christopher D., and D. A. Jones, to Brush Electrical Engineering Co. Ltd., Falcon Works. Means for smoothly varying the speed of a star-connected polyphase induction motor. 3,262,036, 7–19–66, Cl. 318—230.

Clarke, Patrick W., J. A. Henz, and J. K. Mills, to Bell Telephone Laboratories, Inc. Regulated rectifier system. 3,262,046, 7–19–66, Cl. 321—18.

Clary Corp.: *See*—
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Clay-Adams, Inc.: *See*—
Shevell, Jerome M. 3,261,509.

Clayton Devandre Co. Ltd.: *See*—
Page, Wilbur M. 3,261,433.

Clayton Mfg. Co.: *See*—
Arant, Perry. 3,261,330.

Clayton, William H., Jr.: *See*—
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Clendening, Francis J., Jr., and J. C. Osborne, to E. I. du Pont de Nemours and Co. Yarn bulking jet. 3,261,071, 7–19–66, Cl. 28—1.

Clevite Corp.: *See*—
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Clingman, William H., Jr., F. L. Gray, J. F. Haefling, and B. R. West, to Texas Instruments Inc. Fabrication of thermoelectric apparatus. 3,261,079, 7–19–66, Cl. 29—155.5.

Close, Donald K.: *See*—
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Clynes, Manfred E., to Technical Measurement Corp. Multitrack data recording system. 3,262,104, 7–19–66, Cl. 340—174.1.

Coanda, Henri. Lifting apparatus. 3,261,162, 7–19–66, Cl. 60—35.5.

Coates, Herbert W., to Celanese Corp. of America. Dry process for making synthetic fiber paper. 3,261,899, 7–19–66, Cl. 264—123.

Coblentz, Charles W., to Mutual Ice Co. Ice cutting machine. 3,261,383, 7–19–66, Cl. 143—38.

Coe, Robert L. Electrical load balancing control system. 3,261,992, 7–19–66, Cl. 307—117.

Coe, Thomas, and C. M. van de Kerkhof, to North American Philips Co., Inc. Method of forming metallic liners by electrodeposition in apertured printed circuit boards. 3,261,769, 7–19–66, Cl. 204—15.

Coetsee, Barry G., to International Telephone and Telegraph Corp. Time of event recorder. 3,262,103, 7–19–66, Cl. 340—174.

Cohn, Eugene, and F. Catallo, to Samcoe Holding Corp. Synchronized multi-roll wet process apparatus for tubular knitted fabrics. 3,261,184, 7–19–66, Cl. 68—22.

Coletta, James N. Noise attenuating device. 3,261,028, 7–19–66, Cl. 2—209.

Collins, Oliver D., III, to E. I. du Pont de Nemours and Co. Boron nitride incorporated in polymer products. 3,261,800, 7–19–66, Cl. 260—37.

Collins Radio Co.: *See*—
Fredrickson, Dennis L. 3,262,065.
Holloway, Jesse C. 3,262,121.
Stover, Harris A. 3,262,117.

Collman, John S.: *See*—
Amann, Charles A., Collman, and Scheel. 3,261,177.

Colton, Frank B., and R. T. Nicholson, to G. D. Searle & Co. Spiro (steroidal-6.3′-1-pyrazolines) and process. 3,261,829, 7–19–66, Cl. 260—239.5.

Combustion Engineering, Inc.: *See*—
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Comet Industries, Inc.: *See*—
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Commercial Factor, Ltd.: *See*—
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Commercial Solvents Corp.: *See*—
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Commerford, Spencer L., to United States of America, Atomic Energy Commission. Stabilized iodine labeled 2′-deoxy-5 iodouridine. 3,261,747, 7–19–66, Cl. 167—51.

Commissariat a l'Energie Atomique: *See*—
Boudouresques, Bernard, Maillet, and Pelce. 3,261,759.
Contre, Michel. 3,261,057.
Vertut, Jean. 3,261,223.

Commonwealth of Australia: *See*—
Bryant, James F. M., and Kett. 3,261,926.

Compagnie Generale d'Electricite: *See*—
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Composite Metal Products, Inc.: *See*—
Ulam, John B. 3,261,724.

Conch International Methane Ltd.: *See*—
Carr, Jackson O. 3,261,167.
Harmens, Alexander. 3,261,169.
Schlumberger, Etienne M. 3,261,087.

Condo, Albert C., Jr., to The Atlantic Refining Co. Stabilized gasoline antiknock compositions and gasoline containing same. 3,261,674, 7–19–66, Cl. 44—69.

Cones, Ben: *See*—
Cones, Van Buren. 3,262,011.

Cones, Van Buren, 50% to B. Cones. Headlamp for both day and night driving. 3,262,011, 7–19–66, Cl. 315—82.

Connell, Lawrence H., and L. A. Moe, to F. H. Peavey & Co. Apparatus for treatment of ore. 3,261,959, 7–19–66, Cl. 219—10.55.

Conner, Leonard E., to Wagner Electric Corp. Equipment protection means. 3,262,014, 7–19–66, Cl. 317—13.

Conover, William J. Livestock raising building. 3,261,324, 7–19–66, Cl. 119—16.

Consolidated Edison Co. of New York, Inc.: *See*—
Anderson, Arthur N., Xenis, and Philippidis. 3,261,374.

Consolidation Coal Co.: *See*—
Yavorsky, Paul M., and Gorin. 3,261,559.

Container Corp. of America: *See*—
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Continental Air Filter, Inc.: *See*—
Wurtenberg, Oscar A. 3,261,148.

Continental Can Co., Inc.: *See*—
Allen, Richard C. 3,261,516.
Beck, Douglas E. 3,261,442.
Cash, Stanley M., and Strafaci. 3,261,289.
Lesher, Harry E. 3,261,053.
Long, Florren E., Shaw, and Lisle. 3,261,140.
McGlynn, Thomas P. 3,261,500.

Continental Electronics Mfg. Co.: *See*—
Anderson, James, and Klobassa. 3,262,020.

Contre, Michel, to Commissariat a l'Energie Atomique. Apparatus for producing very high static pressures within a hexahedral solid. 3,261,057, 7–19–66, Cl. 18—16.

Control Data Corp.: *See*—
Graham, Walton. 3,262,111.

Conversion Chemical Corp.: *See*—
Bellinger, Kenneth P. 3,261,733.

Cooper, William J. Saw chain and cutter link. 3,261,385, 7–19–66, Cl. 143—135.

Cooperstein, Raymond, to Eastman Kodak Co. Process for forming chemically deposited photosensitive lead sulfide layers. 3,261,708, 7–19–66, Cl. 117—34.

Coors Porcelain Co.: *See*—
Hartmeister, Ruben J. 3,261,281.

Copley, David W. M. Liquid absorbent and vapor releasant block. 3,261,746, 7–19–66, Cl. 167—42.

Coppel, Claude P., to Marathon Oil Co. Process utilizing the combination of miscible and thickened floods in petroleum recovery. 3,261,399, 7–19–66, Cl. 166—9.

Corbin, Paul. Automobile suspension. 3,261,621, 7–19–66, Cl. 280—96.2.

Corbitt, Howard E.: *See*—
Bosco, George B., Jr., and Corbitt. 3,261,998.

Cornell, John A., L. R. Olson, and J. T. Howarth, to Startomer Resin, Inc. Cross-linked terpolymer of ethylene propylene and non-conjugated diene exhibiting high temperature resistance to softening, stiffening or embrittlement. 3,261,888, 7–19–66, Cl. 260—877.

Cornelius Co., The: *See*—
Cornelius, Richard T. 3,261,507.

Cornelius, Richard T., to The Cornelius Co. Method and means for treating and handling coffee beverage. 3,261,507, 7–19–66, Cl. 222—146.

Corning Glass Works: *See*—
Porter, Willard L. 3,261,739.

Cornish, Albert J., to Westinghouse Electric Corp. Thermoelectric materials. 3,261,721, 7–19–66, Cl. 136—238.

Cosmic, Inc.: *See*—
Gignoux, Dominique. 3,261,317.

Costantini, Anthony R., and A. Di Angelus, to Victory Metal Mfg. Co., d.b.a. Victory Metal Mfg. Corp. Pilaster adapter. 3,261,585, 7–19–66, Cl. 248—243.

Cotte, Ernst, and A. Kirstahler, to Bohme Fettchemie G.m.b.H. Anionic organic sulfate or sulfonate and nonionic ethoxypropoxy hair and skin compositions. 3,261,753, 7–19–66, Cl. 167—87.

Cousens, Richard H.: *See*—
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Craig, Willis G., to The Lubrizol Corp. Method for reducing combustion chamber deposits in internal combustion engines. 3,261,723, 7–19–66, Cl. 148—6.15.

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Forsman, Arnold H. Speed control for water skiing facility. 3,261,302, 7-19-66, Cl. 104—152.

Forster, Franz, and O. Kaup, to Guldner-Motoren-Werke Aschaffenburg branch of Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Hydraulic drive for vehicles selectively connectable to the wheels and power take-off. 3,261,421, 7-19-66, Cl. 180—53.

Foster, Lawrence H., and H. E. Bush, to Foster Refrigerator Corp. Refrigeration system including means for reconstituting and preserving frozen foods and the like. 3,261,394, 7-19-66, Cl. 165—12.

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Foster, Lawrence H., and Bush. 3,261,394.

Foster, Theodore G., and D. N. Shaw, to Carrier Corp. Refrigeration system control. 3,261,395, 7-19-66, Cl. 165—29.

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Frank, Raymond G., to Ametek, Inc. Servomechanism. 3,261,211, 7-19-66, Cl. 74—1.

Frank, Richard J. Interlock hospital chart holder. 3,261,360, 7-19-66, Cl. 129—35.

Franz, Joseph P., to General Electric Co. Air cooling arrangement for salient pole rotors. 3,261,994, 7-19-66, Cl. 310—61.

Frazier, Michael E., to Tac, Inc. Trash bag holder. 3,261,545, 7-19-66, Cl. 232—43.2.

Fredrickson, Dennis L., to Collins Radio Co. Two polarity automatically variable audio noise limiter. 3,262,065, 7-19-66, Cl. 330—24.

Fresmann, Karl H., and G. W. Pakala, to Deere & Co. Dual-speed multiple PTO. 3,261,222, 7-19-66, Cl. 74—375.

Friedman, Lester, to Union Carbide Corp. Hydroxylated sugar phosphite based polyurethanes. 3,261,814, 7-19-66, Cl. 260—77.5.

Fritsch, Rudolf P., to Werner & Pfleiderer. Device for working up thermoplastic synthetic material. 3,261, 056, 7-19-66, Cl. 18—12.

Fritzsche, Hans, U. Hasserodt, and F. W. A. G. K. Korte, to Shell Oil Co. Reduction of phosphine oxides. 3,261,871, 7-19-66, Cl. 260—606.5.

Fritzsche, Helmut, F. Kroger, and K. Stein, to Carl Stoll, Firma. Process for extracting acid substances such as phenols, thiophenols and/or their homologs from non-aqueous mixtures containing them. 3,261,872, 7-19-66, Cl. 260—609.

Fryer, Rodney I., and L. H. Sternbach, to Hoffmann-La Roche Inc. 2-amino-5-halo-2'-dialkylamino and piperidino-benzophenones and preparation therof. 3,261,867, 7-19-66, Cl. 260—570.

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Fuhs, Allen E., to The Aerospace Corp. Conductivity profile meter arrangement. 3,262,052, 7-19-66, Cl. 324—34.

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Fullerton, Wallace W., to Vilter Mfg. Corp. Normally continuously operating compressor with controls therefor. 3,261,175, 7-19-66, Cl. 62—197.

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Gale, Bernard M., to Honeywell Inc. Angle encoder. 3,261,968, 7-19-66, Cl. 235—154.

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Gallagher, William P., and R. J. Dykinga, to International Register Co. Electric motor construction. 3,261,999, 7-19-66, Cl. 310—164.

Galland, Raymond H., to Klemer and Wiseman. Drapery hanger. 3,261,052, 7-19-66, Cl. 16—87.6.

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Gammel, Walter A., Sr., to G. T. Schjeldahl Co. Electrical connector for printed-circuit board. 3,262,082, 7-19-66, Cl. 339—17.

Gandhi, Om P., to Philco Corp. Frequency shifter using doppler reflection of microwaves from moving plasma bounndary in semiconductor. 3,261,982, 7-19-66, Cl. 307—88.3.

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Bluestein, Ben A. 3,261,807.
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Franz, Joseph P. 3,261,994.
Huang, Thomas L. 3,261,990.
Kelley, Fred W., Jr. 3,262,044.
Morelock, Charles R. 3,261,676.
Pell, Erik M. 3,261,730.
Rediger, Alvin L., and Slager. 3,262,000.
Rediger, Alvin L., and Slager. 3,261,061.
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General Foods Corp.: *See*—
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General Precision, Inc.: *See*—
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Glick, Robert L., and L. H. Caveny, to Thiokol Chemical Corp. Casting apparatus for solid propellant rocket motors. 3,261,255, 7-19-66, Cl. 86—20.

Glover, William F., and J. G. Bendall, to International Standard Electric Corp. Adjustable inductor. 3,262,079, 7-19-66, Cl. 336—136.

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Goodbar, Isaac. Weather controlled lighting fixture. 3,261,974, 7-19-66, Cl. 240—25.

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Goodman, Robert B., and R. L. Fischer, to United Aircraft Corp. Attitude control system for an aeronautical propeller. 3,261,406, 7-19-66, Cl. 170—160.14.

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Gorton, Bert S., to E. I. du Pont de Nemours and Co. Adhesives from polyisophthalamides and phenoplast or aminoplast syrups. 3,261,883, 7-19-66, Cl. 260—841.

Gorton, Bert S., to E. I. du Pont de Nemours and Co. Adhesive composition comprising a mixture of a polyamide a novolic resin. 3,261,884, 7-19-66, Cl. 260—841.

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Guillermic, Andre J. F., to The British Petroleum Co. Ltd. Liquid injection trap with magnetic valve. 3,261,502, 7-19-66, Cl. 222—1.

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Gunzinger, Josef: *See*—
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Hart, Leroy D., and W. F. Graebe, to Aluminum Co. of America. Method of preparing casting slips from alumina bydrate. 3,261,703, 7-19-66, Cl. 106—65.

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Kerzner, Edward R., and S. L. Schultz. Snow melting device. 3,261,965, 7-19-66, Cl. 219—420.

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Kool, Jan, and R. M. Werlich, to Hahn Brass Ltd. Oscillating lawn sprinkler. 3,261,553, 7-19-66, Cl. 239—242.

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Koury, Frederick, and J. F. Waymouth, to Sylvania Electric Products Inc. Electric discharge device having a thermostatically operated switch connected to a main electrode. 3,262,012, 7-19-66, Cl. 315—100.

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Kovach, Stephen N., to Sinclair Research, Inc. Method for producing vacinal polymethylbenzenes. 3,261,876, 7-19-66, Cl. 260—668.

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Richards, James R., to United States of America, Navy. Range and bearing recorder. 3,262,092, 7–19–66, Cl. 340—3.
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Riek, Marvin R., to Union Carbide Corp. High intensity carbon electrode. 3,262,005, 7–19–66, Cl. 313—311.
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Robinson, Anderson F., to Hercules Inc. Modified vinyl chloride polymers. 3,261,785, 7–19–66, Cl. 260—2.5.
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Routh, Claude C. Dispersive delay line. 3,261,969, 7–19–66, Cl. 235—181.
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Ruehrwein, Robert A., to Monsanto Co. Production of epitaxial films. 3,261,726, 7–19–66, Cl. 148—33.4.
Ruhemann, Martin S. W., and B. Yale, to Petrocarbon Developments Ltd. Separation of oxygen from air. 3,261,168, 7–19–66, Cl. 62—13.
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Sahyun, Melville, and J. A. Faust; said Faust assignor to said Sahyun d.b.a. Sahyun Laboratories. N-aminoalkylphenylsalicylamides. 3,261,866, 7–19–66, Cl. 260—559.
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Schaeffer, Marvin G., to General Motors Corp. Tubular capacitor having corona prevention means. 3,262,031, 7–19–66, Cl. 317—242.

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Schlesinger, Bernard E., Jr. Reciprocable leaf-type switch with rotatable and compressible leaf spring contacts. 3,261,928, 7–19–66, Cl. 200—8.

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Schroder, Herman M., and G. Bots, to North American Philips Co., Inc. Method of manufacturing photo-electric cell. 3,261,076, 7–19–66, Cl. 29—25.11.

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Schwarz, Ruth F., and J. P. Spratt, to Philco Corp. Tunnel-emission amplifying device and circuit therefor. 3,261,984, 7–19–66, Cl. 307—88.5.

Schwebel, Adolf, to Mabeg Maschinenbau G.m.b.H. Naachlf Hense & Pleines G.m.b.H. & Co. Sheet pick-up and conveying device. 3,261,601, 7–19–66, Cl. 271—11.

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Schwichtenberg, Albert H., A. P. Kelley, B. D. De Baryshe, and S. B. Spangler, Jr., to The Garrett Corp. Packaged environmental system for decontaminating air. 3,261,659, 7–19–66, Cl. 21—53.

Sciaky, Albert M., and E. P. Vilkas, to Welding Research, Inc. Welding control system. 3,262,006, 7–19–66, Cl. 314—63.

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Colton, Frank B., and Nicholson. 3,261,829.

Searle, Norman E., to E. I. du Pont de Nemours and Co. Method for inhibiting plant growth. 3,261,678, 7–19–66, Cl. 71—2.6.

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Seeger, Ernst, to Boehringer Ingelheim G.m.b.H. Method of curbing appetite. 3,261,750, 7–19–66, Cl. 167—55.

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Sherr, Allan E., to American Cyanamid Co. Substituted isobiguanide catalysts for epoxy resins. 3,261,809, 7–19–66, Cl. 260—47.

Sherwood, John F. Magnetic switch. 3,261,944, 7–19–66, Cl. 200—87.

Sherwood, Thomas K., to The Fluor Corp., Ltd. Multistage evaporation with absorption of distilled vapors. 3,261,766. 7–19–66, Cl. 203—11.

Shevell, Jerome M., to Clay-Adams, Inc. Variable capacity dispensing device. 3,261,509, 7–19–66, Cl. 222—309.

Shlesinger, Bernard E., Jr. Multiple contact switch with sinusoidal wave form operator. 3,261,932, 7–19–66, Cl. 200—18.

Shlesinger, Bernard E. Jr. Fluid pressure operated programming switch multiple type. 3,261,938, 7–19–66, Cl. 200—81.

Shlesinger, Bernard E., Jr. Magnetic multiple contact programming switch system. 3,261,941, 7–19–66, Cl. 200—87.

Shoemaker, Henry H., and W. D. Poole. Ditching machine. 3,261,117, 7–19–66, Cl. 37—92.

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Shulman, Joseph, to Arthur D. Little, Inc. Process for preparing photoconductive compositions and sheets coated therewith. 3,261,709, 7–19–66, Cl. 117—34.

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Young, Hobart P. 3,261,090.

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Simms & Co. Ltd.: *See*—
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Simms, John A., to E. I. du Pont de Nemours and Co. Aqueous dispersion of vinyl addition polymer containing aminoester radicals. 3,261,796, 7–19–66, Cl. 260—29.6.

Simon, John, and J. Gunzinger, to Gunzinger Freres S.A. Fabrique Technos. Water resistant watch case. 3,261,159, 7–19–66, Cl. 58—90.

Simonar, Bernard J.: *See*—
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Simonar, Lawrence J., B. J. and N. A. Stone picker. 3,261,408, 7–19–66, Cl. 171—63.

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Sistl, Leo J., to Bell Telephone Laboratories, Inc. Synchronization of pulse communication systems. 3,261,918, 7–19–66, Cl. 179—15.

Skiko, Edward J., and P. R. Low, to International Business Machines Corp. Flow table logic pattern recognizer. 3,262,099, 7–19–66, Cl. 340—146.3.

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Rediger, Alvin L., and Slager. 3,262,000.

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Slopa, Robert E. and G. W. Power operated door. 3,261,128, 7–19–66, Cl. 49—98.

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Smith, Donald G., to Lockheed Aircraft Corp. Structural joint for a cargo container. 3,261,493, 7–19–66, Cl. 217—65.

Smith, James, to United Aircraft of Canada Ltd. Jet thrust reverser. 3,261,165, 7–19–66, Cl. 60—35.54.

Smith, James G.: *See*—
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Smith, Raymond W. Household appliance rest. 3,261,583, 7–19–66, Cl. 248—117.2.

Smith, Samuel E. Convertible see-saw and hut. 3,261,605, 7–19–66, Cl. 272—56.

Smith, William E. M. Brush making machine. 3,261,644, 7–19–66, Cl. 300—3.

Smoot, Thomas W.: *See*—
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Snyder, Ralph W., to United States of America, Navy. Computing gyro simulator. 3,261,970, 7–19–66, Cl. 235—184.

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Societe Anonyme Dit forges et Atellers de constructions Electriques de Jeumont: *See*—
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Societe Anonyme Francaise du Perodo: *See*—
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Societe Bertin & Cie: *See*—
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Societe Civile d'Etude de Procedes de Scellement: *See*—
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Socony Mobil Oil Co., Inc.: *See*—
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Solar Thomson Engineering Co. Ltd.: *See*—
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Solomon, Frank, and R. F. Enters, to Yardney International Corp. Negative electrode assembly for alkaline batteries. 3,261,715, 7–19–66, Cl. 136—50.

Sommer, Albert, and K. Schulze, to Straba Handels-Aktiengesellschaft. Method of producing hardened bodies from bituminous mixes. 3,261,892, 7–19–66, Cl. 264—29.

Somos, Istvan, to General Electric Co. Cross-current turn-off silicon controlled rectifier. 3,261,985, 7–19–66, Cl. 307—88.5.

Sonernd, John T., to Svenska Hymas Aktieholag. Jacking device for vehicles. 3,261,478, 7–19–66, Cl. 212—145.

Soppet, Frederick E.: *See*—
Ayer, James E., and Soppet. 3,261,378.

Sorenson, Wesley T., to Carling Electric, Inc. Rotary selector switch with improved spring biasing structure. 3,261,930, 7–19–66, Cl. 200—11.

Sorkin, Jack L., to Harris-Intertype Corp. Lithographic plate. 3,261,285, 7–19–66, Cl. 101—149.2.

Sottysiak, Joseph R., J. Proc, and C. M. Hovancik, to General Aniline & Film Corp. Method of preparing transfer copies and compositions for use therein. 3,261,683, 7–19–66, Cl. 96—29.

Southwest Products Co.: *See*—
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Spangler, Selden B., Jr.: *See*—
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Spark, Ronald F., to The British Oxygen Co. Ltd. Apparatus for arc welding and similar processes. 3,261,961, 7–19–66, Cl. 219—75.

Sparks, George C. Mailable package and method of manufacture. 3,261,456, 7–19–66, Cl. 206—46.

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Specialties Development Corp.: *See*—
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Spence, Gerald M., and A. R. Bryan, to Monolith Portland Cement Co. Kiln brick of Portland cement clinker with a fused shell. 3,261,138, 7–19–66, Cl. 52—612.

Spence, Gerald M., and A. R. Bryan, to Monolith Portland Cement Co. Kiln brick. 3,261,700, 7–19–66, Cl. 106—64.

Spenke, Eberhard: *See*—
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Sperry Rand Corp.: *See*—
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Sperry, Robert J., and N. B. Vanderhoof, Jr. Inked ribbon for typewriters and other business machines. 3,261,446, 7–19–66, Cl. 197—172.

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CLASSIFICATION OF PATENTS

ISSUED JULY 19, 1966

NOTE.—First number, class; second number, subclass; third number, patent number

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149	3,261,025	169	3,261,095	65– 18	3,261,676	92–138	3,261,266	16	3,261,324	363	3,261,738
161	3,261,026	242	3,261,096	346	3,261,677	93– 20	RE.26,062	120– 36	3,261,325	158– 4	3,261,389
174	3,261,027	354	3,261,097	66– 14	3,261,183	35	3,261,267	42.4	3,261,326	26	3,261,390
209	3,261,028	33– 18	3,261,098	68– 22	3,261,184	84	3,261,268	122– 32	3,261,327	159– 6	3,261,391
4–236	3,261,029	78	3,261,099	213	3,261,185	94– 23	3,261,269	225	3,261,328	27	3,261,392
239	3,261,030	138	3,261,100	70–116	3,261,186	24	3,261,270	379	3,261,329	160–237	3,261,393
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108	3,261,032	161	3,261,102	363	3,261,188	46	3,261,272		3,261,331	162–123	3,261,740
109	3,261,033	225	3,261,103	364	3,261,189	95– 10	3,261,273	479	3,261,332	261	3,261,741
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345	3,261,036	20	3,261,106	2.7	3,261,680	66	3,261,276		3,261,335	80	3,261,396
351	3,261,037	99	3,261,107	72– 7	3,261,190	89	3,261,277	41.15	3,261,336	122	3,261,397
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	3,261,656	171	3,261,109	87	3,261,192	96– 29	3,261,683	90	3,261,338	9	3,261,399
	3,261,657	237	3,261,110	150	3,261,193	49	3,261,684	148	3,261,339	30	3,261,400
116	3,261,658	35– 6	3,261,111	161	3,261,194	66	3,261,685	124– 7	3,261,340	50	3,261,401
9– 2	3,261,038	19	3,261,112	256	3,261,195	115	3,261,686	11	3,261,341	63	3,261,402
8	3,261,039	63	3,261,113	343	3,261,196	99– 2	3,261,687	29	3,261,342	67	3,261,403
308	3,261,040	36– 2.5	3,261,114	407	3,261,197	9	3,261,688	126– 21	RE.26,063	167– 22	3,261,742
310	3,261,041	34	3,261,115	73– 1	3,261,198	71	3,261,689		3,261,343		3,261,743
342	3,261,042	37– 92	3,261,117	28	3,261,199	80	3,261,690	30	3,261,344	30	3,261,744
10– 86	3,261,043	180	3,261,118	40.5	3,261,200	118	3,261,691	59.5	3,261,345	38.7	3,261,745
11– 1	3,261,044	40– 10	3,261,119		3,261,201	194	3,261,692		3,261,346	42	3,261,746
12– 24.5	3,261,045	106.52	3,261,120	53	3,261,202	195	3,261,693	263	3,261,347	51	3,261,747
15– 3.1	3,261,046	42– 78	3,261,121	141	3,261,203	199	3,261,694	288	3,261,348	52	3,261,748
22	3,261,047	43– 8	3,261,122		3,261,204	207	3,261,695	128– 6	3,261,349	55	3,261,749
104.06	3,261,048	19	3,261,123	194	3,261,205	282	3,261,279		3,261,350		3,261,750
147	3,261,049	44– 69	3,261,674	281	3,261,206	283	3,261,280		3,261,351	65	3,261,751
311	3,261,050	46–118	3,261,124	403	3,261,207	101– 37	3,261,281	95	3,261,352		3,261,752
16– 1	3,261,051	47– 38.1	3,261,125	425.6	3,261,208	95	3,261,283	127	3,261,353	87	3,261,753
87.6	3,261,052	41.12	3,261,126	505	3,261,209	114	3,261,284	173	3,261,354	88	3,261,754
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17– 11	3,261,054	49– 98	3,261,128	74– 1	3,261,211	321	3,261,286	276	3,261,356	170–135.74	3,261,405
18– 5	3,261,055	411	3,261,129	5.12	3,261,214	350	3,261,287	348	3,261,357	160.14	3,261,406
12	3,261,056	469	3,261,130	5.5	3,261,212	420	3,261,288	423	3,261,358	160.25	3,261,407
16	3,261,057	51–215	3,261,131	5.6	3,261,213	426	3,261,289	526	3,261,359	171– 63	3,261,408
21– 53	3,261,659	293	3,261,675	42	3,261,215	102– 38	3,261,290	129– 35	3,261,360	172–326	3,261,409
105	3,261,660	52– 11	3,261,132	60	3,261,216	42	3,261,282	130– 26	3,261,362	371	3,261,410
22– 57	3,261,058	19	3,261,133	84	3,261,217		3,261,291	131– 36	3,261,363	559	3,261,411
57.4	3,261,059	66	3,261,134	89	3,261,218		3,261,292	84	3,261,364	174– 15	3,261,904
79	3,261,060	127	3,261,135	200	3,261,219	82	3,261,293		3,261,365		3,261,905
150	3,261,061	471	3,261,136		3,261,220	103– 5	3,261,294		3,261,366	28	3,261,906
23– 1	3,261,661	483	3,261,137	230.17	3,261,221	87	3,261,295	132– 84	3,261,367	73	RE.26,066
48	3,261,662	612	3,261,138	375	3,261,222		3,261,296	134–104	3,261,368	115	3,261,907
87	3,261,663	616	3,261,139	380	3,261,223	103	3,261,297	123	3,261,369	128	3,261,908
	3,261,664	53– 22	3,261,140	459	3,261,224	118	3,261,298	147	3,261,370	153	3,261,909
122	3,261,665	124	3,261,141	501	3,261,225	188	3,261,299	168	3,261,371	178	3,261,910
191	3,261,666	128	3,261,142		3,261,226	104– 88	3,261,300	136– 6	3,261,714	175– 22	3,261,412
	3,261,667	135	3,261,143	567	3,261,227	93	3,261,301	50	3,261,715	317	3,261,413
253	3,261,668	344	3,261,144	609	3,261,228	152	3,261,302	86	3,261,716	320	3,261,414
	3,261,669	55– 28	3,261,145	665	3,261,229	105– 73	3,261,303		3,261,717	176– 22	3,261,755
273	3,261,670	218	3,261,146	710.5	3,261,230		3,261,304	90	3,261,718	67	3,261,756
301	3,261,671	222	3,261,147	711	3,261,231	197	3,261,305	134	3,261,719	70	3,261,757
310	3,261,672	341	3,261,148	732	3,261,232	368	3,261,306	205	3,261,720	76	3,261,758
24– 19	3,261,062	354	3,261,149	774	3,261,233	106– 40	3,261,696	238	3,261,721	81	3,261,759
23	3,261,063	56– 25.4	3,261,150	801	3,261,234	56	3,261,697	137– 81.5	3,261,372	86	3,261,760
26	3,261,064	294	3,261,151	75– 84	3,261,681		3,261,698	601	3,261,373	177– 68	3,261,415
81	3,261,065	328	3,261,152	177	3,261,682	62	3,261,699	138– 97	3,261,374	114	3,261,416
153	3,261,066	400	3,261,153	77– 7	3,261,235	64	3,261,700	139–110	3,261,375	208	3,261,417
155	3,261,067	57– 34	3,261,116	58	3,261,236	65	3,261,701	118	3,261,361	178– 6	3,261,911
203	3,261,068		3,261,154	81– 3	3,261,237		3,261,702	124	3,261,376	6.8	3,261,912
204	3,261,069		3,261,155	7	3,261,238		3,261,703	213	3,261,377	26	3,261,913
221	3,261,070		3,261,156	9.51	3,261,239	122	3,261,704	141– 12	3,261,378	81	3,261,914
28– 1	3,261,071	58– 21.15	3,261,157	15.2	3,261,240	212	3,261,705	83	3,261,379	179– 1	3,261,915
29– 8	3,261,072	23	3,261,158	57	3,261,241	108– 64	3,261,307	106	3,261,380		3,261,916
21.1	3,261,073	90	3,261,159	90	3,261,242	145	3,261,308	114	3,261,381	8	3,261,917
25.11	3,261,076	60– 10	3,261,160	351	3,261,243	156	3,261,309	207	3,261,382	15	3,261,918
25.3	3,261,074	30	3,261,161	417	3,261,244	111– 3	3,261,310	143– 38	3,261,383		3,261,919
	3,261,075	35.5	3,261,162	82– 36	3,261,245	112– 64	3,261,311	133	3,261,384		3,261,920
25.42	3,261,077	35.54	3,261,165	101	3,261,246	252	3,261,312	135	3,261,385		3,261,921
150	RE.26,061	35.6	3,261,163	83–106	3,261,247	265	3,261,313	144– 32	3,261,386		3,261,922
155.5	3,261,078		3,261,164	186	3,261,248	113– 19	3,261,314	148– 1.6	3,261,722	18	3,261,923
	3,261,079	54	3,261,166	341	3,261,249	120	3,261,315	6.15	3,261,723	100.2	3,261,924
	3,261,080	62– 12	3,261,167	557	3,261,250	114– .5	3,261,316	11.5	3,261,724	100.41	3,261,925
	3,261,081	13	3,261,168	649	3,261,251	16	3,261,317	33	3,261,725	175.1	3,261,926
155.7	3,261,082	28	3,261,169	84–344	3,261,252		3,261,318	33.4	3,261,726	180	3,261,927
159	3,261,083	58	3,261,170	411	3,261,253	210	3,261,319	175	3,261,727	180– 7	3,261,418
195	3,261,673	87	3,261,171	85– 9	3,261,254	219	3,261,320	177	3,261,728		3,261,419
234	3,261,084	117	3,261,172	86– 20	3,261,255	116– 28	3,261,321	179	3,261,729		3,261,420
243.51	3,261,085	156	3,261,173	88– 14	3,261,256	117– 18	3,261,707	186	3,261,730	53	3,261,421
423	3,261,086	174	3,261,174	22.5	3,261,257	33	3,261,706	149– 19	3,261,731	69	3,261,422
450	3,261,087	197	3,261,175	23	3,261,258	34	3,261,708	38	3,261,732	83	3,261,423
486	3,261,088	240	3,261,176	24	3,261,259		3,261,709	150– 37	3,261,387	181– 33	3,261,424
527	3,261,089	297	3,261,177	72	3,261,260	49	3,261,710	152–330	3,261,388	182–187	3,261,425
	3,261,090	345	3,261,178	89– 1	3,261,261	93.2	3,261,711	156– 3	3,261,733	184– 55	3,261,426
30– 43.6	3,261,091	382	3,261,179	36	3,261,262	114	3,261,712	156	3,261,734	187– 29	3,261,427
90	3,261,092	514	3,261,180		3,261,263	212	3,261,713	158	3,261,735	35	3,261,428
142	3,261,093	63– 15	3,261,181	193	3,261,264	118– 47	3,261,322	167	3,261,736	188– 73	3,261,429

188– 73	3,261,430	212– 3	3,261,475	239–579	3,261,557	260–239.3	3,261,828	277–176	3,261,613	318– 19	3,262,035
138	3,261,431	35	3,261,476	601	3,261,558	239.5	3,261,829	280– 11.2	3,261,614	230	3,262,036
140	3,261,432	134	3,261,477	240– 10.66	3,261,972	239.55	3,261,830	11.35	3,261,615	231	3,262,037
196	3,261,433	145	3,261,478		3,261,973		3,261,831	33.99	3,261,616	265	3,262,038
	3,261,434	214– 1	3,261,479	25	3,261,974	243	3,261,794	43.12	3,261,617	327	3,262,039
	3,261,435		3,261,480	41.3	3,261,975		3,261,832	47	3,261,618		3,262,040
192– 22	3,261,436		3,261,481	241– 24	3,261,559	247.5	3,261,833	79.2	3,261,619	369	3,262,041
41	3,261,437	6	3,261,482	242– 18	3,261,560	248	3,261,834	96.2	3,261,620	443	3,262,042
99	3,261,438	18	3,261,483	27	3,261,561	249.8	3,261,835		3,261,621	320– 1	3,262,043
107	3,261,439	38	3,261,484	35.6	3,261,562	279	3,261,836	104.5	3,261,622	321– 7	3,262,044
113	3,261,440	141	3,261,485	55.12	3,261,563		3,261,837	282– 25	3,261,623	16	3,262,045
193– 33	3,261,441	315	3,261,486		3,261,564	286	3,261,838	285– 62	3,261,624	18	3,262,046
43	3,261,442	390	3,261,487	72	3,261,565	289	3,261,839	287–189.36	3,261,625	43	3,262,047
194– 80	3,261,443	515	3,261,488	75.3	3,261,566	290	3,261,840		3,261,626	68	3,262,048
84	3,261,444	620	3,261,489	84.8	3,261,567	292	3,261,841	292– 6	3,261,627	323– 80	3,262,049
195– 96	3,261,761	215– 9	3,261,490	107.2	3,261,568	295	3,261,842	70	3,261,628	324– 10	3,262,050
196–115	3,261,762	13	3,261,491	136	3,261,569	295.5	3,261,843	169	3,261,629	29	3,262,051
197– 20	3,261,445	217– 12	3,261,492	154	3,261,570	299	3,261,844		3,261,630	34	3,262,052
172	3,261,446	65	3,261,493	244– 1	3,261,571	309	3,261,873	251.5	3,261,631	37	3,262,053
198– 34	3,261,447	219– 10.55	3,261,959	2	3,261,572	326	3,261,845	256.69	3,261,632	68	3,262,054
41	3,261,448	60	3,261,960	77	RE.26,064	346.4	3,261,846	294– 16	3,261,633	106	3,262,055
107	3,261,449	75	3,261,961	83	3,261,573	346.8	3,261,847		3,261,634	325–145	3,262,056
139	3,261,450	130	3,261,962	102	3,261,574	348	3,261,848	29	3,261,635	305	3,262,057
193	3,261,451	309	3,261,963	120	3,261,575	396	3,261,849	78	3,261,636	330– 4.5	3,262,058
208	3,261,452	365	3,261,964	130	3,261,576	397.1	3,261,850	81	3,261,637	5	3,262,059
212	3,261,453	420	3,261,965	248– 27	3,261,577		3,261,853	296– 97	3,261,638	13	3,262,060
200– 8	3,261,928	220– 20	3,261,494	29	3,261,578	397.3	3,261,851	297– 83	3,261,639	17	3,262,061
11	3,261,929	21	3,261,495	60	3,261,579	397.4	3,261,852	135	3,261,640		3,262,062
	3,261,930	26	3,261,496	62	3,261,580		3,261,854	162	3,261,641	19	3,262,063
	3,261,931	47	3,261,497	63	3,261,581	397.5	3,261,855	309	3,261,642	23	3,262,064
18	3,261,932	104	3,261,498		3,261,582	413	3,261,856	299– 40	3,261,643	24	3,262,065
	3,261,933	221– 18	3,261,499	117.2	3,261,583	429.9	3,261,857	300– 3	3,261,644	69	3,262,066
34	3,261,934	63	3,261,500	188.2	3,261,584	455	3,261,858	303– 7	3,261,645	126	3,262,067
67	3,261,935	305	3,261,501	243	3,261,585	465	3,261,859	305– 35	3,261,646	331– 11	3,262,068
	3,261,936	222– 1	3,261,502	346	3,261,586		3,261,860	307– 86	3,261,980	57	3,262,069
	3,261,937	42	3,261,503	250– 43.5	3,261,976		3,261,861	88.3	3,261,981	94.5	3,262,070
81	3,261,938	83	3,261,504	60	3,261,977	488	3,261,862		3,261,982		3,262,071
87	3,261,939		3,261,505	86	3,261,978	515	3,261,863	88.5	3,261,983	117	3,262,072
	3,261,940	134	3,261,506	222	3,261,979	544	3,261,864		3,261,984	332– 18	3,262,073
	3,261,941	146	3,261,507	252– 51.5	3,261,780	553	3,261,865		3,261,985	333– 30	3,262,074
	3,261,942	199	3,261,508		3,261,781	559	3,261,866		3,261,986	32	3,262,075
	3,261,943	309	3,261,509	57	3,261,782	570	3,261,867		3,261,987	96	3,262,076
	3,261,944	318	3,261,510	253– 39	3,261,587	570.7	3,261,868		3,261,988	336– 61	3,262,077
88	3,261,945	357	3,261,511	254– 74	3,261,588	570.9	3,261,869		3,261,989	67	3,262,078
92	3,261,946	365	3,261,512	135	3,261,589	591	3,261,870		3,261,990	136	3,262,079
113	3,261,947	410	3,261,514	160	3,261,590	606.5	3,261,871		3,261,991	338– 13	3,262,080
114	3,261,948	519	3,261,513	172	3,261,591	609	3,261,872	117	3,261,992	155	3,262,081
116	3,261,949	520	3,261,515	259– 2	3,261,592	615	3,261,874	308– 3.8	3,261,647	339– 17	3,262,082
120	3,261,950	548	3,261,516	4	3,261,593	666	3,261,875	121	3,261,648	23	3,262,083
	3,261,951	223– 25	3,261,517	56	3,261,594	668	3,261,876	310– 11	3,261,993	96	3,262,084
131	3,261,952	91	3,261,518	260– 2	3,261,783	674	3,261,877	61	3,261,994	100	3,262,085
144	3,261,953	224– 2	3,261,519	2.5	3,261,784	683	3,261,878	64	3,261,995	176	3,262,086
	3,261,954	42.1	3,261,520		3,261,785		3,261,879	86	3,261,996	256	3,262,087
159	3,261,955	42.44	3,261,521		3,261,786	736	3,261,880	90	3,261,997	258	3,262,088
162	3,261,956	225– 1	3,261,522	4	3,261,788	826	3,261,881	126	3,261,998	340– 2	3,262,089
166	3,261,957	226–179	3,261,523	5	3,261,789	830	3,261,882	164	3,261,999		3,262,090
172	3,261,958	190	3,261,524	23	3,261,790	841	3,261,883	261	3,262,000	3	3,262,091
202–141	3,261,763	199	3,261,525		3,261,791		3,261,884	312–189	3,261,649		3,262,092
187	3,261,764	227– 1	3,261,526	23.7	3,261,792	857	3,261,885	236	3,261,650	10	3,262,093
203– 7	3,261,765	7	3,261,527		3,261,793	862	3,261,886	290	3,261,651	11	3,262,094
11	3,261,766	9	3,261,528	25	3,261,787	876	3,261,887	313– 49	3,262,001	15.5	3,262,095
60	3,261,767	228– 50	3,261,529	29.4	3,261,795	877	3,261,888	52	3,262,002	75	3,262,096
204– 6	3,261,768	229– 2.5	3,261,530	29.6	3,261,796	897	3,261,889	207	3,262,003	146.1	3,262,097
15	3,261,769		3,261,531		3,261,797	982	3,261,890	220	3,262,004	146.3	3,262,098
28	3,261,770	6	3,261,532		3,261,798	261– 3	3,261,595	311	3,262,005		3,262,099
	3,261,771	23	3,261,533		3,261,799	263– 8	3,261,596	314– 63	3,262,006	172.5	3,262,100
49	3,261,772	31	3,261,534	37	3,261,800	19	3,261,597	315– 12	3,262,008		3,262,101
242	3,261,773	35	3,261,535		3,261,801	264– 3	3,261,891	14	3,262,007		3,262,102
206– 16	3,261,454	37	3,261,536		3,261,802	29	3,261,892	39.61	3,262,009	174	3,262,103
42	3,261,455	40	3,261,537		3,261,803	40	3,261,893	63	3,262,010	174.1	3,262,104
46	3,261,456	51	3,261,538	45.7	3,261,804	43	3,261,894	82	3,262,011	203	3,262,105
47	3,261,457	85	3,261,539	45.75	3,261,806	45	3,261,895	100	3,262,012	237	3,262,106
	3,261,458	230– 19	3,261,540	45.8	3,261,805	65	3,261,896	326	3,262,013	345	3,262,107
56	3,261,459	31	3,261,541	46.5	3,261,807	109	3,261,897	317– 13	3,262,014	347	3,262,108
59	3,261,460	145	3,261,542	47	RE.26,065	122	3,261,898	20	3,262,015		3,262,109
65	3,261,461	235	3,261,543		3,261,808	123	3,261,899	33	3,262,016	392	3,262,110
	3,261,462	275	3,261,544		3,261,809	140	3,261,900		3,262,017	343– 7.5	3,262,111
208– 48	3,261,774	232– 43.2	3,261,545		3,261,810	219	3,261,901	40	3,262,018	14	3,262,112
85	3,261,775	233– 20	3,261,546		3,261,811	272	3,261,902	96	3,262,019	16	3,262,113
113	3,261,776	235– 1	3,261,547	75	3,261,812	289	3,261,903	100	3,262,020	17.1	3,262,114
	3,261,777	61.7	3,262,124½	77.5	3,261,813	267– 1	3,261,598	101	3,262,021	100	3,262,115
321	3,261,778	71	3,261,548		3,261,814	269– 47	3,261,599		3,262,022		3,262,116
209– 11	3,261,463	150.271	3,261,966	78.5	3,261,815	321	3,261,600		3,262,023	106	3,262,117
72	3,261,464	151	3,261,967	79.5	3,261,816	271– 11	3,261,601	158	3,262,024	701	3,262,118
88	3,261,465	154	3,261,968	80	3,261,817	51	3,261,602		3,262,025	703	3,262,119
120	3,261,466	181	3,261,969	85.1	3,261,818	86	3,261,603		3,262,026	785	3,262,120
211	3,261,467	184	3,261,970	88.3	3,261,819	272– 31	3,261,604	165	3,262,027	859	3,262,121
243	3,261,468	197	3,261,971	93.5	3,261,820	56	3,261,605	234	3,262,028	346– 1	3,262,122
325	3,261,469	236– 80	3,261,549	93.7	3,261,821	72	3,261,606		3,262,029		3,262,123
210– 5	3,261,779	238– 3	3,261,550	123.5	3,261,822	85	3,261,607		3,262,030	74	RE.26,067
106	3,261,470	239– 8	3,261,551	149	3,261,823	274– 9	3,261,608	242	3,262,031		3,262,124
169	3,261,471	236	3,261,552	152	3,261,824	23	3,261,609	246	3,262,032	351–118	3,261,652
274	3,261,472	242	3,261,553	153	3,261,825	42	3,261,610	253	3,262,033	352–141	3,261,653
282	3,261,473	252.0	3,261,554		3,261,826	277– 34	3,261,611	318– 18	3,262,034	194	3,261,654
487	3,261,474	427	3,261,555			140	3,261,612				
		450	3,261,556	163	3,261,827						

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Design Patents

1	205,333	6	205,316	15	205,305	29	205,324	31	205,311	34	205,318
4	205,280		205,320	19	205,301		205,329		205,321	35	205,309
	205,299		205,336	20	205,330	31	205,284		205,322	37	205,281
	205,304	7	205,287	21	205,319		205,288		205,326	43	205,331
	205,313	9	205,292		205,334		205,293		205,332	45	205,290
	205,314		205,327		205,335		205,294	34	205,295		205,291
	205,317	10	205,289		205,338		205,298		205,296	48	205,300
	205,328	12	205,283	24	205,306		205,303		205,302		205,325
	205,337		205,285	28	205,286		205,310		205,312	49	205,279
6	205,297		205,308								

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 19, 1966 Volume 828 Number 3

TRADEMARKS

NOTICES

Deposit Accounts

The practice instituted on May 1, 1966, pursuant to the notice of February 23, 1966 (824 O.G. 1200), whereby statutory fees may be charged against deposit accounts, and such accounts are closed if overdrawn, has resulted in certain difficulties for the Patent Office and deposit account holders. It has been decided therefore to modify that practice as indicated below.

As was pointed out in that notice, the charging of a fee against an overdrawn account cannot be considered as payment of the fee until a proper balance is restored or payment is made in some other way. Accordingly, deposit account holders who charge such fees must assume the risk of losing vital dates if they do not maintain a proper balance in their accounts at all times.

Apart from this, however, the overdrawing of an account places a burden on the Patent Office, particularly where a number of items are charged after the overdraft occurs, and it is appropriate that those who are responsible for causing such a condition should bear the cost of correcting it. In view of this fact, and of the hardship frequently caused if an account is permanently closed, the practice of closing deposit accounts merely because they are overdrawn will be discontinued, effective August 1, 1966. In lieu thereof an overdrawn account will be immediately suspended and no charges will be accepted against it until a proper balance is restored, together with a payment of ten dollars to cover the work done by the Patent Office incident to suspending and reinstating the account and dealing with charges which may have been made in the meantime. It is expected, however, that reasonable precautions will be taken in all cases to avoid overdrafts, and if an account is suspended repeatedly it will be necessary to close it.

Similarly, because of the burden placed on the Patent Office incident to the operation of deposit accounts, a charge of ten dollars will be made for opening each new account.

EDWARD J. BRENNER,
Commissioner.

June 23, 1966.

Errata

In the Official Gazette of May 31, 1966, at page TM 275, at the end of Class 22 there should be inserted "809,220. DORMAX. Fihe Enterprises, Inc. SN 223,224. Pub. 3-15-66. Filed 7-13-65."

At page TM 282, under "Trademark Registrations Canceled," "696,175. SWISS SKIER. Cl. 47." should be deleted and *696,175. MERCI. Cl. 47.* should be inserted.

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,121
Date of oldest new application	June 1, 1965
Date of oldest amended application (filing date)	November 6, 1962

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6-1-65	8-9-63
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-15-66	11-6-62
Renewals (All Classes)	5-6-66	.....
Sec. 12(c) Publications (All Classes)	5-6-66	.....

Applications filed during the month of May—2,495

Registrations Issued ..... 367—No. 811,161 to No. 811,527
Renewals Issued 80

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

In the OFFICIAL GAZETTE of March 8, 1966, at page TM 107, "691,190. KORONAMAX. Cl. 21." should be deleted.

In the OFFICIAL GAZETTE of June 7, 1966, at page TM 30, "SN 229,975." should be deleted and *SN 229,575.* should be inserted.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 22,406(a) (COCA-COLA in script), The Coca-Cola Company, Nutrient or tonic beverages; **Reg. No. 47,189(a)**, same, Tonic beverages and syrups for the manufacture of such beverages; **Reg. No. 238,145(a)**, (COCA-COLA), same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 238,146(a)** (COCA-COLA in script), same, **filed** Sept. 23, 1965, D.C., W.D. Wash. (Seattle), Doc. 6554, *The Coca-Cola Company* v. *Washington Concessions.* Consent judgment; injunction issued Jan. 7, 1966.

Reg. No. 22,406(b); **Reg. No. 47,189(b)**; **Reg. No. 238,145(b)**; **Reg. No. 238,146(b)**; **Reg. No. 415,755** (COKE), same, Non-alcoholic maltless beverages and the syrups for making such beverages, **filed** Apr. 29, 1966, D.C., N.D. Okla. (Tulsa), Doc. 6425, *The Coca-Cola Company* v. *Bowl-A-Rama Restaurant.* **Same, filed** Mar. 28, 1966, D.C., S.D. Tex. (Houston), Doc. 66–H–130, *The Coca-Cola Company* v. *EJ's Malt-'N-Burger.* Final consent judgment; defendant enjoined May 16, 1966. **Same, filed** May 25, 1966, D.C., M.D. Fla. (Jacksonville), Doc. 66–401–J, *The Coca-Cola Company* v. *Quik Service Fine Foods, also known as Kuik Serve 12¢ Hamburgers.*

Reg. No. 40,619 (PEPSI-COLA), C. D. Bradham, Flavoring syrup for soda water; **Reg. No. 51,959** (PEP-KOLA), same, Non-alcoholic tonic beverages; **Reg. No. 55,199** (PEPSI-COLA), same, Tonic beverage; **Reg. No. 111,508** (PEPSI), Pepsi-Cola Co., Flavoring syrup for soda water; **Reg. No. 349,886** (PEPSI-COLA), same, Beverages and syrups for the manufacture of such beverages; **Reg. No. 349,985** (PEPSI-COLA AND DESIGN), same; **Reg. No. 350,201** (PEPSI-COLA), same, Bottle closures, particularly crowns; **Reg. No. 356,723**, same, Wooden receptacles and cases and racks for bottles, which cases and racks are sold in trade empty; **Reg. No. 369,426**, same, Beverage coolers sold in trade empty, **filed** Apr. 21, 1966, D.C., W.D. Ark. (El Dorado), Doc. 1104, *PepsiCo* v. *The Grapette Co., Inc.*

Reg. No. 47,189. (See Reg. No. 22,406.)

Reg. No. 51,959. (See Reg. No. 40,619.)

Reg. No. 55,199. (See Reg. No. 40,619.)

Reg. No. 82,124 (WALTHAM), Waltham Watch Company, Watches, watchcases, watch movements, and parts thereof; **Reg. No. 114,912** (WALTHAM AND DESIGN), same, Watches, watch cases, all parts of watches and watch-movements; **Reg. No. 130,437**, same, Watch materials—namely, all parts of a watch, watches, and watchcases; **Reg. No. 230,678**, same, Watches and parts thereof; **Reg. No. 311,103** (WALTHAM WATCHES AND DESIGN), same; **Reg. No. 401,424** (WALTHAM PREMIER), Watches, clocks, chronometers, watch cases, clock cases, and parts of each of the foregoing; **Reg. No. 431,380** (WALTHAM AND DESIGN), same, Watches; **Reg. No. 769,921** (DESIGN SIMULATING W), same, **filed** Apr. 20, 1966, D.C., S.D.N.Y., Doc. 66/1118, *Waltham Watch Co.* v. *Edward A. Waldman et ano.*

Reg. No. 111,508. (See Reg. No. 40,619.)

Reg. No. 114,912. (See Reg. No. 82,124.)

Reg. No. 130,437. (See Reg. No. 82,124.)

Reg. No. 160,276 (ROPER AND DESIGN), Geo. D. Roper Corporation, Gas ranges, gas plates, gas heaters, and gas stoves; **Reg. No. 167,938**, same, Electric stoves and electric ranges; **Reg. No. 438,191**, same, Gas stoves and ranges; **Reg. No. 602,159** (ROPER-GLO), same, Broilers and broiler ovens for gas ranges; **Reg. No. 727,502** (ROPER CHARM (in script) AND DESIGN), same, Cooking and baking units—namely, stoves, ranges, ovens and wall-mounted, cabinet based, and countertop units; **Reg. No. 727,998** (ROPER AND DESIGN), same; **Reg. No. 767,179** (ROPER), same, **filed** Aug. 6, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 66–1199–IH, *Geo. D. Roper Sales Corp. et al.* v. *Roper-Webb Corp. et al.* Stipulation and order dismissing complaint and counterclaim with prejudice; defendants enjoined Apr. 6, 1966.

Reg. No. 167,769 (AMOCO), The American Oil Company, Gasoline motor fuels and lubricating oils; **Reg. No. 335,766**, same, Naphtha; **Reg. No. 657,012**, same, Gasoline, motor fuel, naphtha, lubricating oil and grease, flushing oil and heating oil; **Reg. No. 704,187**, same, Additives for lubricating oils and greases; **Reg. No. 722,940**, same, Plasticizers to impart flexibility or elasticity to plastics, resins, rubber elastomers, etc.; **Reg. No. 730,612**, same, Synthetic resins for general use in the industrial arts; **Reg. No. 736,984**, same, Agricultural chemicals to control the growth of weeds and noxious plants and promote the growth of agricultural products, herbicides, and insecticides, **filed** Apr. 15, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66–644–PH, *The American Oil Company* v. *Ogden B. Armour et al.*

Reg. No. 167,938. (See Reg. No. 160,276.)

Reg. No. 174,998 (FRUIT OF THE LOOM), B. B. & R. Knight, Inc., Nurses' and maids' uniforms, caps, and aprons, men's and boys' dress and negligee shirts, etc.; **Reg. No. 175,314**, same, Sheets and pillow case; **Reg. No. 194,004** (FRUIT OF THE LOOM AND DESIGN), same, Labels and tags for articles of manufacture made from "Fruit of the Loom" textiles; **Reg. No. 563,388**, same, Fruit of the Loom, Inc., Bowl covers, mixer covers, toaster covers, platter covers, etc.; **Reg. No. 678,530**, same, Textile piece goods of natural, synthetic and blended yarns, sheets and pillow cases, quilted pads, etc.; **Reg. No. 679,661**, same, Men's, women's, girls', and boys' underwear including T-shirts, undershirts, undershorts, panties, slips, etc.; **Reg. No. 686,107**, same, Plastic garment bags, blanket bags, shoe bags, etc.; **Reg. 688,053**, same, Bias tape, shoe laces, sewing notions—namely, blanket binding, seam binding, quilt binding, etc., **filed** Apr. 21, 1966, D.C., S.D.N.Y., Doc. 66/1136, *Fruit of the Loom, Inc.* v. *Eaton Factors Co., Inc.*

Reg. No. 175,314. (See Reg. No. 174,998.)

Reg. No. 194,004. (See Reg. No. 174,998.)

Reg. No. 230,678. (See Reg. No. 82,124.)

Reg. No. 238,145. (See Reg. No. 22,406.)

Reg. No. 238,146. (See Reg. No. 22,406.)

Reg. No. 269,655 (SUN DROP), J. F. Lazier Manufacturing Co., Inc., Flavoring extracts and concentrated syrups for making soda water and other beverages, particularly for orange beverage; **Reg. No. 399,561**, same, The Mil-K-Botl Corporation of America, Non-alcoholic, maltless beverages sold as soft drinks, and extracts and concentrates for making such beverages; **Reg. No. 782,157** (DIET SUN DROP AND DESIGN), Sun Drop Sales Corporation of America, Dietary soft drinks, **filed** Apr. 22, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c713, *Sun Drop Sales Corporation of America* v. *Swift and Company.*

Reg. No. 279,688 (FELICE in script), Associated Merchandising Corporation, Women's and girls' dresses, coats, leather shoes, women's and misses' hats, etc., **filed** Dec. 23, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–1833–CC, *Aimcee Wholesale Corporation* v. *Felice Fashions of California et al.* Stipulation and final consent judgment in favor of plaintiff; defendants enjoined Mar. 15, 1966.

Reg. No. 311,103. (See Reg. No. 82,124.)

Reg. No. 335,766. (See Reg. No. 167,769.)

Reg. No. 349,886. (See Reg. No. 40,619.)

Reg. No. 349,985. (See Reg. No. 40,619.)

Reg. No. 350,201. (See Reg. No. 40,619.)

Reg. No. 356,723. (See Reg. No. 40,619.)

Reg. No. 369,426. (See Reg. No. 40,619.)

Reg. No. 378,913(a) (THE BAT MAN AND DESIGN), Detective Comics, Inc., Cartoons published in a series; **Reg. No. 382,770(a)** (BAT MAN AND DESIGN), same, Magazine, **filed** Apr. 27, 1966, D. C., N.D. Ill. (Chicago), Doc. 66c744, *National Periodical Publications, Inc.* v. *Shopper's Corner, Inc.*

Reg. No. 378,913(b); **Reg. No. 382,770(b)**; **Reg. No. 804,709** (BATMAN AND DESIGN), National Periodical Publications, Inc., Comic magazines, **filed** June 13, 1966, D.C., S.D.N.Y., Doc. 66/1672, *National Periodical Publications, Inc.* v. *Joan Chalson et al.* **Same, filed** June 21, 1966, D.C., S.D.N.Y., Doc. 66/1787, *National Periodical Publications, Inc.* v. *Walgreen Eastern Co., Inc.*

Reg. No. 382,770. (See Reg. No. 378,913.)

Reg. No. 399,561. (See Reg. No. 269,655.)

Reg. No. 401,424. (See Reg. No. 82,124.)

Reg. No. 415,755. (See Reg. No. 22,406(b).)

Reg. No. 430,396 (COLOR TRAN), Grover Photo Products, Converter used for transforming electrical currents, **filed** July 15, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–957–CC, *Colortran Industries* v. *Consolidated International Equipment & Supply Co.* Stipulation and final consent judgment in favor of plaintiff; defendant enjoined Apr. 6, 1966.

Reg. No. 431,380. (See Reg. No. 82,124.)

Reg. No. 438,191. (See Reg. No. 160,276.)

Reg. No. 534,232 (XYLOCAINE), Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Local anesthetic primarily used in dental surgery; **Reg. No. 602,703**, same, Astra Pharmaceutical Products, Inc., Anesthetic used in medicine, surgery, and dentistry to induce local anesthesia, including topical anesthesia, and which may be prepared in different forms—namely, as solutions for injection, infusion, and spray, etc., **filed** Apr. 27, 1966, D.C., S.D.N.Y., Doc. 66/1199, *Astra Pharmaceutical Products, Inc.* v. *R.S.A. Corp.*

Reg. No. 563,388. (See Reg. No. 174,998.)

Reg. No. 596,578 (SUN-CONTROL AND DESIGN), Victor Tool & Machine Corporation, Metal awnings and metal canopies, **filed** Apr. 27, 1966, D.C., E.D. Mich. (Detroit), Doc. 28353, *Victor Tool and Machine Corporation et al.* v. *Sun Control Awnings, Inc.*

Reg. No. 602,159. (See Reg. No. 160,276.)

Reg. No. 606,106 (CREST), The Procter & Gamble Company, Dentifrice, **filed** Apr. 20, 1966, D.C., S.D.N.Y., Doc. 66/1123, *The Procter & Gamble Co.* v. *Associated Merchandising Corp. et ano.*

Reg. No. 617,131 (VOLKSWAGEN), Volkswagen G.m.b.H., Vehicles—namely, automobiles and trucks, aircraft, boats; and parts and accessories for automobiles—namely, radiators, direction indicators, etc.; **Reg. No. 631,649** (VW AND DESIGN), same; **Reg. No. 653,695** (VW), same, **filed** Dec. 22, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–1824–S, *Volkswagenwerk Aktiengesellschaft* v. *Bud Bodley and Art Nicholson, doing business as The Pit Stop.* Final consent judgment in favor of plaintiffs; defendant enjoined; action dismissed as to defendant Bud Bodley without prejudice Mar. 30, 1966. **Same, filed** May 31, 1963, D.C., E.D. Pa. (Philadelphia), Doc. 33577, *Volkswagenwerk Aktiengesellschaft* v. *Continental Imported Cars et al.* Order terminating action; defendants enjoined May 4, 1966. **Same, filed** Jan. 4, 1966, D.C., W.D. Okla. (Oklahoma City), Doc. 66–5, *Volkswagenwerk Aktiengesellschaft* v. *Bob Brooks Volkswagen Clinic.* Defendant enjoined (notice May 18, 1966). **Same, filed** Dec. 17, 1965, D.C., S.D. Calif. (Fresno), Doc. 2733–ND, *Volkswagenwerk Aktiengesellschaft* v. *Mid-Valley Volkswagen Service.* Consent judgment; defendant enjoined (notice May 23, 1966).

Reg. No. 631,649. (See Reg. No. 617,131.)

Reg. No. 653,695. (See Reg. No. 617,131.)

Reg. No. 657,012. (See Reg. No. 167,769.)

Reg. No. 678,530. (See Reg. No. 174,998.)

Reg. No. 679,661. (See Reg. No. 174,998.)

Reg. No. 686,107. (See Reg. No. 174,998.)

Reg. No. 688,053. (See Reg. No. 174,998.)

Reg. No. 692,703. (See Reg. No. 534,232.)

Reg. No. 704,187. (See Reg. No. 167,769.)

Reg. No. 722,940. (See Reg. No. 167,769.)

Reg. No. 727,502. (See Reg. No. 160,276.)

Reg. No. 727,998. (See Reg. No. 160,276.)

Reg. No. 730,612. (See Reg. No. 167,769.)

Reg. No. 736,984. (See Reg. No. 167,769.)

Reg. No. 745,790 (SUPER ADD-A-MATIC), Super Add-A-Matic Corp., Adding machines, **filed** Jan. 4, 1964, D.C., S.D. N.Y., Doc. 64/27, *Super Add-A-Matic Corp.* v. *Al Nyman & Son, Inc.* Consent order dismissing action with prejudice Apr. 19, 1966.

Reg. No. 747,519 (CRUSADER AND DESIGN), Mobile Holdings Corporation, Travel trailers and mobile homes, **filed** Nov. 8, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–1623–JWC, *Mobile Holdings Corporation* v. *C.G.L. Manufacturing, Inc. et al.* Consent judgment in favor of plaintiff; defendants enjoined Apr. 4, 1966.

Reg. No. 750,443 (AKG), Electronic Applications, Inc., Electro-acoustic equipment and systems—namely, microphones, headphones, loudspeakers, etc.; **Reg. No. 750,444** (AKG AND DESIGN), same, **filed** May 21, 1964, D. C. Conn. (New Haven), Doc. 10476, *Akustische u. Kino-Gerate Gesellschaft mbH* v. *Gertrude M. Cwikla et al.* Stipulation and order of discontinuance (notice Apr. 29, 1966).

Reg. No. 750,444. (See Reg. No. 750,443.)

Reg. No. 767,179. (See Reg. No. 160,276.)

Reg. No. 769,921. (See Reg. No. 82,124.)

Reg. No. 774,892 (SKIPPER), Mattel, Inc., Dolls, **filed** Aug. 30, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–1301–FW, *Mattel, Inc.* v. *Sunlad Dolls of Calif.* Consent judgment in favor of plaintiff; defendant enjoined Mar. 23, 1966.

Reg. No. 782,157. (See Reg. No. 269,655.)

Reg. No. 797,620 (MEDI-CARD), Medi-Card, Inc., Credit financing of hospital physicians' and dentists' charges for consumer medical care, **filed** Feb. 10, 1966, D.C., S.D.N.Y., Doc. 66/406, *MZ Inc. et ano.* v. *Medi-Card, Inc.* Stipulation and order of discontinuance Apr. 21, 1966.

Reg. No. 804,709. (See Reg. No. 378,913(b).)

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 180,047. Zeva-Elektrizitats-Gesellschaft Smits & Laubmeyer Kommanditgesellschaft, Arolsen, Waldeck, Germany. Filed Oct. 29, 1963.

ZEVA

Owner of German Reg. No. 505,537, dated Dec. 29, 1937.

Class 21—Electrical Apparatus, Machines, and Supplies

For Heat-Sealing Devices; Devices for Sealing Together Synthetic Sheet Materials; Devices for Fusing Together Synthetic Sheet Materials; Electrically Heated Manually Operated Devices and Power-Operated Devices for Fusing and Sealing Together Thermoplastic Foils, Thermoplastic Laminates, Paper Sheets Coated With Thermoplastic Material, and Metal Foils Coated With Thermoplastic Material; Strip-Sealing Devices for Line Sealing Together Sheet Material Made of Thermoplastic Material or Coated With Such Material; and Point-Sealing Devices for Point Sealing Together Sheet Material Made of Thermoplastic Material or Coated With Such Material.

First use in 1929.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Devices for Packaging Articles of Merchandise; Devices for Wrapping Articles of Merchandise; Devices for Beading Sheet Material; and Tables for Packaging Articles of Merchandise.

First use 1954.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Soldering Irons; Soldering Pans, and Automatic Soldering Machines.

First use 1920.

SN 189,363. Pines International Chemical Company, Chicago, Ill. Filed Mar. 23, 1964.

DURA FRESH

The word "Fresh" is disclaimed apart from the mark as shown.

Class 6—Chemicals and Chemical Compositions

For Liquid and Solid Deodorant.

First use Feb. 6, 1964.

Class 52—Detergents and Soaps

For Bowl Cleanser-Sanitizer and Pine oil Disinfectant.

First use Feb. 13, 1964.

SN 197,705. W. R. Grace & Co., New York, N.Y. Filed July 13, 1964.

GREENTOWN

Class 100—Miscellaneous

For Counseling Farmers With Regard to Fertilizer Techniques, etc.

Class 103—Construction and Repair

For Conducting Fertilizer Programs on the Farmlands of Others.

First use June 12, 1964.

SN 210,961. Kimmell Engineering Co., Inc., Harrisonville, Mo. Filed Jan. 29, 1965.

KEPOXY

Class 1—Raw or Partly Prepared Materials

For Synthetic Resins and Plastics.

Class 6—Chemicals and Chemical Compositions

For Hardening and Curing Agents for Incorporation in Epoxy Resins.

First use July 1, 1962.

SN 212,172. William Davies Co., Inc., Danville, Ill. Filed Feb. 16, 1965.

SWISHER

Class 18—Medicines and Pharmaceutical Preparations

For Medicated Poultry Feeds, Medicated Livestock Feeds, Medicated Poultry Feed Concentrates, and Medicated Livestock Feed Concentrates.

Class 46—Foods and Ingredients of Foods

For Dog Food, Poultry Feeds, Livestock Feeds, Poultry Feed Concentrates, and Livestock Feed Concentrates.

First use June 21, 1954.

SN 219,343. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed May 20, 1965.

SHIRLEY GAY

The name "Shirley Gay" is purely fictitious and is not the name of any particular living individual.

Class 29—Brooms, Brushes, and Dusters

For Compact Puffs, Make-Up Puffs, and Velour Puffs.

Class 40—Fancy Goods, Furnishings, and Notions

For Bobbie Pins.

First use Oct. 26, 1964.

SN 219,841. Stiles-Kem Sales Corporation, Zion, Ill. Filed May 27, 1965.



Class 6—Chemicals and Chemical Compositions

For Water Conditioning Compositions—Namely, Water Soluble Crystalline Concentrates for Sequestering Minerals in Water To Prevent or Remove Accumulations Such as Rust, Corrosion, Scale, and Silica Deposits.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Feeders and Dispensers of the By-Pass, Pot, Type, for Introducing Water Treating Compositions Into Water Lines.

First use January 1962.

SN 220,280. Del Chemical Corporation, Menomonee Falls, Wis. Filed June 3, 1965.

DEL

Class 4—Adhesives and Polishing Materials

For Floor Wax, Combined Polish and Cleaner.

First use Feb. 16, 1962.

Class 6—Chemicals and Chemical Compositions

For Room Deodorants, Rust and Corrosion Inhibitors, Fire Extinguishing Preparations, Compositions for Melting Ice and Snow, Germicide-Deodorant, Disinfectant-Deodorant, Insect Repellent, Insecticide, Rodenticide, Herbicide, Algicide, Sewage Digestant and Liquefier, Dust Mop and Cloth Preparation.

First use Feb. 16, 1962.

Class 12—Construction Materials

For Concrete Sealant and Paving, Patching Material for Roads.

First use Feb. 16, 1962.

Class 44—Dental, Medical, and Surgical Appliances

For Spray Bandages.

First use May 1, 1965.

Class 52—Detergents and Soaps

For Cleaners, Degreasers, Motor Cleaner, Hand Cleaner, and Spray Cleaners.

First use Feb. 16, 1962.

SN 222,076. Stevens Linen Associates, Inc., Dudley, Mass. Filed June 25, 1965.



SINCE 1846

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Linen Towels, Place Mats and Napkins, Upholstery and Drapery Fabrics.

Class 43—Thread and Yarn

For Yarn.

First use Mar. 4, 1965.

SN 223,261. Sauna Society of America, Washington, D.C. Filed July 13, 1965.



The word "Sauna" is disclaimed except as a part of the mark as shown.

Class 100—Miscellaneous

For Advisory and Consultation Services With Regard to Construction and Use of Sauna Baths.

Class 101—Advertising and Business

For Promoting the Authentic Finnish Sauna Bath in the United States by Providing Information Relative Thereto to the American Public.

First use Apr. 19, 1965.

SN 226,327. Theodore Fuchs, d.b.a. Research Publications, Evanston, Ill. Filed Aug. 24, 1965.

PROGRAMASTER

Class 37—Paper and Stationery

For Partially Printed Matter—Namely, Write-In Calendar-Type Chart Plus Printed Text and Tabular Matter Concerning Days, Dates and Holidays.

Class 38—Prints and Publications

For Printed Text and Tabular Matter Concerning Days, Dates and Holidays, Plus Write-In Calendar-Type Chart.

First use July 20, 1965.

SN 226,328. Theodore Fuchs, d.b.a. Research Publications, Evanston, Ill. Filed Aug. 24, 1965.

PROJECTADATE

Class 37—Paper and Stationery

For Partially Printed Matter—Namely, Write-In Calendar-Type Charts Plus Printed Text and Tabular Matter Concerning Calendars, Days, Dates and Holidays.

Class 38—Prints and Publications

For Printed Text and Tabular Matter Concerning Calendars, Days, Dates and Holidays, Plus Write-In Calendar-Type Charts.

First use June 21, 1965.

SN 228,830. The McCathron Boiler Works Co., Bridgeport, Conn. Filed Sept. 28, 1965.

MBW

Class 2—Receptacles

For Containers, Tanks, Barrels, and Drums.
First use August 1950.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Machine Bases and Frames, and Molding Apparatus.
First use May 1950.

Class 32—Furniture and Upholstery

For Cabinets.
First use September 1950.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Spray Chambers, Boilers, and Ovens.
First use July 1950.

SN 230,904. San-Dor, Incorporated, Los Angeles, Calif. Filed Oct. 21, 1965.

etc. of CALIFORNIA

Class 2—Receptacles

For Men's Jewelry Boxes.

Class 50—Merchandise Not Otherwise Classified

For Men's Wooden Pants Hangers, Men's Wooden Coat Hangers, Tie Racks, and Dresser Caddies.

First use July 1, 1965.

SN 234,863. Karlsruher Parfumerie- und Toilette-Seifenfabrik F. Wolff & Sohn GmbH, Karlsruhe, Baden, Germany.

EXTRAVAGANT

Filed Dec. 20, 1965.

Class 51—Cosmetics and Toilet Preparations

For Toilet Water.

Class 52—Detergents and Soaps

For Toilet Soap.

First use 1962; in commerce Sept. 10, 1965.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 194,873. Gagnier Brothers, Churubusco, N.Y. Filed June 4, 1964.

ADIRONDACK BRAND

No claim is made to the word "Brand."
For Seed Potatoes.
First use on or about Jan. 1, 1930.

SN 201,126. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Sept. 2, 1964.

GREEN GRAIN

For Periclase.
First use at least as early as Feb. 26, 1954.

SN 203,548. United States Rubber Company, New York, N.Y. Filed Oct. 7, 1964.

ROYAL

Owner of Reg. No. 780,648.
For Fabric or Other Base Coated With a Decorative Wear Layer of Plastic, for Use, for Example, as Upholstery.
First use January 1962.

SN 204,035. Monsanto Company, St. Louis, Mo. Filed Oct. 15, 1964.

NYLON RESIN CHEMSTRAND

Owner of Reg. Nos. 600,796, 758,996, and others.
For Molding and Extrusion Resins Comprised in Whole or in Substantial Part of Nylon (a Long-Chain Synthetic Polymeric Amide).
First use Sept. 9, 1964.

SN 204,036. Monsanto Company, St. Louis, Mo. Filed Oct. 15, 1964.

NYLON RESIN

Owner of Reg. Nos. 741,443, 758,607, and others.
For Molding and Extrusion Resins Comprised in Whole or in Substantial Part of Nylon (a Long-Chain Synthetic Polymeric Amide).
First use Sept. 9, 1964.

SN 212,291. Diamond Alkali Company, Cleveland, Ohio. Filed Feb. 18, 1965.

HOME BEAUTY

Owner of Reg. No. 588,676.
For Grass Seed.
First use March 1956.

SN 217,064. Velsicol Chemical Corporation, Chicago, Ill. Filed Apr. 21, 1965.

COPAR

For Resinous Compositions Used as Tackifiers.
First use Apr. 13, 1962.

SN 225,439. Rajac, Inc., Clearwater, Fla. Filed Aug. 10, 1965.

DURA GEMS

For Specially Prepared Colored Silica Sand Useful as a Component for Use in the Manufacture of Floor Covering.
First use Mar. 1, 1965.

SN 228,315. Analabs, Incorporated, Hamden, Conn. Filed Sept. 22, 1965.

ANAPREP

Owner of Reg. No. 780,481.
For Inorganic Aggregates and Compounds, Specifically a Diatomaceous Earth Aggregate, for Use in Gas Chromatographic Analysis.
First use Aug. 4, 1965.

SN 228,959. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Sept. 29, 1965.

VANAMID

For Polyamide Resins Used for Modifying Epoxy Resins and Formulating Printing Inks, Sealants, Adhesives, Film Formers and Overprint Varnishes.
First use Aug. 13, 1965.

SN 232,283. Calavo Growers of California, Los Angeles, Calif. Filed Nov. 8, 1965.

Calavo

Owner of Reg. Nos. 214,759, 655,598, and others.
For Horticultural Products, Including, Rose Bushes.
First use Sept. 1, 1958.

SN 233,474. The Dow Chemical Company, Midland, Mich. Filed Nov. 29, 1965.

SARANEX

Owner of Reg. Nos. 688,450, 688,452, and others.
For Plastic Film for General Use in the Industrial Arts.
First use Nov. 2, 1965.

SN 233,836. Silver Lining, Inc., Morgan City, La. Filed Dec. 2, 1965.

SILVER LINING

For Muds or Fluids Used in the Drilling and Completing of Oil Wells.
First use Feb. 5, 1965.

SN 234,146. Reichhold Chemicals, Inc., White Plains, N.Y. Filed Dec. 7, 1965.

BECKACITE

Owner of Reg. No. 355,739 and others.
For Synthetic Resins.
First use 1924.

SN 234,147. Reichhold Chemicals, Inc., White Plains, N.Y. Filed Dec. 7, 1965.

SUPER-BECKACITE

Owner of Reg. No. 355,739 and others.
For Synthetic Resins.
First use prior to January 1932; 1924 as to the word "Beckacite."

SN 234,194. General Aniline & Film Corporation, New York, N.Y. Filed Dec. 8, 1965.

GAFSTAR

Owner of Reg. Nos. 781,913, 796,996, and 796,997.
For Polyester Film and Film Base.
First use July 19, 1965.

SN 234,280. Kenneth Hinshaw, d.b.a. Gunnland Enterprises, Agawam, Mass. Filed Dec. 9, 1965.

DRESSROCK

For Crushed Volcanic Rock.
First use Nov. 1, 1965.

SN 235,460. Tingen Turkey Ranch and Hatchery Limited, Harrow, Ontario, Canada. Filed Dec. 23, 1965.

CANNONBALL SPECIAL

For Turkey Poults.
First use Jan. 3, 1962; in commerce Nov. 1, 1962.
Subj. to Intf. with SN 226,037.

SN 235,485. Bates Manuacturing Company, Incorporated, Lewiston, Maine. Filed Dec. 29, 1965.

BATECRON

For Polyester Fibers.
First use Dec. 2, 1965.

SN 236,986. Georgia Kaolin Company, Elizabeth, N.J. Filed Jan. 21, 1966.

THIXO-JEL

For Clays.
First use Oct. 21, 1965.

SN 237,221. Humphrey Charcoal Corporation, Brookville, Pa. Filed Jan. 25, 1966.

GALLEY MATE

For Charcoal.
First use Apr. 29, 1963.

SN 238,436. International Minerals & Chemical Corporation, Skokie, Ill. Filed Feb. 9, 1966.

BH

For Bentonite.
First use April 1953.

SN 238,487. Bergwerksverband G.m.b.H., Essen, Germany. Filed Feb. 11, 1966.

CARBOSYNT

Owner of German Reg. No. 796,165, dated Nov. 8, 1963.
For Auxiliary Molding Materials for Foundries—Namely, Bentonite, Molding Sand, Coal Dust, Molding Powder, and Dressing.

Class 2 — Receptades

SN 217,142. A. Harvey Schreter, d.b.a. Creative Enterprises, Ltd. Baltimore, Md. Filed Apr. 22, 1965.

COLLECT-ALL

For Plastic Containers and Metal Containers for Holding Miscellaneous Articles in an Upright Position.
First use Apr. 6, 1965.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 232,565. King Leathers, Inc., Indiana, Pa. Filed Nov. 12, 1965.

KING SELECTOR

For Leather Goods—Namely, Billfolds and Card Cases.
First use May 7, 1965.

SN 235,566. King Leathers, Inc., Indiana, Pa. Filed Dec. 30, 1965.

SPORTSMAN

For Wallets.
First use on or about Jan. 10, 1956.

Class 4 — Abrasives and Polishing Materials

SN 200,279. Old Patina Company, St. Ann, Mo. Filed Aug. 20, 1964.



OLD PATINA

For Polish and Feeder With Beeswax for Treating Wood.
First use May 1, 1964.

SN 207,462. Ainsworth Consolidated Industries Pty Limited, d.b.a. Ainsworth Dental Co., Rosebery, near Sydney, New South Wales, Australia. Filed Dec. 4, 1964.

DENTISHINE

Priority claimed under Sec. 44(d) on Australian Reg. No. B188,221, dated June 10, 1964.
For Denture Polishing Cream.

SN 227,428. Robert M. McMath, New York, N.Y. Filed Sept. 8, 1965.

VIGIL

Owner of Reg. No. 430,967.
For Combination of Polishes and Cleaners Used To Polish and Clean Metal, Glass, and Woodwork, and Is Used for This Particular Purpose.
First use Nov. 13, 1944.

Class 5 — Adhesives

SN 200,298. Uhu-Werk H.u.M. Fischer, Buehl, Baden, Germany. Filed Aug. 20, 1964.

DON'T SAY GLUE . . . SAY "YOO HOO"

Owner of U.S. Reg. No. 644,321.
For Glues and Mucilage.
First use Nov. 12, 1954; in commerce Nov. 12, 1954.

Class 6 — Chemicals and Chemical Compositions

SN 167,512. Peter Willems, Lucerne, Switzerland. Filed Mar. 5, 1963.

CHEMITRON

Priority claimed under Sec. 44(d) on Swiss Reg. No. 195,219, dated Oct. 27, 1962.
For Chemical Photographic Fixatives and Developers; Weed Killers, Pesticides, and Insecticides.

SN 207,909. Schimmel & Co., Inc., Newburg, N.Y. Filed Dec. 10, 1964.

FILTROSOL A

For Sunscreening and Tanning Compound Suitable for Use in Creams, Liquid Emulsions, Oils, and Lotions.
First use July 14, 1941.

SN 211,597. Tesco Chemicals, Inc., Atlanta, Ga. Filed Feb. 8, 1965.

TESCO CHEMICALS

The word "Chemicals" is disclaimed apart from the mark as shown. Owner of Reg. No. 737,696.
For Industrial Maintenance Chemicals—Namely, Chlorine Gas, Acids, Alums, Calcium Hypochlorite, Activated Carbon, Caustic Soda, Copper and Ferric Sulfates, Lime Phosphate, Soda Ash, Sodium Chlorite, Fluorides, Anhydrous Ammonia, Calcium Chloride, Chromate of Soda, Liquid Chlorine, Organic Chlorine, Chlorine Stabilizer, Filming Amine Complexes, Non-Poisonous Algaesides, and Flocculents.
First use in or about October 1962.

SN 216,848. Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany. Filed June 18, 1965.

VER-SAL

Owner of German Reg. No. 717,546, dated Sept. 24, 1957.
For Inorganic Exothermally Reacting Compositions and Inorganic Hot Topping Compounds To Be Applied to the "Melt" of Aluminum and Aluminum Alloys.

SN 220,898. Arndt-Palmer Laboratories, Inc., Melvindale, Mich. Filed June 11, 1965.

LABORATORIES, INC.

The words "Laboratories, Inc." are disclaimed apart from the mark as shown.
For Plastic Dyes for Renewal of Used Cars.
First use Apr. 15, 1965.

SN 221,132. Baxter Laboratories, Inc., Morton Grove, Ill. Filed June 2, 1965.

Owner of Reg. No. 788,672.
For Enzyme Preparations for Use in Brewing Malt Beverages and Liquors.
First use Mar. 24, 1965.

SN 222,206. St. Aubrey Associates, Inc., New York, N.Y. Filed June 28, 1965.

PaRaPet

For Aerosol Liquid Spray and Aerosol Powder Spray Insecticides To Be Applied on Dogs.
First use June 7, 1965.

SN 222,654. Burkart-Schier Chemical Company, Chattanooga, Tenn. Filed July 6, 1965.

NILSTAT

For Antistatic Agents for Textile Fibers and Fabrics.
First use Oct. 26, 1964.

SN 225,271. Bohme Fettchemie G.m.b.H., Dusseldorf-Holthausen, Germany. Filed Aug. 9, 1965.

FORYL

Owner of German Reg. No. 517,806, dated Mar. 22, 1939.
For Soaking, Emulsifying and Dispersing Agents for Textiles and Leather.

SN 225,272. Bohme Fettchemie, G.m.b.H., Dusseldorf-Holthausen, Germany. Filed Aug. 9, 1965.

GERBASOL

Owner of German Reg. No. 631,054, dated Sept. 25, 1950.
For Chemical Preparations for the Textile and Leather Industry—Namely, Fire Extinguishing Agents, Boiler Compounds, Water Softening Agents, Dextrin, Glycerin, Leather Dressings, Essential Oils, Soda, Bleaching Agents, Sizing Agents and Industrial Starch.

SN 225,273. Böhme Fettchemie G.m.b.H., Dusseldorf-Holthausen, Germany. Filed Aug. 9, 1965.

SETILON

Owner of German Reg. No. 470,480, dated Aug. 20, 1934.
For Soaking Scrooping, Dyeing, and Finishing Agents for the Textile and Leather Industry.

SN 225,274. Bohme Fettchemie, G.m.b.H., Dusseldorf-Holthausen, Germany. Filed Aug. 9, 1965.

SPREITAN

Owner of German Reg. No. 565,637, dated July 31, 1942.
For Chemical Preparations—Namely, Fire Extinguishing Agents, Leather Dressings, Leather Preservatives, Softening Agents for Leather and Textiles and Tanning Preparations.

SN 226,536. Kingston Products Company, Skokie, Ill. Filed Aug. 26, 1965.

KINGSTON

For Liquid Laundry Starch.
First use Aug. 3, 1965.

SN 227,393. The British Oxygen Company Limited, London, England. Filed Sept. 8, 1965.

ARGOSHIELD

Owner of British Reg. No. 871,092, dated Oct. 30, 1964.
For Gases and Gas Mixtures, All for Use in the Welding and Cutting of Metals.

SN 227,450. Service Industries (Trust), Philadelphia, Pa. Filed Sept. 8, 1965.

ZIP-E

For Battery Additive.
First use Feb. 10, 1965.

SN 228,149. H. Kohnstamm & Co., Inc., New York, N.Y. Filed Sept. 20, 1965.

MIL DU FIXE

For Laundry Sour With Mold Preventive.
First use Aug. 12, 1965.

SN 230,184. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Oct. 14, 1965.

PREPTONE

For Chemical Preparations Used in Desizing Textiles.
First use June 17, 1965.

SN 230,428. Puritan Chemical Company, Atlanta, Ga. Filed Oct. 18, 1965.

SENTRY

For Insecticide.
First use on or about Apr. 17, 1959.

SN 231,897. The Dow Chemical Company, Midland, Mich. Filed Nov. 1, 1965.

PARABIS

For Phenolic Derivatives Useful in the Manufacture of Resins and as Intermediates in the Production of Antioxidants and as Preservatives.
First use Jan. 19, 1965.

SN 231,898. Eli Lilly and Company, Indianapolis, Ind. Filed Nov. 1, 1965.

TUTANE

For Ingredient for a Horticultural Fungicide.
First use Oct. 20, 1965.

SN 231,906. Flavor Corporation of America, Northbrook, Ill. Filed Nov. 1, 1965.

BACTERIAZYME

For Non-Edible Additive of a Chemical Nature Used To Control Odors Caused by the Decomposition of Organic Matter.
First use Sept. 24, 1965.

SN 232,011. National Lead Company, New York, N.Y. Filed Nov. 2, 1965.

GELTONE

For Organophilic Gelling Agent.
First use Dec. 22, 1961.

SN 232,012. National Lead Company, New York, N.Y. Filed Nov. 2, 1965.

DURATONE

For Oil Dispersible Colloid for Use in Drilling Muds.
First use Sept. 14, 1960.

SN 232,015. National Lead Company, New York, N.Y. Filed Nov. 2, 1965.

SKOT-FREE

For Liquid Concentrate for Releasing Pressure Bound Drill Pipe.
First use Jan. 31, 1964.

SN 232,215. Lawton Specialty Co., Inc., Lawton, Okla. Filed Nov. 5, 1965.

DR. ODOR'S
MAGIC Power

For Fluid Deodorants for Household, Hospital and Industrial Use.
First use June 15, 1965.

SN 232,951. R. T. Vanderbilt Company, Inc., New York, N.Y. Filed Nov. 18, 1965.

VANACT

For Vulcanization Activators for Use in Processing Natural Rubber, Synthetic Rubber, and Polyolefins.
First use Oct. 25, 1965.

SN 237,413. Cutler Packaging Corporation, Lansing, Mich. Filed Jan. 20, 1966.

barbie

For Fabric Softener.
First use Sept. 16, 1965.

SN 237,414. Cutler Packaging Corporation, Lansing, Mich. Filed Jan. 20, 1966.

Karen

For Fabric Softener.
First use Sept. 16, 1965.

SN 243,686. Lithium Corporation of America, Inc., New York, N.Y. Filed Apr. 18, 1966.

FORMULA 2

The word "Formula" is disclaimed apart from the mark as shown.
For Pool Sanitizing Kit Containing Lithium Hypochlorite and Stabilizer for Swimming Pools.
First use Mar. 24, 1965.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 213,033. Mid-America Distributors, Inc., Salina, Kans. Filed Mar. 1, 1965.

ELECTRONIC

For Fireworks.
First use June 27, 1954.

SN 226,521. The Dow Chemical Company, Midland, Mich. Filed Aug. 26, 1965.

NOVON

Owner of Reg. No. 650,742.
For Blasting Agents.
First use Aug. 6, 1965.

Class 12 — Construction Materials

SN 228,930. Phelan-Faust Paint Manufacturing Company, St. Louis, Mo. Filed Sept. 29, 1965.

VERSALL

For Epoxy Masonry Finish.
First use June 18, 1965.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 194,203. Moeller Mfg. Co., Inc., Greenville, Miss. Filed May 25, 1964.

PUNCH N COVER

Owner of Reg. No. 668,507.
For Metal Combination Opener, and Cover for Cans' Tops.
First use Oct. 26, 1955.

SN 231,245. Selfix, Inc., Chicago, Ill. Filed Oct. 22, 1965.

SKY HOOK

For Pegs for Use With Peg Boards.
First use on or about July 12, 1965.

SN 238,869. Robert A. Gilmour, d.b.a. Gilmour Manufacturing Co., Somerset, Pa. Filed Feb. 15, 1966.

HOSEMASTER

For Hose Nozzles, Shower Heads, Water Sprinklers, and Hose Reels.
First use at least as early as Sept. 4, 1956.
Subj. to Intf. with SN 218,113.

Class 15 — Oils and Greases

SN 228,325. Bruce Products Corporation, Howell, Mich. Filed Sept. 22, 1965.

TWIN COAT

The word "Coat" is disclaimed apart from the mark as shown.
For Rust Inhibiting and Lubricant Composition for Facilitating Working and Forming of Metal.
First use on or about Apr. 8, 1965.

Class 18 — Medicines and Pharmaceutical Preparations

SN 216,180. Medics Pharmaceutical Corporation, Decatur, Ga. Filed Apr. 9, 1965.

CORONOL

For Pharmaceutical Preparation for Use as a Coronary Vasodilator.
First use Mar. 5, 1965.

SN 217,844. Ciba Corporation, New York, N.Y. Filed May 3, 1965.

For a Line of Proprietary Drugs—Namely, Anesthetic Ointments, Creams, and Suppositories.
First use Apr. 1, 1965.

SN 218,339. Meryl L. Stoddard, Flint, Mich. Filed May 7, 1965.

APACHE PEP

Applicant disclaims the word "Pep" apart from the mark as shown.
For Vitamin Tonic for Human Consumption.
First use Apr. 20, 1965.

SN 222,736. Nutrilite Products, Inc., Buena Park, Calif. Filed July 6, 1965.

NUTRILITE

Owner of Reg. No. 545,212.
For Vitamin and Mineral Food Supplement for Dogs, Cats, and Other Fur-Bearing Animals.
First use Nov. 12, 1956.

SN 225,232. Fidelity Pharmaceuticals, Inc., Philadelphia, Pa. Filed Aug. 2, 1965.

FI-VITAMIN-M

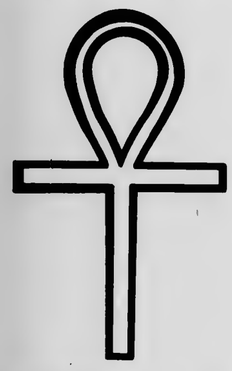
For Vitamin and Mineral Preparation.
First use Dec. 15, 1962.

SN 225,240. Fidelity Pharmaceuticals, Inc., Philadelphia, Pa. Filed Aug. 2, 1965.

FISOGEL

For Antacid Preparation for the Relief of Gastric Hyperacidity.
First use June 5, 1961.

SN 226,445. Laurence W. Helweg, d.b.a. Aschenbach & Miller, Philadelphia, Pa. Filed Aug. 25, 1965.



Owner of Reg. No. 436,468.
For Glycerine for Use in Cough Medicines and a Liniment To Be Used Externally for Muscular Soreness Due to Exertion, Exposure or Fatigue, Mild Neuralgia, Mild Headache, and Sprains.
First use on or about July 3, 1906.

SN 226,656. Mission Pharmacal Co., San Antonio, Tex. Filed Aug. 27, 1965.



For Therapeutic Hematinic, Appetite Depressant, Buffered Synergistic Analgesic, Antispasmodic Anticholinergic Drug, Calcium-Vitamin Iron Preparation, Antacid Tablet, a Synthetic Prune-Like Laxative.
First use Jan. 1, 1951.

SN 233,525. Person & Covey, Inc., Glendale, Calif. Filed Nov. 29, 1965.

P_4E_1

Owner of Reg. No. 795,905.
For Ophthalmic Solution.
First use Dec. 12, 1962.

SN 233,753. Smith, Miller & Patch, Inc., New York, N.Y. Filed Dec. 1, 1965.

E-PILO-2

For Ophthalmic Solution.
First use Mar. 17, 1965.

SN 233,981. American Home Products Corporation, New York, N.Y. Filed Dec. 6, 1965.

BARRAB

For Vaccine for the Treatment of Rabies.
First use Nov. 16, 1965.

SN 234,133. Mead Johnson & Company, Evansville, Ind. Filed Dec. 7, 1965.

DUOTROP

For Antispasmodic/Anticholinergic Preparation.
First use on or prior to Oct. 16, 1965.

SN 234,534. Bristol-Myers Company, New York, N.Y. Filed May 19, 1966.

ENTERICIN

For Preparation for the Relief of Cold Distress and Cold Discomfort.
First use Sept. 16, 1965.

SN 235,108. Landry Pharmaceuticals, Inc., Houston, Tex. Filed Dec. 22, 1965.

LANTRO

For Anti-Spasmodic Preparation.
First use at least as early as Oct. 8, 1963.

SN 235,111. Landry Pharmaceuticals, Inc., Houston, Tex. Filed Dec. 22, 1965.

ORAHIST

For Antihistamine Preparation.
First use at least as early as Apr. 8, 1965.

SN 239,184. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Feb. 18, 1966.

POLITE

For Mouthwash and Gargle.
First use Feb. 7, 1966.

SN 239,438. Pharmacure Laboratories, Inc., Queens, N.Y. Filed Feb. 23, 1966.

PHARMACURE

For Prednisone and Prednisolone Tablets.
First use Feb. 15, 1966.

SN 239,449. Schering Corporation, Bloomfield, N.J. Filed Feb. 23, 1966.

POXVAC-TC

For Poultry Vaccine.
First use on or about Dec. 29, 1965.

SN 239,587. C-B Drug Company, Charlotte, N.C. Filed Feb. 25, 1966.

CAROLINA BEAUTY

For Rubbing Alcohol and Petroleum Jelly.
First use on or about July 1, 1936, on petroleum jelly.

SN 239,776. Dr. Legear, Inc., St. Louis, Mo. Filed Feb. 28, 1966.

SUPER CORTA CLEAR

Owner of Reg. No. 674,088.
For Antibiotic Preparation for Veterinary Use Only.
First use Dec. 13, 1965.

SN 239,861. American Home Products Corporation, New York, N.Y. Filed Mar. 1, 1966.

DUALGAN

Owner of Reg. No. 581,661.
For Antacid Preparation.
First use Feb. 8, 1966.

Class 19—Vehicles

SN 219,857. T. F. Castloo, Mineola, Tex. Filed May 27, 1965.

HANDY DANDY

For Litter Trays for Motor Vehicles.
First use Sept. 26, 1963.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 227,470. The Associated Press, New York, N.Y. Filed Sept. 9, 1965.



Applicant makes no claim to the word "Automatic" apart from the mark as shown. Owner of Reg. Nos. 608,647 and 755,558.
For Machines and Apparatus for the Automatic Receipt and Printing of Photographs Transmitted by Wire.
First use July 28, 1965.

SN 230,202. Standard Radio Corporation, Sagamihara-shi, Kanagawa, Japan. Filed Oct. 14, 1965.

SR STANDARD

Owner of U.S. Reg. No. 660,451.
For Transistor Radios.
First use Feb. 27, 1965; in commerce Feb. 27, 1965.

SN 238,346. The Electric Storage Battery Company, Philadelphia, Pa. Filed Feb. 8, 1966.

WHEN IT'S AN EXIDE YOU START

Owner of Reg. No. 298,776.
For Batteries.
First use prior to 1938.

Class 22—Games, Toys, and Sporting Goods

SN 216,786. Fred Floyd Brown, Tucson, Ariz. Filed Apr. 19, 1965.



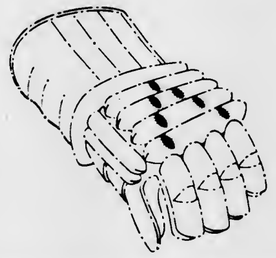
The drawing is lined for the color red.
For Equipment Sold as a Unit for Playing a Board Game.
First use Nov. 3, 1964.

SN 221,481. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed June 18, 1965.

ELITE

Owner of Reg. No. 741,999.
For Golf Balls.
First use Nov. 11, 1963.

SN 221,664. Wellinger & Dunn Leather Goods Limited, Toronto, Ontario, Canada. Filed June 21, 1965.



Priority claimed under Sec. 44(d) on Canadian application filed Apr. 24, 1965; Reg. No. 144,823, dated Apr. 15, 1966. The mark consists of a plurality of elliptical or ovate markings arranged in the configuration of a "V."
For Hockey Gloves.
First use August 1960; in commerce August 1960.

SN 221,668. Marquette Corporation, Minneapolis, Minn., assignee of Westway Advertising, Inc., Seattle, Wash. Filed June 21, 1965.

Bonnie BLUE RIBBON

For Dolls and Doll Clothes.
First use June 9, 1965.

SN 225,035. Items, Inc., St. Louis, Mo. Filed Aug. 5, 1965.



The drawing is lined for the color red.
For Rawhide Chew Toy for Dogs.
First use July 19, 1965.

SN 225,731. Chartered Enterprises, d.b.a. Superior Sports Specialties, San Fernando, Calif. Filed Aug. 16, 1965.

TAPERFLEX

For Water Ski.
First use Jan. 6, 1963.

SN 226,371. Patterson International Corporation, Cincinnati, Ohio. Filed Aug. 24, 1965.

FLIP MATCH

For Coin-Operated Table Tennis Amusement Device.
First use February 1965.

SN 227,468. Arrco Playing Card Company, Chicago, Ill. Filed Sept. 9, 1965.

SPACE-0

For Creative Cards for Children for Playing a Combination Educational and Amusement Game.
First use July 15, 1965.

SN 228,894. Dunlop Tire and Rubber Corporation, Buffalo, N.Y. Filed Sept. 29, 1965.

TRAVELER

For Golf Clubs.
First use Aug. 2, 1965.

SN 229,747. Joseph Bode, d.b.a. Gyr-O-Matic Co., Aurora, Ill. Filed Oct. 11, 1965.

GYR-O-MATIC

For Fishing Lure.
First use Mar. 9, 1965.

SN 229,868. Erwin J. Rademacher, d.b.a. Norda Products, Milwaukee, Wis. Filed Oct. 11, 1965.

TROPHY

For Swimming Gloves.
First use July 23, 1965.

SN 230,490. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

CORVETTE

For Snow Skis.
First use Aug. 3, 1964.

SN 230,493. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

VICTOR

For Snow Skis.
First use May 16, 1962.

SN 230,495. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

TEMPEST

For Snow Skis.
First use Aug. 12, 1964.

SN 230,496. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

SABRE

For Snow Skis.
First use July 8, 1963.

SN 230,645. Hillerich & Bradsby Co., Louisville, Ky. Filed Oct. 20, 1965.

Grand Slam

Owner of Reg. No. 209,562.
For Wooden Golf Clubs, Iron Golf Clubs, and Baseball Bats.
First use June 1924.

SN 230,672. Mattel, Inc., Hawthorne, Calif. Filed Oct. 20, 1965.

SPECIAL FORCES

For Toy Guns.
First use Apr. 9, 1965.

SN 230,696. Pure Carbon Company, Inc., St. Marys, Pa. Filed Oct. 20, 1965.

BLACK BEAUTY

For Golf Clubs.
First use Apr. 6, 1965.

SN 231,442. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.

MILLIE MIDDLE

For Doll, Doll Clothes, and Doll Accessories.
First use Oct. 12, 1965.

SN 231,444. Mattel, Inc., Hawthorne, Calif. Filed Oct. 23, 1965.

HOWARD "BIFF" BOODLE

For Doll, Doll Clothes, and Doll Accessories.
First use Oct. 12, 1965.

SN 232,353. Saba and Secor, Toledo, Ohio. Filed Nov. 8, 1965.

CADDYLES

For Golf Club.
First use Oct. 23, 1965.

SN 235,845. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 5, 1966.

JATI

For Apparatus Sold as a Unit for Playing a Board Game.
First use Oct. 27, 1965.

SN 235,846. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 5, 1966.

BREAKTHRU

For Apparatus Sold as a Unit for Playing a Board Game.
First use Oct. 27, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 174,776. Peltzer & Ehlers Kommanditgesellschaft, Krefeld, Germany. Filed Aug. 9, 1963.

du Hydropez

Owner of German Reg. No. 766,433, dated June 30, 1962.
For Machinery for Drawing and Processing of Metal and Plastic Wire and Rods.

SN 202,016. Chemical Cleaning, Inc., New Orleans, La. Filed Sept. 16, 1964.

RBT

For Pumps and Pump Assemblies, Especially High Pressure Roller Bearing Triplex Pumps.
First use Apr. 27, 1964.

SN 202,138. Fairchild Camera and Instrument Corporation, Syosset, N.Y. Filed Sept. 18, 1964.

FAIRCHILD

Owner of Reg. No. 575,109.
For Printing Presses, Lithographic Presses and Blankets Therefor, Linecasting Machine Controls and Systems, Paper Feeders and Folding Machines, Collators, Addressing Machines, Duplicating Machines, Mail and Document Sorting Machines.
First use April 1963.

SN 214,659. William E. Kreidler, d.b.a. National Associated Suppliers, Orange, N.J. Filed Mar. 22, 1965.

NOXFIRE

For Automatic Fire Extinguishers To Be Attached to Structures To Be Protected.
First use Dec. 23, 1964.

SN 216,770. Commander Manufacturing Co., Chicago, Ill. Filed Mar. 29, 1965.

MULTI-DRILL

Owner of Reg. No. 439,942.
For Multiple Spindle Drill Head for a Drill Press or Other Drilling Machine.
First use Oct. 25, 1945.

SN 218,716. Abell-Howe Company, Forest Park, Ill. Filed May 13, 1965.

STAK MASTER

For Overhead Travelling Cranes.
First use February 1964.

SN 219,761. Dan Cercone, Pittsburgh, Pa. Filed May 26, 1965.

CONCAVEX

For Scissors and Shears.
First use Apr. 5, 1965.

SN 222,732. Missouri-Rogers Corporation, Joplin, Mo. Filed July 6, 1965.

DYNAMILL

For Mineral Disintegrating Apparatus Such as Rock Crushing, Grinding, and Pulverizing Machines.
First use Feb. 28, 1964.

SN 224,366. Agway Inc., Syracuse, N.Y. Filed July 28, 1965.

AGWAY

For Hand and Power Operated Sprayers and Dusters for Agricultural Use, Lawn Mowers and Parts Therefor, Barn Cleaners of the Belt Type, Silo Unloaders, Hay and Grain Elevators, Egg Washers, Wheel Chocks, Grain Scoops, and Water Pumps.
First use Mar. 5, 1964.

SN 225,594. Original Tractor Cab Company, Inc., Arlington, Ind. Filed Aug. 12, 1965.

ORIGINAL

For Cabs and Tops for Tractors, Cultivators, and Implements.
First use 1939.

SN 226,654. Ma-Tran Corp., Atlanta, Ga. Filed Aug. 27, 1965.



The drawing is lined for the colors red and blue. The words "Material Transfer System" are disclaimed apart from the mark as shown.

For Machinery, Otherwise Known as a Pneumatic Conveying System, Used in Transferring Fine or Powdered Materials.
First use July 24, 1965.

SN 227,832. Endura Appliance Corporation, Freeport, N.Y. Filed Sept. 15, 1965.

DURAL

For Cordless Electric Knives.
First use June 21, 1965.

SN 231,802. Auto-Magic Car Wash, Inc., New York, N.Y. Filed Oct. 29, 1965.

AUTO-MAGIC

For Automatic Automobile Washing Machine Operated by Coin.
First use Feb. 24, 1965.

SN 233,081. Detroit Steel Corporation, Detroit, Mich. Filed Nov. 22, 1965.

VERTØJEX

For Spinning Device for Paying Off Wire From Shipping Spools.
First use Aug. 4, 1965.

SN 237,164. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Razor Blades.
First use on or about Sept. 1, 1964.

Class 28 — Jewelry and Precious-Metal Ware

SN 231,726. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1965.

LOVING CARE

For Earrings.
First use Oct. 20, 1964.

Class 29 — Brooms, Brushes, and Dusters

SN 237,166. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Toothbrushes.
First use on or about Sept. 1, 1964.

Class 32 — Furniture and Upholstery

SN 229,924. Ther-A-Pedic Associates, Inc., Passaic, N.J. Filed Oct. 8, 1965.

PERMA-GRIP

For Improved Handle for Box Springs and Mattresses.
First use Mar. 1, 1965.

SN 230,709. Samsonite Corporation, Denver, Colo. Filed Oct. 20, 1965.

WOODLAND

For Folding Furniture—Namely, Tables and Chairs.
First use July 6, 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 178,003. Jenaer Glaswerk Schott & Gen., Mainz, Germany. Filed Sept. 30, 1963.

JENA

Owner of Reg. Nos. 360,922 and 659,550.
For Heating, Lighting, and Ventilating Apparatus—Namely, Glass Globes, Glass Bulbs (Housing), Glass Filters, Glass Casings, Glass Burners, and Glass Burner Tubes for Use in Non-Electric Heating, Lighting, and Ventilating Apparatus.
First use at least since 1894; in commerce at least since 1894.

SN 178,005. Jenaer Glaswerk Schott & Gen., Mainz, Germany. Filed Sept. 30, 1963.

JENA GLASS

No claim is made to the word "Glass" apart from the mark as shown. Owner of Reg. Nos. 360,717, 360,922, and 870,165.
For Heating, Lighting, and Ventilating Apparatus—Namely, Glass Globes, Glass Bulbs (Housing), Glass Filters, Glass Casings, Glass Burners, and Glass Burner Tubes for Use in Non-Electric, Heating, Lighting and Ventilating Apparatus, Instruments and Devices.
First use at least since 1900; in commerce at least since 1900.

SN 207,534. Texaco Inc., New York, N.Y. Filed Dec. 4, 1964.

JET FLAME BOOSTER

Applicant makes no claim to the words "Flames" or "Booster" per se, apart from the mark as shown.
For Auxiliary Equipment for Domestic Oil Burners.
First use Sept. 10, 1964.

SN 209,301. Radiant-Ray Radiation, Inc., Newington, Conn. Filed Jan. 4, 1965.

BAFFLE-FIN

For Space Heat Transfer Elements, and Enclosures and Accessories Therefor.
First use on or about Apr. 1, 1964.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 181,353. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Nov. 18, 1963.

PYROSYN

For Heat Resistant Synthetic Rubber, Sold as a Component of Hose and Related Products.
First use Oct. 1, 1963.

Class 36 — Musical Instruments and Supplies

SN 202,494. Matsushita Electric Industrial Co., Ltd., Kadoma-shi, Osaka, Japan. Filed Sept. 23, 1964.

Panacorder

For Tape Recorders.
First use Aug. 10, 1964; in commerce Aug. 31, 1964.

SN 202,682. Fairchild Camera and Instrument Corporation, Syosset, N.Y. Filed Sept. 25, 1964.

FAIRCHILD

Owner of Reg. Nos. 566,026, 575,109, and 609,522.
For Voice Recorders and Reproducers.
First use October 1963.

SN 209,348. Hi Recording Corporation, Memphis, Tenn. Filed Jan. 5, 1965.

HI

Owner of Reg. No. 742,398.
For Phonograph Records.
First use on or about Oct. 14, 1957.

SN 237,167. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Recording Tape.
First use on or about June 1, 1963.

Class 37 — Paper and Stationery

SN 221,409. Bernard Rousseau, New York, N.Y. Filed June 17, 1965.

PROCAL

For Calculating Form for Use in Competitive Racing.
First use June 14, 1965.

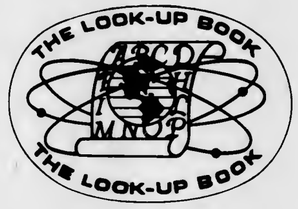
SN 237,168. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Facial Tissue and Toilet Tissue.
First use on or about May 1, 1962.

Class 38 — Prints and Publications

SN 188,676. Stravon Publishers, New York, N.Y. Filed Mar. 13, 1964.



The word "Book" is disclaimed apart from the mark as shown.
For Books Published From Time to Time.
First use December 1963.

SN 209,056. Auerbach Electronics Corporation, d.b.a. Auerbach Corporation, Philadelphia, Pa. Filed Dec. 30, 1964.



Owner of Reg. No. 741,739.
For Reference Volumes Relating to Electric Data Processing Equipment and Monthly Supplements Thereto; Magazine Consisting of Abstracted Medical Articles; and Book for Teaching Programming.
First use at least as early as July 26, 1962.

SN 209,120. Hans M. Thoma, d.b.a. H. M. Thoma Company, Ware, Mass. Filed Dec. 30, 1964.

Hemline fabrics

The word "Fabrics" is disclaimed apart from the mark as shown.
For Catalogue of Fabrics of Others Offered for Sale by Applicant as Published From Time to Time.
First use July 16, 1964.

SN 213,305. Electrical Information Publications, Inc., Madison, Wis. Filed Mar. 4, 1965.

ELECTRIC
COMFORT CONDITIONING
Illustrated

For Periodic Trade Newsletter.
First use June 3, 1964.

SN 223,865. Expanse Publications, Inc., Minneapolis, Minn., assignee of Wilfred C. Bockelman, Minneapolis, Minn. Filed July 21, 1965.

EXPANSE

For Magazine.
First use July 2, 1965.

SN 227,186. A. M. Steigerwald Co., Chicago, Ill. Filed Sept. 3, 1965.

MC MESSAGE CENTER

For Labels To Be Applied to a Package and for Enclosing Papers Relating to the Contents of the Package.
First use Aug. 25, 1965.

SN 229,049. The Billboard Publishing Company, Cincinnati, Ohio. Filed Oct. 1, 1965.

MUSICAL AMERICA

For Magazine.
First use in or about October 1898.

SN 229,502. Corning Leader, Inc., Corning, N.Y. Filed Oct. 7, 1965.

THE LEADER

Owner of Reg. No. 600,014.
For Daily Newspaper.
First use Sept. 24, 1965.

SN 233,460. Malou Como, d.b.a. American International Singing Greeting Card Co., Van Nuys, Calif. Filed Nov. 29, 1965.

GREET A SONG

For Greeting Cards With Phonograph Records as a Part Thereof.
First use Nov. 12, 1965.

SN 235,252. Artype, Inc., Crystal Lake, Ill. Filed Dec. 27, 1965.

H/R ARTYPE

Owner of Reg. No. 509,850.
For Letters, Symbols, Marks, Insignia, and Similar Matter Applied by Various Reproducing Processes to Transparent Self-Adhering Sheets Adapted To Be Cut Up for Application of Desired Portions of Said Matter to Various Advertising, Display, and Designatory Media, and Sold as Such.
First use Aug. 11, 1964.

Class 39 — Clothing

SN 222,888. Welico Ro-Search Industries, Inc., Waynesville, N.C. Filed July 7, 1965.

SCREAMERS

For Boots, Shoes, and Slippers for Men, Women, and Children.
First use June 30, 1965.

SN 223,050. W. Seltchik & Sons, Inc., Philadelphia, Pa. Filed July 9, 1965.

JACK RICHARDS

The name "Jack Richards" is fictitious.
For Men's and Boys' Suits, Sport Coats, Trousers, Slacks, and Walking Shorts.
First use Feb. 22, 1965.

SN 223,404. Grey-Wood Knitwear Industries, Inc., New York, N.Y. Filed July 15, 1965.

ELLINO

For Women's Apparel—Namely, Sweaters, Skirts, Suits, Dresses, and Slacks.
First use July 2, 1965.

SN 227,891. Teenform, Inc., New York, N.Y. Filed Sept. 15, 1965.

sweeTeen

For Brassieres.
First use July 5, 1962.

SN 229,321. Williamson-Dickie Manufacturing Company, Fort Worth, Tex. Filed Oct. 4, 1965.

RED HAWK

Owner of Reg. Nos. 783,696, 506,247, and others.
For Underwear.
First use June 24, 1964.

SN 229,381. Diana D. Thompson, d.b.a. Ho-Gan Company, Watsonville, Calif. Filed Oct. 5, 1965.

HO-GANS

For Shoes.
First use June 27, 1949.

SN 229,652. The Grove Company, St. Louis, Mo. Filed Oct. 8, 1965.

POOH-JEANS

Owner of Reg. No. 762,367.
For Outer Garments Known as Teenage Girls' Slacks.
First use Aug. 4, 1965.

SN 230,569. Yvonne Rich, Altadena, Calif. Filed Oct. 19, 1965.

ACCESSIBLE

For Brassieres.
First use Oct. 14, 1965.

SN 232,299. Sol Duchovnay & Sons, Inc., Philadelphia, Pa. Filed Nov. 8, 1965.

TEENERAMA

Owner of Reg. No. 761,388.
For Boys', Students', and Men's Clothing—Namely, Jackets, Pants, and Suits, or Any Combination Thereof.
First use March 1964.

SN 232,577. Michaels Stern & Company Incorporated, Rochester, N.Y. Filed Nov. 12, 1965.

MONDRIAN

For Men's and Young Men's Clothing—Namely, Suits, Slacks, Coats, Jackets, and Topcoats.
First use Oct. 11, 1965.

SN 237,169. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Women's Hosiery.
First use on or about May 1, 1962.

SN 239,424. Lowell Shoe Co., Inc., Lowell, Mass. Filed Feb. 23, 1966.

ARCH CUP

For Shoe Innersoles.
First use January 1966.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 229,127. Pro-phy-lac-tic Brush Company, Florence, Mass. Filed Oct. 1, 1965.

PROLON

Owner of Reg. Nos. 730,842 and 771,176.
For Combs.
First use Oct. 18, 1962.

SN 232,401. Greenway Mfg. Co., New York, N.Y. Filed Nov. 9, 1965.

QT

For Buttons and Buckles.
First use Oct. 27, 1965.

SN 233,260. Fashion Tress, Inc., Miami Beach, Fla. Filed Nov. 24, 1965.

FASHION FACE

For Eyelashes.
First use Nov. 2, 1965.

SN 233,682. Cecilia Products, Ltd., New York, N.Y. Filed Dec. 1, 1965.

CECILIA

Owner of Reg. No. 798,912.
For Artificial Eyelashes.
First use November 1964.

SN 233,962. Trimtex, Inc., Williamsport, Pa. Filed Dec. 3, 1965.

TRIMTEX

For Binding Tape, Bias Tape, Seam Tape, and Braids.
First use May 22, 1944.

SN 234,838. Paul A. Price Co., Inc., Roslyn, N.Y. Filed Dec. 17, 1965.

PAPCO

Owner of Reg. No. 736,330.
For Combs.
First use Oct. 6, 1964.

Class 41 — Canes, Parasols, and Umbrellas

SN 231,727. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1965.

LOVING CARE

For Umbrellas.
First use Oct. 20, 1964.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 209,484. Cabin Crafts, Inc., Dalton, Ga. Filed Jan. 7, 1965.

MEDALLION

For Carpets and Rugs.
First use Dec. 16, 1964.

SN 222,660. Louis Chirlian, Inc., New York, N.Y. Filed July 6, 1965.

AMERICAN PANNÉ

Owner of Reg. No. 674,354.
For Velvet Piece Goods.
First use Mar. 14, 1955.

SN 223,600. United States Rubber Company, New York, N.Y. Filed July 16, 1965.

CONTRACT 400

For Rug Underlay.
First use May 28, 1965.

SN 228,337. Concord Fabrics Inc., New York, N.Y. Filed Sept. 22, 1965.

CHALET BY CONCORD

Owner of Reg. No. 770,935.
For Textile Fabrics Made of Cotton and/or Synthetic Fibers and/or Blends Thereof, for Making Into Women's Wearing Apparel, as Well as for Over-the-Counter Yard Goods Trade.
First use Oct. 15, 1964.

SN 230,404. Ludlow Corporation, Needham Heights, Mass. Filed Oct. 18, 1965.

CUSHION-TOP

For Non-Woven Backing for Rubber Cushioning Material.
First use June 9, 1965.

SN 233,018. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Nov. 19, 1965.

COHAMA
UNITED MERCHANTS

Owner of Reg. Nos. 334,050, 704,028, and others.
For Textile Fabrics in the Piece of Natural or Synthetic or Man-Made Fabrics, or any Combinations Thereof for Making Into Articles of Apparel, and Accessories, for Men, Women, and Children, and for Making Into Bedspreads, Pillowcases, Lampshades, Slipcovers, Draperies, and Upholstery, and the Like.
First use on or about Nov. 5, 1965.

SN 237,170. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Dish Towels and Dish Cloths.
First use on or about Dec. 1, 1964, on dish cloths.

Class 43—Thread and Yarn

SN 224,690. ACSA Applicazioni Chimiche S.p.A., Milan, Italy. Filed Aug. 2, 1965.

LEAFLAM

Priority claimed under Sec. 44(d) on Italian application filed Apr. 22, 1965; Reg. No. 170,506, dated June 30, 1965.
For Threads and Yarns.

Class 44—Dental, Medical, and Surgical Appliances

SN 219,845. Robert Berman, Wilkes-Barre, Pa. Filed May 27, 1965.

COLORTECH

For Bands of Elastic Rubber Intended for Orthodontic Adjustments.
First use Sept. 18, 1964.

SN 220,265. Beltx Corporation, St. Louis, Mo. Filed June 3, 1965.

sani-shield

For Shields for Personal Napkins.
First use May 25, 1965.

SN 232,504. American Cyanamid Company, Wayne, N.J. Filed Nov. 12, 1965.

FLEXITONE

For Surgical Binders.
First use Oct. 6, 1965.

SN 232,664. Chesebrough-Pond's Inc., New York, N.Y. Filed Nov. 15, 1965.

CISION

For Surgical Dressing.
First use Oct. 25, 1965.

SN 232,792. Rayette-Faberge, Inc., New York, N.Y. Filed Nov. 16, 1965.

LA FEMME

For Electric Hair Dryers.
First use Sept. 17, 1965.

SN 233,014. Martin Shapiro, Philadelphia, Pa. Filed Nov. 19, 1965.

ANK-L-AID

Owner of Reg. No. 743,591.
For Ankle Supports.
First use August 1960.

SN 233,102. Hollister Incorporated, Chicago, Ill. Filed Nov. 22, 1965.

U-BAG

For Urine Specimen Collector.
First use May 14, 1965.

SN 233,354. Johnson & Johnson, d.b.a. Personal Products Company, New Brunswick, N.J. Filed Nov. 26, 1965.

PANTY-KINI

For Sanitary Panties.
First use June 10, 1965.

SN 237,171. Target Stores, Inc., Minneapolis, Minn. Filed Jan. 24, 1966.

TARGET

For Sanitary Napkins.
First use on or about May 1, 1962.

Class 45—Soft Drinks and Carbonated Waters

SN 230,887. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 21, 1965.



For Powders for Preparing Soft Drinks.
First use Apr. 30, 1965.

SN 230,890. The Pillsbury Company, Minneapolis, Minn. Filed Oct. 21, 1965.



For Powders for Preparing Soft Drinks.
First use Apr. 22, 1965.

SN 231,626. Royal Crown Cola Co., Columbus, Ga. Filed Oct. 25, 1965.



For Soft Drinks and Concentrates Therefor.
First use Oct. 20, 1964.

SN 232,386. Canada Dry Corporation, New York, N.Y. Filed Nov. 9, 1965.

NOD

For Soft Drink.
First use Oct. 21, 1965.

SN 233,034. The Seven-Up Company, St. Louis, Mo. Filed Nov. 15, 1965.

SEVEN-UP

Owner of Reg. Nos. 252,350, 754,309, and others.
For Soft Drinks, Syrups, and Extracts for Making the Same.
First use Aug. 7, 1928.

Class 46—Foods and Ingredients of Foods

SN 171,957. R. C. Bigelow, Inc., Norwalk, Conn. Filed June 27, 1963.

AMERICAN BREAKFAST

For Tea.
First use March 1956.

SN 176,798. United Biscuit Company of America, Melrose Park, Ill., assignee of Illinois Baking Corporation, Chicago, Ill. Filed Sept. 12, 1963.

SAFE-T

For Unfilled Cones and Cups for Ice Cream and Other Comestibles.
First use on or about Dec. 7, 1934.

SN 187,852. E. R. Briggs & Co., Port Alsworth, Alaska. Filed Mar. 3, 1964.



No claim is made to the representation of a fish apart from the mark as shown.
For Salmon in Glass.
First use Apr. 18, 1963.

SN 189,113. Snow Chef, Inc., San Francisco, Calif. Filed Mar. 19, 1964.



For Frozen Fruits and Vegetables—Namely, Asparagus, Broccoli, Lima Beans, Brussels Sprouts, Cauliflower, Carrots, Corn, String Beans, Italian Green Beans, Mixed Vegetables, Peas, Peaches, Peas and Carrots, French Fried Potatoes, Frozen Prepared Ground Potato Usually Shaped Spherical, Spinach, Squash, Strawberries, Succotash, Blackberries, Raspberries, Apples, Cherries, Beans, Collard, Kale, Mustard Greens, Okra, Crookneck Squash, Zucchini, and Turnip Greens.
First use Mar. 1, 1963.

SN 191,748. Dairy Queen, Inc., North Hollywood, Calif. Filed Apr. 22, 1964.

SIZZLE BURGER

No claim is made to the word "Burger" except in combination with the mark as shown.
For Cheeseburger and Hamburger Sandwiches.
First use Sept. 21, 1963.

SN 191,749. Dairy Queen, Inc., North Hollywood, Calif. Filed Apr. 22, 1964.

SIZZLE DOG

No claim is made to the word "Dog" except in combination with the mark as shown.
For Frankfurter Sandwiches.
First use Sept. 21, 1963.

SN 191,750. Dairy Queen, Inc., North Hollywood, Calif. Filed Apr. 22, 1964.

SIZZLE FRIES

No claim is made to the word "Fries" except in combination with the mark as shown.
For French Fried Potatoes Ready To Be Eaten.
First use Sept. 21, 1963.

SN 192,069. Nonebetter Ice Cream Co., Chicago, Ill. Filed Apr. 27, 1964.



For Refrigerated or Frozen Confections—Namely, Cheesecake.
First use September 1958.

SN 195,481. John N. Wright, Jr. Inc., d.b.a. W. B. Wyatt, Federalsburg, Md. Filed June 11, 1964.

DE CURCIO

For Canned Tomatoes.
First use August 1960.

SN 200,052. Western Grain Company, Birmingham, Ala. Filed Aug. 17, 1964.

"JIM DANDY CHUNX"

Without prejudice to common law rights, applicant disclaims exclusive rights to the term "Chunx" apart from the mark as shown.
Owner of Reg. Nos. 176,763, 646,566, and others.
For Dog Food.
First use Apr. 15, 1964.

SN 209,554. Sumitomo Shoji New York, Inc., San Francisco, Calif. Filed Jan. 7, 1965.

SUMMIT

For Frozen Quail, Lobster Tails, and Shrimp.
First use May 1, 1957.

SN 215,213. Hallmark Cards, Incorporated, d.b.a. Halls of Kansas City, Missouri, Kansas City, Mo. Filed Mar. 29, 1965.



For Candy.
First use Mar. 23, 1965.

SN 215,553. Terres Noires Ltee, Sherrington, Comte Napierville, Quebec, Canada. Filed Apr. 1, 1965.



The drawing is lined for the color green.
For Fresh Vegetables.
First use Oct. 15, 1959; in commerce Aug. 22, 1960.

SN 216,459. Wilco Produce Company, Blythe, Calif. Filed Apr. 13, 1965.

PRIME

Owner of Reg. No. 428,333.
For Fresh Vegetables.
First use at least as early as Nov. 16, 1957; Nov. 26, 1945, in a different form.

SN 216,692. Hardee's Food Systems, Inc., Rocky Mount, N.C. Filed Apr. 16, 1965.

HARDEE HUSKEE

Owner of Reg. Nos. 741,048 and 741,740.
For Hamburger Sandwiches.
First use July 1, 1964.

SN 216,937. The Curtiss Candy Company, Chicago, Ill. Filed Apr. 20, 1965.

DEVIL GUM

No claim is made to the word "Gum" apart from the mark as shown.
For Chewing Gum.
First use October 1960.

SN 217,144. Singleton Packing Corp., Tampa, Fla. Filed Apr. 22, 1965.

HIGH TIDE

For Frozen Shellfish.
First use June 19, 1964.

SN 217,431. George W. White, d.b.a. George W. White Feed Co., Middleburg, Va. Filed Apr. 26, 1965.

MISTER FOX

For Canned Dog Food.
First use Mar. 6, 1965.

SN 217,448. Cremosa Cheese Corp., Elmont, N.Y. Filed Apr. 27, 1965.



The translation of the word "Cremosa" is "creamy." Applicant disclaims the words "Cremosa" and "First Quality Deluxe" apart from the mark as shown.
For Cheese.
First use June 1, 1962.

SN 218,083. Columbia Packing Company, Boston, Mass. Filed May 5, 1965.

HAM-STRAMI

For Meat—Namely, Cooked Boneless Ham.
First use Jan. 20, 1965.

SN 218,259. Andomia Products Limited, Bradford, York, England. Filed May 7, 1965.

MINIBISKS

Owner of British Reg. No. B831,292, dated Feb. 26, 1962; and U.S. Reg. No. 681,910.
For Dietetic Biscuits.

SN 218,298. Inter-Coastal Products, Inc., San Diego, Calif. Filed May 7, 1965.



For Frozen Shellfish.
First use Feb. 18, 1965.

SN 218,930. The Vitarine Co., Inc., Springfield Gardens, N.Y. Filed May 14, 1965.



For Food Products for Special Dietary Use—Namely, Concentrated Dextrose in Tablet Form and Protein Tablets.
First use Sept. 25, 1964.

SN 219,117. Gerber Cheese Co., Inc., New York, N.Y. Filed May 18, 1965.

MILFORD FARMS

Owner of Reg. No. 779,145.
For Pie Mix Comprising Ingredients for a Crust and a Cream Filling.
First use Apr. 19, 1965.

SN 219,977. Famous Foods, Inc., Detroit, Mich. Filed May 28, 1965.

BIG BOY

For Potato Chips.
First use August 1958.

SN 220,008. Otis McAllister Export Corporation, San Francisco, Calif. Filed May 28, 1965.

LA SIRENA

The mark translated into English means "maiden."
For Canned Fish.
First use 1918.

SN 221,387. The Mason Candy Co., Trinidad, Colo. Filed June 17, 1965.

KID STUFF

For Candy.
First use Aug. 5, 1956.

SN 222,272. Golden Grain Macaroni Co., San Leandro, Calif. Filed June 28, 1965.



The term "Coco" is disclaimed apart from the mark as shown.
For Powdered, Sweetened Cocoa Intended To Be Used To Make Hot or Cold Chocolate Drinks.
First use June 1, 1965.

SN 222,393. Mar-Jac Inc., Gainesville, Ga. Filed June 30, 1965.

PIC-NIC CHICK

The word "Chick" is disclaimed apart from the mark as shown.
For Frozen Poultry Parts.
First use July 15, 1962.

SN 222,572. General Mills, Inc., Minneapolis, Minn. Filed July 2, 1965.

SATIN

Owner of Reg. No. 342,741.
For Prepared Cake Frosting.
First use May 7, 1965.

SN 222,639. Williamson Candy Co., Chicago, Ill. Filed July 2, 1965.

POPINS

For Candy.
First use May 19, 1965.

SN 223,658. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

HARPS

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,659. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

HORNS

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,660. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

POPPIES

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,661. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

POSIES

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,662. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

RATTLES

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,663. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

TOOTLES

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,664. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

TUBAS

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,665. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

VIOLINS

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 223,666. General Mills, Inc., Minneapolis, Minn. Filed July 19, 1965.

YOYOS

For Cereal Derived Ready-To-Eat Snacks.
First use July 6, 1965.

SN 224,640. Parker Products, Inc., Holliston, Mass. Filed July 30, 1965.

Parker's

The drawing is lined for the colors blue, red, brown, and gold. Owner of Reg. No. 751,372.
For Fried Rinds, Cheese Snaps, Croutons, Pretzel Nuggets, Martini Crisps, Exploded Corn Meal Coated With Cheese, Oil and Salt, Roasted and Salted Corn, Mixtures of Nuts, Cereal and Exploded Corn Meal Coated With Cheese, Nut Mix, Pepitas, Pistachios, and Sunflower Seeds.
First use Feb. 12, 1965.

SN 225,357. The Red Barn System, Inc., Fort Lauderdale, Fla. Filed Aug. 9, 1965.

BIG BARNEY

For Ready-To-Eat Food Products Prepared and Dispensed in Dive-In Restaurants—Namely, Triple-Decker Hamburger Sandwiches.
First use Mar. 10, 1965.

SN 225,656. Kilkom Inc., Spokane, Wash. Filed Aug. 13, 1965.

POLAR Loaf

Applicant disclaims the word "Loaf" apart from its mark and does not claim any trademark significance therein.
For Stickless Ice Cream Confections.
First use July 29, 1965.

SN 226,139. General Foods Corporation, White Plains, N.Y. Filed Aug. 20, 1965.

SOLVE

For Gelatin Preparation for Making a Gelatin Drink.
First use Aug. 12, 1965.

SN 226,726. The Cramer Chemical Company, Gardner, Kans. Filed Aug. 30, 1965.

TAKE 5

For Powder for Making a Citrus Flavored Salt-Dextrose Drink.
First use Aug. 9, 1965.

SN 226,774. Richard Peter Inc., New York, N.Y. Filed Aug. 30, 1965.

MISTER PETER

For Canned Pineapple.
First use July 28, 1965.

SN 227,486. The Dietene Company, d.b.a. The Delmark Company, Minneapolis, Minn. Filed Sept. 9, 1965.

DELMARK COUNTRY OVEN

Owner of Reg. Nos. 753,774 and 767,931.
For Powdered Rice Custard Mix.
First use Aug. 13, 1965.

SN 227,710. The Red Wing Company, Inc., Fredonia, N.Y. Filed Sept. 13, 1965.

SCHIMMEL

Owner of Reg. No. 207,217.
For Fruit Butters, Tomato Catsup, Chili Sauce, Grape Juice, and Peanut Butter.
First use June 1956.

SN 228,397. The Quaker Oats Company, Chicago, Ill. Filed Sept. 22, 1965.

SALTY SURFERS

The word "Salty" is disclaimed apart from the mark as shown; applicant waives none of its common law rights in the mark in its entirety or any feature thereof.
For Snack Crackers.
First use Sept. 14, 1965.

SN 229,015. B. Lakeman & son, d.b.a. Artesia Bakery, Artesia, Calif. Filed Sept. 30, 1965.



The representation of a man with a horn is that of a fictitious person.
For Baked Products—Namely, Breads, Rolls, Cookies, and Cakes.
First use Dec. 16, 1952.

SN 229,303. Jerry Slaby, d.b.a. Mrs. Slaby's Noodle Co., Berwyn, Ill. Filed Oct. 4, 1965.



Applicant disclaims the words "Demand For Your Health," "Fresh Egg," and "Whole Noodles" apart from the mark shown.
For Noodles, Including Egg Noodles, Spinach Noodles, and Kluski Noodles.
First use Sept. 1, 1934.

SN 229,319. Western Family Foods, Inc., San Francisco, Calif. Filed Oct. 4, 1965.

WESTERN FAMILY



Owner of Reg. No. 776,292.
For Salad Dressings, Peanut Butter, Spices, Canned Frozen Concentrated Fruit Juices, Bread, Rolls, Cookies, Pies, and Cakes.
First use May 1, 1965.

SN 229,354. Inter-American Foods Inc., Brownsville, Tex. Filed Oct. 5, 1965.

SEA TREASURE

For Frozen Shrimp.
First use at least as early as January 1965.

SN 229,915. Kitchens of Sara Lee, Inc., Deerfield, Ill. Filed Oct. 7, 1965.



For Frozen Cakes and Rolls.
First use July 15, 1965.

SN 230,622. Fred Fear & Co., Brooklyn, N.Y. Filed Oct. 20, 1965.

DOXSEE

Owner of Reg. No. 314,502.
For Frozen Seafood, Particularly Clam Cakes, Stuffed Clams, and Fried Clams.
First use April 1965.

SN 231,954. Watsonville Canning Company, d.b.a. Watsonville Canning & Frozen Food Co., Watsonville, Calif. Filed Nov. 1, 1965.

PIC·N·TIME

For Fresh Frozen Vegetables.
First use Sept. 1, 1964.

SN 238,113. Louis Rich Foods, Inc., West Liberty, Iowa. Filed Feb. 4, 1966.

GOURMET DELITE

For Fresh and Frozen Whole Turkeys, Chickens and Frozen Turkey Breasts, Thighs, Backs, and Wings.
First use Nov. 8, 1965.

SN 243,616. Philadelphia Chewing Gum Corporation, Havertown, Pa. Filed Apr. 18, 1966.

GREEN BERET

For Chewing Gum.
First use Mar. 17, 1966.

Class 47 — Wines

SN 208,065. E. & J. Gallo Winery, d.b.a. Gourmet Vineyards, Modesto, Calif. Filed Dec. 14, 1964.

St Bernard

The trademark, "St. Bernard," consists of the name of a famous French ecclesiastic of the eleventh century.
For Wines.
First use Nov. 25, 1964.

SN 225,792. Monarch Wine Company of Georgia, Atlanta, Ga. Filed Aug. 16, 1965.



The lining on the drawing does not represent color.
For Wines.
First use July 16, 1965.

Class 48 — Malt Beverages and Liquors

SN 229,885. Standard Rochester Brewing Co., Inc., Rochester, N.Y. Filed Oct. 11, 1965.

JAGUAR

For Malt Liquor.
First use May 26, 1964.

Class 49 — Distilled Alcoholic Liquors

SN 218,086. Dubonnet Wine Corporation, New York, N.Y.

DUBONNET

Filed May 5, 1965.
Owner of Reg. Nos. 119,580, 659,450, and others.
For Prepared Alcoholic Cocktails.
First use July 24, 1964.

SN 219,024. E. Martinoni Company, San Francisco, Calif. Filed May 17, 1965.

TUCKER'S LANDING

For Bourbon Whiskey.
First use Apr. 8, 1965.

SN 219,616. Sazerac Company, Inc., d.b.a. The Sir Malcolm Company, New Orleans, La. Filed May 24, 1965.

Sir Malcolm's

For Scotch Whisky.
First use Feb. 1, 1960.

SN 225,206. Simon Levi Company, Ltd., Los Angeles, Calif. Filed Aug. 6, 1965.

PÉPE LOPEZ



"Pepe Lopez" is not the name of any known living individual. The portrait as shown is that of "Francisco Perez Sanchez," whose consent is of record.
For Tequila; and Margarita Cocktails.
First use June 11, 1965.

SN 228,845. Strathnairn Blenders Limited, Inverness, Scotland. Filed Sept. 28, 1965.

STRATHNAIRN

For Scotch Whisky.
First use Sept. 3, 1965; in commerce Sept. 3, 1965.

SN 228,846. Strathnairn Blenders Limited, Inverness, Scotland. Filed Sept. 28, 1965.

STRATHGARVE

For Scotch Whisky.
First use Sept. 3, 1965; in commerce Sept. 3, 1965.

SN 228,847. Strathnairn Blenders Limited, Inverness, Scotland. Filed Sept. 28, 1965.

STRATHERRICK

For Scotch Whisky.
First use Sept. 3, 1965; in commerce Sept. 3, 1965.

SN 230,079. Ronrico Corporation, San Juan, Puerto Rico. Filed Oct. 13, 1965.

PURPLE LABEL

Owner of Reg. No. 417,056.
For Alcoholic Beverages—Namely, Rum.
First use at least as early as October 1941.

SN 236,288. Puerto Rico Distillers, Inc., d.b.a. Compania Ron Llave, Arecibo, Puerto Rico. Filed Jan. 12, 1966.

KEYED TO YOUR TASTE

Owner of Reg. No. 733,907.
For Alcoholic Beverages—Namely, Rum.
First use at least as early as 1942.

SN 241,760. Continental Distilling Corporation, d.b.a. Continental Distilling Co., Philadelphia, Pa. Filed Mar. 24, 1966.

POSH

For Gin.
First use at least as early as Mar. 7, 1966.

Class 50 — Merchandise Not Otherwise Classified

SN 224,369. Agway Inc., Syracuse, N.Y. Filed July 28, 1965.

AGWAY

For Ladders and Rubber Cow Mats for Use in Cattle Stalls.
First use Mar. 5, 1964.

SN 229,199. Byrd Plastics, Inc., Erie, Pa. Filed Oct. 4, 1965.

Byrd-Lok

For Clothes Hangers.
First use Aug. 16, 1965.

SN 233,531. Safety Quest, Inc., Phoenix, Ariz. Filed Nov. 29, 1965.

SAFETY TIME

For Bulletin Boards.
First use Oct. 17, 1965.

SN 234,234. Raise, Incorporated, Rye, N.Y. Filed Dec. 8, 1965.

RAISE CLIMBER

For Mine Drilling Platform, and Parts Therefor.
First use May 1959.

SN 234,698. A. W. Flint Company, Incorporated, New Haven, Conn. Filed Dec. 14, 1965.

FLINT

For Ladders and Staging, Including Step Ladders, Extension Ladders, Platform Ladders, Extension Trestles and Stages.
First use at least about 1930.

SN 235,087. American Publishers Supply, Inc., Lynnfield, Mass. Filed Dec. 22, 1965.

VENT-A-FLEX

For Space Packing Felt Gummed for Adhesion to Type Matrices.
First use 1945.

Class 51 — Cosmetics and Toilet Preparations

SN 178,816. Herbert Raab, d.b.a. Andrea Products Co., Brooklyn, N.Y. Filed Oct. 11, 1963.

Andrea

Fresh-Ups

Owner of Reg. No. 756,083.
For Linen Facial Blotters.
First use Oct. 10, 1961.

SN 184,457. Eversharp, Inc., Milford, Conn. Filed Jan. 13, 1964.

SCHICK

Owner of Reg. Nos. 224,639, 789,653, and others.
For Shaving Cream.
First use Dec. 16, 1963.

SN 198,727. "42" Products, Ltd., Inc., d.b.a. Spray Specialties Co., Santa Monica, Calif. Filed July 29, 1964.

PROMISE

For Creme Rinse and Conditioner, Hair Spray, and Bath Oil.
First use May 29, 1961.

SN 209,891. Yardley of London, Inc., Totowa, N.J. Filed Jan. 13, 1965.

THE LONDON LOOK

For Cosmetics—Namely, Lipstick, Fluid Film Foundation, and Rouge.
First use Dec. 16, 1964.

SN 212,982. Mathew DeLeo, d.b.a. DeLeo Enterprise, Chicago, Ill. Filed Mar. 1, 1965.

De Leo



The word "De Leo" is disclaimed apart from the mark as shown.
For Hair Spray for Men.
First use Aug. 1, 1963.

SN 215,386. Clairol Incorporated, New York, N.Y. Filed Mar. 31, 1965.

SUMMER BLONDE

Applicant disclaims "Blonde" apart from the mark as shown.
For Brilliantine Lightener Oil Bleach.
First use June 25, 1963.

SN 223,578. Quarterback Sports Federation, Inc., St. Paul, Minn. Filed July 16, 1965.



For Men's Cosmetics and Toilet Preparations—Namely, Hair Oils, Hair Sprays, Cremes, and Lotions.
First use July 5, 1965.

SN 228,184. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Sept. 20, 1965.

CAPUCINE

For Perfume and Toilet Water.
First use Nov. 6, 1964.

SN 229,449. Parfums Corday Inc., Hollywood, Calif. Filed Filed Oct. 6, 1965.

TOUJOURS MOI

The mark consists of the French words meaning "always me." Owner of Reg. Nos. 188,741, 206,799, and 572,244.
For Perfumes, Toilet Water, Colognes, Bath and Face Powders, Personal Deodorants, Hair Sprays, and Sachets.
First use June 17, 1923.

SN 229,453. Redken Laboratories, Inc., Van Nuys, Calif. Filed Oct. 6, 1965.

WEATHERTRESS

For Hair Spray.
First use Sept. 13, 1965.

SN 229,988. Robert M. McMath, New York, N.Y. Filed Oct. 12, 1965.

VIGIL

For Cold Cream, Talcum Powder, Skin Lotion, Bath Oil, and Petroleum Jelly.
First use May 4, 1965.

SN 231,054. Chesebrough-Pond's Inc., New York, N.Y. Filed Oct. 22, 1965.

GAME OF LOVE

For Face Powder.
First use Oct. 11, 1965.

SN 231,062. Helene Curtis Industries, Inc., Chicago, Ill. Filed Oct. 22, 1965.

SUAVE-SET

Owner of Reg. No. 613,664.
For Hair Styling Gel.
First use on or about Sept. 13, 1965.

SN 231,381. Harry J. Bosworth Company, Chicago, Ill. Filed Oct. 23, 1965.

D.O.C.

SUPER D.A.P.

Owner of Reg. No. 670,367.
For Denture Adhesive Powder.
First use Oct. 12, 1965.

SN 231,729. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1965.

LAST TOUCH

For Spray-On Hair Dressing.
First use June 8, 1965.

SN 231,733. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1965.

NICE TOUCH

For Spray-On Hair Dressing.
First use June 8, 1965.

SN 231,793. Lan-O-Sheen, Inc., St. Paul, Minn. Filed Oct. 20, 1965.

Enfold

For Foaming Milk Bath Containing Milk and Lanolin.
First use Apr. 21, 1964.

SN 233,385. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Nov. 26, 1965.

BEAUTY CLIMATE

For Skin Lotions and Creams.
First use Sept. 16, 1965.

SN 234,872. Avon Products, Inc., New York, N.Y. Filed Dec. 20, 1965.

RAPPORT

For Perfume, Solid Perfume, Perfume Oil, Cologne, Cologne Mist, Cream Sachet, Powder Sachet, and Dusting Powder.
First use Nov. 23, 1965.

SN 236,419. Royal Hawaiian Perfumes, Ltd., Honolulu, Hawaii. Filed Jan. 13, 1966.

SURFRIDER

For After Shave Lotion, Cologne, and Sun Tan Lotion.
First use Aug. 8, 1947.

SN 236,465. Clairol Incorporated, New York, N.Y. Filed Jan. 14, 1966.

GREAT DAY

Owner of Reg. Nos. 707,289 and 792,707.
For Cosmetic and Toilet Preparations—Namely, Cologne, Deodorant, and Shaving Cream.
First use July 2, 1965.

SN 236,467. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 14, 1966.

MOMENT OF TRUTH

For After Shave Lotion.
First use Dec. 27, 1965.

SN 236,609. Invincible Products Corporation, Chicago, Ill. Filed Jan. 17, 1966.

CREAMOGENE

For Hair Conditioning Creams.
First use at least as early as 1958.

SN 236,614. Lever Brothers Company, New York, N.Y. Filed Jan. 17, 1966.

SKINFARE

For Hand Lotion.
First use Sept. 9, 1965.

SN 236,644. Gene Pantuso and Morris Fier, d.b.a. Genel Mens Products, Newport Beach, Calif. Filed Jan. 17, 1966.



The drawing is lined for the color red, but no claim is made to any particular color.
For Cologne, After Shave Lotion, and Deodorant.
First use on or about Oct. 3, 1964.

SN 236,757. Hi-Fashion, Inc., Atlanta, Ga. Filed Jan. 18, 1966.

HI-FASHION

For Finger Nail Enamel, Nail Polish and Nail Polish Sealer, Base Coat and Top Coat for Nail Enamels, and Cutical Remover.
First use on or about Dec. 23, 1964, on finger nail enamel.

SN 236,900. Helen Liebert, Inc., New York, N.Y. Filed Jan. 20, 1966.

TONGA

For Toiletries—Namely, Cologne.
First use Dec. 1, 1965.

SN 236,901. Helen Liebert, Inc., New York, N.Y. Filed Jan. 20, 1966.

BUCKSKIN

For Toiletries—Namely, Cologne.
First use Dec. 1, 1965.

SN 237,132. Jaquet, Inc., New York, N.Y. Filed Jan. 24, 1966.

YOUNG SUCCESS

For Body Lotion, Deodorant, Dusting Powder, Face Cream, Face Lotion, Face Powder, Facial Cleansing Cream, Facial Lotion Pads, Lipstick, Perfume, Pressed Powder Compact, Rouge, and Skin Cream.
First use Oct. 10, 1965.

SN 237,306. Hattie Carnegie, Inc., New York, N.Y. Filed Jan. 26, 1966.

CARTE BLANCHE

The word "Blanche" is disclaimed apart from the mark as shown. Owner of Reg. No. 416,833.
For Men's and Ladies' Colognes, Perfumes, Hair Tonics and Lotions and Facial Creams.
First use Jan. 1, 1943.

SN 237,405. Vege-Kurl, Inc., La Canada, Calif. Filed Jan. 26, 1966.

A. Conrad

For Permanent Wave and Hair Straightener.
First use Nov. 8, 1965.

SN 237,427. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 27, 1966.

ELECTRX

For Dentifrice.
First use Nov. 30, 1965.

SN 237,490. Schratz Products, Inc., Detroit, Mich. Filed Jan. 27, 1966.

JACK O'BUBBLES

Owner of Reg. No. 540,595.
For Bath Oils and Bath Perfuming Compounds.
First use Jan. 1, 1949.

SN 237,538. Chesebrough-Pond's Inc., New York, N.Y. Filed Jan. 28, 1966.

BAREFOOT

For Foot Balm and Talcum Powder.
First use June 29, 1962.

SN 237,667. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 1, 1966.

NATURAL VELVET

For Hand Lotion.
First use Dec. 6, 1965.

SN 237,680. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Feb. 1, 1966.

PRONTO

For Shaving Lather.
First use Jan. 7, 1966.

SN 237,681. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Feb. 1, 1966.

DU PONT

Owner of Reg. Nos. 186,659 and 374,883.
For Shaving Lather.
First use Jan. 7, 1966.

SN 240,701. Associated Products, Inc., New York, N.Y. Filed Mar. 11, 1966.

PERSPIREX

For Odor-Stopping Ingredient Incorporated in Antiperspirants and Personal Deodorants.
First use Feb. 16, 1966.

Class 52 — Detergents and Soaps

SN 198,728. "42" Products, Ltd., Inc., d.b.a. Spray Specialties Co., Santa Monica, Calif. Filed July 29, 1964.

PROMISE

For Hair Shampoo.
First use Oct. 30, 1959.

SN 201,969. Schalk Chemicals, Inc., Union, N.J. Filed Sept. 15, 1964.

Schalk's

Owner of Reg. Nos. 617,992 and 788,274.
For Cleaning Compounds—Namely, Wax and Grease Removers, Paint Brush Cleaners, Paint and Varnish Removers.
First use June 10, 1937.

SN 210,969. Charles E. McCutcheon, Jr., d.b.a. Miraclean Co., Fayette, Mo. Filed Jan. 29, 1965.

MIR-A-CLENE

For Dry Cleaning Composition.
First use Jan. 18, 1965.

SN 219,865. The Diversey Corporation, Chicago, Ill. Filed May 27, 1965.

DIVO-SCALD

For Cleaner and Scalder to Remove Hair From Animal Carcasses.
First use Feb. 26, 1965.

SN 223,956. Avon Products, Inc., New York, N.Y. Filed July 22, 1965.

NUAGE BLUE

The term "Nuage" (French) means "cloud" in English.
For Toilet Soap.
First use June 29, 1965.

SN 225,467. Bissell Inc., Grand Rapids, Mich. Filed Aug. 11, 1965.

BISSELL

Owner of Reg. Nos. 710,700 and 770,091.
For Powder for Dry Cleaning Nap Surfaces.
First use Jan. 5, 1965.

SN 231,959. Wilson Chemical Distributing Co., Inc., Wilson, N.C. Filed Nov. 1, 1965.

MODERNAGE

For Laundry Detergents, All-Purpose Cleaner Comprising Detergents, and Window Cleaner Comprising Detergents.
First use Sept. 15, 1965.

SN 232,973. Morrie Chaitlen, d.b.a. C. & E. Marshall Co., Chicago, Ill. Filed Nov. 19, 1965.

RADIANT GOLD

The word "Gold" is disclaimed apart from the mark.
For Jewelry Cleaner.
First use as early as 1915.

SN 232,976. Morrie Chaitlen, d.b.a. C. & E. Marshall Co., Chicago, Ill. Filed Nov. 19, 1965.

MAGIC

For Watch Cleaning Solution, Watch Rinsing Solution, Watch Cleaning Solvent for Removing Gummed Oil, and Ultrasonic Cleaning Solution.
First use in or about April 1936.

SN 234,282. Invincible Products Corporation, Chicago, Ill. Filed Dec. 9, 1965.

BODYFUL

For Hair Shampoos.
First use on or about July 12, 1963.

SN 234,425. Household Chemical Products, Inc., Corpus Christi, Tex. Filed Dec. 13, 1965.

MAGI-TEX

For Household Cleaner.
First use Dec. 1, 1965.

SN 234,525. American Cyanamid Company, Wayne, N.J. Filed Dec. 14, 1965.

PINE-SOL

Owner of Reg. Nos. 672,626 and 692,625.
For Wall and Floor Cleaner.
First use Nov. 9, 1965.

SN 234,634. Eskimo Radiator Mfg. Co., Los Angeles, Calif. Filed Dec. 15, 1965.

POLAR

For Cleaning Compound for Engine Cooling Systems.
First use July 20, 1965.

SN 234,795. S and D, Baltimore, Md. Filed Dec. 15, 1965.
For Cleaning Dirt, Grease, Oil, etc., on Any Hard Surface

D-K 904

Not Damaged by Water Alone.
First use July 17, 1964.

SN 234,873. Avon Products, Inc., New York, N.Y. Filed Dec. 20, 1965.

RAPPORT

For Toilet Soap.
First use Nov. 23, 1965.

SN 235,224. The Procter & Gamble Company, Cincinnati, Ohio. Filed Dec. 23, 1965.

EPIGENE

For Skin Oil Ingredient in a Toilet Bar Soap.
First use Oct. 11, 1965.

SN 235,433. Standard International Corporation, Andover, Mass. Filed Dec. 28, 1965.

BONANZA

For Household Cleaner.
First use Dec. 15, 1965.

SN 235,442. United States Borax & Chemical Corporation, Los Angeles, Calif. Filed Dec. 28, 1965.

TEEM

Owner of Reg. Nos. 510,193 and 734,408.
For Combination Detergent and Bleach Tablets for Laundry Use.
First use Nov. 16, 1964.

SN 236,044. Barton Chemical Corp., Chicago, Ill. Filed Jan. 10, 1966.

KITCHENEEZ

For Detergents for General Household, Kitchen, and Laundry Use.
First use Jan. 6, 1966.

SN 236,145. Rexall Drug and Chemical Company, d.b.a. Vanda Cosmetics, Los Angeles, Calif. Filed Jan. 10, 1966.

VANDA

For Hair Shampoo.
First use Dec. 28, 1965.

SN 237,323. S. M. Flickinger Co. Inc., Buffalo, N.Y. Filed Jan. 26, 1966.

SUPER DUPER

Owner of Reg. Nos. 412,636, 799,187, and others.
For Household Detergents.
First use Dec. 13, 1965.

SN 237,395. Standard International Corporation, Andover, Mass. Filed Jan. 26, 1966.

AMMORPHALINE

For Ingredient for Liquid Window Cleaner.
First use Jan. 3, 1966.

SN 237,412. Cutler Packaging Corporation, Lansing, Mich. Filed Jan. 20, 1966.

barbie

For Liquid Detergent for Dishes and Fine Fabrics.
First use Sept. 16, 1965.

SN 237,415. Cutler Packaging Corporation, Lansing, Mich. Filed Jan. 20, 1966.

Karen

For Liquid Detergent for Dishes and Fine Fabrics.
First use Sept. 16, 1965.

SN 240,404. C. P. Baker & Company, Philadelphia, Pa. Filed Mar. 8, 1966.

SUCCESS

For All Purpose Cleaner.
First use July 6, 1962.

SERVICE MARKS

Class 100 — Miscellaneous

SN 189,368. Red Cedar Shingle & Handsplit Shake Bureau, Seattle, Wash. Filed Mar. 23, 1964.



For Advertising and Supplying Information Relating to Red Cedar Shingles and Handsplit Shakes on Behalf of the Members of the Applicant Bureau.
First use January 1964.

SN 191,759. Gee Gee Distributing Corporation, Washington, D.C. Filed Apr. 22, 1964.



RONALD

For Drive-In Restaurant Services.
First use Apr. 18, 1964.
First use Jan. 27, 1964.

SN 209,286. Medical Research Consultants, Inc., Columbus, Ohio. Filed Jan. 4, 1965.



The mark is lined for the color red. The symbol "℞" is disclaimed apart from the mark as shown.
For Testing and Research in the Area of Human Reproduction, and the Reproductive System in Animals and Plants and other Medical Areas.
First use October 1963.

SN 210,054. Rogers Explorations, Inc., Houston, Tex. Filed Jan. 15, 1965.

ROGACORD

For Earth Science Services—Namely, Recording and Presentation of Seismic Data.

SN 214,360. The National Board of Fire Underwriters, New York, N.Y. Filed Mar. 17, 1965.



For Association Services—Namely, Surveys of Fire Protection Facilities of Cities; the Conduct of Research in Connection With and the Development of Codes and Standards for Protective Measures to Safeguard Life and Property From Fire, Windstorm, Explosion and Other Hazards; the Collection and Dessemination of Statistics, and Preparation of Annual Loss Data, Relating to Property Losses From Fire, Windstorm, Explosion and Other Hazards.
First use 1907.

SN 216,165. Fritz D. Hirschfeld, Littleton, Colo. Filed Apr. 9, 1965.

WORLD PROGRESS IN ENGINEERING

For Engineering Consulting Services.
First use May 1957.

SN 216,390. Dallas Sales Executives Club, Dallas, Tex. Filed Apr. 13, 1965.



For Association Services—Namely, Promoting the Interests of Salesmen, and Dissemination of Information to Promote the Interests of Salesmen.
First use September 1960.

SN 217,372. Medicenters of Ameica, Inc., Memphis, Tenn. Filed Apr. 26, 1965.

MEDiCENTER
OF AMERICA

For Medical and Skilled Nursing Care Services.
First use Apr. 23, 1965.

SN 218,218. Pop Warner Little Scholars, Inc. Philadelphia, Pa. Filed May 6, 1965.

POP WARNER

For Organizing and Servicing of Boys' Football Teams To Promote Sportsmanship and Scholarship.
First use 1933.

SN 219,470. Shakey's, Inc., Burlingame, Calif. Filed May 21, 1965.



For Restaurant Services Featuring Pizzas.
First use on about Nov. 1, 1959.

SN 222,469. Church's Fried Chicken, Inc., San Antonio, Tex. Filed July 1, 1965.



For Carry-Out Restaurant Services.
First use April 1952.

SN 229,995. National Corrugated Steel Pipe Association, Chicago, Ill., Filed Oct. 12, 1965.



For Association Services—Namely, Promoting the Growth of The Corrugated Steel Pipe Industry; Promoting the Use of Corrugated Steel Pipe; Research and Engineering Service in the Design of Drainage Products and Systems; and Collecting and Disseminating Pertinent Technical, Statistical, and Business Information.
First use Sept. 10, 1965; May 1, 1958, as to "the design."

SN 230,159. Donald T. Jackson & Co., Inc., Washington, D.C. Filed Oct. 14, 1965.

TREEMASTERS

For Tree Surgery Services—Namely, Planting, Feeding, Pruning, Trimming and Topping, Cabling and Bracing, Spraying, and Removal.
First use at least as early as July 5, 1965.

Class 101 — Advertising and Business

SN 172,607. Office Man Inc., Chicago, Ill. Filed July 8, 1963.

OFFICE MAN INC.

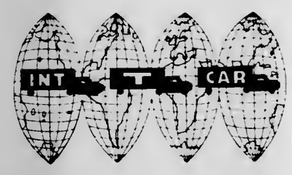
For Employment Agency Service—Namely, Furnishing Office Help.
First use May 1, 1963.

SN 188,463. Philadelphia Chewing Gum Corporation, Havertown, Pa. Filed Mar. 11, 1964.

BUBBLE BUCK

For Issuance and Redemption of Coupons.
First use Jan. 2, 1958.

SN 199,083. Harold Meyer Expositions, Inc., New York, N.Y. Filed Aug. 3, 1964.



For Promoting the Sale of United States Manufactured Goods in Other Countries by Displaying Them to Foreign Populaces by Means of Mobile Trailers.
First use Dec. 20, 1963.

SN 200,872. The Sharaday Company, Inc., Huntington, Ind. Filed Aug. 28, 1964.

NEWLYWED NEIGHBORS

For Promoting the Sale of the Goods and Services of Others by Sending Through the Mails a Packet Containing Gift Certificates Offering Free Merchandise, or Discount Certificates From Participating Merchants to a Newly-Wedded Couple.
First use July 27, 1964.

SN 209,532. Jane F. Pitman, d.b.a. Bag Ad of New England, Swampscott, Mass. Filed Jan. 7, 1965.

BONUS BAG

The term "Bag" is disclaimed apart from the mark as shown, but without waiving rights at common law thereto.
For Advertising and Sales Promotion Service, Which Is That of Advertising the Goods of Others by Printing the Advertisement on Shopping Bags and Distributing Such Bags.
First use on or about Aug. 3, 1964.

SN 210,891. Melville Shoe Corporation, New York, N.Y. Filed Jan. 28, 1965.

CARE-FIT

For Shoe Fitting Services.
First use at least prior to Aug. 1, 1963.

SN 214,508. Central Bureau Inc., Salt Lake City, Utah. Filed Mar. 19, 1965.



For Contract Services to Merchants, Banks, Other Commercial Establishments, and Law Enforcement Agencies in the Giving of Warnings by Telephone, Mail, Personally, or Otherwise of Bad Checks, in Providing Store Detective Services, in Providing Identity Cards and Bulletins Containing Information Useful for Determining Whether Particular Checks Should be Cashed, in Providing Credit Information, and in Making Collections on Bad Checks.
First use at least as early as Feb. 1, 1961.

SN 214,509. Central Bureau Inc., Salt Lake City, Utah. Filed Mar. 19, 1965.



For Contract Services to Merchants, Banks, Other Commercial Establishments, and Law Enforcement Agencies in the Giving of Warnings by Telephone, Mail, Personally, or Otherwise of Bad Checks, in Providing Store Detective Services, in Providing Identity Cards and Bulletins Containing Information Useful for Determining Whether Particular Checks Should be Cashed, in Providing Credit Information, and in Making Collections on Bad Checks.
First use at least as early as Feb. 1, 1961.

SN 214,711. Statistical Tabulating Corporation, Chicago, Ill. Filed Mar. 22, 1965.

THE VOICE OF COMPUTINC

For Computer Services.
First use Feb. 27, 1965.

SN 217,340. Harry Gordon Horton, Hollywood, Calif. Filed Apr. 26, 1965.

MEDI-CREDI-CARD

The term "Card" is disclaimed apart from the mark as shown.
For Credit Card Billing, Accounting, and Collecting Services, in Connection With Medical, Hospital, Pharmacy, and Dental Charges.
First use on or about Mar. 15, 1965.

SN 217,376. Mutual Supply Company, Denver, Colo. Filed Apr. 26, 1965.

KEEKO

For Rendering Technical Assistance to Retail Variety Store Owners in All Phases of Operating Such a Business.
First use on or about July 27, 1962.

SN 228,323. Bergen Drug Data Processing Corp., Hackensack, N.J. Filed Sept. 22, 1965.



For Service to Drug Store Operators—Namely, Processing of Records of Purchases by Individual Customers to Compile Information as to Accounts Receivable and the Age Thereof, and as to Categories of Merchandise Purchased, To Aid Said Operators in Billing and Supplying Said Customers With Proof of Drug, Medical and Surgical Supply Purchases Qualifying for Tax Deductions and Medical Insurance Payments.
First use Sept. 29, 1963.

SN 228,324. Bergen Drug Data Processing Corp., Hackensack, N.J. Filed Sept. 22, 1965.



For Providing Proof of Drug, Medical and Surgical Supply Purchases Which Qualify for Tax Deductions and Medical Insurance Payments.
First use Sept. 29, 1963.

SN 232,135. National Fruit 'N Flowers Corporation, Denver, Colo. Filed Nov. 4, 1965.

GIFT-O-FRUIT

For Furnishing Technical Advice and Assistance to Owners and Prospective Owners of Fruit and Flower Retail Stores, Such as Training in the Merchandising and Handling of Fruit, Advising as to Counter and Window Displays, and Providing Advertising and Sales Aids.
First use on or about Mar. 1, 1965.

Class 102 — Insurance and Financial

SN 220,814. Casco Bank & Trust Company, Portland, Maine. Filed May 24, 1965.



For Banking and Trust Services.
First use 1933.

SN 221,452. Beneficial Standard Life Insurance Company, Los Angeles, Calif. Filed June 18, 1965.

BIG

Owner of Reg. No. 767,725.
For Underwriting of Insurance.
First use Mar. 8, 1965.

Class 103 — Construction and Repair

SN 162,811. American Pest Control, Inc., Trivoli, Ill. Filed Feb. 15, 1963.



For Exterminating and Controlling Pests.
First use July 1, 1960.

SN 191,596. Union Oil Company of California, Los Angeles, Calif., assignee of The Pure Oil Company, Palatine, Ill. Filed Apr. 20, 1964.

PURE C.B.E.

For Services Rendered to Oil Burning Furnaces, and Parts Thereof—Namely, Maintenance, Repair and Periodic Servicing of Oil Burner Furnaces and Parts Thereof.
First use in or about May, 1962.

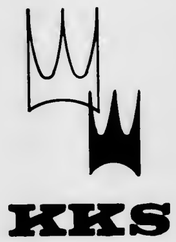
SN 197,490. Hamilton Watch Company, Lancaster, Pa. Filed July 9, 1964.

PHOTOFORMED

For Custom Manufacture of Precision Metal Parts by a Specific Process.
First use Aug. 1, 1963.

Class 105 — Transportation and Storage

SN 209,014. KKS International Corporation, Chicago, Ill. Filed Dec. 29, 1964.



For Travel Agency Services.
First use Apr. 23, 1964.

SN 211,710. Continental Air Lines, Inc., Los Angeles, Calif. Filed Feb. 10, 1965.

GOLDEN DRAGON FLIGHTS

Applicant disclaims the word "Flights" apart from the mark as shown.
For Air Transportation of Persons and Property.
First use Oct. 29, 1964.

SN 216,153. Eastern Air Lines, Inc. ("Eastern"), New York, N.Y. Filed Apr. 9, 1965.

WHISPERJET

For Transportation of Persons, Property, and Mail by Air.
First use May 16, 1964.

SN 223,214. Boss-Linco Lines, Inc., Buffalo, N.Y. Filed July 13, 1965.



For Common Carrier Trucking Services.
First use at least as early as Mar. 1, 1965.

SN 228,758. Stemmons, Inc., Tulsa, Okla. Filed Sept. 27, 1965.

THRIFTY

Owner of Reg. No. 774,288.
For Automobile Rental.
First use Mar. 3, 1958.

Class 106 — Material Treatment

SN 194,939–N. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree in a triangle.
Owner of Reg. Nos. 698,826 and 722,722.
For Custom Manufacture of Paper to Order or Specifications of Others.
First use Apr. 27, 1964.

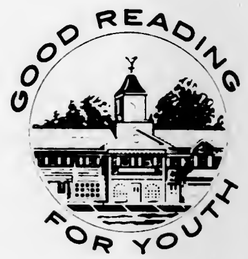
SN 221,393. J. Ray McDermott & Co., Inc., New Orleans, La. Filed June 17, 1965.



The drawing is lined for red and blue.
For Material Treatment Services—Namely, the Fabrication of Steel and Aluminum Components of Pipelines, Oil and Gas Production Facilities, Drainage Systems, Instrumentation Systems, and Lighting Systems; and Fabrication of Pressure Vessels and Miscellaneous Structural Steels.
First use at least as early as Sept. 30, 1962.

Class 107 — Education and Entertainment

SN 111,543. Pilgrim Book Society, Inc., Akron, Ohio. Filed Jan. 9, 1961.



For Promoting, Organizing and Conducting of Book Fairs Directed to Children.
First use Apr. 21, 1958.

SN 197,668. Carmel Chemical Corporation, Westfield, Ind. Filed July 13, 1964.



For Investigation, Counselling, and Formulae Formulation Services Leading to the Control of Fungus, Plant Disease, Insect and Related Pests, and the Like.
First use August 1963.

SN 203,686. Dr. E. D. Porter, d.b.a. The Read-Ability Program, Carrollton, Ga. Filed Oct. 9, 1964.

THE READ-ABILITY PROGRAM

For Course of Instruction on Reading Speed and Comprehension.
First use Mar. 1, 1964.

SN 211,928. Renault Inc., New York, N.Y. Filed Feb. 12, 1965.

TEAM TRICOLORE

For Entertainment Services in the Form of Automobile Races and Rallying Exhibitions.
First use at least as early as August 1962.

SN 233,001. Massey Junior College, Inc., Atlanta, Ga. Filed Nov. 19, 1965.



The stippling on the drawing is for shading purposes and not for color.
For Educational Services—Namely, Offering Courses in Fashion, Merchandising, and Retailing.
First use November 1963.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 190,283. Pro Hardware, Inc., Stamford, Conn. Filed Apr. 3, 1964.



The drawing is lined for the colors red and yellow, but no claim is made to color.
For Indicating Membership in a Collective Group Associated Through and With Applicant and Authorized and Approved by Applicant.
First use Feb. 25, 1958.

SN 224,058. American Health Alliance, Mays Landing, N.J. Filed July 23, 1965.



For Indicating Membership in the Applicant Association.
First use Sept. 1, 1964.

CERTIFICATION MARKS

Class A — Goods

SN 208,933. International Copper Research Association, Inc., New York, N.Y. Filed Dec. 28, 1964.

INCRALAC

The mark certifies that the goods comply with certain requirements and specifications of quality and manufacture, as established by applicant.
For Lacquer to Protect Copper or Copper Based Articles From Discoloration.
First use June 2, 1964.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

811,161. FLAME-BAR AND DESIGN. General Electric Company. SN 183,582. Pub. 5-3-66. Filed 12-26-63.

811,162. VRA G3. Turners Asbestos Fibres Limited. SN 214,721. Pub. 5-3-66. Filed 3-22-65.

811,163. VRA G4. Turners Asbestos Fibres Limited. SN 214,722. Pub. 5-3-66. Filed 3-22-65.

811,164. WILFORD. Harvey M. Wilford, d.b.a. Wilford Hatchery. SN 216,033. Pub. 5-3-66. Filed 4-7-65.

811,165. WILFORD BROAD BREASTED WHITES THE WHITE FEATHERED B.B. BRONZE AND DESIGN. Harvey M. Wilford, d.b.a. Wilford Hatchery. SN 216,034. Pub. 5-3-66. Filed 4-7-65.

811,166. KIT KIP. Armour and Company. SN 219,108. Pub. 5-3-66. Filed 5-18-65.

811,167. PLYMEY. Plymouth Rubber Company, Inc. SN 219,605. Pub. 5-3-66. Filed 5-24-65.

811,168. MARVESS. Alamo Industries, Inc. SN 221,547. Pub. 5-3-66. Filed 6-21-65.

811,169. CONVOLAY. TRW Inc. SN 222,431. Pub. 5-3-66. Filed 6-30-65.

811,170. DEADBEAT. The B. F. Goodrich Company. SN 222,575. Pub. 5-3-66. Filed 7-2-65.

Class 2—Receptacles

811,171. BEKAERT AND DESIGN. Trefilieries Leon Bekaert, SPRL. MULTIPLE CLASS (Classes 2, 13, 23, and 32). SN 189,400. Pub. 5-3-66. Filed 3-23-64.

811,172. NORITAKE. Nippon Toki Kabushiki Kaisha. SN 199,595. Pub. 5-3-66. Filed 8-10-64.

811,173. WP AND DESIGN. Wayne Plastics Corp. MULTIPLE CLASS (Classes 2 and 13). SN 201,902. Pub. 5-3-66. Filed 9-14-64.

811,174. CUB-TOWLS. Bay West Paper Company. MULTIPLE CLASS (Classes 2 and 37). SN 210,244. Pub. 5-3-66. Filed 1-21-65.

811,175. ORA-CUP. Ultra Custom Pak, Inc. SN 216,895. Pub. 5-3-66. Filed 4-19-65.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

811,176. BYE-BYE-BABY BY VI. Viola Raffo. SN 217,395. Pub. 5-3-66. Filed 4-26-65.

Class 6—Chemicals and Chemical Compositions

811,177. BACTERIABAN. Chas. Pfizer & Co., Inc. SN 175,870. Pub. 5-3-66. Filed 8-27-63.

811,178. TURCON. W. S. Shamban & Co. SN 177,453. Pub. 5-3-66. Filed 9-20-63.

811,179. CLORAN. Universal Oil Products Company. SN 178,310. Pub. 5-3-66. Filed 10-3-63.

811,180. CELANESE. Celanese Corporation of America. SN 181,319. Pub. 5-3-66. Filed 11-18-63.

811,181. SOF-SIZE. Brockstone Chemical Company. SN 182,403. Pub. 5-3-66. Filed 12-5-63.

811,182. PYRAMIN. Badische Anilin- & Soda-Fabrik Aktiengesellschaft. SN 187,384. Pub. 1-12-65. Filed 2-25-64.

811,183. DAY-BRITE. American Home Products Corporation, assignee of Bryant Chemical Company, Division of Cadillac Oil Company. SN 190,589. Pub. 4-20-65. Filed 4-8-64.

811,184. CMC AND DESIGN. Comet Manufacturing Corporation. SN 199,538. Pub. 5-3-66. Filed 8-10-64.

811,185. ULTRALAN. Imperial Chemical Industries Limited. SN 205,420. Pub. 5-3-66. Filed 11-3-64.

811,186. PROPOLAN. Imperial Chemical Industries Limited. SN 205,424. Pub. 5-3-66. Filed 11-3-64.

811,187. WHITMOYER. Whitmoyer Laboratories, Inc. MULTIPLE CLASS (Classes 6, 18, 44, and 46.) SN 205,756. Pub. 5-3-66. Filed 11-9-64.

811,188. ANTICORR. Ing. W. Obertil Aktiengesellschaft. SN 205,820. Pub. 5-3-66. Filed 11-9-64.

811,189. STANPRO. The Standard Products Company. MULTIPLE CLASS (Classes 6 and 52). SN 208,639. Pub. 2-22-66. Filed 12-21-64.

811,190. QURAM. Philadelphia Quartz Company. SN 214,370. Pub. 5-3-66. Filed 3-17-65.

811,191. UVI-NOX. General Aniline & Film Corporation. SN 215,496. Pub. 5-3-66. Filed 4-1-65.

811,192. AQUA-CHEM. Aqua-Chem, Inc. SN 215,933. Pub. 5-3-66. Filed 4-7-65.

811,193. PAXFARIN. Biocerta Corporation. SN 217,981. Pub. 5-3-66. Filed 5-5-65.

811,194. BUG-TOX. Geigy Chemical Corporation. SN 227,415. Pub. 5-3-66. Filed 9-8-65.

811,195. MISCELLANEOUS DESIGN. Hartman-Leddon Company, Inc. SN 227,581. Pub. 5-3-66. Filed 9-10-65.

811,196. BERKSHIRE. Berkshire Color and Chemical Co. SN 227,998. Pub. 5-3-66. Filed 9-17-65.

811,197. B IN DESIGN. Berkshire Color and Chemical Co. SN 227,999. Pub. 5-3-66. Filed 9-17-65.

811,198. FIRPENTINE. Westport Chemical Company. SN 228,094. Pub. 5-3-66. Filed 9-17-65.

811,199. WARDEN-20. Sterwin Chemicals Inc. SN 228,277. Pub. 5-3-66. Filed 9-21-65.

811,200. BOROL. Metal Hydrides Incorporated. SN 228,381. Pub. 5-3-66. Filed 9-22-65.

811,201. ORIX. Cohoon Products Corporation. SN 228,514. Pub. 5-3-66. Filed 9-24-65.

811,202. GRAPH-O-MAT. Philip A. Hunt Chemical Corporation. SN 229,656. Pub. 5-3-66. Filed 10-8-65.

811,203. LION AND DESIGN. Monsanto Company. SN 230,674. Pub. 5-3-66. Filed 10-20-65.

811,204. DOG (DESIGN). Big Kernel Pet Foods, Inc. SN 237,632. Pub. 5-3-66. Filed 12-28-65.

Class 7—Cordage

811,205. POLY-PLUS. Wall Rope Works, Inc. SN 218,932. Pub. 5-3-66. Filed 5-14-65.

811,206. PERMACORD. The Goodyear Tire & Rubber Company. SN 229,795. Pub. 5-3-66. Filed 10-11-65.

Class 8—Smokers' Articles, Not Including Tobacco Products

811,207. PRIME GRAIN. S. M. Frank & Co., Inc. SN 202,450. Pub. 5-3-66. Filed 9-23-64.

811,208. DANWELL. Poul Nielsen, d.b.a. Stanwell Briar Pipes. SN 214,476. Pub. 5-3-66. Filed 3-18-65.

Class 9—Explosives, Firearms, Equipments, and Projectiles

811,209. ANODET. Canadian Industries Limited. SN 226,618. Pub. 5-3-66. Filed 8-27-65.

Class 10—Fertilizers

811,210. FINELAWN. Socony Mobil Oil Company, Inc. SN 213,726. Pub. 5-3-66. Filed 3-9-65.

811,211. BLU-GREEN. Plymouth Cordage Company. SN 222,506. Pub. 5-3-66. Filed 7-1-65.

811,212. MULCH ETTE. Jacklin Seed Co., Inc., d.b.a. Terra Products. SN 228,371. Pub. 5-3-66. Filed 9-22-65.

Class 12—Construction Materials

811,213. COLMA. Kaspar Winkler & Co. SN 173,209. Pub. 5-3-66. Filed 7-17-63.

811,214. ROOFKOTER. T/P Protective Coatings, Inc., by change of name from Tropical Paint Company. SN 191,460. Pub. 5-3-66. Filed 4-17-64.

811,215. BARI-KAID AND DESIGN. Vi-Cly Industries, Inc. SN 201,768. Pub. 5-3-66. Filed 9-11-64.

811,216. HOMEX. Homasote Company. SN 213,013. Pub. 5-3-66. Filed 3-1-65.

811,217. CALCICLASE. Basic Incorporated. SN 213,645. Pub. 5-3-66. Filed 3-9-65.

811,218. BASICLASE. Basic Incorporated. SN 213,646. Pub. 5-3-66. Filed 3-9-65.

811,219. VAPO-LOCK. Insular Products Corporation. SN 216,307. Pub. 5-3-66. Filed 4-12-65.

811,220. FORBON AND DESIGN. NVF Company, by change of name from National Vulcanized Fibre Company. SN 216,325. Pub. 5-3-66. Filed 4-12-65.

811,221. POZ-O-PAC. Poz-O-Pac Company of America. SN 220,145. Pub. 5-3-66. Filed 6-1-65.

811,222. POROSWALL. Walker Poroswall Pipe Co., Inc. SN 225,217. Pub. 5-3-66. Filed 8-6-65.

811,223. MORTEX. J. W. Mortell Company. SN 226,548. Pub. 5-3-66. Filed 8-26-65.

811,224. G AND DESIGN. Gilsonite Process Distributors. SN 227,027. Pub. 5-3-66. Filed 9-2-65.

811,225. SELBATRAZ. Selby, Battersby & Co. SN 227,338. Pub. 5-3-66. Filed 9-7-65.

811,226. KTS. K. T. Snyder Company, Inc. SN 229,459. Pub. 5-3-66. Filed 10-6-65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

811,171. (See Class 2 for this trademark.)

811,173. (See Class 2 for this trademark.)

811,227. MIRACLEAN. Keating of Chicago, Inc. SN 199,072. Pub. 3-8-66. Filed 8-3-64.

811,228. CALMEC. Calmec Manufacturing Corp. MULTIPLE CLASS (Classes 13 and 26). SN 201,367. Pub. 5-3-66. Filed 9-8-64.

811,229. WEBER. Weber-Stephen Products Co. SN 210,625. Pub. 5-3-66. Filed 1-25-65.

811,230. OMECO. Oil Marketing Equipment Company, Inc. SN 216,186. Pub. 5-3-66. Filed 4-9-65.

811,231. SAMSON. Chicago Specialty Manufacturing Co. SN 220,202. Pub. 5-3-66. Filed 6-2-65.

811,232. RED-WHITE. Toyo Valve Co., Ltd. SN 223,183. Pub. 5-3-66. Filed 7-12-65.

Class 15—Oils and Greases

811,233. CHEMSEAL. Berryman Products, Inc., d.b.a. Berryman Products. SN 217,521. Pub. 5-3-66. Filed 4-28-65.

Class 16—Protective and Decorative Coatings

811,234. MONOSOL. Conchemco Incorporated. SN 187,914. Pub. 5-3-66. Filed 3-4-64.

811,235. FLEX-COTE. Flex-Cote Chemical Corporation. SN 196,652. Pub. 5-3-66. Filed 6-29-64.

811,236. DURA-PAINTS. Dura-Paints, Inc. SN 198,837. Pub. 3-15-66. Filed 7-30-64.

811,237. CHEMSTOP. Chemsearch Corporation. SN 199,534. Pub. 2-22-66. Filed 8-10-64.

811,238. TEXTURON. Mary Carter Paint Co. SN 201,092. Pub. 3-1-66. Filed 9-2-64.

811,239. STAY-TITE AND DESIGN. Stay-Tite Products Co., Inc. SN 201,240. Pub. 5-3-66. Filed 9-3-64.

811,240. NEVERWAX. LePage's Limited. SN 201,951. Pub. 3-29-66. Filed 9-15-64.

811,241. MILTHIX. Purex Corporation, Ltd., d.b.a. Milthix Division of Purex Industrial and Institutional Group. SN 205,198. Pub. 5-3-66. Filed 10-30-64.

811,242. ULTRA COATINGS. The O'Brien Corporation. SN 205,716. Pub. 3-8-66. Filed 11-6-64.

811,243. HAMATROL. Commercial Solvents Corporation. SN 208,997. Pub. 5-3-66. Filed 12-29-64.

811,244. SEAL-O-TILE. Huntington Laboratories, Inc. SN 211,727. Pub. 5-3-66. Filed 2-10-65.

811,245. ZOOM. Norris Paint and Varnish Co., Inc. SN 212,567. Pub. 5-3-66. Filed 2-23-65.

811,246. BRONZOTIC. Prescolite Manufacturing Corporation. SN 213,353. Pub. 5-3-66. Filed 3-4-65.

811,247. PORT OF CALL AND DESIGN. Neeld D. Tanksley, d.b.a. Port of Call Paint Co. SN 214,718. Pub. 5-3-66. Filed 3-22-65.

811,248. ORBA AND DESIGN. Julius A. Piland, d.b.a. J. A. Piland. SN 216,194. Pub. 5-3-66. Filed 4-9-65.

811,249. KYSIL. Kyanize Paints, Inc. SN 218,123. Pub. 5-3-66. Filed 5-5-65.

811,250. NU-TYPE AND DESIGN. The Gregg Company Incorporated. SN 218,989. Pub. 5-3-66. Filed 5-17-65.

811,251. ISOMID. Schenectady Chemicals, Inc. SN 219,619. Pub. 5-3-66. Filed 5-24-65.

811,252. ANALUX. George Pica, d.b.a. Talon Paint Products Co. SN 224,642. Pub. 5-3-66. Filed 7-30-65.

811,253. EVR-GARD. Evr-Gard Coatings Corporation. SN 228,352. Pub. 5-3-66. Filed 9-22-65.

Class 17—Tobacco Products

811,254. DEAN'S OWN. Freeman & Gossage, Inc. SN 192,701. Pub. 5-3-66. Filed 5-5-64.

811,255. MECCARILLOS, ETC. AND DESIGN. Rinsoz & Ormond S.A. SN 219,269. Pub. 5-3-66. Filed 5-19-65.

811,256. KLOMPENMAKER. N.V. Sigarettenfabriek Ed. Laurens "Le Khedive." SN 224,319. Pub. 5-3-66. Filed 7-27-65.

Class 18—Medicines and Pharmaceutical Preparations

811,187. (See Class 6 for this trademark.)

811,257. TUSSAMEL. Southwestern Drug Corporation, d.b.a. Brooke Laboratories. SN 188,285. Pub. 5-3-66. Filed 3-9-64.

811,258. VITA-HAIR. Donald J. Sherman, d.b.a. Vita-Hair Distributors. SN 203,337. Pub. 5-3-66. Filed 10-5-64.

811,259. OVISEC. The British Drug Houses Limited. SN 213,652. Pub. 5-3-66. Filed 3-9-65.

811,260. TEBS. Cutter Laboratories, Inc. SN 214,085 Pub. 5-3-66. Filed 3-15-65.

811,261. TOLAPHEN. Invenex Pharmaceuticals. SN 214,653. Pub. 3-1-66. Filed 3-22-65.

811,262. DIABLO. Bristol-Myers Company. SN 218,271. Pub. 5-3-66. Filed 5-7-65.

811,263. DURAMAX. Bristol-Myers Company. SN 218,272. Pub. 5-3-66. Filed 5-7-65.

811,264. ENTERCIN. Bristol-Myers Company. SN 218,273. Pub. 5-3-66. Filed 5-7-65.

811,265. STERI-FOAM AND DESIGN. Spray-Lin, Inc. SN 218,916. Pub. 5-3-66. Filed 5-14-65.

811,266. POXINE. Dr. Salsbury's Laboratories. SN 223,219. Pub. 5-3-66. Filed 7-13-65.

811,267. BISOPHENE. William Cooper & Nephews, Inc. SN 224,173. Pub. 5-3-66. Filed 7-26-65.

811,268. PANCIN. Daywell Laboratories Corporation. SN 226,344. Pub. 5-3-66. Filed 8-24-65.

811,269. TOLERON. Mallinckrodt Chemical Works. SN 226,753. Pub. 5-3-66. Filed 8-30-65.

811,270. TEDRAL ANTI-H. Warner-Lambert Pharmaceutical Company. SN 228,092. Pub. 5-3-66. Filed 9-17-65.

811,271. CHIPPER. Wallace W. Shong. SN 231,601. Pub. 5-3-66. Filed 10-24-65.

811,272. CORONATE "20." Faith Laboratories, Inc. SN 233,664. Pub. 5-3-66. Filed 11-29-65.

811,273. CAMPHO-BLIS AND DESIGN. Rabin-Winters Corporation. SN 233,945. Pub. 5-3-66. Filed 12-3-65.

811,274. I-T-E. Anvil Mineral Products Corporation. SN 234,108. Pub. 5-3-66. Filed 12-7-65.

811,275. TROPAX-PB. Mead Johnson & Company. SN 234,134. Pub. 5-3-66. Filed 12-7-65.

Class 19—Vehicles

811,276. ASC. Frank G. Stone, d.b.a. American Sports Co. MULTIPLE CLASS (Classes 19 and 23). SN 175,521. Pub. 5-3-66. Filed 8-21-63.

811,277. TK (MONOGRAM DESIGN). Thermo King Corporation. MULTIPLE CLASS (Classes 19 and 31). SN 208,860. Pub. 5-3-66. Filed 12-24-64.

811,278. MA BRAND AND DESIGN. Morak Brakes, Inc. SN 213,692. Pub. 5-3-66. Filed 3-9-65.

Class 20—Linoleum and Oiled Cloth

811,279. GLAD. Union Carbide Corporation. SN 224,815. Pub. 5-3-66. Filed 8-2-65.

Class 21—Electrical Apparatus, Machines, and Supplies

811,280. QUIET QUALITY. Sorgel Electric Company. SN 172,616. Pub. 5-3-66. Filed 7-8-63.

811,281. GENERAC AND DESIGN. Generac Corporation. SN 182,170. Pub. 5-3-66. Filed 12-2-63.

811,282. VECTORBORD. Vector Electronic Company. SN 192,338. Pub. 5-3-66. Filed 4-29-64.

811,283. STAGEMASTER. Packaged Lighting Services, Inc. SN 207,979. Pub. 5-3-66. Filed 12-11-64.

811,284. RPD AND DESIGN. Robert P. Debart. SN 210,102. Pub. 5-3-66. Filed 1-18-65.

811,285. XACTGLO. Claud S. Gordon Company. SN 211,723. Pub. 5-3-66. Filed 2-10-65.

811,286. MERCURY. Mercury Record Productions, Inc. MULTIPLE CLASS (Classes 21 and 36). SN 217,374. Pub. 5-3-66. Filed 4-26-65.

811,287. UA. United Aircraft Corporation. SN 217,969. Pub. 5-3-66. Filed 5-4-65.

811,288. INDUSTRO. Woods Wire Products. SN 219,652. Pub. 5-3-66. Filed 5-24-65.

811,289. OCTET. Emerson Electric Co. SN 223,106. Pub. 5-3-66. Filed 7-12-65.

811,290. K6. S. S. Kresge Company. SN 224,865. Pub. 5-3-66. Filed 8-3-65.

Class 22—Games, Toys, and Sporting Goods

811,291. JUMBLE-FITS. Cadaco, Inc., assignee of Alex D. Palmer, d.b.a. Tek Method Company. SN 201,863. Pub. 12-7-65. Filed 9-14-64.

811,292. STICKY FINGER. Masco Corporation (Mascon Toy Company Division). SN 212,434. Pub. 5-3-66. Filed 2-19-65.

811,293. WATERWAYS. Kransco Manufacturing, Inc. SN 213,579. Pub. 5-3-66. Filed 3-8-65.

811,294. WATERWAYS AND DESIGN. Kransco Manufacturing, Inc. SN 213,580. Pub. 5-3-66. Filed 3-8-65.

811,295. SCANDIA HOUSE. Scandia House Enterprises, Inc. SN 213,718. Pub. 5-3-66. Filed 3-9-65.

811,296. TRI. Set Screw & Mfg. Company. SN 213,893. Pub. 5-3-66. Filed 3-11-65.

811,297. BULLSEYE. Set Screw & Mfg. Company. SN 213,894. Pub. 5-3-66. Filed 3-11-65.

811,298. REVERSAL. Set Screw & Mfg. Company. SN 213,895. Pub. 5-3-66. Filed 3-11-65.

811,299. CROSS. Set Screw & Mfg. Company. SN 213,896. Pub. 5-3-66. Filed 3-11-65.

811,300. 3 SQUARE. Set Screw & Mfg. Company. SN 213,897. Pub. 5-3-66. Filed 3-11-65.

811,301. LAYNA. Sodico, Inc. SN 214,707. Pub. 5-3-66. Filed 3-22-65.

811,302. PRO-AM AND DESIGN. Snyder Manufacturing Company. SN 218,915. Pub. 5-3-66. Filed 5-14-65.

811,303. THE WAKER. Sportsways, Inc. SN 220,166. Pub. 5-3-66. Filed 6-1-65.

811,304. BILOFIX AND DESIGN. Bilo v. G.K. Kristiansen. SN 221,249. Pub. 5-3-66. Filed 6-16-65.

811,305. X7. Jas. D. Easton, Inc. SN 221,907. Pub. 5-3-66. Filed 6-24-65.

811,306. HANG TEN. Doris Moore of California, Inc. SN 222,050. Pub. 5-3-66. Filed 6-25-65.

811,307. TOP SONIC. James Heddon's Sons. SN 222,701. Pub. 5-3-66. Filed 7-6-65.

811,308. IMPERIAL AND DESIGN. Viscount Products, Inc. SN 224,665. Pub. 5-3-66. Filed 7-30-65.

811,309. KNIGHT'S GALLERY AND DESIGN. Viscount Products, Inc. SN 224,666. Pub. 5-3-66. Filed 7-30-65.

811,310. GROUP THERAPY. Robert Geoffrey Bate, d.b.a. Psychological Development Laboratories. SN 225,266. Pub. 5-3-66. Filed 8-9-65.

811,311. D AND DESIGN. Dunlop Tire and Rubber Corporation. SN 225,546. Pub. 5-3-66. Filed 8-12-65.

811,312. D AND DESIGN. Dunlop Tire and Rubber Corporation. SN 225,547. Pub. 5-3-66. Filed 8-12-65.

811,313. FORMULASTIC. Chartered Enterprises, d.b.a. Superior Sports Specialties. SN 225,728. Pub. 5-3-66. Filed 8-16-65.

811,314. AQUA STAR. Chartered Enterprises, d.b.a. Superior Sports Specialties. SN 225,732. Pub. 5-3-66. Filed 8-16-65.

811,315. TWIRL-A-LURE. Dr. Reeves Products, d.b.a. Norkin Laboratories. SN 225,741. Pub. 5-3-66. Filed 8-16-65.

811,316. HEAD STARTERS AND DESIGN. Beulah Harris Stolpen, d.b.a. The Rolling Reader Publishing Co. SN 225,829. Pub. 5-3-66. Filed 8-16-65.

811,317. OBSERVATION. Romper Room, Inc. SN 225,896. Pub. 5-3-66. Filed 8-17-65.

811,318. PATOOTIE. Mattel, Inc. SN 225,967. Pub. 5-3-66. Filed 8-18-65.

811,319. BERNIE. Mattel, Inc. SN 225,968. Pub. 5-3-66. Filed 8-18-65.

811,320. BIFF. Mattel, Inc. SN 225,970. Pub. 5-3-66. Filed 8-18-65.

811,321. CONVINCER. Mattel, Inc. SN 225,971. Pub. 5-3-66. Filed 8-18-65.

811,322. GEMINI. Southern Plastics Engineering Corporation. SN 226,091. Pub. 5-3-66. Filed 8-19-65.

811,323. SIXFINGER. De Luxe Reading Corporation. SN 226,131. Pub. 5-3-66. Filed 8-20-65.

811,324. GLAS-LITE. Plas-Steel Products, Inc. SN 226,570. Pub. 5-3-66. Filed 8-26-65.

811,325. CHARMETTE. Louis Marx & Co., Inc. SN 226,930. Pub. 5-3-66. Filed 9-1-65.

811,326. GREEN CAP (DESIGN). Dayton Marine Products, Inc. SN 227,208. Pub. 5-3-66. Filed 9-2-65.

811,327. FOR-GARD. Dentek, Inc. SN 227,264. Pub. 5-3-66. Filed 9-7-65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

811,171. (See Class 2 for this trademark.)

811,276. (See Class 19 for this trademark.)

811,328. SLICE-A-SLICE. Ace Manufacturing Co., Inc. SN 188,696. Pub. 5-3-66. Filed 3-16-64.

811,329. WDS AND DESIGN. W.D.S. Tooling Aids Limited. SN 195,472. Pub. 5-3-66. Filed 6-11-64.

811,330. BIBO. Flygt International Aktiebolag. SN 198,644. Pub. 5-3-66. Filed 7-28-64.

811,331. A AIMCO AND DESIGN. Allied Industrial Machine Tool Corporation. SN 204,038. Pub. 5-3-66. Filed 10-15-64.

811,332. DYNACRANE. Applied Power Industries, Inc. SN 206,682. Pub. 5-3-66. Filed 11-23-64.

811,333. GYRA-SCREEN. Pettibone Mulliken Corporation. SN 211,571. Pub. 10-5-65. Filed 2-8-65.

811,334. PLANT AIR PACKAGE AND DESIGN (7 ARROWS). Carrier Corporation. SN 216,799. Pub. 5-3-66. Filed 4-19-65.

811,335. PAK-TYER. Felins Tying Machine Company. SN 218,093. Pub. 5-3-66. Filed 5-5-65.

Class 26—Measuring and Scientific Appliances

811,228. (See Class 13 for this trademark.)

811,336. COMFORT. O.K.I. Supply Co. SN 200,472. Pub. 5-3-66. Filed 8-24-64.

811,337. ORBIT. Dinsmore Instrument Company. SN 201,392. Pub. 5-3-66. Filed 9-8-64.

811,338. MISCELLANEOUS DESIGN. Burtek, Inc. SN 210,081. Pub. 5-3-66. Filed 1-18-65.

811,339. WORK STATION. Cole-Parmer Instrument & Equipment Co. SN 228,639. Pub. 5-3-66. Filed 9-27-65.

Class 28—Jewelry and Precious-Metal Ware

811,340. CM AND DESIGN. Creative Monograms Incorporated. SN 228,645. Pub. 5-3-66. Filed 9-27-65.

Class 29—Brooms, Brushes, and Dusters

811,341. SUDZ-EE. Charles J. Toth, d.b.a. Elto Products. SN 199,930. Pub. 5-3-66. Filed 8-14-64.

Class 31—Filters and Refrigerators

811,277. (See Class 19 for this trademark.)

811,342. POOL-GEMS. Tri-Men Manufacturing Corp. SN 205,973. Pub. 5-3-66. Filed 11-9-64.

811,343. ROLL-KLEEN. Farr Company. SN 206,937. Pub. 5-3-66. Filed 11-25-64.

Class 32—Furniture and Upholstery

811,171. (See Class 2 for this trademark.)

811,344. SLEEP BUILDERS GUILD. Sleep Builders Guild. SN 197,187. COLLECTIVE MARK. Pub. 5-3-66. Filed 7-6-64.

Class 33—Glassware

811,345. LENOX. Lenox, Incorporated. SN 219,437. Pub. 5-3-66. Filed 5-21-65.

Class 34—Heating, Lighting, and Ventilating Apparatus

811,346. HAND-D-HEAT. Edbert Company, Inc. SN 203,751. Pub. 5-3-66. Filed 10-12-64.

811,347. WESCO. Northwest Foundry & Furnace Co. SN 204,698. Pub. 5-3-66. Filed 10-23-64.

811,348. CMC AND DESIGN. Consolidated Marketing Co. SN 204,728. Pub. 5-3-66. Filed 10-12-64.

811,349. MONO-LOY. The Resisto-Loy Company, Inc. SN 205,096. Pub. 5-3-66. Filed 10-29-64.

811,350. DQM. Air Devices, Inc. SN 206,496. Pub. 5-3-66. Filed 11-19-64.

811,351. DUST SIGHT. Farr Company. SN 206,935. Pub. 5-3-66. Filed 11-25-64.

811,352. BIG RIG. Miller Electric Mfg. Co. SN 207,317. Pub. 5-3-66. Filed 12-2-64.

811,353. BAHNSON. The Bahnson Company. SN 217,593. Pub. 5-3-66. Filed 4-29-65.

811,354. VOL-AIR AND DESIGN. The Air Preheater Company, Inc. SN 218,940. Pub. 5-3-66. Filed 5-17-65.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

811,355. REMA COMBI. Stahlgruber, Otto Gruber & Co. SN 195,976. Pub. 5-3-66. Filed 6-18-64.

811,356. CORNELL WIDETRACK. The Pep Boys, Manny, Moe & Jack. SN 204,399. Pub. 5-3-66. Filed 10-20-64.

811,357. SUPERSET. Greene, Tweed & Co., Inc., assignee of Greene, Tweed & Co. SN 209,344. Pub. 5-3-66. Filed 1-5-65.

811,358. D AND DESIGN. Dunlop Tire and Rubber Corporation. SN 225,548. Pub. 5-3-66. Filed 8-12-65.

Class 36 — Musical Instruments and Supplies

811,286. (See Class 21 for this trademark.)

811,359. T BASS. Michael J. Cudahy, d.b.a. Marquette Electronics. SN 207,269. Pub. 5-3-66. Filed 12-2-64.

811,360. THORENS. Thorens Corporation of America. SN 214,202. Pub. 5-3-66. Filed 3-15-65.

811,361. TURNABOUT AND DESIGN. Vox Productions, Inc. SN 221,125. Pub. 5-3-66. Filed 6-14-65.

Class 37 — Paper and Stationery

811,174. (See Class 2 for this trademark.)

811,362. DOWCHEX AND DESIGN. Dowchex Incorporated. SN 211,691. Pub. 5-3-66. Filed 1-18-65.

811,363. STROMBERG. General Time Corporation. SN 219,869. Pub. 5-3-66. Filed 5-27-65.

811,364. MULTI-TEX. Multicolor Corporation. SN 220,784. Pub. 5-3-66. Filed 6-9-65.

811,365. ENCODA-KIT. Curtis 1000 Inc. SN 222,348. Pub. 5-3-66. Filed 6-30-65.

811,366. KLEAR-KLING. Standard International Corporation, d.b.a. Standard Home Products. SN 231,268. Pub. 5-3-66. Filed 10-22-65.

Class 38 — Prints and Publications

811,367. TIME & TIDE. Time and Tide Limited. SN 177,819. Pub. 5-3-66. Filed 9-26-63.

811,368. BELART. Belart, Inc. MULTIPLE CLASS (Classes 38 and 50). SN 204,231. Pub. 5-3-66. Filed 10-19-64.

811,369. SRI. Speed Reading Institute, Inc. SN 205,465. Pub. 5-3-66. Filed 11-3-64.

811,370. THE PINK PUSSY CAT AND DESIGN. Pink Pussycat of Hollywood. SN 222,743. Pub. 5-3-66. Filed 7-6-65.

811,371. COW-OTEL. Southern States Cooperative Incorporated. SN 230,448. Pub. 5-3-66. Filed 10-18-65.

811,372. THE EXCHANGE. New York Stock Exchange. SN 235,788. Pub. 5-3-66. Filed 1-4-66.

Class 39 — Clothing

811,373. "CLUB LINE." Wembley, Inc. SN 194,265. Pub. 5-3-66. Filed 5-25-64.

811,374. MONO-KINI. Stedman Manufacturing Company. SN 207,530. Pub. 5-3-66. Filed 12-4-64.

811,375. STANCE. H. R. Kaminsky & Sons, Inc. SN 207,810. Pub. 5-3-66. Filed 12-9-64.

811,376. TALL TAMER. Blair Fashions, Inc. SN 216,132. Pub. 5-3-66. Filed 4-9-65.

811,377. PUSSY VELOUR. M. Nirenberg Sons, Inc. SN 216,526. Pub. 5-3-66. Filed 4-14-65.

811,378. SKIMPIES. David Crystal, Inc. SN 216,806. Pub. 5-3-66. Filed 4-19-65.

811,379. BLAZER SQUARE. Handcraft Incorporated. SN 219,785. Pub. 5-3-66. Filed 5-26-65.

811,380. SMOOTHIE MERMAID. The Strouse, Adler Company. SN 219,927. Pub. 5-3-66. Filed 5-27-65.

811,381. VINCENT DE KOVEN. Emporium World Millinery Co. SN 220,483. Pub. 5-3-66. Filed 6-7-65.

811,382. FANCIFUL HEAD (DESIGN). Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company. SN 221,136. Pub. 5-3-66. Filed 6-15-65.

811,383. SABRE SQUARES AND DESIGN. Wembley, Inc. SN 221,665. Pub. 5-3-66. Filed 6-21-65.

811,384. SANDCASTLE. Cole of California, Inc. SN 221,897. Pub. 5-3-66. Filed 6-24-65.

811,385. KING CRAFT AND CROWN DESIGN. Ripley Manufacturing Corp. SN 222,297. Pub. 5-3-66. Filed 6-29-65.

811,386. SHANHOUSE. W. Shanhouse Sons, Inc. SN 222,981. Pub. 5-3-66. Filed 7-8-65.

811,387. GLAD. Union Carbide Corporation. SN 224,816. Pub. 5-3-66. Filed 8-2-65.

811,388. DELBERT ORIGINALS. Southern Shoe Company, Inc. SN 225,363. Pub. 5-3-66. Filed 8-9-65.

811,389. QUARTET. Quartet Fashions, Inc. SN 225,438. Pub. 5-3-66. Filed 8-10-65.

Class 40 — Fancy Goods, Furnishings, and Notions

811,390. WIGS BY TOVAR. Tovar Tresses Inc. SN 216,541. Pub. 5-3-66. Filed 4-14-65.

811,391. PERMA-PLUME. Grip-Flex Corporation. SN 225,758. Pub. 5-3-66. Filed 8-16-65.

811,392. GENIE WIG AND DESIGN. Genie Wigs, Inc. SN 226,140. Pub. 5-3-66. Filed 8-20-65.

811,393. MOLD-A-FOAM. Haveg Industries, Inc. SN 226,911. Pub. 5-3-66. Filed 9-1-65.

811,394. ORNA MOUNTS AND DESIGN. E. C. De Witt & Co. Inc. SN 228,344. Pub. 5-3-66. Filed 9-22-65.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

811,395. WAVY DESIGN. New Castle Products, Inc. SN 196,898. Pub. 5-3-66. Filed 7-1-64.

811,396. NOVELAIRE. Cone Mills Corporation, assignee of Anderson, Clayton & Co. SN 211,234. Pub. 5-3-66. Filed 2-3-65.

811,397. H AND DESIGN. Cone Mills Corporation, assignee of Anderson, Clayton & Co. SN 211,235. Pub. 5-3-66. Filed 2-3-65.

811,398. TINY DREAMS. Cone Mills Corporation, assignee of Anderson, Clayton & Co. SN 211,237. Pub. 5-3-66. Filed 2-3-65.

811,399. LE BONTE. Cone Mills Corporation, assignee of Anderson, Clayton & Co. SN 211,239. Pub. 5-3-66. Filed 2-3-65.

811,400. HECOSPAN. Heberlein & Co. AG. SN 223,670. Pub. 5-3-66. Filed 7-19-65.

811,401. ERWIN ETC. AND DESIGN. Erwin Mills, Inc. SN 226,367. Pub. 5-3-66. Filed 8-24-65.

811,402. BARLEYCORN BY CONCORD. Concord Fabrics Inc. SN 228,335. Pub. 5-3-66. Filed 9-22-65.

Class 43 — Thread and Yarn

811,403. SUNBEAM AND DESIGN. Sunbeam Wolsey Limited. SN 215,286. Pub. 5-3-66. Filed 3-29-65.

811,404. HECOSPAN. Heberlein & Co. AG. SN 223,671. Pub. 5-3-66. Filed 7-19-65.

811,405. ROSEL. Roselon Yarns, Inc. SN 226,677. Pub. 5-3-66. Filed 8-27-65.

Class 44 — Dental, Medical, and Surgical Appliances

811,187. (See Class 6 for this trademark.)

811,406. WARBLET. Tracor, Inc. SN 212,920. Pub. 5-3-66. Filed 2-26-65.

811,407. MARK 10. Bird Corporation. SN 220,905. Pub. 5-3-66. Filed 6-11-65.

811,408. MARK 17. Bird Space Technology, Inc. SN 220,906. Pub. 5-3-66. Filed 6-11-65.

811,409. VE RE CE. Axel Kistner AB. SN 222,163. Pub. 5-3-66. Filed 6-28-65.

811,410. MAJOR-DENT. F. Alexander Shimer, d.b.a. Major-Dent U.S.A. SN 223,732. Pub. 5-3-66. Filed 7-19-65.

811,411. WJ WILLIAMS-JUSTI AND DESIGN. Williams Gold Refining Company Incorporated. SN 226,322. Pub. 5-3-66. Filed 8-23-65.

811,412. BLOON-SPLINT. Orthopedic Equipment Company, Inc. SN 226,370. Pub. 5-3-66. Filed 8-24-65.

811,413. CHRONOCOR. Cordis Corporation. SN 228,136. Pub. 3-29-66. Filed 9-20-65.

811,414. TUF-FLEX. Mizzy, Inc. SN 231,767. Pub. 5-3-66. Filed 10-28-65.

Class 45 — Soft Drinks and Carbonated Waters

811,415. SEDGWICK INN. Sedgwick International Ltd., assignee of Cherry Blossoms Manufacturing Company, d.b.a. Sedgwick Inn Cocktail Mixes. SN 198,131. Pub. 5-3-66. Filed 7-20-64.

811,416. DAIRY QUEEN AND DESIGN. American Dairy Queen Corporation. SN 220,730. Pub. 5-3-66. Filed 6-9-65.

Class 46 — Foods and Ingredients of Foods

811,187. (See Class 6 for this trademark.)

811,417. WIL-O-WAY. Totem Foods, Inc., d.b.a. Wil-O-Way Farm Dairy, and Wil-O-Way Guernsey Farm. SN 139,158. Pub. 5-3-66. Filed 3-5-62.

811,418. RICH 'N EGG. The Miami Margarine Company. SN 165,070. Pub. 5-3-66. Filed 3-20-63.

811,419. MISCELLANEOUS DESIGN. Ed. Messmer. SN 166,347. Pub. 5-3-66. Filed 4-8-63.

811,420. COLOMBINA. Fabrica de Dulces Colombina Limitada. SN 180,569. Pub. 5-3-66. Filed 11-6-63.

811,421. EAT MOHR FRUIT. Mohr Orchards, Inc. SN 181,790. Pub. 5-3-66. Filed 11-22-63.

811,422. SHIELD (DESIGN). Shurfine-Central Corporation, assignee of Central Retailer-Owned Grocers, Inc. SN 184,886. Pub. 5-3-66. Filed 1-20-64.

811,423. PRINCE AND DESIGN. Prince Macaroni Manufacturing Company. SN 192,847. Pub. 5-3-66. Filed 5-6-64.

811,424. STIK-WICH. Stik-Wich Corp. SN 194,928. Pub. 10-27-64. Filed 6-4-64.

811,425. COCOANUT TWIRLS. Aunt Fanny's Baking Co. SN 194,943. Pub. 5-3-66. Filed 6-5-64.

811,426. HAWAIIAN CHI-CHA. A. E. Illes Company. SN 197,492. Pub. 5-3-66. Filed 7-9-64.

811,427. SANTEE. Pearce-Young-Angel Company. SN 203,524. Pub. 5-3-66. Filed 10-7-64.

811,428. HELEN MAJOR'S. Helen Major, d.b.a. Helen Major's Kitchen. SN 208,092. Pub. 5-3-66. Filed 12-14-64.

811,429. NORLINE. Armour and Company, d.b.a. Marshville Poultry Company. SN 212,952. Pub. 5-3-66. Filed 3-1-65.

811,430. "MR. NOODLE" AND DESIGN. Reames Foods, Inc. SN 213,047. Pub. 5-3-66. Filed 3-1-65.

811,431. TOP TASTE. National Tea Co. SN 213,885. Pub. 5-3-66. Filed 3-11-65.

811,432. IRISH MAID AND DESIGN. Thomas A. O'Brien and Michael T. O'Brien (partnership). SN 218,308. Pub. 5-3-66. Filed 5-7-65.

811,433. DRONNINGHOLM. Solofabriken A/S. SN 218,806. Pub. 5-3-66. Filed 5-13-65.

811,434. PROFESSIONAL AND DESIGN. Textron, Inc. SN 219,082. Pub. 5-3-66. Filed 5-17-65.

811,435. MILANI. Milani Foods, Inc. SN 219,596. Pub. 5-3-66. Filed 5-24-65.

811,436. BEAU FLEUVE AND DESIGN. Robert M. Whelan, d.b.a. Beau Fleuve. SN 219,742. Pub. 5-3-66. Filed 5-25-65.

811,437. MARTINI. Sunshine Biscuits, Inc. SN 220,575. Pub. 5-3-66. Filed 6-7-65.

811,438. STRONGHEALTH DOG FOOD AND DESIGN. Doyle Packing Corp. SN 220,922. Pub. 5-3-66. Filed 6-11-65.

811,439. SOUTH MESA. N. K. Hurst Company, Inc. SN 221,056. Pub. 5-3-66. Filed 6-14-65.

811,440. MOUNTAIN GOLD. E. F. Lane & Son. SN 221,727. Pub. 5-3-66. Filed 6-22-65.

811,441. SWEETROL. The Chicago Dietetic Supply House, Inc. SN 222,551. Pub. 5-3-66. Filed 7-2-65.

811,442. ANALY FARMS. Sebastopol Cooperative Cannery. SN 222,764. Pub. 5-3-66. Filed 7-6-65.

811,443. J-BOY. Jerrico, Inc., d.b.a. Jerry's. SN 223,312. Pub. 5-3-66. Filed 7-14-65.

811,444. BUNTE AND DESIGN. Bunte Candies, Inc. SN 224,914. Pub. 5-3-66. Filed 8-4-65.

811,445. SWEET-HEART. S & S Cone Co., Inc. SN 227,794. Pub. 5-3-66. Filed 9-7-65.

811,446. GO AND DESIGN. Doane Feed Products Company. SN 228,340. Pub. 5-3-66. Filed 9-22-65.

811,447. WE RANCH TABLE AND DESIGN. Wilbur-Ellis Company. SN 228,586. Pub. 5-3-66. Filed 9-24-65.

811,448. CREAMETTES. The Creamette Company. SN 229,070. Pub. 5-3-66. Filed 10-1-65.

811,449. KILLER. Carl Gioia, d.b.a. State Produce Brokers. SN 229,235. Pub. 5-3-66. Filed 10-4-65.

Class 47 — Wines

811,450. LE-STANFORD. Weibel Incorporated, d.b.a. Stanford Winery. SN 215,133. Pub. 5-3-66. Filed 3-26-65.

Class 49 — Distilled Alcoholic Liquors

811,451. LANSDOWNE RESERVE. Joseph S. Finch and Company. SN 216,494. Pub. 5–3–66. Filed 4–14–65.

811,452. MOON BEAM. James B. Beam Distilling Co. SN 224,703. Pub. 5–3–66. Filed 8–2–65.

Class 50 — Merchandise Not Otherwise Classified

811,368. (See Class 38 for this trademark.)

811,453. BIG J. James Manufacturing Company, Inc., assignee of Rockwood & Co., d.b.a. James Mfg. Co. SN 195,158. Pub. 5–3–66. Filed 6–8–64.

811,454. GLAD. Union Carbide Corporation. SN 224,817. Pub. 5–3–66. Filed 8–2–65.

811,455. ROCKLAWN AND DESIGN. Wilmington Memorial Company, Inc. SN 230,015. Pub. 5–3–66. Filed 10–12–65.

811,456. MULTI-PIX. Ace Finishing Company Inc. SN 233,039. Pub. 5–3–66. Filed 11–22–65.

Class 51 — Cosmetics and Toilet Preparations

811,457. WONDER SET. J. Strickland & Co. SN 186,027. Pub. 5–3–66. Filed 2–4–64.

811,458. LASH SUPREME. Avon Products, Inc. SN 207,262. Pub. 5–3–66. Filed 12–2–64.

811,459. RPX NO. 12. Buty-Wave Products Co., d.b.a. Rainbow Beauty Supply Co. SN 212,183. Pub. 5–3–66. Filed 2–17–65.

811,460. TENDER LOVING COLOR. Clairol Incorporated. SN 212,735. Pub. 5–3–66. Filed 2–25–65.

811,461. LOVING LOTION. Clairol Incorporated. SN 212,737. Pub. 5–3–66. Filed 2–25–65.

811,462. LOVING COLOR. Clairol Incorporated. SN 212,738. Pub. 5–3–66. Filed 2–25–65.

811,463. LOVING HAIR. Clairol Incorporated. SN 212,746. Pub. 5–3–66. Filed 2–25–65.

811,464. LOVING LIGHTENER. Clairol Incorporated. SN 212,749. Pub. 5–3–66. Filed 2–25–65.

811,465. MASK-AWAY. Luzier Incorporated. SN 212,796. Pub. 5–3–66. Filed 2–25–65.

811,466. SUNRICH. Acme Markets, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 214,227. Pub. 5–3–66. Filed 3–16–65.

811,467. BEAUTY SHADOWS. Viviane Woodard Corporation. SN 214,388. Pub. 5–3–66. Filed 3–17–65.

811,468. BEAUTY LIGHTS. Viviane Woodard Corporation. SN 214,389. Pub. 5–3–66. Filed 3–17–65.

811,469. CORRECTIQUE. Viviane Woodard Corporation. SN 214,397. Pub. 5–3–66. Filed 3–17–65.

811,470. BEGIN AGAIN. La Maur, Inc. SN 215,510. Pub. 5–3–66. Filed 4–1–65.

811,471. MOISTURE SHEEN. Dorothy Perkins Cosmetics, Inc. SN 216,191. Pub. 5–3–66. Filed 4–9–65.

811,472. COLOR NOTE. Clairol Incorporated. SN 217,007. Pub. 5–3–66. Filed 4–21–65.

811,473. COLOR WHIRL. Clairol Incorporated. SN 217,008. Pub. 5–3–66. Filed 4–21–65.

811,474. BRUSH ON BEAUTY. Cosmetically Yours, Inc. SN 218,280. Pub. 5–3–66. Filed 5–7–65.

811,475. AMY NOBLE. Garlin Drug Co., Inc. MULTIPLE CLASS (Classes 51 and 52). SN 220,936. Pub. 5–3–66. Filed 6–11–65.

811,476. CURRIER & IVES. The J. B. Williams Company, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 221,971. Pub. 5–3–66. Filed 6–24–65.

811,477. SOFT & EASY. John H. Breck, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 223,001. Pub. 5–3–66. Filed 7–9–65.

811,478. SOFT & SIMPLE. John H. Breck, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 223,002. Pub. 5–3–66. Filed 7–9–65.

811,479. SOLACE AND DESIGN. Theodore G. Barnes, d.b.a. Solace of Miami. SN 223,627. Pub. 5–3–66. Filed 7–19–65.

811,480. COKO-RAY. Palm Shore Corporation. SN 224,783. Pub. 5–3–66. Filed 8–2–65.

811,481. JEAN DESPREZ. Jean Desprez. SN 224,849. Pub. 5–3–66. Filed 8–3–65.

811,482. NORATHEMA. Dermik Pharmacal Co., Inc. SN 225,012. Pub. 5–3–66. Filed 8–5–65.

811,483. HORIZON. John H. Breck, Inc. SN 226,510. Pub. 4–12–66. Filed 8–26–65.

811,484. SAMURAI. Flavormatic Industries, Inc. SN 227,138. Pub. 5–3–66. Filed 9–3–65.

811,485. TONE-UP. The Realistic Company, assignee of Irvin A. Willat, d.b.a. The Willat Company. SN 228,854. Pub. 5–3–66. Filed 9–28–65.

811,486. PRONTO. Gabrieleen Company, Inc. SN 238,420. Pub. 5–3–66. Filed 2–9–66.

Class 52 — Detergents and Soaps

811,189. (See Class 6 for this trademark.)

811,466. (See Class 51 for this trademark.)

811,475. (See Class 51 for this trademark.)

811,476. (See Class 51 for this trademark.)

811,477. (See Class 51 for this trademark.)

811,478. (See Class 51 for this trademark.)

811,487. COUNSEL. Counsel Laboratories, Inc. SN 190,700. Pub. 5–3–66. Filed 4–9–64.

811,488. MIRACLE D AND DESIGN. Purity Stores, Inc. SN 207,100. Pub. 5–3–66. Filed 7–22–63.

811,489. SILLY SOAP. Aerosol Specialties, Inc. SN 209,646. Pub. 5–3–66. Filed 1–11–65.

811,490. BASOL. Basol Limited. SN 214,236. Pub. 12–28–65. Filed 3–16–65.

811,491. LIQUID BROOM. Joseph D. Conway, d.b.a. Certified Chemical and Equipment Co. SN 214,941. Pub. 5–3–66. Filed 3–24–65.

811,492. DELTA 7 SEVEN AND DESIGN. MacKenzie Chemical Works, Inc. SN 215,234. Pub. 5–3–66. Filed 3–29–65.

811,493. SHADES AHEAD. John H. Breck, Inc. SN 222,653. Pub. 5–3–66. Filed 7–6–65.

811,494. MIL-EMULSIFIER. Milchem Incorporated. SN 225,180. Pub. 5–3–66. Filed 8–6–65.

811,495. SKIN MIST. Colgate-Palmolive Company. SN 228,134. Pub. 3–15–66. Filed 9–20–65.

811,496. DIABLO ROJO. B. T. Babbitt, Inc. SN 235,254. Pub. 5–3–66. Filed 12–27–65.

Service Marks

Class 100 — Miscellaneous

811,497. NORTH AMERICA'S HOSPITALITY DISH. Kentucky Fried Chicken Corporation. SN 209,166. Pub. 5–3–66. Filed 12–31–64.

811,498. TRO. The Richmond Organization, Inc. SN 219,067. Pub. 5–3–66. Filed 5–17–65.

811,499. VM AND DESIGN. Vasco Metals Corporation. SN 222,227. Pub. 5–3–66. Filed 6–28–65.

811,500. CHICKEN VILLA. Kentucky Fried Chicken Corporation. SN 223,422. Pub. 5–3–66. Filed 7–15–65.

811,501. MATCH-O-MATIC. Martha Jean Tobin, d.b.a. Match-O-Matic. SN 224,039. Pub. 5–3–66. Filed 7–22–65.

Class 101 — Advertising and Business

811,502. DIAL SYMBOL AND DESIGN. Tel-Page, Inc. SN 221,763. Pub. 5–3–66. Filed 6–22–65.

811,503. ISI. Institute for Scientific Information. SN 222,844. Pub. 5–3–66. Filed 7–7–65.

Class 102 — Insurance and Financial

811,504. IT'S THE BIG BANK . . . WITH THE LITTLE BANK INSIDE. Continental Illinois National Bank and Trust Company of Chicago. SN 183,741. Pub. 5–3–66. Filed 12–30–63.

Class 103 — Construction and Repair

811,505. "CHESTY" STIMULATOR ETC. AND DESIGN. Producers Chemical Company. MULTIPLE CLASS (Classes 103 and 106). SN 157,138. Pub. 5–3–66. Filed 11–13–62.

811,506. HOUSEHOLD AND DESIGN. Household Burglar Alarm Systems, Inc. SN 213,977. Pub. 5–3–66. Filed 3–12–65.

Class 105 — Transportation and Storage

811,507. GOOD NEIGHBORS ABROAD, INC. ETC. AND DESIGN. Good Neighbors Abroad, Inc. SN 163,507. Pub. 5–3–66. Filed 2–8–63.

811,508. JUNIOR JUNKETS. Junior Junkets Inc. SN 170,539. Pub. 5–3–66. Filed 6–7–63.

Class 106 — Material Treatment

811,505. (See Class 103 for this trademark.)

Class 107 — Education and Entertainment

811,509. MAGAZINE OF THE AIR. Stanton F. Matlock. SN 199,380. Pub. 5–3–66. Filed 8–6–64.

811,510. MISCELLANEOUS DESIGN. Institute for Family Neurosis Research. SN 218,119. Pub. 5–3–66. Filed 4–20–65.

811,511. NCE AND DESIGN. The Board of Trustees of Schools for Industrial Education, d.b.a. Newark College of Engineering. SN 219,178. Pub. 5–3–66. Filed 5–19–65.

811,512. WORLD WIDE SOCIAL DANCING AND DESIGN. Byrnes and Swanson, Inc. SN 222,111. Pub. 5–3–66. Filed 6–28–65.

Collective Membership Mark

Class 200

811,513. AMERICAN MODEL CAR RACING CONGRESS AND DESIGN. American Model Car Raceways, Inc. SN 220,345. Pub. 5–3–66. Filed 6–4–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 17 — Tobacco Products

811,514. Lane Limited, New York, N.Y. SN 229,252. Filed P.R. 10–4–65; Am. S.R. 5–12–66.

ARDSLEY

For Smoking Tobacco.
First use March 1964.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

811,515. Towle Manufacturing Company, Newburyport, Mass., assignee, by mesne assignment, of Charles D. Briddell, Incorporated, d.b.a. Chas. D. Briddell, Inc., Crisfield, Md. SN 220,631. Filed P.R. 6–8–65; Am. S.R. 5–20–66.

CHESAPEAKE

For Cutlery—Namely, Carving Sets and Steak Sets.
First use May 17, 1965.

811,516. The Plymouth Corporation, Cleveland, Ohio. SN 221,405. Filed P.R. 6–17–65; Am. S.R. 5–13–66.

POW-R-CLEANER

For Drain Cleaning Machines.
First use Mar. 19, 1965.

Class 26 — Measuring and Scientific Appliances

811,517. Century Projector Corporation, New York, N.Y. SN 212,857. Filed P.R. 2–26–65; Am. S.R. 5–20–66.

CINE-FOCUS

For Film Focus Stabilizing Apparatus for a Motion Picture Projector.
First use Feb. 1, 1965.

811,518. Spiratone, Inc., Flushing, N.Y., by change of name and assignment of Spiratone, Inc., Flushing, N.Y. SN 215,454. Filed P.R. 3–31–65; Am. S.R. 5–20–66.

DUAL RANGE

For Photographic Accessories and the Cardboard Containers in Which They Are Sold.
First use Mar. 1, 1962.

Class 31 — Filters and Refrigerators

811,519. Zeks Industries, Inc., Edgemont, Pa. SN 207,452. Filed P.R. 12–3–64; Am. S.R. 4–28–66.

KOLD KOOLER

For Evaporator Units for Refrigerators and the Like.
First use Apr. 10, 1963.

Class 34 — Heating, Lighting, and Ventilating Apparatus

811,520. Dyfoam Corporation, New Castle, Pa. SN 192,375. Filed P.R. 4–30–64; Am. S.R. 5–5–66.

FLYSTOP

For Device for Producing an Air Curtain Barrier for Doorways, Cool Storage Rooms, and Other Open Spaces To Prevent Entrance Into the Spaces by Insects.
First use Feb. 13, 1964.

Class 39 — Clothing

811,521. Saul Bros. & Block, Inc., Atlanta, Ga. SN 214,790. Filed P.R. 3–23–65; Am. S.R. 5–17–66.

KILN-KURED

For Women's and Children's Blouses, Shirts, Jackets, Coats, Suits, Dresses, Pants, Knee-Pants, Shorts, Skirts, Robes, Housecoats, Vests, Sweaters, and Swimwear.
First use Feb. 25, 1965.

811,522. Exquisite Form Industries, Inc., New York, N.Y. SN 216,951. Filed P.R. 4–20–65; Am. S.R. 5–17–66.

"NO SIDES"

For Brassieres.
First use Apr. 12, 1965.

Class 44 — Dental, Medical, and Surgical Appliances

811,523. The Algonquin Corporation, d.b.a. Carstens Manufacturing Company, Harwood Heights, Ill. SN 185,975. Filed P.R. 2–4–64; Am. S.R. 5–16–66.

CHART CADDY

For Carriers Adapted To Retain and Store Hospital Charts.
First use Feb. 8, 1963.

Class 46 — Foods and Ingredients of Foods

811,524. Etablissements Lefevre-Utile, Societe en Nom Collectif et en Commandite Simple, Nantes (Loire Atlantique), France. SN 225,124. Filed 8–6–65.

The French words "Le Beurre Nantais" mean "the buttered from Nantes." The German words "Nanteser Mandel-Sandgeback" mean "buttered sandy pastry from Nantes." Owner of French Reg. No. 11,000, dated Mar. 12, 1963 (Nantes); Natl. Inst. No. 948; and U.S. Reg. Nos. 623,641, 623,642, and 782,606.



For Cookies and Biscuits.

811,525. Etablissements Lefevre-Utile, Societe en Nom Collectif et en Commandite Simple, Nantes (Loire Atlantique), France. SN 225,126. Filed 8–6–65.

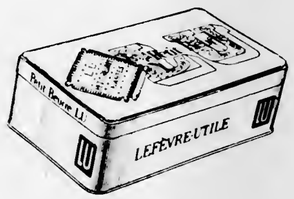
The French words "Paille d'Or aux Frambolses" mean "straw of gold with strawberries." Owner of French Reg. No. 11,312, dated Dec. 15, 1964 (Nantes); Natl. Inst. No. 1,788; and U.S. Reg. Nos. 623,641, 623,642, and 629,243.



For Cookies and Biscuits.

811,526. Etablissements Lefevre-Utile, Societe en Nom Collectif et en Commandite Simple, Nantes (Loire Atlantique), France. SN 225,127. Filed 8–6–65.

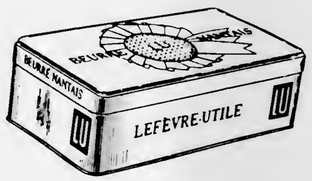
The French words "Petit-Beurre" mean "little butter." Owner of French Reg. No. 11,271, dated Sept. 18, 1964 (Nantes); Natl. Inst. No. 1,689; and U.S. Reg. Nos. 623,641 and 623,642.



For Cookies and Biscuits.

811,527. Etablissements Lefevre-Utile, Societe en Nom Collectif et en Commandite Simple, Nantes (Loire Atlantique), France. SN 225,128. Filed 8–6–65.

The French words "Beurre Nantais" mean "buttered from Nantes." Owner of French Reg. No. 11,336, dated Feb. 5, 1965 (Nantes); Natl. Inst. No. 1,889; and U.S. Reg. Nos 623,641, 623,642, and 782,606.



For Cookies and Biscuits.

TRADEMARK REGISTRATIONS RENEWED

28,605. ALLEN'S FOOT-EASE. Cl. 18. 7–14–1896.
28,905. SHIELD WITH 2 BARLEY STALKS (DESIGN). Cl. 48. 9–29–1896.
50,795. NATURE'S REMEDY AND DESIGN. Cl. 18. 3–27–06.
51,981. BUSTER BROWN. Cl. 39. 5–1–06.
52,507. PON. Cl. 48. 5–8–06.
52,611. DANDY. Cl. 52. 5–15–06.
53,235. INTERLOCK. Cl. 27. 5–29–06.
53,900. PARAGON AND DESIGN. Cl. 41. 6–12–06.
53,901. PARAGON. Cl. 41. 6–12–06.
53,902. FOX (DESIGN). Cl. 41. 6–12–06.
53,909. SCOTCH AND DESIGN (MAN IN HIGHLAND DRESS WITH BAGPIPE). Cl. 46. 6–12–06.
54,051. ROUGH ON RATS. Cl. 6. 6–19–06.
54,273. DIAMOND. Cl. 51. 6–16–06.
54,476. GOLDEN GATE AND DESIGN. Cl. 12. 6–26–06.
54,507. HEAD OF BLACK CAT IN CIRCLE (DESIGN). Cl. 12. 6–26–06.
54,517. PURITAN. Cl. 12. 6–26–06.
55,363. A AND DESIGN. Cl. 28. 8–14–06.
56,097. MATCHLESS HOSIERY. Cl. 39. 8–21–06.
56,567. TANNATE. Cl. 35. 10–9–06.
56,747. D.D.D. Cl. 18. 10–16–06.
212,075. MARBLELOID. Cl. 12. 4–27–26.
212,206. COLOTATO. Cl. 46. 4–27–26.
212,801. LB. Cl. 32. 5–11–26.
213,586. INDOLENE. Cl. 15. 6–1–26.
213,939. DART. Cl. 39. 6–8–26.
213,977. CDX. Cl. 44. 6–8–26.
214,098. KIRK. Cl. 39. 6–15–26.
214,170. OLD HOSPITALITY. Cl. 49. 6–15–26.
214,759. CALAVO. Cl. 46. 7–6–26.
215,081. POND'S. Cl. 51 7–13–26.
215,857. LUMBER CO. AND DESIGN. Cl. 12. 7–27–26.
216,178. MEDABOG. Cl. 46. 8–3–26.
216,343. STIMPSON. Cl. 14. 8–10–26.
216,574. GIRL'S HEAD (DESIGN). Cl. 46. 8–17–26.
216,752. ALVIN. Cl. 28. 8–17–26.
216,812. KAYTEX. Cl. 39. 8–24–26.
218,299. VALMOR. Cl. 51. 9–21–26.
218,480. DURALIN AND DESIGN. Cl. 16. 9–28–26.
219,675. ALBOTOL. Cl. 18. 10–19–26.
219,835. FLORAL. Cl. 46. 10–26–26.
219,845. HOME RUN. Cl. 22. 10–26–26.
219,993. DUL-GLO. Cl. 16. 10–26–26.
220,198. RC. Cl. 13. 11–2–26.
220,199. H. Cl. 13. 11–2–26.
220,207. MR. Cl. 13. 11–2–26.
220,370. NON-AKE. Cl. 18. 11–9–26.
220,447. CARECO ONE PIECE FURNACE LINING AND TRIANGLE DESIGN. Cl. 12. 11–9–26.
221,042. CHALLENGE AND DESIGN. Cl. 46. 11–23–26.
413,622. MEPCO AND DESIGN. Cl. 21. 5–1–45.
420,098. PLASTOLEIN. Cl. 6. 3–26–46.
420,916. S AND DESIGN. Cl. 26. 5–7–46.
421,017. 666. Cl. 42. 5–14–46.
421,166. ATOMIC. Cl. 52. 5–21–46.
421,181. EAGLE DESIGN. Cl. 27. 5–21–46.
421,204. FLEXBOND. Cl. 5. 5–21–46.
421,344. BANGO BRIGHT. Cl. 51. 5–28–46.
421,379. DITHER. Cl. 51. 5–28–46.
421,450. CHENEY AND DESIGN. Cl. 39. 6–4–46.
421,794. NORTHERN. Cl. 37. 6–18–46.
421,818. STEROX. Cl. 52. 6–18–46.
422,080. DUPONT AND DESIGN. Cl. 15. 7–2–46.
422,100. POLAROID. Cl. 26. 7–2–46.
422,330. JAMBOREE. Cl. 51. 7–16–46.
422,755. DURO-TEST. Cl. 21. 8–13–46.
422,800. GUNK. Cl. 52. 8–13–46.
422,836. MOLD MASTER. Cl. 32. 8–13–46.
422,999. COSMOPOLITAN. Cl. 51. 8–20–46.
423,000. SOCIALITE. Cl. 51. 8–20–46.
423,472. BRUNTON. Cl. 26. 9–3–46.
423,847. TARTAN. Cl. 18. 9–10–46.
424,144. SUZY-BEL. Cl. 46. 9–24–46.
424,301. LEROI. Cl. 46. 10–1–46.
424,342. PS (DESIGN). Cl. 14. 10–1–46.
424,721. TRIOPHEN. Cl. 18. 10–22–46.
424,783. VEEGUM. Cl. 6. 10–22–46.
424,788. DI-SULFALAC. Cl. 18. 10–22–46.
424,905. CELLUFLOC. Cl. 1. 10–29–46.
424,908. HOLOFLUX. Cl. 34. 10–29–46.
425,132. NOPCO KF. Cl. 6. 11–5–46.
425,133. KF. Cl. 6. 11–5–46.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued May 31, 1960

698,317. NORLITE ETC. AND DESIGN. Cl. 1.
698,323. LANDSCAPER. Cl. 1.
698,324. MAYCLAY. Cl. 1.
698,325. MAY BROTHERS INC. ETC. AND DESIGN. Cl. 1.
698,335. PRECISION WARE AND DESIGN. Cl. 2.
698,338. STA-PUT. Cl. 2.
698,340. KAUTEX. Cl. 2.
698,343. TYMINDEX. Cl. 2.
698,345. ORBIT. Cl. 2.
698,348. KARINA. Cl. 3.
698,354. SAJP. Cl. 5.
698,355. STA-PUT. Cl. 5.
698,361. QUAKER REX. Cl. 6.
698,367. DROPLET (DESIGN). Cl. 6.
698,370. CONOCO H-35. Cl. 6.
698,372. SA-TEST. Cl. 6.
698,377. COLORSHINE. Cl. 6.
698,379. CROPMASTER. Cl. 7.
698,385. KROMATEX. Cl. 11.
698,387. COMMON SENSE VENTILATORS AND DESIGN. Cl. 12.
698,388. IGLOO WALL. Cl. 12.
698,389. CASTLECOR CONSTRUCTION. Cl. 12.
698,390. WINDAWN. Cl. 12.
698,394. SCHJELTARP. Cl. 12.
698,395. GUNTAX. Cl. 12.
698,400. SAMEX. Cl. 12.
698,401. SHAD-O-CLIP. Cl. 12.
698,406. SIMONEX. Cl. 12.
698,412. INSTANT SHELVES. Cl. 13.
698,429. EL PASO BLUE FLAME AND DESIGN. Cl. 15.
698,434. POWER-GLO AND DESIGN. Cl. 15.
698,435. AUTO BLITZ. Cl. 15.
698,438. VINYLINE. Cl. 16.
698,439. FLAMECHEX. Cl. 16.
698,444. SPRAYOLA. Cl. 16.
698,450. CAREER. Cl. 17.
698,451. BROWN BEAUTIES AND DESIGN. Cl. 17.
698,452. EL BOSQUE. Cl. 17.
698,453. LION'S HEAD. Cl. 17.
698,459. SALUVIMS AND DESIGN. Cl. 18.
698,461. A-1 AND DESIGN. Cl. 18.
698,462. DO-4-ALL. Cl. 18.
698,467. PANSTEROID. Cl. 18.
698,470. FINE FLOCK. Cl. 18.
698,482. IRONDEX-100. Cl. 18.
698,485. CONOMA. Cl. 18.
698,489. INVADER. Cl. 19.
698,492. RAINBOW AND DESIGN. Cl. 19.
698,493. LAKEWOOD. Cl. 19.
698,499. HI THOR. Cl. 21.
698,502. LINE-FITS. Cl. 21.
698,506. S-T-A. Cl. 21.
698,508. SELL-O-PAK. Cl. 21.
698,509. GEOMETRIC DESIGN. Cl. 21.
698,511. JEFF'S UPSIDE-DOWN. Cl. 22.

698,512. TRAV-L-TAG. Cl. 22.
698,513. CHANGE IT. Cl. 22.
698,517. DAKOTA AND DESIGN. Cl. 23.
698,519. DRILLROUTER AND DESIGN. Cl. 23.
698,521. THIRD HAND CLAMP AND DESIGN. Cl. 23.
698,525. WHIPSLEEVE. Cl. 23.
698,526. CHALLENGE. Cl. 23.
698,531. DRILRITE. Cl. 23.
698,532. W AND DESIGN. Cl. 23.
698,533. ALUMA-FORMER. Cl. 23.
698,535. GRO-CART. Cl. 23.
698,540. CRUSH MASTER. Cl. 23.
698,541. ELEGANCE. Cl. 23.
698,550. SPORTSMAN. Cl. 26.
698,555. SAF-I-SHADE. Cl. 26.
698,558. HI-AC. Cl. 26.
698,562. MATH-MASTER. Cl. 26.
698,568. KONTUREX. Cl. 26.
698,572. DINOFLEX. Cl. 26.
698,573. DINOLITH SUPRA THIN. Cl. 26.
698,574. DINOLINE. Cl. 26.
698,575. KERN-TROIOMATIC. Cl. 26.
698,576. KERN-MONOMATIC. Cl. 26.
698,584. LINMARK. Cl. 26.
698,586. MEGA-STUB. Cl. 26.
698,588. SCREW-BALL. Cl. 28.
698,589. DATE-LOCK. Cl. 28.
698,595. BACK CARE WITH BUILT-IN BEDBOARD AND DESIGN. Cl. 32.
698,605. GULF SEALMASTER. Cl. 35.
698,607. UNITSEAL. Cl. 35.
698,609. FLUXDRIVE. Cl. 36.
698,610. A VISION IN SOUND AND DESIGN. Cl. 36.
698,611. CANDEE. Cl. 36.
698,612. FAIRLANE. Cl. 36.
698,617. POSTAL GRINS. Cl. 37.
698,618. POSTAL GRAMS. Cl. 37.
698,620. WFMT FINE ARTS GUIDE. Cl. 38.
698,621. SPACE JOURNAL. Cl. 38.
698,623. NEW YORK MIRROR MAGAZINE. Cl. 38.
698,627. HOGCAST. Cl. 38.
698,632. SLIDGE-TO-SIZE. Cl. 39.
698,633. UNIFORMLY YOURS. Cl. 39.
698,636. KORONET. Cl. 39.
698,637. NIC. Cl. 39.
698,638. IMPRESOL. Cl. 39.
698,646. ALOHA. Cl. 39.
698,650. L & M LEAN & MASCULINE AND DESIGN. Cl. 39.
698,654. KIMBALL. Cl. 39.
698,658. HELENE MOORE. Cl. 39.
698,660. CHINCHILLERE. Cl. 39.
698,662. ETES DE FRANCE. Cl. 42.
698,666. KETCHIKAN. Cl. 42.
698,668. MAGIC-DRAPE. Cl. 42.
698,675. TELETHERM. Cl. 44.
698,681. VITA SUN. Cl. 46.
698,682. WANDA. Cl. 46.
698,683. BRIEU. Cl. 46.
698,688. FARM PAK AND DESIGN. Cl. 46.
698,689. PALA RANCH. Cl. 46.
698,690. SURVIVOGEN. Cl. 46.
698,692. BOBO AND DESIGN. Cl. 46.
698,694. SCOOPEE DOOZ. Cl. 46.
698,700. FRESHERIZED PAK. Cl. 46.
698,701. DOWNEASTER. Cl. 46.
698,704. GIANT PENGUIN. Cl. 46.
698,705. KING TASTE MARTHA DEE AND DESIGN. Cl. 46.
698,713. LITTLE EVA. Cl. 46.
698,714. ANITA. Cl. 46.
698,718. AMERICL. Cl. 47.
698,719. AMERICL. Cl. 48.
698,721. AMERICL. Cl. 49.
698,726. RUTH ALLEN. Cl. 51.
698,729. LUV. Cl. 51.
698,731. MASSACRE. Cl. 51.
698,733. DYNEX AND DESIGN. Cl. 100.
698,738. UNIVERSAL CORRESPONDENCE SCHOOL OF MATHEMATICS AND DESIGN. Cl. 107.
698,740. WEST COAST ELECTRONIC ETC. AND DESIGN. Cl. 200.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

54,722. REO. Cl. 19. 6-26-06. Reo Car Co. White Motor Corporation, Cleveland, Ohio. Amended: In the heading and in the statement, column 2, line 7 "automobile" is deleted and *automotive* is inserted.

727,777. SAUERS INVINCIBLE AND DESIGN. Cl. 46. 2-20-62. Gilster Milling Company, doing business as Gilster Milling Co., Chester, Ill. Corrected: In the statement, column 1, line 1, "Co., Inc." should be deleted and *Company* should be inserted.

733,978. AUSTIN-HILL BT AND DESIGN. Cl. 39. 7-3-62. Baltimore Trouser Co., Inc., Baltimore, Md. Amended to appear:

Ah! Austin hill

747,304. ALTEC LANSING CORPORATION AND DESIGN. Cl. 36. 3-26-63. Altec Lansing Corporation. LTV Ling ALTEC, INC., Anaheim, Calif. Amended: In the statement, column 2, line 6 is deleted, and the drawing is amended to appear:

ALTEC
LANSING

790,861. JOHNSON'S. Cl. 1, 4, 6, 15, 16, 21, 29, and 52. 6-15-65. S. C. Johnson & Son, Inc., Racine, Wis. Amended to appear:

Johnson

802,863. DEMAND. Cl. 52. 1-25-66. The Procter & Gamble Company, Cincinnati, Ohio. Corrected: In the statement, column 2, line 1, "household" should be deleted and *institutional* should be inserted.

802,864. MOTION. Cl. 52. 1-25-66. The Procter & Gamble Company, Cincinnati, Ohio. Corrected: In the statement, column 2, line 1, "household" should be deleted and *institutional* should be inserted.

806,372. REALM. Cl. 36. 3-29-66. CBS Records Limited, by change of name from Oriole Records Limited, London, England. Corrected: In the statement, column 1, before line 1, *CBS Records Limited by change of name from* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

218,465. DOUBLE Q. Cl. 46. P. E. Harris & Co. 9-28-26. New Cert. Sec. 7(c) to Peter Pan Seafoods, Inc., Seattle, Wash.

683,418. VAGABOND. Cl. 51. Helene Curtis Industries, Inc. 8-11-59. New Cert. Sec. 7(c) to "42" Products, Ltd., Inc., Santa Monica, Calif.

762,467. SAFEGARD. Cl. 18. Alberto-Culver Company. 12-31-63. New Cert. Sec. 7(c) to The Procter & Gamble Company, Cincinnati, Ohio.

772,348. PAPERTRONICS. Cl. 37. Papertronics, Inc. 6-30-64. New Cert. Sec. 7(c) to Hammermill Paper Company, Erie, Pa.

782,865. RECTANGULAR DESIGN HAVING A WHITE CIRCULAR CENTER. Cl. 37. Papertronics, Inc. 1-5-65. New Cert. Sec. 7(c) to Hammermill Paper Company, Erie, Pa.

790,866. TYRIAN GLO. Cl. 1. United Mink Producers Association. 6-15-65. New Cert. Sec. 7(c) to Emba Mink Breeders Association, Racine, Wis.

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Freeman & Gossage, Inc., San Francisco, Calif. 811,254, pub. 5–3–66. Cl. 17.
Gabrieleen Co., Inc., Chicago, Ill. 811,486, pub. 5–3–66. Cl. 51.
Gale Broadcasting Co., Inc., Chicago, Ill. 698,620, canc. Cl. 38.
Garlin Drug Co., Inc., New York, N.Y. 811,475, pub. 5–3–66. Multiple Class (Classes 51 and 52).
Gebhardt, W. F., & Co.: *See*—
Gebhardt, William F.
Gebhardt, William F., d.b.a. W. F. Gebhardt & Co., Baltimore, Md. 698,513, canc. Cl. 22.
Geigy Chemical Corp., Ardsley, N.Y. 811,194, pub. 5–3–66. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 811,191, pub. 5–3–66. Cl. 6.
General Electric Co.: *See*—
Victor X-Ray Corp.
General Motors Corp., Detroit, Mich. 698,489, canc. Cl. 19.
Georgia-Pacific Corp.: *See*—
Puget Sound Pulp & Timber Co.
Generac Corp., Genesee Depot, Wis. 811,281, pub. 5–3–66. Cl. 21.
General Electric Co., Schenectady, N.Y. 811,161, pub. 5–3–66. Cl. 1.
General Time Corp., New York, N.Y. 811,363, pub. 5–3–66. Cl. 37.
Genie Wigs, Inc., New York, N.Y. 811,392, pub. 5–3–66. Cl. 40.
Gilsonite Process Distributors, Santa Fe Springs, Calif. 811,224, pub. 5–3–66. Cl. 12.
Glister Milling Co.: *See*—
Glister Milling Co.
Glister Milling Co., d.b.a. Glister Milling Co., Chester, Ill. 727,777, cor. Cl. 46.
Gioia, Carl, d.b.a. State Produce Brokers, Los Angeles, Calif. 811,449, pub. 5–3–66. Cl. 46.
Golomb, Joseph L., d.b.a. Aircompco, Stelton, N.J. 698,521, canc. Cl. 23.
Good Neighbors Abroad, Inc., San Francisco, Calif. 811,507, pub. 5–3–66. Cl. 105.
Goodrich, B. F., Co., The, Akron, Ohio. 811,170, pub. 5–3–66. Cl. 1.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 811,206, pub. 5–3–66. Cl. 7.
Gordon, Claud S., Co., Cleveland, Ohio. 811,285, pub. 5–3–66. Cl. 21.
Gunk Laboratories, Inc.: *See*—
Curran Corp., The.
Gulf Oil Corp., Pittsburgh, Pa. 698,605, canc. Cl. 35.
Greene, Tweed & Co., Inc., from Greene Tweed & Co., North Wales, Pa. 811,357, pub. 5–3–66. Cl. 35.
Greene Tweed & Co.: *See*—
Greene, Tweed & Co., Inc.
Gregg Co. Inc., The, East Riverton, N.J. 811,250, pub. 5–3–66. Cl. 16.
Grip-Flex Corp., Philadelphia, Pa. 811,391, pub. 5–3–66. Cl. 40.
H. & M. Sportswear, Inc., New Bedford, Mass. 698,658, canc. Cl. 39.
Haas Chemical Corp., Scranton, Pa. 698,444, canc. Cl. 16.
Hagen, Reinold, Hangelar uber Siegburg, Germany. 698,340, canc. Cl. 2.
Hammermill Paper Co.: *See*—
Papertronics, Inc.
Handcraft Inc., New York, N.Y. 811,379, pub. 5–3–66. Cl. 39.
Harris, P. E., & Co., to Peter Pan Seafoods, Inc., Seattle, Wash. 218,465, new cert. Cl. 46.
Hartman-Leddon Co., Inc., Philadelphia, Pa. 811,195, pub. 5–3–66. Cl. 6.
Haveg Industries, Inc., Wilmington, Del. 811,393, pub. 5–3–66. Cl. 40.
Hatchery, Wilford: *See*—
Wilford, Harvey M.
Hearst Corp., The, New York, N.Y. 698,623, canc. Cl. 38.
Heberlein & Co., Ag., Wattwil, Switzerland. 811,404, pub. 5–3–66. Cl. 43.
Heberlein & Co. Ag., Wattwil, Switzerland. 811,400, pub. 5–3–66. Cl. 42.
Heddon's, James, Sons, Dowagiac, Mich. 811,307, pub. 5–3–66. Cl. 22.
Hillerich & Bradsby Co., Louisville, Ky. 219,845, ren. 7–19–66. Cl. 22.
Hood, H. P., & Sons, Inc., Boston, Mass. 698,704, canc. Cl. 46.
Hollywood Hi-Fi, Inc., San Bernardino, Calif. 698,609, canc. Cl. 36.
Holophane Co., Inc., New York, N.Y. 424,908, ren. 7–19–66. Cl. 34.
Homasote Co., Trenton, N.J. 811,216, pub. 5–3–66. Cl. 12.
Household Burglar Alarm Systems, Inc., Hollywood, Fla. 811,506, pub. 5–3–66. Cl. 103.
House of Stuart, Inc., The, Newark, N.Y. 698,731, canc. Cl. 51.
Hunt, Philip A., Chemical Corp., Palisades Park, N.J. 811,202, pub. 5–3–66. Cl. 6.
Huntington Laboratories, Inc., Huntington, Ind. 811,244, pub. 5–3–66. Cl. 16.
Hurst, N. K., Co., Inc., Indianapolis, Ind. 811,439, pub. 5–3–66. Cl. 46.
Hyland Laboratories, Los Angeles, Calif. 698,372, canc. Cl. 6.
Ideal Cement Co.: *See*—
Pacific Portland Cement Co.
Independent Oil and Gas Co., Tulsa, Okla., to The American Oil Co., Chicago, Ill. 213,586, ren. 7–19–66. Cl. 15.
Ing. W. Obertil Aktiengesellschaft, Dubendorf, Zurich, Switzerland. 811,188, pub. 5–3–66. Cl. 6.
Institute for Scientific Information, Philadelphia, Pa. 811,503, pub. 5–3–66. Cl. 101.
Insular Products Corp., Houston, Tex. 811,219, pub. 5–3–66. Cl. 12.
Invenex Pharmaceuticals, San Francisco, Calif. 811,261, pub. 3–1–66. Cl. 18.
Imperial Chemical Industries, Ltd., Millbank, London, England. 811,185–6, pub. 5–3–66. Cl. 6.
Institute for Family Neurosis Research, Sherman Oaks, Calif. 811,510, pub. 5–3–66. Cl. 107.
Jacklin Seed Co., Inc., d.b.a. Terra Products, Dishman, Wash. 811,212, pub. 5–3–66. Cl. 10.
Jacobs Bros., Inc., Baltimore, Md. 698,633, canc. Cl. 39.
James Mfg. Co., Inc., Kansas City, Mo., from Rockwood & Co., d.b.a. James Mfg. Co., Chicago, Ill. 811,453, pub. 5–3–66. Cl. 50.
Jeffs Arithmetic Aids: *See*—
Radiant Oil Co.
Jerrico, Inc., d.b.a. Jerry's, Lexington, Ky. 811,443, pub. 5–3–66. Cl. 46.
Johnson, S. C., & Son, Inc., Racine, Wis. 790,861. Am. 7(d). Multiple Class (Classes 1, 4, 6, 15, 16, 21, 29, and 52).
Junior Junkets, Inc., Takoma Park, Md. 811,508, pub. 5–3–66. Cl. 105.
Kaminsky, H. R., & Sons, Inc., Fitzgerald, Ga. 811,375, pub. 5–3–66. Cl. 39.
Kaspar Winkler & Co., Zurich, Switzerland. 811,213, pub. 5–3–66. Cl. 12.
Kayser-Roth Corp.: *See*—
Kayser, Julius, & Co.
Kay Electric Co., Pine Brook, N.J. 698,586, canc. Cl. 26.
Kayser, Julius, & Co., to Kayser-Roth Corp., New York, N.Y. 216,512, ren. 7–19–66. Cl. 39.
Keating of Chicago, Inc., Chicago, Ill. 811,227, pub. 3–8–66. Cl. 13.
Kentucky Fried Chicken Corp., Shelbyville, Ky. 811,497, pub. 5–3–66. Cl. 100.
Kentucky Fried Chicken Corp., Nashville, Tenn. 811,500, pub. 5–3–66. Cl. 100.
Kenwood Laboratories, Inc., Brooklyn, N.Y. 698,467, canc. Cl. 18.
Kern & Co. Ltd., Aarau, Switzerland. 698,575–6, canc. Cl. 26.
Kimball, J. H., Inc., New York, N.Y. 698,654, canc. Cl. 39.
King, J. B., & Co., New York, N.Y., to United States Gypsum Co., Chicago, Ill. 54,517, ren. 7–19–66. Cl. 12.
Kittanning Refractories, Inc., Nealton, Kittanning, Pa. 698,400, canc. Cl. 12.
Kontur Kontact Lens Co., Inc., Richmond, Calif. 698,568, canc. Cl. 26.
Kransco Mfg., Inc., San Francisco, Calif. 811,293–4, pub. 5–3–66. Cl. 22.
Kresge, S. S., Co., Detroit, Mich. 811,290, pub. 5–3–66. Cl. 21.
Kyanize Paints, Inc., Everett, Mass. 811,249, pub. 5–3–66. Cl. 16.
LTV Ling Altec, Inc.: *See*—
Altex Lansing Corp.

La Maur, Inc., Minneapolis, Minn. 811,470, pub. 5-3-66. Cl. 51.
Lane, E. F., & Son, San Francisco, Calif. 811,440, pub. 5-3-66. Cl. 46.
Lane, Ltd., New York, N.Y. 811,514. Cl. 17.
Lenox, Inc., Trenton, N.J. 811,345, pub. 5-3-66. Cl. 33.
Le Page's Ltd., Toronto, Ontario, Canada. 811,240, pub. 3-29-66. Cl. 16.
Lever Bros. Co.: *See*—
Fairbank, N. K., Co., The.
Lewis, A. H., Medicine Co., The, to Lewis-Howe Co., St. Louis, Mo. 50,795, ren. 7-19-66. Cl. 18.
Lewis-Howe Co.: *See*—
Lewis, A. H., Medicine Co., The.
Library Bureau, Cambridge, Mass., to Sperry Rand Corp., New York, N.Y. 212,801, ren. 7-19-66. Cl. 32.
Link-Belt Co., Chicago, Ill. 220,198-9, ren. 7-19-66. Cl. 13.
Link-Belt Co., Chicago, Ill. 220,207, ren. 7-19-66. Cl. 13.
Linmark International Corp., New York, N.Y. 698,584, canc. Cl. 26.
Lowrance Produce Co., Joplin, Mo. 698,692, canc. Cl. 46.
Luzier Inc., Kansas City, Mo. 811,465, pub. 5-3-66. Cl. 51.
MacKenzie Chemical Works, Inc., Central Islip, N.Y. 811,-492, pub. 5-3-66. Cl. 52.
Madison Electrical Products Corp., to Forestville Industries, Inc., New York, N.Y. 413,622, ren. 7-19-66. Cl. 21.
Major, Helen, d.b.a. Helen Major's Kitchen, Los Angeles, Calif. 811,428, pub. 5-3-66. Cl. 46.
Major-Dent U.S.A.: *See*—
Shimer, F. Alexander.
Major's, Helen, Kitchen: *See*—
Major, Helen.
Mallinckrodt Chemical Works, St. Louis, Mo. 811,269, pub. 5-3-66. Cl. 18.
Marbleloid Co., The, New York, N.Y., to The Marbleloid Corp., North Bergen, N.J. 212,075, ren. 7-19-66. Cl. 12.
Marbleloid Corp., The: *See*—
Marbleloid Co., The.
Marquette Electronics: *See*—
Cudahy, Michael J.
Marshville Poultry Co.: *See*—
Armour and Co.
Marx, Louis, & Co., Inc., New York, N.Y. 811,325, pub. 5-3-66. Cl. 22.
Masco Corp., Detroit, Mich. 811,292, pub. 5-3-66. Cl. 22.
Matlock, Stanton F., Cincinnati, Ohio. 811,509, pub. 5-3-66. Cl. 107.
Matney, Arthur: *See*—
Socialite Cosmetics, Inc.
Mattel, Inc., Hawthorne, Calif. 811,318-21, pub. 5-3-66. Cl. 22.
May Bros., Inc., Garden City, La. 698,324-5, canc. Cl. 1.
McKesson & Robbins, Inc., Brooklyn, to McKesson & Robbins, Inc., New York, N.Y. 219,675, ren. 7-19-66. Cl. 18.
McKesson & Robbins, Inc., New York, N.Y. 423,847, ren. 7-19-66. Cl. 18.
Mead Johnson & Co., Evansville, Ind. 811,275, pub. 5-3-66. Cl. 18.
Mercury Record Productions, Inc., Chicago, Ill. 811,286, pub. 5-3-66. Multiple Class (Classes 21 and 36).
Messmer, Ed., Frankfurt/Main, Germany. 811,419, pub. 5-3-66. Cl. 46.
Metal Hydrides, Inc., Beverly, Mass. 811,200, pub. 5-3-66. Cl. 6.
Miami Margarine Co., The, Cincinnati, Ohio. 811,418, pub. 5-3-66. Cl. 46.
Milani Foods, Inc., Los Angeles, Calif. 811,435, pub. 5-3-66. Cl. 46.
Milchem Inc., Houston, Tex. 811,494, pub. 5-3-66. Cl. 52.
Miller Electric Mfg. Co., Appleton, Wis. 811,352, pub. 5-3-66. Cl. 34.
Mizzy, Inc., Clifton Forge, Va. 811,414, pub. 5-3-66. Cl. 44.
Modern Metal Products Co., Greensboro, N.C. 698,540, canc. Cl. 23.
Mohr Orchards, Inc., Fogelsville, Pa. 811,421, pub. 5-3-66. Cl. 46.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 421,-818, ren. 7-19-66. Cl. 52.
Monsanto Co.: *See*—
Monsanto Chemical Co.
Monsanto Co., St. Louis, Mo. 811,203, pub. 5-3-66. Cl. 6.
Moore, Doris, of California, Inc., Long Beach, Calif. 811,306, pub. 5-3-66. Cl. 22.
Morak Brakes, Inc., Brooklyn, N.Y. 811,278, pub. 5-3-66. Cl. 19.
Mortell, J. W., Co., Kankakee, Ill. 811,223, pub. 5-3-66. Cl. 12.
Multicolor Corp., Florence, Mass. 811,364, pub. 5-3-66. Cl. 37.
Mutual Shoe Sales Co.: *See*—
Admiral Shoe Corp.
N.V. Sigarettenfabriek Ed. Laurens "Le Khedive," The Hague, Netherlands. 811,256, pub. 5-3-66. Cl. 17.
NVF Co., from National Vulcanized Fibre Co., Wilmington, Del. 811,220, pub. 5-3-66. Cl. 12.
Namko Produce Co. Inc., San Jose, Calif. 698,713, canc. Cl. 46.
Nash, C. A., & Son, Inc., Norfolk, Va. 219,993, ren. 7-19-66. Cl. 16.
National Distillers and Chemical Corp.: *See*—
Wathen, R. E., & Co.
National Distillers Products Co.: *See*—
Wathen, R. E., & Co.
National Marking Machine Co., The, Cincinnati, Ohio. 698,-385, canc. Cl. 11.
National Tea Co., Chicago, Ill. 811,431, pub. 5-3-66. Cl. 46.
National Vulcanized Fibre Co.: *See*—
NVF Co.
National-Oil Products Co., Harrison, N.J., to Nopco Chemical Co., Newark, N.J. 425,132-3, ren. 7-19-66. Cl. 6.
Neiman-Marcus Co., Dallas, Tex. 698,660, canc. Cl. 39.
New Castle Products, Inc., New Castle, Ind. 811,395, pub. 5-3-66. Cl. 42.
New York Stock Exchange, New York, N.Y. 811,372, pub. 5-3-66. Cl. 38.
Nielsen, Paul, d.b.a. Stanwell Briar Pipes, Kyringe, near Ringsted, Denmark. 811,208, pub. 5-3-66. Cl. 31.
Nippon Toki Kabushiki Kaisha, Nishiku, Nagoya, Japan. 811,-172, pub. 5-3-66. Cl. 2.
Nirenberg, M., Sons, Inc., New York, N.Y. 811,377, pub. 5-3-66. Cl. 39.
Nopco Chemical Co.: *See*—
National-Oil Products Co.
Norkin Laboratories: *See*—
Dr. Reeves Products.
Norris Paint and Varnish Co., Inc., Salem, Oreg. 811,245, pub. 5-3-66. Cl. 16.
Northern Lightweight Aggregate, Inc., Cohoes, N.Y. 698,317, canc. Cl. 1.
Northern Paper Mills, Green Bay, Wis., to American Can Co., New York, N.Y. 421,794, ren. 7-19-66. Cl. 37.
Northwest Foundry & Furnace Co., Portland, Oreg. 811,347, pub. 5-3-66. Cl. 34.
Nuclear Insulation Corp., Manhattan Beach, Calif. 698,637, canc. Cl. 39.
O.K.I. Supply Co., Cincinnati, Ohio. 811,336, pub. 5-3-66. Cl. 26.
O'Brien Corp., The, South Bend, Ind. 811,242, pub. 3-8-66. Cl. 16.
O'Brien, Thomas A., and Michael T. O'Brien, Bryant, Wis. 811,432, pub. 5-3-66. Cl. 46.
Oil Marketing Equipment Co., Inc., Redwood City, Calif. 811,230, pub. 5-3-66. Cl. 13.
Olmsted, Allen S., Leroy, N.Y., to Foster-Milburn Co., Buffalo, N.Y. 28,605, ren. 7-19-66. Cl. 18.
Oriole Records, Ltd.: *See*—
CBS Records Ltd.
Orthopedic Equipment Co., Inc., Bourbon, Ind. 811,412, pub. 5-3-66. Cl. 44.
Pacific Portland Cement Co., San Francisco, Calif., to Ideal Cement Co., Denver, Colo. 54,476, ren. 7-19-66. Cl. 12.
Packaged Lighting Services, Inc., New York, N.Y. 811,283, pub. 5-3-66. Cl. 21.
Palm Shore Corp., Miami, Fla. 811,480, pub. 5-3-66. Cl. 51.
Palmer, Alex D.: *See*—
Cadaco, Inc.
Papertronics, Inc., to Hammermill Paper Co., Erie, Pa. 772,-348, new cert. Cl. 37.
Papertronics, Inc., to Hammermill Paper Co., Erie, Pa. 782,-865, new cert. Cl. 37.
Parisi, Dominick, d.b.a. Wizard Products Co., Chicago, Ill. 698,461, canc. Cl. 18.
Pearce-Young-Angel Co., Greenville, S.C. 811,427, pub. 5-3-66. Cl. 46.
Pep Boys, Manny, Moe & Jack, Philadelphia, Pa. 811,356, pub. 5-3-66. Cl. 35.
Perkins, Dorothy, Cosmetics, Inc., St. Louis, Mo. 811,471, pub. 5-3-66. Cl. 51.
Peter Pan Seafoods, Inc.: *See*—
Harris, P. E., & Co.
Pettibone Mulliken Corp., Chicago, Ill. 811,333, pub. 10-5-65. Cl. 23.
Pfeifer, Louis, d.b.a. Pfeifer Mfg. & Sales Co., Champaign, Ill. 698,355, canc. Cl. 5.
Pfeifer Mfg. & Sales Co.: *See*—
Pfeifer, Louis.
Pfeiffer Co., The: *See*—
Pfeiffer, S., Mfg. Co.
Pfeiffer, S., Mfg. Co., to The Pfeiffer Co., St. Louis, Mo. 220,370, ren. 7-19-66. Cl. 18.
Pfizer, Chas., & Co., Inc., New York, N.Y. 811,177, pub. 5-3-66. Cl. 6.
Philadelphia Ampoule Laboratories, Inc., Philadelphia, Pa. 698,482, canc. Cl. 18.
Philadelphia Quartz Co., Philadelphia, Pa. 811,190, pub. 5-3-66. Cl. 6.
Pleil, George, d.b.a. Talon Paint Products Co., Jersey City, N.J. 811,252, pub. 5-3-66. Cl. 16.
Pickering Lumber Corp.: *See*—
Pickering, W. R., Lumber Co.
Pickering, W. R., Lumber Co., Pickering, La., and Kansas City, Mo., to Pickering Lumber Corp., Standard, Calif. 215,857, ren. 7-19-66. Cl. 12.
Piland, J. A.: *See*—
Piland, Julius A.
Piland, Julius A., d.b.a. J. A. Piland, Philadelphia, Pa. 811,248, pub. 5-3-66. Cl. 16.
Pink Pussycat of Hollywood, Los Angeles, Calif. 811,370, pub. 5-3-66. Cl. 38.
Pivot Punch & Die Corp., North Tonawanda, N.Y. 698,525, canc. Cl. 23
Plas-Steel Products, Inc., Walkerton, Ind. 811,324, pub. 5-3-66. Cl. 22.
Plymouth Cordage Co., Plymouth, Mass. 811,211, pub. 5-3-66. Cl. 10.
Plymouth Corp., The, Cleveland, Ohio. 811,516. Cl. 23.
Plymouth Rubber Co., Inc., Canton, Mass. 811,167, pub. 5-3-66. Cl. 1.
Polaroid Corp., Cambridge, Mass. 422,100, ren. 7-19-66. Cl. 26.
Pollak Steel Co., The, Cincinnati, Ohio. 424,342, ren. 7-19-66. Cl. 14.
Pond's Extract Co., to Chesebrough-Pond's Inc., New York, N.Y. 215,081, ren. 7-19-66. Cl. 51.

Pond's Extract Co., to Chesebrough-Pond's Inc., New York, N.Y. 421,379, ren. 7-19-66. Cl. 51.
Port of Call Paint Co.: *See*—
Tanksley, Neeld D.
Power-Glo Mfg. Co.: *See*—
Vanguard Enterprises, Inc.
Poz-O-Pac Co. of America, Plymouth Meeting, Pa. 811,221, pub. 5-3-66. Cl. 12.
Pray, Dr. J. Parker, Co., Ltd., to Chesebrough-Pond's Inc., New York, N.Y. 54,273, ren. 7-19-66. Cl. 51.
Prescolite Mfg. Corp., San Leandro, Calif. 811,246, pub. 5-3-66. Cl. 16.
Prince Macaroni Mfg. Co., Lowell, Mass. 811,423, pub. 5-3-66. Cl. 46.
Prince Matchabelli, Inc., to Chesebrough-Pond's Inc., New York, N.Y. 421,344, ren. 7-19-66. Cl. 51.
Procter & Gamble Co., Cincinnati, Ohio. 802,863-4, cor. Cl. 52.
Procter & Gamble Co., The: *See*—
Papertronics, Inc.
Producers Chemical Co., Borger, Tex. 811,505, pub. 5-3-66. Multiple Class (Classes 103 and 106).
Puget Sound Pulp & Timber Co., Bellingham, Wash., to Georgia-Pacific Corp., Portland, Oreg. 424,905, ren. 7-19-66. Cl. 1.
Purex Corp., Ltd.: *See*—
DDD Co.
Purex Corp., Ltd., d.b.a. Milthix Division of Purex Industrial and Institutional Group, Lakewood, Calif. 811,241, pub. 5-3-66. Cl. 16.
Puritan Stationery Co., Inc., Philadelphia, Pa. 698,617-18, canc. Cl. 37.
Purity Cheese Co., Mayville, Wisc. 424,301, ren. 7-19-66. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 811,488, pub. 5-3-66. Cl. 52.
Psychological Development Laboratories: *See*—
Bate, Robert G.
Quaker Chemical Products Corp., Conshohocken, Pa. 698,361, canc. Cl. 6.
Quaker Oats Co., The: *See*—
American Cereal Co.
Quartaroli, R. J., d.b.a. Stanislaus Canning Co., to Stanislaus Food Products Co., Modesto, Calif. 424,144, ren. 7-19-66. Cl. 46.
Quartet Fashions, Inc., New York, N.Y. 811,389, pub. 5-3-66. Cl. 39.
RBR Co.: *See*—
Robertson, Robert B.
Rabin-Winters Corp., El Segundo, Calif. 811,273, pub. 5-3-66. Cl. 18.
Radiant Oil Co., d.b.a. Jeff's Arithmetic Aids, Miami, Fla. 698,511, canc. Cl. 22.
Raffo, Viola, Burlingame, Calif. 811,176, pub. 5-3-66. Cl. 3.
Rainbow Beauty Supply Co.: *See*—
Buty-Wave Products Co.
Realistic Co., The, Cincinnati, Ohio, from I. A. Willat, d.b.a. The Willat Co., San Francisco, Calif. 811,485, pub. 5-3-66. Cl. 51.
Reames Foods, Inc., Clive, Iowa. 811,430, pub. 5-3-66. Cl. 46.
Regal Mfg. Co.: *See*—
Regal Mfg. Co., Inc.
Regal Mfg. Co., Inc., d.b.a. Regal Mfg. Co., Chicago, Ill. 698,636, canc. Cl. 39.
Reiss, Kurt, Toronto, Ontario, Canada. 698,718, canc. Cl. 47.
Reiss, Kurt, Toronto, Ontario, Canada. 698,719, canc. Cl. 48.
Reiss, Kurt, Toronto, Ontario, Canada. 698,721, canc. Cl. 49.
Reo Car Co. White Motor Corp., Cleveland, Ohio. 54,722. Am. 7(d). Cl. 19.
Resisto-Loy Co., Inc., The, Grand Rapids, Mich. 811,349, pub. 5-3-66. Cl. 34.
Rhoades, J. E., & Sons, Inc.: *See*—
Rhoads, J. E., & Sons.
Rhoads, J. E., & Sons, Philadelphia, Pa., to J. E. Rhoades & Sons, Inc., Wilmington, Del. 56,567, ren. 7-19-66. Cl. 35.
Richmond Organization, Inc., The, New York, N.Y. 811,498, pub. 5-3-66. Cl. 100.
Ridgedale Corp., Los Angeles, Calif. 698,689, canc. Cl. 46.
Rinsoz & Ormond S.A., Vevey, Vaud, Switzerland. 811,255, pub. 5-3-66. Cl. 17.
Ripley Mfg. Corp., Brooklyn, N.Y. 811,385, pub. 5-3-66. Cl. 39.
Robertson, Robert B., d.b.a. RBR Co., Hollywood, Calif. 698,-610, canc. Cl. 36.
Rock Island Tobacco & Specialty Co., Inc., Rock Island, Ill. 698,451, canc. Cl. 17.
Rockwood & Co.: *See*—
James Mfg. Co., Inc.
Rogers, Joe T., d.b.a. Rogers Mfg. Co., Tulsa, Okla. 698,387, canc. Cl. 12.
Rogers Mfg. Co.: *See*—
Rogers, Joe T.
Rolling Reader Publishing Co., The: *See*—
Stolpen, Beulah H.
Romper Room, Inc., Baltimore, Md. 811,317, pub. 5-3-66. Cl. 22.
Roselon Yarns, Inc., Philadelphia, Pa. 811,405, pub. 5-3-66. Cl. 43.
S & S Cone Co., Inc., Brooklyn, N.Y. 811,445, pub. 5-3-66. Cl. 46.
Saul Bros. & Block, Inc., Atlanta, Ga. 811,521. Cl. 39.
Scandia House Enterprises, Inc., Hialeah, Fla. 811,295, pub. 5-3-66. Cl. 22.
Schenectady Chemicals, Inc., Schenectady, N.Y. 811,251, pub. 5-3-66. Cl. 16.
Schjeldahl, G. T., Co., Northfield, Minn. 698,394, canc. Cl. 12.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 698,638, canc. Cl. 39.
Scranton Cellomatic Battery Corp., Archbald, Pa. 698,508, canc. Cl. 21.
Sebastopol Cooperative Cannery, Sebastopol, Calif. 811,442, pub. 5-3-66. Cl. 46.
Sedgwick Inn Cocktail Mixes: *See*—
Sedgwick International Ltd.
Sedgwick International Ltd., from Cherry Blossoms Mfg. Co., d.b.a. Sedgwick Inn Cocktail Mixes, St. Louis, Mo. 811,-415, pub. 5-3-66. Cl. 45.
Selby, Battersby & Co., Philadelphia, Pa. 811,225, pub. 5-3-66. Cl. 12.
Set Screw & Mfg. Co., Bartlett, Ill. 811,296, pub. 5-3-66. Cl. 22.
Set Screw & Mfg. Co., Bartlett, Ill. 811,297, pub. 5-3-66. Cl. 22.
Set Screw & Mfg. Co., Bartlett, Ill. 811,298, pub. 5-3-66. Cl. 22.
Set Screw & Mfg. Co., Bartlett, Ill. 811,299, pub. 5-3-66. Cl. 22.
Set Screw & Mfg. Co., Bartlett, Ill. 811,300, pub. 5-3-66. Cl. 22.
Shamban, W. S., & Co., Culver City, Calif. 811,178, pub. 5-3-66. Cl. 6.
Shanhouse, W., Sons, Inc., Magnolia, Ark. 811,386, pub. 5-3-66. Cl. 39.
Sherman, Donald J., d.b.a. Vita-Hair Distributors, Brooklyn, N.Y. 811,258, pub. 5-3-66. Cl. 18.
Shimer, F. Alexander, d.b.a. Major-Dent U.S.A., Los Angeles, Calif. 811,410, pub. 5-3-66. Cl. 44.
Shong, Wallace W., Augusta, Wis. 811,271, pub. 5-3-66. Cl. 18.
Shryer, Paul, d.b.a. Farmpak and as Shryer's Poultry Farm, Vineland, N.J. 698,688, canc. Cl. 46.
Shryer's Poultry Farm: *See*—
Shryer, Paul.
Shurline-Central Corp., from Central Retailer-Owned Grocers, Inc., Northlake, Ill. 811,422, pub. 5-3-66. Cl. 46.
Sierra Engineering Co., Sierra Madre, Calif. 698,675, canc. Cl. 44.
Silver, Alvin, Co., New York, N.Y., to The Alvin Corp., Providence, R.I. 216,752, ren. 7-19-66. Cl. 28.
Simmons Co., New York, N.Y. 698,595, canc. Cl. 32.
Simoniz Co., Chicago, Ill. 698,406, canc. Cl. 12.
Sleep Builders Guild, Hartford, Conn. 811,344, pub. 5-3-66. Cl. 32.
Smith, H. P., Co., Inc., Rogers, Ark. 698,379, canc. Cl. 7.
Snyder, K. T., Co., Inc., Houston, Tex. 811,226, pub. 5-3-66. Cl. 12.
Snyder Mfg. Co., Philadelphia, Pa. 811,302, pub. 5-3-66. Cl. 22.
Socialite Cosmetics, Inc., New York, N.Y., to Arthur Matney, Brooklyn, N.Y. 422,330, ren. 7-19-66. Cl. 51.
Socialite Cosmetics, Inc., New York, N.Y., to Arthur Matney, Brooklyn, N.Y. 422,999, ren. 7-19-66. Cl. 51.
Socialite Cosmetics, Inc., New York, N.Y., to Arthur Matney, Brooklyn, N.Y. 423,000, ren. 7-19-66. Cl. 51.
Socony Mobil Oil Co., Inc., New York, N.Y. 811,210, pub. 5-3-66. Cl. 10.
Sodico, Inc., Greer, S.C. 811,301, pub. 5-3-66. Cl. 22.
Solofabriken A/S., Copenhagen V, Denmark. 811,433, pub. 5-3-66. Cl. 46.
Solomon, A., Co., New Orleans, La. 698,650, canc. Cl. 39.
Sorgel Electric Co., Milwaukee, Wis. 811,280, pub. 5-3-66. Cl. 21.
Southern Plastics Engineering Corp., Greensboro, N.C. 811,-322, pub. 5-3-66. Cl. 22.
Southern Shoe Co., Inc., Birmingham, Ala. 811,388, pub. 5-3-66. Cl. 39.
Southern States Cooperative Inc., Richmond, Va. 811,371, pub. 5-3-66. Cl. 38.
Southwestern Drug Corp., d.b.a. Brooke Laboratories, Dallas, Tex. 811,257, pub. 5-3-66. Cl. 18.
Space Enterprises, Inc., Nashville, Tenn. 698,621, canc. Cl. 38.
Special Chemicals Co., The, Cleveland, Ohio, to Cumberland Chemical Corp., New York, N.Y. 421,204, ren. 7-19-66. Cl. 5.
Speed Reading Institute, Inc., Oak Park, Ill. 811,369, pub. 5-3-66. Cl. 38.
Sperry Rand Corp.: *See*—
Library Bureau.
Spiratone, Inc., from Spiratone, Inc., Flushing, N.Y. 811,518. Cl. 26.
Sportsways, Inc., Paramount, Calif. 811,303, pub. 5-3-66. Cl. 22.
Spray-Lin, Inc., Shaker Heights, Ohio. 811,265, pub. 5-3-66. Cl. 18.
Stahlgruber, Otto Grubber & Co., Munich, Germany. 811,355, pub. 5-3-66. Cl. 35.
Standard Home Products: *See*—
Standard International Corp.
Standard International Corp., d.b.a. Standard Home Products, Andover, Mass. 811,366, pub. 5-3-66. Cl. 37.
Standard Products Co., The, Cleveland, Ohio. 811,189, pub. 2-22-66. Multiple Class (Classes 6 and 52).
Stanford Winery: *See*—
Weibel, Inc.
Stanislaus Food Products Co.: *See*—
Quartaroli, R. J.
Stanwell Briar Pipes: *See*—
Nielsen, Paul.
State Produce Brokers: *See*—
Gioia, Carl.
Stay-Tite Products Co., Inc., Cleveland, Ohio. 811,239, pub. 5-3-66. Cl. 16.
Stedman Mfg. Co., Asheboro, N.C. 811,374, pub. 5-3-66. Cl. 39.

Stephenson Co., Inc., The, Anamosa, Iowa. 698,462, canc. Cl. 18.
Sterwin Chemicals, Inc., New York, N.Y. 811,199, pub. 5–3–66. Cl. 6.
Stik-wich Corp., Philadelphia, Pa. 811,424, pub. 10–27–64. Cl. 46.
Stimpson, Edwin B., Co., to Edwin B. Stimpson Co., Inc., Brooklyn, N.Y. 216,343, ren. 7–19–66. Cl. 14.
Stimpson, Edwin B., Co., Inc.: *See*— Stimpson, Edwin B., Co.
Stolpen, Beulah H., d.b.a. The Rolling Reader Publishing Co., Westport, Conn. 811,316, pub. 5–3–66. Cl. 22.
Stone, Frank G., d.b.a. American Sports Co., North Hollywood, Calif. 811,276, pub. 5–3–66. Multiple Class (Classes 19 and 23).
Strickland, J., & Co., Memphis, Tenn. 811,457, pub. 5–3–66. Cl. 51.
Strohmeyer & Arpe Co., d.b.a. United Pure Food Co., New York, N.Y. 698,714, canc. Cl. 46.
Strouse, Adler Co., The, New Haven, Conn. 811,380, pub. 5–3–66. Cl. 39.
Sunbeam Corp., Chicago, Ill. 698,541, canc. Cl. 23.
Sunbeam Wolsey Ltd., Millfield, Cork, Ireland. 811,403, pub. 5–3–66. Cl. 43.
Sunshine Biscuits, Inc., Long Island City, N.Y. 811,437, pub. 5–3–66. Cl. 46.
Sun-Vi Products, Inc., Chicago, Ill. 698,681, canc. Cl. 46.
Superior Paper Products Co., Inc., Marion, Ind. 698,338, canc. Cl. 2.
Superior Sports Specialties: *See*— Chartered Enterprises.
Survivogen Products Co., Boston, Mass. 698,690, canc. Cl. 46.
Swiss Farms, Inc., Philmont, N.Y. 698,377, canc. Cl. 6.
Syro Steel Co., Girard, Ohio. 697,412, canc. Cl. 13.
T/P Protective Coatings, Inc., from Tropical Paint Co., Cleveland, Ohio. 811,214, pub. 5–3–66. Cl. 12.
TRW, Inc., Cleveland, Ohio. 811,169, pub. 5–3–66. Cl. 1.
Tabacos La Canenita, S.A., Havana, Cuba. 698,452, canc. Cl. 17.
Talon Paint Products Co.: *See*— Pica, George.
Tanksley, Neeld D., d.b.a. Port of Call Paint Co., San Francisco, Calif. 811,247, pub. 5–3–66. Cl. 16.
Tec Imports, Van Nuys, Calif. 698,519, canc. Cl. 23.
Tek Method Co.: *See*— Cadaco, Inc.
Tel-Page, Inc., Palo Alto, Calif. 811,502, pub. 5–3–66. Cl. 101.
Terra Products: *See*— Jacklin Seed Co., Inc.
Texas Farm Products Co., Nacogdoches, from Egg Sales, Inc., Houston, Tex. 698,700, canc. Cl. 46.
Textron, Inc., Providence, R.I. 811,434, pub. 5–3–66. Cl. 46.
Theobald, Harry, Sr., d.b.a. The Theobald Industries, to The Theobald Industries, Kearny, N.J. 421,166, ren. 7–19–66. Cl. 52.
Theobald Industries, The: *See*— Theobald, Harry, Sr.
Thermo King Corp., Minneapolis, Minn. 811,277, pub. 5–3–66. Multiple Class (Classes 19 and 31).
Thorens Corp. of America, New Hyde Park, N.Y. 811,360, pub. 5–3–66. Cl. 36.
Time and Tide Ltd., London, England. 811,367, pub. 5–3–66. Cl. 38.
Titeflex, Inc., Springfield, Mass. 698,502, canc. Cl. 21.
Tobin, Martha J., d.b.a. Match-O-Matic, Kansas City, Mo. 811,501, pub. 5–3–66. Cl. 100.
Totem Foods, Inc., d.b.a. Wil-O-Way Farm Dairy and Wil-O-Way Guernsey Farm, Naperville, Ill. 811,417, pub. 5–3–66. Cl. 46.
Toth, Charles J., d.b.a. Elto Products, Garfield, Ohio. 811,341, pub. 5–3–66. Cl. 29.
Tovar Tresses Inc., New York, N.Y. 811,390, pub. 5–3–66. Cl. 40.
Towle Mfg. Co., Newburyport, Mass., from Charles D. Briddell, Inc., Criafield, Md. 811,515. Cl. 23.
Toyo Valve Co., Ltd., Chuo-ku, Tokyo, Japan. 811,232, pub. 3–8–66. Cl. 13.
Tracor, Inc., Austin, Tex. 811,406, pub. 5–3–66. Cl. 44.
Trefileries Leon Bekaert, Snrl, Brussells, Belgium. 811,171, pub. 5–3–66. Multiple Class (Classes 2, 13, 23, and 32).
Tri-Men Mfg. Corp., Hoboken, N.J. 811,342, pub. 5–3–66. Cl. 31.
Tropical Paint Co.: *See*— T/P Protective Coatings, Inc.
Turners Asbestos Fibres, Ltd., Manchester, England. 811,162–3, pub. 5–3–66. Cl. 1.
Twixt, Inc., Long Island City, N.Y. 698,694, canc. Cl. 46.
Upjohn Co., The, Kalamazoo, Mich. 698,485, canc. Cl. 18.
Ultra Custom Pak, Inc., New York, N.Y. 811,175, pub. 5–3–66. Cl. 2.
Underwood Corp., New York, N.Y. 698,562, canc. Cl. 26.
Union Special Machine Co., Chicago, Ill. 53,235, ren. 7–19–66. Cl. 23.
Union Carbide Corp., New York, N.Y. 811,279, pub. 5–3–66. Cl. 20.
Union Carbide Corp., New York, N.Y. 811,387, pub. 5–3–66. Cl. 39.
Union Carbide Corp., New York, N.Y. 811,454, pub. 5–3–66. Cl. 50.
United Aircraft Corp., East Hartford, Conn. 811,287, pub. 5–3–66. Cl. 21.
United Citrus Growers: *See*— Colton Fruit Exchange.
United Mink Producers Association, to Emba Mink Breeders Association, Racine, Wis. 790,866, new cert. Cl. 1.
United Pure Food Co.: *See*— Strohmeyer & Arpe Co.
United States Expansion Bolt Co., York, Pa. 698,531, canc. Cl. 23.
United States Gypsum Co.: *See*— King, J. B., & Co.
United States Safety Service Co., Kansas City, Mo. 698,555, canc. Cl. 26.
United States Tobacco Co., New York, N.Y., from Moss & Lowenhaupt Cigar Co., St. Louis, Mo. 698,453, canc. Cl. 17.
Universal Correspondence School of Mathematics: *See*— Boron, Leo F.
Universal Oil Products Co., Des Plaines, Ill. 811,179, pub. 5–3–66. Cl. 6.
Valmor Health Products Co., to Valmor Products Co., Chicago, Ill. 218,299, ren. 7–19–66. Cl. 51.
Valmor Products Co.: *See*— Valmor Health Products Co.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 424,783, ren. 7–19–66. Cl. 6.
Vanguard Enterprises, Inc., d.b.a. Power-Glo Mfg. Co., Howard City, Mich. 698,434, canc. Cl. 15.
Vasco Metals Corp., Latrobe, Pa. 811,499, pub. 5–3–66. Cl. 100.
Vector Electronic Co., Glendale, Calif. 811,282, pub. 5–3–66. Cl. 21.
Vick Chemical Co., New York, N.Y. 698,470, canc. Cl. 18.
Vi-Cly Industries, Inc., Compton, Calif. 811,215, pub. 5–3–66. Cl. 12.
Victor X-Ray Corp., Chicago, Ill., to General Electric Co., New York, N.Y. 213,977, ren. 7–19–66. Cl. 44.
Vim Laboratories, Ltd., Washington, D.C. 698,729, canc. Cl. 51.
Vinyl-Line Paint Co.: *See*— Beck, George, Jr.
Viscount Products, Inc., New York, N.Y. 811,308–9, pub. 5–3–66. Cl. 22.
Vita-Hair Distributors: *See*— Sherman, Donald J.
Vox Productions, Inc., New York, N.Y. 811,361, pub. 5–3–66. Cl. 36.
W.D.S. Tooling Aids Ltd., Leeds, England. 811,329, pub. 5–3–66. Cl. 23.
Walker Poroswall Pipe Co., Inc., Little Ferry, N.J. 811,222, pub. 5–3–66. Cl. 12.
Wall Rope Works, Inc., Beverly, N.J. 811,205, pub. 5–3–66. Cl. 7.
Waltham Watch Co., Waltham, Mass., to Waltham Watch Co., Chicago, Ill. 421,181, ren. 7–19–66. Cl. 27.
Walworth Co., New York, N.Y. 698,532, canc. Cl. 23.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 811,270, pub. 5–3–66. Cl. 18.
Wathen, R. E., & Co., Louisville, Ky., to National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 214,170, ren. 7–19–66. Cl. 49.
Wayne Knitting Mills, Humboldt, Tenn. 56,097, ren. 7–19–66. Cl. 39.
Wayne Plastics Corp., Fort Wayne, Ind. 811,173, pub. 5–3–66. Multiple Class (Classes 2 and 13).
Weber & Son: *See*— Weber, Terrance.
Weber-Stephen Products Co., Arlington Heights, Ill. 811,229, pub. 5–3–66. Cl. 13.
Weber, Terrance, d.b.a. Weber & Son, Newark, N.J. 698,343, canc. Cl. 2.
Weibel, Inc., d.b.a. Stanford Winery, Mission San Jose, Calif. 811,450, pub. 5–3–66. Cl. 47.
Wells, Ephraim S., Jersey City, N.J., to Brown Mfg. Co., LeRoy, N.Y. 54,051, ren. 7–19–66. Cl. 6.
Wembley, Inc., New Orleans, La. 811,373, pub. 5–3–66. Cl. 39.
Wembley, Inc., New Orleans, La. 811,383, pub. 5–3–66. Cl. 39.
West Coast Electronic Manufacturers Association, Los Angeles, Calif. 698,740, canc. Cl. 200.
Westport Chemical Co., Longview, Wash. 811,198, pub. 5–3–66. Cl. 6.
Whelan, Robert M., Buffalo, N.Y. 811,436, pub. 5–3–66. Cl. 46.
White Motor Corp.: *See*— Reo Car Co.
Whitmoyer Laboratories, Inc., Myerstown, Pa. 811,187, pub. 5–3–66. Multiple Class (Classes 6, 18, 44, and 46).
Wilbur-Ellis Co., San Francisco, Calif. 811,447, pub. 5–3–66. Cl. 46.
Wilford, Harvey M., d.b.a. Wilford Hatchery, Elyria, Ohio. 811,164–5, pub. 5–3–66. Cl. 1.
Willat Co., The: *See*— Realistic Co., The.
Willat, Irvin A.: *See*— Realistic Co., The.
Willett, Consider H., Inc., Louisville, Ky. 698,599, canc. Cl. 32.
William, J. B., Co., Inc., The, New York, N.Y. 811,476, pub. 5–3–66. Multiple Class (Classes 51 and 52).
Williams Gold Refining Co. Inc., Buffalo, N.Y. 811,411, pub. 5–3–66. Cl. 44.
Wilmington Memorial Co., Inc., Wilmington, Del. 811,455, pub. 5–3–66. Cl. 50.
Wil-O-Way Farm Dairy: *See*— Totem Foods, Inc.
Wil-O-Way Guernsey Farm: *See*— Totem Foods, Inc.
Windawn Aluminum Products, Inc., The, Niles, Ohio. 698,390, canc. Cl. 12.
Wiseman, John M., d.b.a. Downeaster, Portland, Maine. 698,701, canc. Cl. 46.
Woodard, Viviane, Corp., Panorama City, Calif. 811,467–9, pub. 5–3–66. Cl. 51.
Woods Wire Products, Indianapolis, Ind. 811,288, pub. 5–3–66. Cl. 21.
Zeks Industries, Inc., Edgemont, Pa. 811,519. Cl. 31.

U.S. GOVERNMENT PRINTING OFFICE: 0—1966

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
July 26, 1966 Volume 828 Number 4

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1966

Examiner affirmed	242
Examiner affirmed in part	59
Examiner reversed	76
Total	377

Format—Requesting Streamlined Continuation Application

In response to many inquiries, the following format is suggested to transmit a new set of claims and request the use of the contents of an earlier filed application for a continuation application in compliance with 824 O.G. 1.

REQUEST FOR STREAMLINED CONTINUATION APPLICATION UNDER COMMISSIONER'S ORDER 824 O.G. 1

Earlier copending application:
Applicant(s) _____
Serial No. _____
Filed _____
Title _____
Enclosed are:
1. A new set of claims.
2. Filing Fee of $_____ (or*), to cover—
Total Number of claims _____
Independent Claims _____

Please use the contents (specification and drawings) of the above application in the new application since it meets all the requirements of the above Commissioner's Order dated February 11, 1966. The specification (and drawings) of the new application are identical with the earlier application, and the new claims are directed to the same invention.

*"Authorization letter (2 copies) for use of funds in my Deposit Account No. _____ for the filing fee of $_____, to cover—
Total Number of Claims_____
Independent Claims _____

EDWIN L. REYNOLDS,
May 31, 1966. *First Assistant Commissioner.*

Practice re: Filing Fees

It is suggested that attorneys review the notices pertaining to filing fees under the new Fee Act of 1965 appearing at 818 O.G. 1207, September 28, 1965, and 823 O.G. 814, February 15, 1966.

The filing fee includes the basic $65 fee plus an additional fee corresponding to the number and type of claims presented. For filing fee purposes the Patent Office considers any claim that specifically refers back to another claim to be a dependent claim, regardless of statutory class.

It appears that some attorneys are submitting filing fees in excess of their computations, apparently to insure against loss of a filing date should their computations be in error. This is neither necessary nor desirable. The Application Branch has been authorized to accept all applications, otherwise acceptable, if the basic fee of $65 is submitted, and if the deficiency is no more than $25 of the required filing fee, and to require payment of the deficiency within a stated period upon notification of the deficiency. Practitioners are urged to discontinue submitting excessive fees, since processing such fees has proved costly to the Office, and since applicants are believe to be adequately protected against loss of filing date by the practice outlined above.

There appears to be an erroneous impression that a Rule 147 divisional case requires a filing fee based on the claims in the parent case. The 818 O.G. 1207 notice specifically states than an amendment filed with a Rule 147 case will be effective to reduce the number of claims upon which the fee is based.

RICHARD A. WAHL,
June 30, 1966. *Assistant Commissioner.*

Classification Order No. 382

Classification Order No. 382, dated June 16, 1966, incorporates changes in the following classes:

'23, CHEMISTRY
73, MEASURING AND TESTING
89, ORDNANCE
96, PHOTOGRAPHIC CHEMISTRY, PROCESSES AND MATERIALS
204, CHEMISTRY, ELECTRICAL AND WAVE ENERGY
260, CHEMISTRY, CARBON COMPOUNDS
331, OSCILLATORS

All of the above changes will be incorporated in the Manual of Classification replacement pages dated July 1966.

G. A. GORECKI,
Director, Office of Patent Classification.

Deposit Accounts

The practice instituted on May 1, 1966, pursuant to the notice of February 23, 1966 (824 O.G. 1200), whereby statutory fees may be charged against deposit accounts, and such accounts are closed if overdrawn, has resulted in certain difficulties for the Patent Office and deposit account holders. It has been decided therefore to modify that practice as indicated below.

As was pointed out in that notice, the charging of a fee

New Applications Received During May 1966

Patents	7,779
Designs	418
Plant Patents	12
Reissues	17
Total	8,226

Issue—July 26, 1966

Patents	1110	No. 3,262,125 to No. 3,263,234, incl.
Designs	55	No. 205,339 to No. 205,393, incl.
Total	1165	

against an overdrawn account cannot be considered as payment of the fee until a proper balance is restored or payment is made in some other way. Accordingly, deposit account holders who charge such fees must assume the risk of losing vital dates if they do not maintain a proper balance in their accounts at all times.

Apart from this, however, the overdrawing of an account places a burden on the Patent Office, particularly where a number of items are charged after the overdraft occurs, and it is appropriate that those who are responsible for causing such a condition should bear the cost of correcting it. In view of this fact, and of the hardship frequently caused if an account is permanently closed, the practice of closing deposit accounts merely because they are overdrawn will be discontinued, effective August 1, 1966. In lieu thereof an overdrawn account will be immediately suspended and no charges will be accepted against it until a proper balance is restored, together with a payment of ten dollars to cover the work done by the Patent Office incident to suspending and reinstating the account and dealing with charges which may have been made in the meantime. It is expected, however, that reasonable precautions will be taken in all cases to avoid overdrafts, and if an account is suspended repeatedly it will be necessary to close it.

Similarly, because of the burden placed on the Patent Office incident to the operation of deposit accounts, a charge of ten dollars will be made for opening each new account.

EDWARD J. BRENNER,
Commissioner.

June 23, 1966.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	9-17-62	11-14-60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1- 9-63	2-20-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Ozo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	3- 4-63	4- 5-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	2- 5-63	7-18-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-11-62	2- 26-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	9-24-62	11-16-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	11-16-62	8-28-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-27-62	5-21-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12-31-62	10- 5-61
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6- 5-63	1- 2-62
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	1-28-63	12-22-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	9- 4-62	2-15-60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	11- 1-62	4- 5-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	11-13-62	6-15-61
ELEMENTS, GROUP 270—M. L. LEVY, Manager Conductors; Switches; Miscellaneous.	3-19-63	8-17-62
PHYSICS, GROUP 280—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-30-63	10-25-62
DESIGNS, GROUP 290—S. BOYD, Manager Industrial Arts; Household, Personal and Fine Arts.	5-17-65	6- 8-64

Total number of pending applications (excluding Designs)	198,186
Total number of Design applications pending	4,690
Total number of applications awaiting action (excluding Designs)	146,208
Total number of Design applications awaiting action	2,722
Date of oldest new application awaiting action	Sept. 4, 1962
Date of oldest amended application awaiting action	Feb. 15, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents ..... Numbers 2,474,805 to 2,477,557, inclusive
Plant Patents ..... Numbers 852 to 857, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	8-14-64	12- 2-63
MANUFACTURING; METAL, PLASTICS WORKING; MACHINE TOOLS, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus; Machine Tools for Shaping or Dividing; Work and Tool Holders.	11-15-63	8-16-61
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	4-10-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	1-20-64	11- 7-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration; Ventilation; Drying; Vaporizing; Temperature and Humidity Regulation; Machine Elements; Power Transmission.	8- 5-64	8-21-63
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	9-26-63	1- 3-62
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	10-14-63	6-18-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	5- 3-63	3-22-62
TRANSPORTATION, GROUP 450—A. BERLIN, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	2-24-64	5-15-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-25-63	8-15-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7- 1-63	7-13-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE GEORGE O. GRAVES

No. 7560. Decided February 17, 1966

[53 CCPA —; 355 F.2d 957; 148 USPQ 511]

1. PATENTABILITY—COMBINATION OF OLD ELEMENTS—OBVIOUSNESS—35 U.S.C. 103.
"We think it clear that appellant has merely employed known features in the prior art of record in a manner made obvious by that prior art to provide a machine which has no new or unexpected function. We, therefore, consider the appealed claims unpatentable under 35 U.S.C. 103 and the decision of the Board is affirmed."

2. SAME—PARTICULAR SUBJECT MATTER—"FOOD PROCESSING MACHINE."
The decision of the Board of Appeals, refusing certain claims in an application entitled "Food Processing Machine" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 737,884.

AFFIRMED.

Marmaduke A. Hobbs, *William T. Estabrook* for appellant.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*, and WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinon of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1, 3, 4, 5 and 8 of appellant's patent application,[1] entitled "Food Processing Machine." Since appellant withdraws claim 8 in his brief, the appeal is dismissed as to that claim, leaving only claims 1, 3, 4 and 5 for consideration here. No claim is allowed.

The sole issue is whether the subject matter of the appealed claims is obvious in view of prior art.

To facilitate understanding of appellant's machine, FIGURE 2 of the application is reproduced in part as follows:

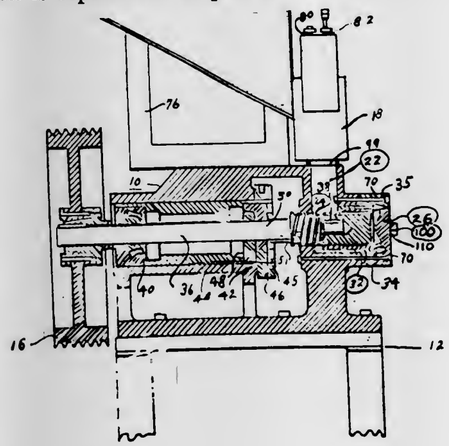


FIG. 2

[1] Serial No. 737,884, filed May 26, 1958.

The machine includes a chamber 18 in which corn meal is received from a hopper and mixed thoroughly with a small amount of water. The mixture is then discharged into the throat 22 of an extruding mechanism. That mechanism includes a motor driven screw 24 rotated in a bore in an insert 32 which is closed at its outer end by a circular head plate 26 provided with a circumferentially disposed group of spaced extrusion holes. The screw propels the mixture toward the head plate and extrudes it through the holes therein. The plate is maintained at a temperature sufficiently high to vaporize the moisture in the mixture as it is extruded to prebake the material sufficiently that it becomes relatively brittle after leaving the head plate. A knife blade 100 is mounted outside the head plate for rotation about the solid center portion of the plate to cut the material into sections as it emerges from the holes of the head plate. The length of the sections may be controlled by varying the speed of the blade. The application describes the sections as "corn meal sticks or collets," which are "cylindrical in shape."

In starting the machine, the head plate and adjacent portions of the extruding apparatus are first heated by external heating means such as a blow torch or an electrical heating element to a temperature above that required to cause vaporization of the moisture in the corn meal mixture. Once the machine is in operation, no additional external heat is supplied since the pressure created by the conveying screw during extrusion generates sufficient frictional heat to maintain the temperature required for satisfactory operation.

Claim 1 is representative and reads:

1. A machine for producing collets from cereal, comprising a hopper for cereal, walls defining a chamber receiving cereal from said hopper, a source of water for said chamber, a means in said chamber for mixing cereal and water therein, a housing having a straight bore therein, a single extrusion die plate in axial alignment with and diametrically spanning said bore having a solid central portion and a plurality of extrusion holes therein arranged in a circle and communicating with said bore adjacent the periphery thereof, said plate being rigidly secured to said housing across said bore, a passage connecting said chamber with said bore at a point spaced from said plate, a rotatable screw in said bore for propelling said cereal mixture from said passage to and through the holes in said plate, a revolving knife means adjacent the external surface of said plate and spaced therefrom for cutting the cereal mixture extruded through the holes in said plate into sections of a desired length, and a means separate from said screw for driving said knife means at various predetermined speeds.

The references relied on by the Examiner and Board are:

Nunez, 1,822,309, September 8, 1931.
Wood, 2,060,408, November 10, 1936.
Schwebke et al., 2,350,643, June 6, 1944.
Birdsall, 2,642,819, June 23, 1953.

The Wood patent discloses a machine for gelatinizing starches obtained from "corn, wheat, rice, tapioca, or the like," which it also refers to as "cereals, tapioca or the like." The machine comprises an upper cereal hopper, a vertical compression chamber made up of a plurality of sections, rotated screw members within those sections driven together for conveying the cereal downwardly through the chamber and finally outwardly through a flaker member or, alternately, through apertures in a die plate. The cereal constituting the raw material is mixed with water to provide a moisture content of twelve to twenty-two percent before being introduced into the machine. During processing, the cereal is subjected to heat treatment

by steam or electric means associated with the machine, or heat generated by friction produced as a result of the treatment of certain materials may be utilized. As it passes out of the machine through the flaker member or die plate, the processed cereal is cut off in the desired lengths by a cutter comprising rotating knife means. The die member includes a plurality of circularly spaced apertures extending therethrough, the application stating that "the finished product coming from the machine may be in flake, pellet or cube form as desired, depending upon the form of the apertures provided in the die plates * * *." In the form of the machine where the material is extruded through a die plate, the rotating cutting knives are "yieldingly pressed upwardly into engagement with the lower surface of the die plates."

The Schwebke patent discloses a machine for producing a puffed corn meal product illustrated in the drawings as generally in the form of a finger-like stick. This machine includes a mixer into which corn meal is supplied through a spout and a small amount of water is introduced through a valved line. Hydrated material from the mixer is fed to a screw press wherein the resulting friction heats the material to "a temperature high enough to cook the mass and heat the water particles to a temperature high enough for evaporation at atmospheric pressure but being under sufficient pressure to prevent it." The screw forces the material in that condition to the end of the press where the material is exuded between a stationary face plate having entry grooves therein and a rotated face plate which is closely spaced from the stationary face plate and has spiral grooves. As the pressure on the material is released as it passes out between the plates, "the water or moisture in the fluid will immediately flash into steam and any vapor in the liquid will expand to thereby form cellular streamlets."

The Nunez and Birdsall patents both show single die plates used to extrude flour paste fed from a conventional screw press, which press, however, is not coaxial with the die plates. Both die plates have solid central portions and cutting knives on their exit side rotated about axes concentric with the plates. The cutting knives, which are not driven directly by the conveyor screw, may be adjusted in speed with the result that the products, noodles, for example, may be varied in length. In Birdsall, the blade or knife is spaced from the die body an intervening guide member.

The appealed claims were rejected by the Examiner as unpatentable over Wood in view of Schwebke and either Birdsall or Nunez. In affirming that rejection, the Board stated:

* * * We find no apparatus expression in the claims either in direct recitation or in significance attached by the preamble reference to "collets" that convinces us that either Wood or Schwebke et al. is other than fully pertinent thereto. If the product significantly differs, it must be by reason of operating parameters as to speed or pressure or heat which are not put in contest by the claim language. Wood refers to mixing water with the cereal charge before entering the hopper * * * which fortifies the premise that the addition of the structure in this regard taught by Schwebke et al. * * * would be no more than an obvious assembly of apparatus for an old and expected result. The feature stressed by appellant as to the solid die plate does not appear to us to be involved in such an unexpected machine organization as to distinguish in kind from the cereal handling teachings of Nunez or Birdsall. In each of these references a pressure advanced column of cereal product is blocked by a solid die plate, extruded in a marginal pattern near the border of the column, and the existing product is severed by knife elements mounted independent of the extruding screw. Particularly * * * in Nunez, it is illustrated that the speed of drive of such severing means may be

adjusted to vary the product. We share the Examiner's view that within the apparatus relationships stated in the appealed claims it would be obvious to workers of ordinary skill in the art to assemble the machinery for moistening the product with the wood device and to change the die plate to a form having a solid central formation as recited. * * *

Appellant's arguments before us appear to raise the same points urged before and considered by the Board. They do not convince us that there is any error in the Board's conclusion.

The significant concept of appellant's invention is disclosed in Schwebke which provides apparatus wherein a moist cereal mixture is heated under pressure through a screw conveyor so that exit of material from the pressure area results in a puffed cereal product. That product is illustrated by Schwebke as finger-shaped, which is the term used by appellant in describing his sticks or "collets."

Wood describes a similar arrangement where he mixes water with a cereal charge before introducing it into the press and extrudes the compressed and heated material through a die plate. In fact, Wood not only discloses subjecting his cereal and water mixture to pressure and heat as the conveyor screw advances it to the extrusion die but he also refers to the possibility of "the heat generated by the friction produced during the operation" being "greater than that required by certain products." Nothing unobvious is seen in providing Wood with structure for introducing the cereal and water separately into the mixer as used in Schwebke. Likewise, we conclude that it would be no more than an obvious mechanical expedient to substitute a die plate with a solid center as shown in Nunez or Birdsall in Wood, particularly since the central opening in Wood's plate is actually closed completely by another portion of the machine.

We also conclude that it would be obvious to a person of ordinary skill in the art to provide means separate from the conveyor screw for driving the cutter knives of Wood at an adjustable speed, even without consideration of Birdsall or Nunez. However, a particularly potent suggestion of using that feature is made in Birdsall which states that the length of the extruded strands of material is controlled by varying the speed of rotation of a rotating knife which cuts the strands while maintaining constant the rate of feed of the extruded mix.

[1] We think it clear that appellant has merely employed known features in the prior art of record in a manner made obvious by that prior art to provide a machine which has no new or unexpected function. We, therefore, consider the appealed claims unpatentable under 35 U.S.C. 103 and the decision of the Board is affirmed.

[2] AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE JOHN T. RAUEN

No. 7532. Decided February 24, 1966

[53 CCPA —; 356 F.2d 125; 148 USPQ 554]

1. PATENTABILITY—COMBINING REFERENCES—OBVIOUSNESS.

"It is that concept of using a stop in a tube coupling in Wiltse which would of itself suggest the claimed combination to one of ordinary skill in the art on viewing the stop-free Kreidel 'Ermeto' [tube] coupling. The references taken together make it obvious to combine the several elements of the coupling as claimed by appellant. * * * It is no answer that the references *in so many words* do not direct one to make the combination."

2. SAME—EVIDENCE—COMMERCIAL PRACTICES.

"While we agree that it is important to consider the commercial practices of record, we do not find them to demonstrate non-obviousness in the present case. The practices are in reference to the 'Ermeto' fittings alone, and *do* show them to be satisfactory although the present invention ['Ermeto' fittings with stops] is advantageous thereover. The commercial practice does not show that Kreidel, the personnel of the companies making the fittings, or one of ordinary skill in the art in fact rejected stops, much less considered them. There is an inference to that effect but we find it insufficient to rebut the clarity of the combined teachings of the art of record."

3. SAME—PARTICULAR SUBJECT MATTER—"TUBE COUPLING."

The refusal of certain claims in an application entitled "Tube Coupling," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 87,979.

AFFIRMED.

Charles R. McKinley for appellant.

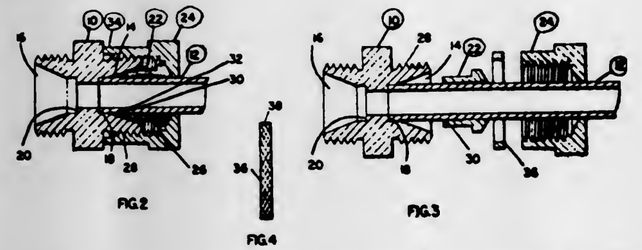
Clarence W. Moore (*Fred W. Sherl* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, JR., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from a decision of the Board of Appeals affirming the rejection of claims 1–6 and 8–10, the only claims remaining in application Serial No. 87,979, filed February 8, 1961, for "Tube Coupling." The issue is obviousness under 35 U.S.C. 103.

The invention relates to an improvement in tube couplings of the "Ermeto" type. By reference to appellant's FIGURES 2–4, the conventional "Ermeto" coupling can be seen as comprising three cooperating parts:



(1) a tube connecting body, 10, having flared mouths 14, 16 and shoulders 18, 20 to receive the ends of tubes (only a single tube, 12, is shown), (2) a nut 24, and (3) a sleeve 22 which bows when the nut is threaded on the connecting body so that the hardened, sharp inner edge 30 is forced into engagement with the tube, thereby cutting a seat to make an adequate high-pressure seal.

Appellant describes the problem faced thus:

The "Ermeto" coupling while enjoying wide acclaim may be defective if not assembled properly. If the nut member is turned too far, the sleeve will bite too deeply into the tube. The resulting damage may cause leakage and will ultimately shorten the life of the tube as the tube will be less resistant to vibration. If the nut member is not turned far enough, the sleeve will not bite deep enough into the tube to result in a proper seal and retention of the tube within the fitting assembly.

Another aspect of that problem, arising upon tightening or reassembly of the coupling, is described in the specification, and is also evi-

denced by instructions that accompany two brands of the conventional "Ermeto" couplings, which instructions were made of record during the prosecution. According to those instructions, in catalogues of the Parker Aircraft Co. and Weatherhead Co., it is the practice, upon initial tightening, to advance the nut a certain amount after presetting, e.g., $1\frac{1}{16}$ to 2 turns beyond finger tight. Similarly, upon reassembling, the practice is to advance the nut a certain amount beyond its previous setting, e.g. approximately $\frac{1}{8}$th turn.

That inherent inaccuracy in tightening results in damage to the tube as observed by leakage and a short life under vibrational stress. Appellant has solved those problems due to the above construction and method of using the conventional "Ermeto" coupling by providing an integral stop on the nut, element 34 (FIG. 2 above), or by providing an equivalent separate stop ring 36 (FIGS. 3 and 4 above). The stop is a fool-proof guide to accurate tightening; it eliminates the necessity of any presetting to finger-tightness or subsequent counting of turns of the nut. Further, appellant has discovered that "advancement" upon reassembly, once thought necessary, is not a prerequisite to a tight coupling. Thus the stop also ensures proper reassembly.

Claim 1 is illustrative as covering both the integral and separate stop means:

1. A tube coupling of the character described comprising first means adapted to receive a tube, said first means having an external shoulder portion, second means adapted to receive said tube and engage said first means, resilient, metallic third means, said third means being adapted toward one end thereof to clamp and support said tube in said coupling and being further adapted toward the other end thereof to bite into said tube to support said tube in said coupling and seal said tube and said third means against fluid leakage on deformation of said third means by relative movement of said first and second means when in the process of assembly and fourth means between said first and second means adapted to contact the external shoulder portion of said first means to limit said relative movement thereof and deformation of said third means to a predetermined optimum amount and to visually indicate that said third means has been deformed a predetermined amount.

The remaining claims are either similar, but phrased in alternate language, or are specific to the integral or separate stop means. Since both appellant and the Patent Office treat the claims as a group, and we see no compelling reason for doing otherwise, we shall also treat them as standing or falling together.

The references relied on are:

Kreidel, 2,139,413, December 6, 1938.
Wiltse, 2,226,039, December 24, 1940.
Stranberg, 2,511,134, June 13, 1950.
Zeller, 3,097,870, July 16, 1963.

Kreidel and Zeller admittedly show the conventional "Ermeto" coupling described above in the introduction.

Wiltse provides a stop 28 on a nut in a fluid line coupling as shown in his FIG. 2 here reproduced:

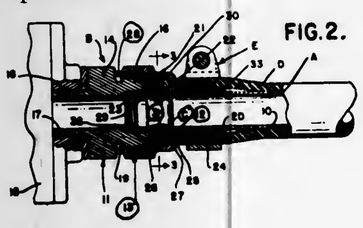


FIG. 2.

Wiltse employs a rubber sealing ring C which is forced into engagement with the tube by the nut or third section 13 acting on second section 12. That pressure causes an indentation 31 in the tube and the stop 28 limits the movement of the parts so that the squeezing pressure and depth of indentation can be predetermined and controlled.

We find it unnecessary to refer to Stranberg.

The claims on appeal were rejected on Zeller or Kreidel in view of Wiltse. The Board agreed with the Examiner's view that:

* * * persons of ordinary skill in the art would have found it obvious to apply the stop shoulder teachings of Wiltse to either the Zeller or Kreidel combinations as of the time of appellant's entry into the field. The Wiltse teachings are noted as providing such stop in an analogous combination to limit and indicate the proper degree of clamping and deforming action in the tightening of a coupling. * * *

Upon careful study of the record and appellant's arguments we are constrained to agree with that view. In our opinion Wiltse is convincing evidence that it was an obvious expedient to provide a stop member to assure an optimum sealed relationship of the parts in a fluid line coupling. As the Board noted, "Wiltse adequately teaches the stop relationship of an abutting shoulder and sleeve * * * as a means to determine the seal condition of a fluid coupling."

We do not agree with the contention that the suggestion to combine the references has come from appellant's specification rather than from the references. It is true, as appellant notes, that "it is no answer to say that the Ermeto fitting is old, stops *per se* are old, and therefore it is obvious to apply a stop to the Ermeto fitting." But the reference relied on to show the stop, Wiltse, does not show the stop alone. Rather, it shows a stop as part of the very type of combination, a tube coupling, that is the subject of the instant invention. Thus the concept of using a stop in a tube coupling is not new, albeit the particular structure is. Further, the purpose of the stop is clearly taught by Wiltse:

Another object is to provide a connection wherein the cooperating parts of the fitting have means for definitely limiting the squeezing action thereof against the resilient member so that upon adjustment of one of said cooperating parts a predetermined distance relative to the other, the depth of indentation made in the tubing by the resilient member will correspondingly be predetermined.

* * * * * * *

Engagement of the annular projection 28 of the third section 13 with the polygonal body 14 of the first section 11 will limit the squeezing pressure on the sealing ring C so that the depth of the indentation 31 formed by the squeezing action will be predetermined and controlled. This limiting feature is important because it insures a definite constriction upon the tube.

[1] It is that concept of using a stop in a tube coupling in Wiltse which would of itself suggest the claimed combination to one of ordinary skill in the art on viewing the stop-free Kreidel "Ermeto" coupling. The references taken together make it obvious to combine the several elements of the coupling as claimed by appellant. *In re Billingsley*, 47 CCPA 1108, 279 F.2d 689, 126 USPQ 370. It is no answer that the references *in so many words* do not direct one to make the combination.

We also find unconvincing an argument based on commercial practices with respect to "Ermeto" couplings. Appellant's position is:

* * * It is important then to consider the teachings of Kreidel and Zeller who disclose Ermeto type fittings and the knowledge and commercial practices of

the manufacturers of the commercial fittings and their recommendations for reassembly of the fittings in commercial use.

* * * * * * *

It is thus clearly apparent [from an earlier Kreidel patent of record] that Kreidel was familiar with the use of a stop in a tube coupling to limit tightening of the nut. It is significant, however, that when Kreidel invented the Ermeto fitting shown in his Patent 2,139,413 he did not incorporate a stop or any other element therein to in any way restrict tightening of the nut on the connecting body and for the reason that Kreidel, like Weatherhead and Parker, the manufacturers of the commercial fitting, thought that it was necessary to tighten the nut a little bit more upon each reassembly of the coupling in order to obtain a good seal. Kreidel's earlier patent is therefore clear evidence of the fact that those skilled in the art did not find it obvious to add a stop, or more correctly a gauging element, to the Ermeto fitting to assure a good reassembly of the fitting. Kreidel eliminated the stop shown in his earlier patent from the Ermeto fitting because he like all the others skilled in the art, including the manufacturers, thought it absolutely necessary to allow free movement of the nut on the connecting body so that a deeper bite could be taken on the tube each time the coupling was reassembled. Appellant's concept is therefore clearly contrary to the teachings of Kreidel and the manufacturers and users of the Ermeto fitting, and cannot be said to be obvious under these circumstances.

* * * * * * *

While the Patent Office often does not have the benefit of actual commercial practices to guide it in making a determination under section 103, such commercial practices are of record in the present case and they clearly refute any contention that it would be obvious to limit movement of the nut in an Ermeto fitting to insure proper reassembly of the fitting. * * *

[2] While we agree that it is important to consider the commercial practices of record, we do not find them to demonstrate non-obviousness in the present case. The practices are in reference to the "Ermeto" fittings alone, and *do* show them to be satisfactory although the present invention is advantageous thereover. The commercial practice does not show that Kreidel, the personnel of the companies making the fittings, or one of ordinary skill in the art in fact rejected stops, much less considered them. There is an inference to that effect but we find it insufficient to rebut the clarity of the combined teachings of the art of record. Cf. *In re Cline*, 52 CCPA 1404, —, 345 F.2d 847, 145 USPQ 610, 612.

[3] For the above reasons the decision of the Board is affirmed.

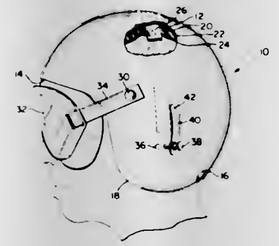
AFFIRMED.

PATENTS

GRANTED JULY 26, 1966

GENERAL AND MECHANICAL

3,262,125
PROTECTIVE HEADGEAR
William D. Bowen, P.O. Box 5773, China Lake, Calif.
Filed June 25, 1964, Ser. No. 378,081
1 Claim. (Cl. 2—6)



In a protective helmet intended to remain in position on the head of a wearer without the benefit of a chin strap in spite of strong forces tending to cause its dislodgement, the combination of:

a rigid shell contoured to conform generally to the head of the wearer, and having face and neck openings as well as curved extending portions respectively designed to overlie the ears of the wearer;

a shock-absorbent liner for said helmet, said liner being securely affixed to the inner surface of said shell so as to cushion blows received by said shell before they can be transmitted to the head of the wearer;

a band of resilient material interposed between the inner surface of said shell and the said liner, said band being generally arcuate in configuration and extending over the crown of said helmet, with the two ends thereof respectively terminating in those regions of the helmet which are intended to overlie the ears of the wearer when said helmet is in place to thereby exert a bias force inwardly and bring the ear-covering portions of said helmet into tight engagement with the sides of the wearer's head;

said helmet lining including a pair of ring-shaped members of compressible material respectively located in those regions of said helmet intended to overlie the ears of the wearer, said ring-shaped members being adapted to respectively encircle the ears of the wearer when said helmet is in position to thereby preclude the reception by said wearer of any sounds originating externally of said helmet;

said helmet shell being formed with a pair of openings respectively formed in the said two ear-covering portions thereof, said liner also being formed with a pair of openings extending therethrough and respectively aligned with the openings in said shell to thereby permit passage of sound originating exterior of said helmet to said wearer when said openings are unobstructed;

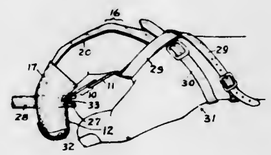
a pair of ear plugs loosely attached to the outer surface of said shell in the respective regions thereof where said openings are located, said ear plugs being respectively receivable in said openings and being capable of immediate insertion or removal upon manipulation thereof by the wearer of said helmet;

a set of goggles having a pair of straps located on the respective sides thereof, each strap having on its outer extremity one portion of a snap fastener; and

a pair of mating fastener portions affixed to the outer surface of said helmet shell and on the respective sides thereof;

whereby said goggles may be selectively attached to, and removed from, said helmet by the wearer thereof upon a connection or disconnection of said snap fasteners.

3,262,126
ARCHERY GLOVE
Franklin F. Price, 25303 29th Ave. S., Kent, Wash.
Filed Apr. 21, 1964, Ser. No. 361,387
3 Claims. (Cl. 2—159)

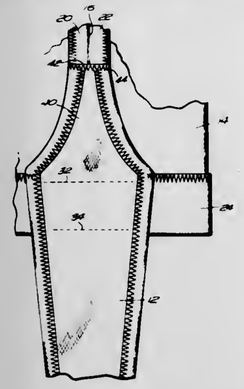


1. An archery glove comprising a first section of a mounting means having three finger tips as follows: one each for the first, second and third fingers; a slit between each of said finger tips, the slit between the first and second fingers being wider than the others to receive the nock portion of the arrow; a first wrist band secured to said first section to supplement the finger tip holding said section upon the shooting hand of the operator; a second section comprising along one margin three finger strips with a slit therebetween registering with the slits of said first section; the end portion of each of said strips being secured to the back side of said finger tips; a resilient member secured to the wrist edge portion of said second section, said resilient member being in the rear of said finger tips of said first section; and a second wrist band with a buckle secured to said second section and adapted to hold said second section under tension on the hand of the operator.

3,262,127
STIRRUP FOR GIRLS' PANTS
Beatrice E. Williamson, Leicester, Mass., assignor to M.K.M. Knitting Mills, Inc., Manchester, N.H., a corporation of New Hampshire
Filed Sept. 10, 1964, Ser. No. 395,413
1 Claim. (Cl. 2—232)

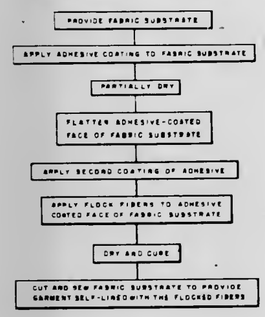
In combination with a pant-leg comprising two panels, the free edges of said panels having narrow double-backed margins, vertical side seams joining said double-backed margins to form said pant leg, said pant-leg having an inturned hem at the lower end thereof, a U-shaped stirrup consisting of a flexible strip, stitch means permanently securing said flexible strip to said hem at both sides of said pant-leg. said stirrup having at each end thereof an integral tongue tapering upward to a width equal to that of the double-backed margins, stitch means extending transversely of said double-backed margins and said vertical seams permanently securing the end of each

of said tongues to the double-backed margins at a point spaced substantially above said hem, whereby downward



tension on the stirrup is taken largely by said double-backed margins rather than the hems of said pant-leg.

3,262,128
INHERENTLY SELF-LINED GARMENTS AND PROCESSES FOR THE PRODUCTION THEREOF
Willard L. Morgan and Manuel A. Thomas, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Dec. 4, 1962, Ser. No. 242,056
20 Claims. (Cl. 2—243)

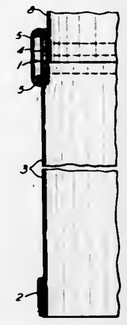


15. An outer garment cut and sewn from wearing apparel fabric having an interior and an exterior surface, the exterior surface forming the outer surface of said garment, the interior surface forming the interior surface of said garment; the interior surface of said garment having a discontinuous coating of a cured flexible polymeric adhesive composition adhered thereto and a quantity of soft flock fibers adhered to, and projecting from, said adhesive composition to provide a soft non-scratch surface over said interior surface of said garment.

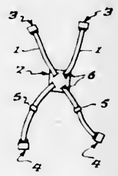
20. The outer garment of claim 15 wherein said outer garment comprises a pair of trousers.

3,262,129
SEALING DEVICE FOR A SAFETY SUIT
Lillian M. Castle, Pittsburgh, Pa., assignor to Mine Safety Appliance Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 14, 1964, Ser. No. 382,447
2 Claims. (Cl. 2—270)

1. A sealing device for a safety suit, comprising a ring formed of substantially flat material and having outturned edges to form a channel around it, a transversely split ring formed from substantially flat material normally spaced axially from the other ring and having overlapping end portions, a tension spring having ends connected to the outside of the split ring at points near said overlapping portions, the spring normally holding the split ring contracted to a size at least as small as the other ring, the split ring being narrow enough to fit in said channel, and a flexible sleeve having one end attached to the channel ring and having its opposite end extending through the split ring and attached to the edge thereof farthest from the channel ring, whereby when either ring is turned on its axis relative to the other the sleeve will be twisted to reduce the diameter of its central portion and draw the rings toward each other, the spring permitting the split ring to be expanded enough to be slipped over the other ring and into said channel to hold the rings together.



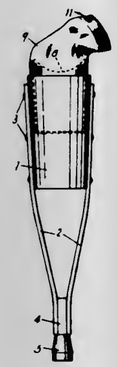
3,262,130
GARMENT SUPPORT
Anthony J. Panepinto, 787 Busti Ave., Buffalo, N.Y. 14213
Filed Dec. 26, 1961, Ser. No. 162,160
5 Claims. (Cl. 2—301)



1. A combined suspender-belt support means adapted to be converted into two waist belts, comprising in combination two shoulder straps, removable means for retaining said straps in position, trouser clasp members positioned at each end of said straps, and a clasp-connecting member, at least two of said clasp members consisting of an inner toothed jaw portion and an outer slotted member, said slotted member extending to substantially the same length as said inner jaw member of said clasp and adapted to receive and lock with said clasp connecting member, said clasp connecting member having on its opposite ends hook members adapted to fit into said slotted members and lock said clasps together when used as a belt.

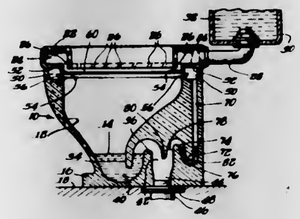
3,262,131
ARTIFICIAL LEG WITH DETACHABLE STUMP SUPPORTING SOCK
Sears Argersinger, 32025 Carlisle St., Wayne, Mich.
Filed June 6, 1963, Ser. No. 286,035
5 Claims. (Cl. 3—17)

4. An artificial leg comprising,
a hollow sleeve open at the top,
leg bars secured to the sides of said sleeve and projecting convergingly therebelow to a ground engaging pad on their lower end,
a relatively rigid and shape retaining stump receiving member of hollow truncated conical shape open at its upper end and wedgingly received in the upper end of said sleeve,



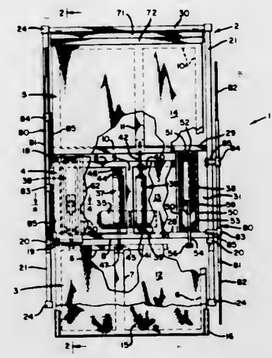
and a stump sock having a lower end fitted over said stump receiving member with the sides of the sock grippingly received between said sleeve and said stump receiving member and projecting thereabove with an annular elastic leg engaging band portion in the upwardly projecting portion of said sock.

3,262,132
COMPOSITE COMMODE AND OVERFLOW TROUGH
John Mann, 3350 Arthur Ave., Lincolnwood, Ill.
Filed May 28, 1964, Ser. No. 370,856
6 Claims. (Cl. 4—75)



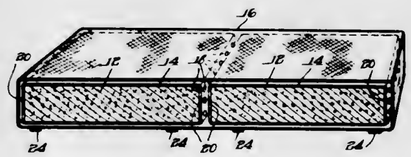
1. In a commode construction including a bowl having a basin for receiving and holding waste materials, a trap having an inlet in communication with said basin and an outlet in communication with a waste material drainage system, and a source of water connected to said basin for flushing waste materials from said basin through said trap, the improvement comprising fluid overflow receiving means for said commode, said fluid overflow receiving means comprising a gutter in the upper portion of said basin, and trap by-pass passageway means communicatively connected between said drainage system and said gutter and having an outlet which is downstream from and by-passes said trap, said gutter and said trap by-pass passageway means cooperating to drain fluids rising in the basin from said basin into said drainage system when waste materials in the basin are prevented from being flushed through the trap.

3,262,133
ADJUSTABLE BED
Stuart W. Beltzel, Los Angeles, Calif., assignor to Life Hospital Equipment Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 1, 1963, Ser. No. 299,398
8 Claims. (Cl. 5—66)



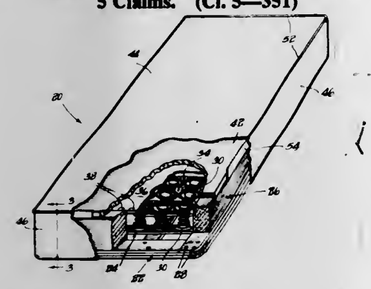
1. A bed comprising a frame, a mattress support unit having a head section, a foot section and an intermediate section all pivotally connected together, means for rotating said head and foot sections relative to said intermediate section about said pivotal connections, main pivot means connecting said intermediate section to said bed frame, means for rotating said intermediate section relative to said bed frame about said main pivot, side arms for said bed, a headboard attached to the rear end of said head section, a light in said headboard, and means connecting said side arms to said intermediate section adjustably in a direction transversely of said intermediate section and in a direction vertically with respect to said intermediate section for movement between a raised position in which the top of said arms is substantially above said intermediate section and a lowered position in which said side arms are closer together than they are in said raised position.

3,262,134
MAT
Oliver C. Bramble, Jr., 6353 N. Clark St., Fox River Grove, Ill.
Filed Nov. 2, 1964, Ser. No. 408,042
15 Claims. (Cl. 5—344)



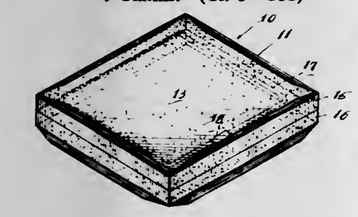
1. A gym mat comprising a pair of cushions positioned adjacent to each other in a substantially horizontal plane, each cushion having a thickness of six inches, each cushion being an open cell foam rubber material having a density between 1.5 and 1.85 pounds per cubic foot, a shield covering each of said cushions, each of said shields having vents on the sides thereof to allow air to escape when the cushions are compressed, and a container for holding the cushions together in the horizontal plane.

3,262,135
BEDDING STRUCTURE
George S. Fasanella, Chicago, Ill., assignor to ACD Bedding Corporation, New York, N.Y., a corporation of New York
Filed May 13, 1964, Ser. No. 367,064
5 Claims. (Cl. 5—351)



1. For use in bedding structures and analogous articles, the combination comprising: a spring unit including a plurality of coil spring elements of predetermined overall diameter; border means of resilient material perimetrically surrounding said spring unit in detached relationship therewith whereby to respond freely and independently to human body loads imposed thereon, said border means having a dimension outwardly of said spring unit that is at least as great as the overall diameter of a said spring element whereby to promote said free and independent response, and enclosing means encompassing said spring unit and said border means to form a closed envelope for retaining said spring unit and said border means in an assembled relationship.

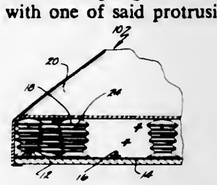
3,262,136
CUSHION CONSTRUCTION AND METHOD OF FORMING THE SAME
John G. Sevcik, Berwyn, Ill., assignor to Burton-Dixie corporation, Chicago, Ill., a corporation of Delaware
Filed July 25, 1962, Ser. No. 212,433
4 Claims. (Cl. 5—353)



1. A resilient cushion of molded plastic composition for an article of furniture, consisting of a block of the plastic composition of substantially uniform thickness having flat upper and lower surfaces and substantially vertical peripheral edges in which the peripheral edges of the cushion are provided with a continuous outwardly opening V-shaped groove cut into the material intermediate the top and bottom surfaces of the cushion with the inclined sides defining the groove adhesively joined uniformly decreasing the thickness of the cushion along its peripheral edges.

3,262,137
SPRING ASSEMBLIES
Ronald H. Beckman, 27 Bank St., New York, N.Y., and Richard R. Knittel, Box 855, R.R. 1, Martinsville, N.J.
Filed Mar. 3, 1964, Ser. No. 348,926
5 Claims. (Cl. 5—353)

1. A bellows spring assembly comprising: a support means; a flexible polymeric locator sheet on said support means; said sheet having a pattern of a plurality of locator protrusions; each of said protrusions having a smaller diameter neck and a larger diameter head; a plurality of elongated protuberances extending away from the neck of each of said protrusions; and a plurality of hollow resilient bellows springs on said support means, each interfitting with one of said protrusions and resting



on said protuberances; said springs each having an end opening receiving one of said protrusions and having a diameter larger than said neck and smaller than said head to anchor the spring; and the interfit of each spring on its protuberances forming vent openings at the bottom of the hollow spring to vent the spring to the atmosphere.

3,262,138
DOUBLE-TAPERED SPRING ASSEMBLY
Richard R. Knittel, Martinsville, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed Mar. 3, 1964, Ser. No. 349,092
9 Claims. (Cl. 5—353)



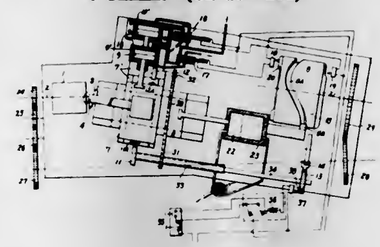
1. A resilient load supporting device comprising a plurality of resilient vented bellows springs arranged in an intermeshed pattern and a cover substantially enclosing said bellows springs, each of the bellows springs having a tapered configuration, one portion of springs having a taper converging outwardly from an intermediate portion towards the end, another portion of springs having a taper diverging outwardly from an intermediate portion towards the ends and each spring in said one portion of springs intermeshing with at least one spring in said another portion of springs thereby causing said springs to act cooperatively and expand radially over a reaction zone when a load is applied to at least one of the springs in said zone.

3,262,139
COMBINATION TRAILER DOCK
Donald W. Campbell, R.R. 2, Bellefontaine, Ohio
Filed Sept. 14, 1964, Ser. No. 396,274
7 Claims. (Cl. 9—1)



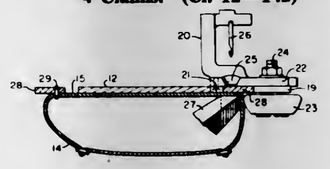
1. The combination comprising; a wheeled trailer having front and rear ends and adapted for transporting a boat, and boat docking means located at the rear end of said trailer and adapted to lie under the boat when the boat is on the trailer and adapted to be erected when the boat is removed and comprising; spaced bolster means pivotally connected to said rear end, deck means having front and rear ends with the rear end thereof being pivotally connected to said bolster means, and means for rigidly securing the front end of said deck means to said trailer when said bolster means are rotated into a substantially vertical position.

3,262,140
METHOD AND CONTRIVANCE OF MACHINING PIPE JOINTS
Tatsuya Takagi, 46 Araebisu, and Teruya Takagi, 49 Araebisu, both of Nishinomiya-shi, Japan
Filed Mar. 12, 1964, Ser. No. 351,363
Claims priority, application Japan, Dec. 23, 1963, 38/68,957
4 Claims. (Cl. 10—101)



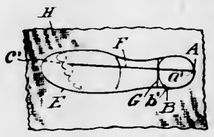
1. Method of machining a thread on a tubular workpiece, such as a pipe coupling, having tapered coaxial threads increasing in diameter outwardly from their junction intermediate the ends of the workpiece, said method comprising: rotating the workpiece about its axis at a high angular velocity; arranging a relatively elongated tool support for longitudinal reciprocation through the workpiece in a feeding direction intersecting the axis of the workpiece at an angle equal to the angle of taper of the thread: fixedly positioning a pair of cutting tools on the support in fixed longitudinally spaced relation therealong and projecting laterally in opposed first and second directions therefrom; shifting the support laterally in such first direction to engage one cutting tool with the work at the entrance end of the work; advancing the support in the feeding direction through the work at a rate coordinated with the angular velocity of the work to cut a thread extending from said entrance end to said junction; shifting the support in such second lateral direction to engage the other cutting tool with the work while continuing the advance of the support in the feeding direction to continue the cutting of the thread from the junction to the exit end of the workpiece; shifting the support in such first direction an amount sufficient to disengage both cutting tools from the work; and retracting the support through the workpiece in the direction opposite to the feeding direction.

3,262,141
PROCESS OF MAKING MOCCASIN TYPE SHOES
Allan MacPherson, 14 Park Road, Brockton, Mass.
Filed June 14, 1963, Ser. No. 287,857
4 Claims. (Cl. 12—142)



1. The process of making moccasin type shoes, comprising the steps of lasting a moccasin blank, temporarily attaching to the sole portion of the lasted blank a stiff sole-shaped pattern thereby setting off a marginal welt area, then removing the last, gauging a welt strip against the edge of said pattern, attaching the welt while thus gauged to the unsupported sole portion of the moccasin, removing the sole-shaped pattern, and stitching an outsole to the welt.

3,262,142
METHOD OF PRODUCING A LAST FOR CUSTOM-MADE SHOES
Ernest A. Keder, 159 S. Harvard, Hemet, Calif.
Filed Feb. 26, 1965, Ser. No. 435,443
3 Claims. (Cl. 12—146)

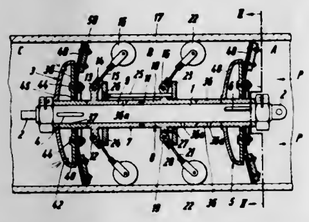


1. The method of producing a last for custom-made shoes, consisting in:
(a) initially defining a straight line on the back of a leg of a person to be fitted with a shoe, said line extending on the leg from the center of the heel toward the base of the spine;
(b) defining a straight line on the sides of said leg leading at right angles to the level surface on which the foot of the leg is seated with heel clearance to the center of the knee joint thereabove;
(c) making an imprint of the foot on a pliable sheet of leather;
(d) defining toe clearance on said sheet and trimming said sheet along the margin of the foot-print and the defined toe clearance thereon thereby forming an inner sole;
(e) adhering said inner sole to a wrapping sheet of latex coated cloth;
(f) affixing lineal embossments over the lines defined on the sides and back of the foot and leg;
(g) imposing the foot on said inner sole then wrapping the foot and embossments thereon in said sheet of latex covered cloth;
(h) seating the wrapped foot on a pad of soft plaster on a level surface with the embossed lines on the back and sides of the foot extending at right angles to said surface and allowing the plaster pad to set;
(i) forming a sectional mold of the wrapped foot including said plaster pad and embossments;
(j) removing and re-assembling said mold apart from the foot and forming a preliminary last therefrom bearing reproductions of said embossments;
(k) converting the reproductions of said embossments on said preliminary last into grooves;
(l) covering the preliminary last with a layer of latex coated felt impressed into said grooves;
(m) coating said felt covering with epoxy and allowing said coating to set and removing said epoxy coated felt from said preliminary last; and
(n) molding a finished last from the mold formed by said epoxy coated felt with said last bearing grooves formed by said epoxy coated felt mold corresponding to the lines delineated on the subject person's foot.

3,262,143
PROPULSION UNIT FOR DESCALING APPARATUS
Alberto Johann Reinhart, Villa Margherita, Ponte Tresa, Switzerland
Filed Apr. 6, 1964, Ser. No. 357,716
Claims priority, application Switzerland, Apr. 5, 1963, 4,207/63
8 Claims. (Cl. 15—104.06)

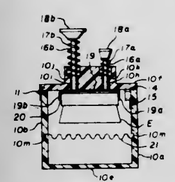
1. A propulsion unit for apparatus for descaling conduits such as pipes, sewers and the like comprising, in combination, a pair of propulsion devices, a center shaft

supporting one said propulsion device at each of its ends and centering means extending between said devices, each said propulsion device including a support plate concentric with and mounted on said shaft, a set of flexible sections secured to said plate in spaced relationship with each other defining a disk shaped device with gaps between adjacent sections, and a load plate mounted on each said



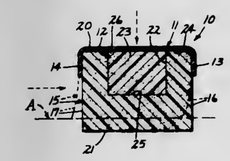
flexible section, said flexible sections extending radially outwardly of said support plate and beyond said load plate and defining a periphery for engaging the inner surface of a conduit being cleaned, said sections and load plates of said propulsion devices being movable alternately in response to water pressure against said sections and their support plate to generate water hammer blows effective on said support plate.

3,262,144
ERASER CLEANER
Blas Pedro Avila, 723 Jackson St., San Antonio, Tex.
Filed Jan. 27, 1964, Ser. No. 340,307
8 Claims. (Cl. 15—142)



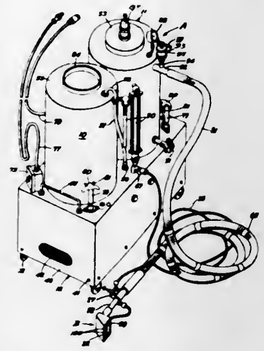
1. An eraser cleaner comprising a casing consisting of front and back sides, ends, and top and bottom, said top connected to said back side, first and second spring biased means passing through said top, an eraser holder including a bore, said first means connected to said eraser holder, said second means when depressed passing through said bore in said eraser holder, and a horizontally positioned screen secured to the front and back sides and ends of said casing above the bottom thereof.

3,262,145
BLACKBOARD ERASER
Gilbert F. Carlson, Minneapolis, Minn., assignor to Progressive Products, Inc., Minneapolis, Minn.
Filed Sept. 20, 1965, Ser. No. 488,383
1 Claim. (Cl. 15—244)



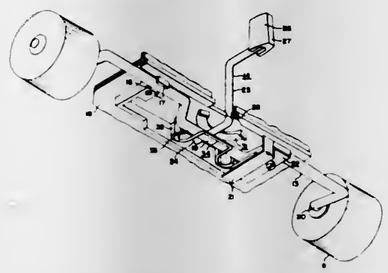
An eraser for blackboards and the like comprising:
(a) an elongated generally rectangular relatively rigid gripping element,
(b) a readily compressible resilient pad element generally in the shape of a rectangular prism having an upper surface and a lower work surface, said upper surface conforming generally to the outline of said gripping element,
(c) said pad element having a central recess which extends along the greater portion of the length thereof, and which opens upwardly through said upper surface in spaced relation to the opposite side edges thereof,
(d) said recess having a depth of at least as great as one-half the depth of said pad element,
(e) a rigid stabilizing core snugly received within said recess and extending between the bottom of said recess and said gripping element,
(f) means adhering said pad element and core to said gripping element, said gripping element being in the nature of a relatively flat plate having depending flanges on its opposite side edges, said flanges having a depth less than that of said core element and recess, said pad element being formed from flexible polyurethane and said core piece being formed from rigid polyurethane, the bottom surface of said flexible polyurethane pad element being mechanically roughened to enhance the working efficiency thereof.

3,262,146
STEAM-VACUUM GENERATOR FOR RUG AND UPHOLSTERY CLEANING
Fred E. Hays, 333 Winchester Blvd., San Jose, Calif.
Filed Sept. 8, 1964, Ser. No. 394,749
4 Claims. (Cl. 15—321)



4. A two-tank steam and vacuum generator for use with a two-chamber steam-vacuum cleaning nozzle comprising:
a base housing,
a suction-blower having an inlet and an outlet and mounted in the base housing,
a liquid pump having an inlet and an outlet and mounted in the base housing,
power drive means operatively connected to the suction-blower and to the liquid pump,
a vacuum tank and a liquid tank releasably mounted on the base housing,
a chamber in the upper portion of the vacuum tank and sealed from the lower portion of the vacuum tank except for an opening at one side thereof,
a suction tube communicating the chamber in the upper portion of the vacuum tank with the inlet of the suction blower,
a long, flexible vacuum hose having one end thereof opening into the portion of the vacuum tank below the chamber therein, the other end of the vacuum hose being formed for releasable connection to the cleaning nozzle,
a liquid tight suction line extending from a low point interiorly of the liquid tank to the inlet of the liquid pump for supplying liquid to the liquid pump,
a steam generator connected to receive liquid pumped from the outlet of the liquid pump, and
a flexible steam hose of a length corresponding to that of the vacuum hose and having one end thereof communicating with the steam generator, and the other end thereof formed for connection to such nozzle.

3,262,147
VACUUM CLEANER
Robert S. Waters, Lexington, and John W. Gilliom, Mansfield, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 24, 1964, Ser. No. 391,599
7 Claims. (Cl. 15—354)



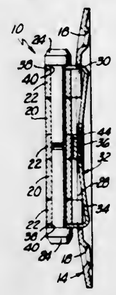
1. In a vacuum cleaner having a nozzle, the improvement for adjusting the nozzle height with respect to a surface being cleaned, said improvement comprising: an offset lever having a horizontal lever arm at one end and adapted to rotate about a vertical axis, a cam fixed with respect to the bottom wall of the cleaner and in operative engagement with said horizontal lever arm, an offset axle having a central crank portion operatively engaging said horizontal lever arm at the side thereof opposite the side engaged by said cam, means for securing said offset axle to the cleaner housing, and bias means interposed between said central crank portion and said retaining means for maintaining engagement of said lever arm with said cam and said central crank portion with said lever arm.

3,262,148
DRAPERY CARRIER
Morris A. Saltz, 1083 S. Ogden Drive, Los Angeles, Calif.
Filed Jan. 7, 1964, Ser. No. 336,238
11 Claims. (Cl. 16—87.4)



1. In a carrier adapted to support drapery and the like from a rod having a longitudinal access slot opening into a longitudinal channel of the rod which is substantially wider than the slot: an upper body including a cylindrical shank of uniform length having a width less than the width of the lot and adapted to extend thereinto, an outer portion secured to said shank and extending laterally of and in opposite directions beyond the shank to overlie the exterior of the rod on opposite sides of its slot, and an inner cylindrical portion eccentric of and secured to said cylindrical shank in spaced relation to said outer portion and extending laterally of and beyond said shank in one direction to overlie the interior of the rod at one side of its slot when disposed in the channel, said eccentric inner portion extending laterally of and beyond said shank in the opposite direction to a substantially lesser extent than said inner portion extends laterally beyond said shank in said one direction to overlie the interior of the rod at the opposite side of its slot when said inner portion overlies the interior of the rod at said one side of said slot; and a depending portion secured to said outer portion of said body and adapted to receive a drapery hook or the like.

3,262,149
HINGE LATCH
Howard B. Gorton, West Covina, and Henry Arias, Jr., La Puente, Calif., assignors to Ajax Hardware Manufacturing Corp., City of Industry, Calif., a corporation of California
Filed Jan. 22, 1964, Ser. No. 339,379
5 Claims. (Cl. 16—147)

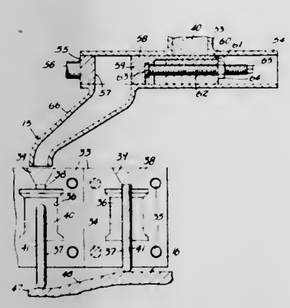


1. In a hinge, the combination of: a first leaf having a spring, said first leaf incorporating an elongated opening and said spring being elongated and spanning said opening, said spring having securement means on its opposite extremities to secure it in operative relationship with said first leaf; a second leaf having a keeper engageable with said spring to retain said second leaf in a predetermined orientation with respect to said first leaf; and a pintle connecting said leaves.

3,262,150
MACHINE FOR PRODUCING FOAMED PLASTIC SPOOLS AT HIGH SPEED
Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 396,264
5 Claims. (Cl. 18—4)

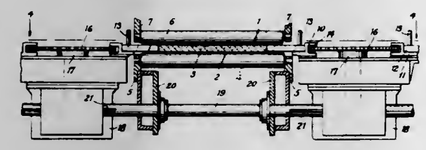
1. A machine for producing foamed plastic spools, comprising a pair of endless chains, spaced means for intermittently driving said pair of chains with portions of the chains in each pair disposed in adjacent parallel relationship to each other, die halves on the chain of each projecting pair from the outer surface of the chain so as to bring die halves of the two chains into abutting engagement with each other to form a die cavity, ends of the chains being defined by pairs of sprockets, one pair at a delivery end of the machine and the other at the discharge end of the machine, around which the chains pass, a plurality of stations spaced along the path of movement of the dies by said chains between said delivery and discharge ends, one station comprising a core pin inserting station at the delivery end of the machine having means for inserting a core pin axially into each die cavity registering with said station so that said core pin passes only partially through said die cavity to leave an axial filler opening at one end of said cavity, a plastic loading station adjacent

said first named station for introducing through said filler opening a premeasured quantity of plastic into said die cavity, a core lifting station adjacent said loading station for raising the core pin into a sealed position in the die when registering with said lifting station, successive heating and cooling stations extending longitudinally of the chains between said core lifting station and a core ejector



station, means at the core ejector station for removing the core from the formed spool delivered to said ejector station, said formed spool being ejected from the machine adjacent the sprockets at the discharge end of the machine, and means supporting die halves of respective chains in firm engagment with each other in passage through the heating and cooling stations.

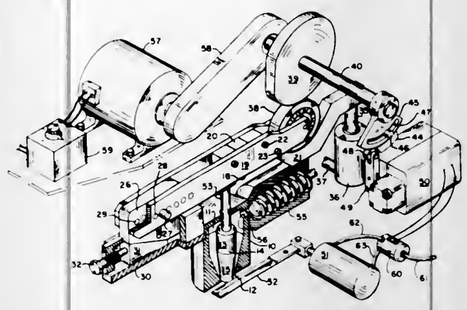
3,262,151
APPARATUS FOR MOLDING PLASTIC MATERIAL
Berton Oxel, New Castle, Pa., assignor to Dyfoam Corporation, New Castle, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1964, Ser. No. 400,339
8 Claims. (Cl. 18—4)



1. In an apparatus for molding a plastic material, a pair of moving bands defining a space between them in which the material is molded, a pair of moving elements travelling in company with the bands and projecting into said space and constituting closures for such space at the opposite edges of the bands, and a plurality of removable blocks carried on said elements and projecting between the belts and into said space, the lengths of said blocks determining the width of the body of material that is molded in said space between the bands.

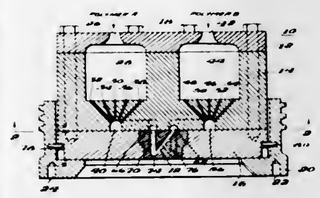
3,262,152
APPARATUS FOR FORMING PARISONS
Clement V. Fogelberg and Charles C. Catlin, Boulder, Colo., assignors to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana
Filed Mar. 25, 1963, Ser. No. 268,518
7 Claims. (Cl. 18—5)

1. Apparatus for controlling the wall thickness of plastic tubing comprising an extrusion die having a chamber therein terminating on one end in an outlet orifice, a valve member positioned within said chamber forming an annular outlet orifice with said extrusion die, at least one of which chamber and valve member is inwardly tapered, a supporting frame, an arm pivotally attached to said frame, actuating means to cyclically move said arm through an arc path in a pattern of movement toward



and away from said outlet orifice, adjusting means to change the pivot point of said arm so as to change the size of the arc angle, and means connecting said arm and said valve member to translate the cyclical movement upon said arm into movement of said valve member to regulate the flow of plastic material through said orifice.

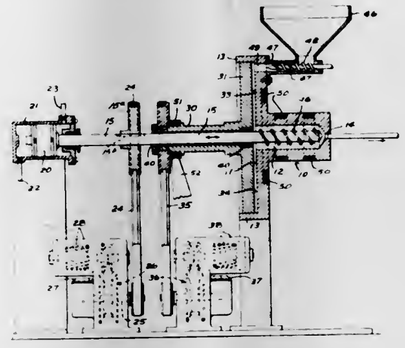
3,262,153
APPARATUS FOR PRODUCING COMPOSITE FILAMENTS
Robert Bolton Mercer and David Lee Sharps, Martinsville, Va., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,260
4 Claims. (Cl. 18—8)



1. A spinneret assembly comprising a superimposed filter block and spinneret plate, said filter block having two separate filter cavities in the upper face and two symmetrical distribution channels in the lower face, said distribution channels having portions thereof below said filter cavities, said filter block having a series of vertical and angled holes connecting the bottom of each of said filter cavities to the respective portions of said distribution channels below said filter cavities, said distribution channels each defining a path extending in both directions from the portions below said filter cavities toward the periphery of said filter block and then circling toward the interior of said filter block, each of said distribution channels terminating in opposed straight end portions, the depth of the straight end portions of said distribution channels being tapered and at a minimum at the extreme ends, and said spinneret plate having orifices therein which are aligned with respect to the straight end portions of said distribution channels.

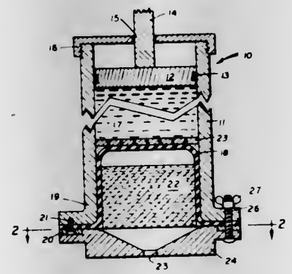
3,262,154
EXTRUDERS FOR PLASTIC MATERIAL
Emery I. Valyi, 5200 Sycamore Ave., Bronx 71, N.Y.
Filed Dec. 6, 1963, Ser. No. 328,666
3 Claims. (Cl. 18—12)

1. Apparatus for extruding plastic material comprising a cup member having a plane transverse surface terminating axially in a cylindrical passage having an extrusion orifice, a disc having a plane surface coaxial with and spaced from said cup surface to form a disc-like space therebetween, a shaft extending axially through said disc and terminating forwardly in said cylindrical passage, said shaft being rotatable independently of said disc and provided with a helical pressure screw within said passage



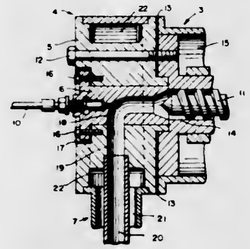
adapted to advance the plastic material under pressure through said orifice, means introducing the plastic into said space near the periphery of said disc, means rotating said disc for thereby feeding said material centripetally into said cylindrical passage, and means independent of said last means for rotating said shaft.

3,262,155
EXTRUSION PRESS
Harvey B. Alexander, Indian Head, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Dec. 30, 1963, Ser. No. 334,673
3 Claims. (Cl. 18—12)



1. An extrusion press for use in producing high-energy solid propellants comprising a cylindrical housing,
a piston reciprocably mounted in one end of said housing, said piston having an annular groove therein,
an O-ring fixed in said groove and movable with said piston to provide a fluid seal between said piston and said housing,
a closure for the other end of said housing having an aperture therein,
an elastic diaphragm fixed between said closure and the other end of said housing providing a fluid seal therebetween,
hydraulic fluid means in said housing between said piston and said diaphragm,
a perforated plate fixed within said housing in the region between said piston and said diaphragm and extending perpendicular to the wall surface of said housing,
said diaphragm being stretched so as to form a cup-shaped portion when said piston is in its retracted position, said closure being removable to facilitate loading a block or mass of propellant into the cup-shaped portion of said diaphragm,
and means for moving said piston within said housing whereby said fluid urges said diaphragm against said propellant and forces the propellants through the aperture in said closure.

3,262,156
SCREW EXTRUDER FOR SPINNING FILAMENTS
Reinhold Jung and Gerd Albrecht, Remscheid-Lennep, Germany, assignors to Barmer Maschinenfabrik Aktiengesellschaft, Wuppertal-Oberbarmen, Germany
Filed Apr. 14, 1965, Ser. No. 448,172
Claims priority, application Germany, Apr. 21, 1964, B 76,427
6 Claims. (Cl. 18—12)

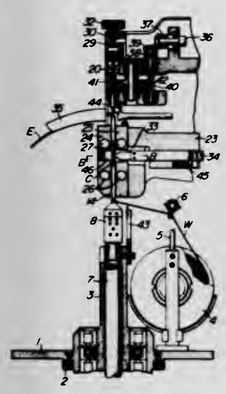


1. In a screw extruder for spinning synthetic polymer filaments having a housing containing an conveyor screw and a distributor line for transfer of molten extruded polymer from said screw to at least one spinning head, the improvement comprising:
a headpiece at the exit end of said screw, said headpiece including an outer headblock attached as an extension to the screw housing and containing an axial bore therethrough of greater diameter than the diameter of said screw; and
an inner core member removably mounted in said axial bore and containing a fluid passageway interconnecting the exit opening of the screw with said distributor line.

3,262,157
METHOD AND APPARATUS FOR MANUFACTURING COILED FASTENER ELEMENTS
Yoshinori Fujisaki, Kurobe-shi, Japan, assignor to Yoshida Kogyo K.K., Chuo-ku, Tokyo, Japan, a corporation of Japan
Filed Sept. 17, 1964, Ser. No. 397,178
Claims priority, application Japan, Nov. 13, 1963, 38/61,070; Nov. 20, 1963, 38/62,402
8 Claims. (Cl. 18—19)

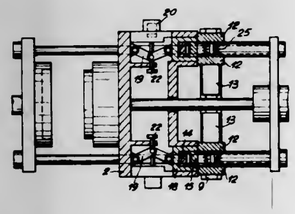
1. An apparatus for manufacturing coiled continuous fastener elements from a wire of thermoplastic material comprising rod means for coiling a wire of thermoplastic

material thereabout, a pair of rotatable screw means having a substantially same pitch and disposed on opposite sides of said rod means in closely juxtaposed parallel relation therewith, said screw means being operative to feed the wire coiled about said rod means while rectifying the shape of the coiled wire, said rod means being so shaped that the diameter of a portion thereof about



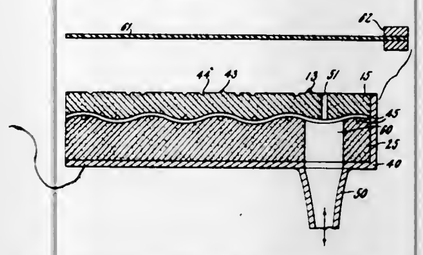
which the wire is first coiled is made greater than the diameter of the remaining portion thereof, and a rod means holder for supporting the lower end of said rod means at a position adjacent the portion of said rod means about which the wire is first coiled, said rod means holder being vertically slidable for thereby causing a reciprocating movement of said rod means in the axial direction thereof.

3,262,158
INJECTION OR PRESSURE FUSION MACHINE
Vinzenz von Reimer, Pickelstr. 13, Munich, Germany, and Quirino Gnutti, Ospitaletto, Brescia, Italy
Filed July 15, 1963, Ser. No. 295,144
Claims priority, application Germany, July 16, 1962, R 33,146; May 10, 1963, R 35,153
6 Claims. (Cl. 18—30)



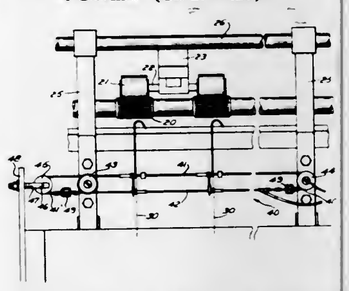
1. An injection molding machine comprising a stationary holder plate carrying one die half, a movable holder plate carrying the other die half, a large-stroke device for moving said movable holder plate toward said stationary holder plate to bring said die halves into abutment, means to prevent said movable holder plate from being displaced away from said stationary holder plate, a short-stroke device for further moving said movable holder plate toward said stationary holder plate to close said die halves together, and adjustable means associated with said short-stroke device to compensate for any play arising during use in said large-stroke device and said short-stroke device.

3,262,159
MOLDING APPARATUS AND PROCESS FOR MAKING SAME
Vernon A. Falkenau and Carl W. Church, Mishawaka, Ind., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed May 22, 1963, Ser. No. 282,443
10 Claims. (Cl. 18—35)



1. A device for imparting a predetermined shape to an impressionable material comprising: a layer of porous metal having a shape-imparting surface and a back surface; a supporting layer of material adjoining said back surface at an interface; a plurality of fine passages disposed on said interface, at least a portion of said passages communicating with a vacuum source; said layer of porous metal being bonded to said supporting layer along substantially that entire portion of the interface not occupied by said passages.

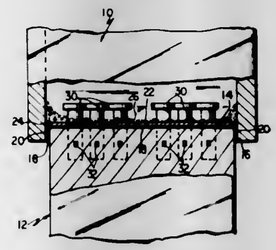
3,262,160
STOP MOTION FOR DRAWING FRAME
Rene M. Cardon, 164 Maple St., Woonsocket, R.I.
Filed Nov. 27, 1963, Ser. No. 326,460
4 Claims. (Cl. 19—.25)



1. In a drafting frame, a plurality of pairs of delivery draft rolls, packaging means for each end of strand drawn, means including an electric circuit for stopping the frame upon energizing the circuit, said circuit including a pair of conductors in generally a common plane spaced to open said circuit and extending generally lengthwise of the frame across a plurality of strands in the area between the draft rolls and the packaging means, a plurality of circuit controlling devices each having a portion to be engaged and supported by a strand and positioned to be controlled by the travel of a strand end from its draft rolls to its packaging means and each in electrical contact with and rockably mounted on one of said conductors so as to tend to swing in a plane substantially parallel to the plane of said conductors and toward the other of said spaced conductors and be supported against such swinging by a strand end being drawn, said device being shaped so as to contact the other conductor when unsupported to complete said electrical circuit, said circuit controlling devices comprising a wire provided with a loop to embrace said one conductor for rockably mounting it thereon and a U-shaped

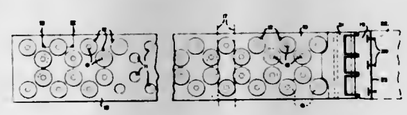
portion at its end disposed with the other conductor located between the arms of the U and spaced from the bridging portion thereof when the device is supported by the strand end, said bridging portion engaging said other conductor when the device is unsupported by the strand end and rocked about its mounting.

3,262,161
SEALING AND INSULATING MEANS FOR CONTINUOUS CASTING STARTER BARS
Sigmund L. Andrzejak, Chicago, and Robert J. Keene, Chicago Heights, Ill., assignors to United States Steel Corporation, a corporation of New Jersey
Filed June 27, 1963, Ser. No. 291,209
5 Claims. (Cl. 22—57.2)



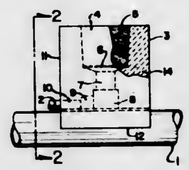
1. In combination with a tubular mold for continuous casting of metals, a starter bar adapted to be inserted into the lower portion of said mold, said starter bar being of substantially the same cross-sectional shape as said mold and a slightly smaller size, whereby there is a small clearance between said starter bar and the interior wall of the mold, and a flexible heat-resistant sealing member secured to the top surface of said starter bar and completely covering said top surface, said sealing member having a border portion extending beyond the perimeter of said top surface and turned downwardly into said clearance between said mold and said starter bar, whereby entrance of molten metal into said clearance is prevented.

3,262,162
FLEXIBLE DUMMY BAR FOR CONTINUOUS CASTING MACHINES
Herbert Lemper, Pittsburgh, Pa., assignor to Mesta Machine Company, a corporation of Pennsylvania
Filed Jan. 24, 1964, Ser. No. 340,096
5 Claims. (Cl. 22—57.2)



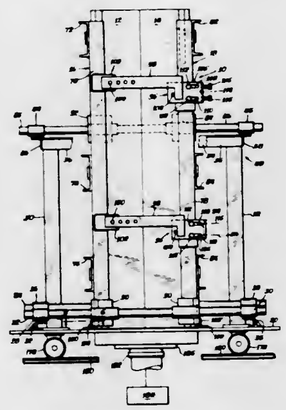
1. A flexible dummy bar for continuous casting machines comprising an elongated flexible band member of greater breadth than thickness, a multiplicity of gage block elements loosely mounted on said member such that equal portions of each gage block element are disposed in opposing relationship on either side of said member, said gage block elements being of a thickness equal to the thickness of the continuous body to be cast, said gage block elements being spacedly arranged on said flexible band member such that a constant thickness over the length of said member is presented to pinch rolls disposed across the path of said flexible band member when passing through said continuous casting machine normal to the longitudinal axis thereof and dummy bar head means for engaging the molten metal slab as it is initially formed in the mold of the continuous casting machine.

3,262,163
CAST WELDING APPARATUS AND METHOD
Leonard Gelfand, South Euclid, Ohio, assignor to Erico Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed June 3, 1963, Ser. No. 285,024
10 Claims. (Cl. 22—58)



1. The method of joining a conductor to a thin wall tube comprising the steps of cast welding such conductor to a beat shield and simultaneously brazing such shield to such tube.

3,262,164
MOLD ASSEMBLY
Donald E. Meves, Alliance, Ohio, assignor to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Filed June 14, 1963, Ser. No. 287,948
10 Claims. (Cl. 22—69)

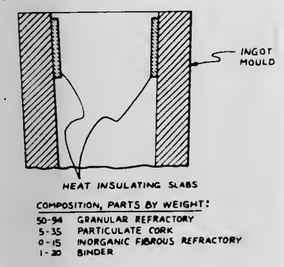


1. Pressure casting mold apparatus comprising a base, a mold assembly including a pair of mold blocks mounted on the base for movement horizontally toward each other into interengagement and away from each other, the mold blocks forming therebetween a vertically extending mold cavity opening through the bottom thereof, said base having a pouring aperture therein communicating with said mold cavity in a predetermined pouring position of the mold assembly, means supporting said base in position for cooperation with a pouring tube therebelow in communication with said pouring aperture, means for releasably locking the mold blocks together in assembly, and means for moving the mold blocks into and out of interengagement, and the mold assembly into pouring position and out of that position and into a position in which said cavity is closed by a solid portion of the base.

3,262,165
HEAT-INSULATING COMPOSITIONS AND THEIR USE

Anthony John Ingham, Birmingham, England, assignor, by mesne assignments, to Sandvikens Jernverks A.B., Sandviken, Sweden, a Swedish company

Filed Dec. 9, 1963, Ser. No. 329,316
Claims priority, application Great Britain, Dec. 17, 1962, 47,553/62
5 Claims. (Cl. 22—193)



1. A method for the production of castings and ingots wherein molten metal is passed into a mould wherein the head of the mould is provided with slabs of heat-insulating composition being a composition consisting essentially of 50 to 94 parts by weight of a granular heat-insulating refractory material, 5 to 35 parts by weight of cork in particulate form, 0 to 15 parts by weight of inorganic fibrous refractory material and 1 to 20 parts by weight of a binder material.

3,262,166
NECKTIE HOLDER

Paul Kellner, New York, and Abraham Israeloff, White Plains, N.Y., assignors to Formal Fashions, Inc., New York, N.Y., a corporation of New York

Filed Sept. 14, 1964, Ser. No. 396,223
10 Claims. (Cl. 24—49)

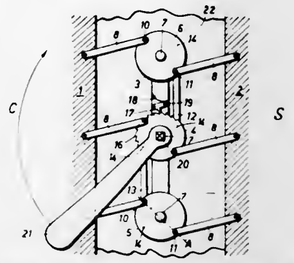


1. A necktie holder for use in conjunction with a pre-tied necktie comprising:
a necktie supporting front member;
a shirt collar engaging rear member;
a spacer member connecting said shirt collar engaging member to said necktie supporting member rearwardly thereof and in spaced relation thereto;
said shirt collar engaging member comprising a pair of legs joined at the upper ends thereof by a connecting bend and defining between said legs a shirt collar receiving space;
one of said legs being provided with means for capturing the collar button of a wearer's shirt when said shirt collar is received in the space therefor between said legs and for retaining said button between said one leg and said shirt collar.

3,262,167
CLOSURE FOR FOOTWEAR HAVING INTERCONNECTED ROTATABLE MEMBERS

Hans Martin, Volkmarstrasse 6, Zurich 6, Switzerland

Filed June 22, 1964, Ser. No. 376,825
Claims priority, application Switzerland, June 26, 1963, 7,914/63
10 Claims. (Cl. 24—68)

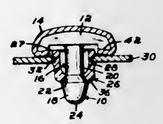


1. A fastener for footwear, particularly ski-boots of the type having a pair of spaced closure flaps capable of being drawn together and a tongue member disposed in the region of the spacing between said closure flaps, comprising at least two members each mounted in spaced relation from one another for rotation about their own respective axis of rotation upon the tongue member, means for connecting each rotatable member to the closure flaps, means for operably interconnecting said rotatable members with one another such that rotational movement of one rotatable member is transmitted to the other, so that the closure flaps can be drawn together or released due to rotation of the rotatable members through an angle which is less than 180°.

3,262,168
PLASTIC MOLDING FASTENER

Heinrich Overhoff, Loerrach, Baden, Germany, assignor to A. Raymond, Baden, Germany, a firm

Filed July 29, 1964, Ser. No. 386,814
Claims priority, application Germany, Nov. 7, 1963, R 36,518
2 Claims. (Cl. 24—73)



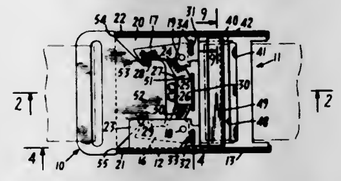
1. A fastener assembly for attaching an article of manufacture to an apertured support comprising a stud element and a socket element, said stud element including a head portion and a shank extending from said head portion, said shank having a bulbous, free terminal end including an obtuse angular surface directed towards the plane of said head portion, said socket element being formed of a flexible material and including a continuous, uninterrupted, tubular, upstanding body portion having a relatively large opening at one end and a flange extending outwardly therefrom adjacent said end, and a base portion extending into the area defined by said body portion, said base portion having an internal wall defining a smaller opening adjacent the other end of said body portion, said wall having a height greater than the thickness of said flange and substantially equal to the length of the angularly extending surface on the bulbous end of said stud shank, said second opening having a diameter smaller than the greatest external diameter of said bulbous

end whereby on axial insertion of said shank through said smaller opening said base portion will be flexed outwardly and said internal wall will mate with the angularly disposed surface in flush, abutting relationship.

3,262,169
BUCKLE ASSEMBLY

George Jantzen, New York, N.Y., assignor to M. Steinthal & Co., Inc., New York, N.Y., a corporation of New York

Filed Jan. 21, 1965, Ser. No. 427,049
13 Claims. (Cl. 24—77)

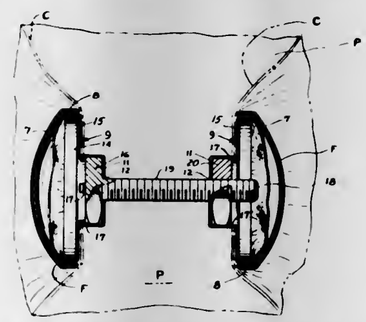


1. A buckle comprising separable first and second belt engaging coupling members, said first coupling member having a base plate, a pair of pivot members extending from said base plate, a pair of locking members rotatably mounted on said pivot members and having locking portions adapted to move relative to each other between respective locking and releasing positions for said second coupling member, bias means engaging said locking members for biasing said locking portions towards the said locking position, and a plate-like lever member pivotably connected to said first coupling member and positioned outside said first coupling member and having a flat driving portion extending into the interior of said first coupling member and disposed to engage and induce rotation of said locking members to move said locking portions towards said releasing position in opposition to said bias and said second coupling member having a portion thereof adapted for locking engagement with said locking portions.

3,262,170
DOUBLE BUTTON

Reva Gill, 183—51 Dunlop Ave., Hollis, N.Y.

Filed Aug. 3, 1964, Ser. No. 386,816
2 Claims. (Cl. 24—105)

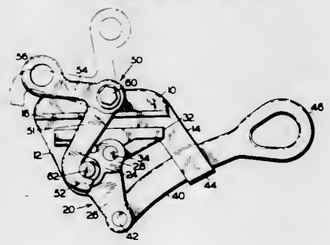


1. A double button of the class described comprising a pair of buttons of identical shape, each button comprising:
a centrally disposed, orificed, chambered casing, a disc integral therewith and having an upstanding peripheral wall extending oppositely from the said casing, and a cover thereover with a depending peripheral wall fitting over and detachably fastened to the peripheral wall of the disc,
one of the pair of buttons including:
a threaded stud having its head anchored in the chambered casing of the button, the threaded portion of the stud extending through the orifice of the casing,
the other of the pair of buttons including:
a nut threaded to mate the threads of the stud, said nut fastened in the chamber of the button, the threads of the nut being contiguous the orifice of the chamber,
whereby the buttons may be attached together and separated one from the other by turning the nut on and off the stud.

3,262,171
WIRE GRIP

Julian W. Scholz, 60001 SE. Laurel St., Portland, Oreg.

Filed June 29, 1964, Ser. No. 378,722
1 Claim. (Cl. 24—134)



A wire grip comprising a body portion, a pair of jaws on said body portion one of which is pivotally supported on said body portion for clamping wire in the jaws, said jaws having a side opening wherein wire to be gripped is arranged to be moved into the jaws by a lateral movement of the wire, a link pivotally connected at one of its ends to said pivotally supported jaw and extending longitudinally of said body portion, means on the other end of said link arranged for removable connection to an operating tool, a latch member comprising a pair of arms extending angularly relative to each other, said latch member being pivotally mounted on said body portion and being movable between two positions, one of said arms extending across said side opening to hold a wire in the jaws in one position of said latch member and in the other position of said latch member said one arm is disposed out of the plane of said side opening while the other arm extends upwardly, and means on the other end of said other arm arranged for removable connection to an operating tool.

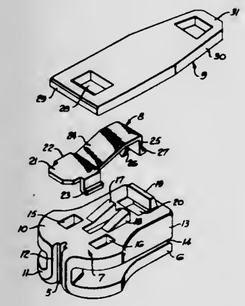
3,262,172
LOCKING SLIDERS FOR SLIDE FASTENERS

Valentine Scheuerman, 726 Ridge Road, Smoke Rise, N.J.

Filed Mar. 10, 1965, Ser. No. 438,538
7 Claims. (Cl. 24—205.14)

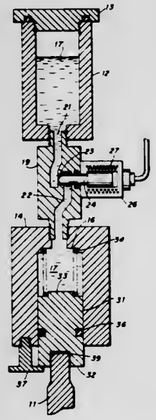
1. A locking slider for slide fasteners, comprising, in combination, a slider body having a top wing, a bottom wing, a neck joining the two wings, a separate side flange integral with each of said wings, said wings, said flanges and said neck forming a Y-shaped passage for the fastener elements, the front of the slider body having a central recess, the rear of the slider body having an open mouth, at least one wedge-like support carried upon said top wing substantially in the middle thereof and extending upwardly toward the rear of the slider body, said top wing having two similar symmetrically disposed openings located between the front of the slider body and said support and a transverse opening located between the rear of the slider body and said support, and a support bar extending parallel to and adjacent said transverse

opening and between said transverse opening and the rear of the slider body; a locking spring bail having a central portion extending over said wedge-like support, two angular wings extending through said symmetric openings and a rear prong having at least one locking lip; and a



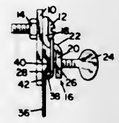
tab having an opening and a narrow elongated end portion located adjacent the last-mentioned opening, said rear prong of the locking spring bail extending over said end portion of the tab and through said transverse opening of the slider body.

3,262,173
ELECTRICALLY-ACTUATED OCEANOGRAPHIC RELEASE MECHANISM
George O. Pickens, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 27, 1964, Ser. No. 392,663
5 Claims. (Cl. 24—241)



1. A remotely controlled apparatus for releasably supporting weighted objects under water comprising:
articulated hook means for releasably suspending said weighted objects,
suspension for said hook means, and
means carried by said hook means for releasably securing said hook in a closed position,
said hook-securing means including;
a fluid reservoir,
a fluid cylinder,
a valve casing disposed intermediate said reservoir and cylinder and provided with separate fluid passageways communicated one with said reservoir and the other with said cylinder,
said casing further being provided with a third passageway intercommunicating said separate passageways,
a valve stem reciprocably movable in said casing for blocking and unblocking said third passageway,
remotely-controlled means for reciprocably moving said stem, and
a piston reciprocably mounted in said fluid cylinder with one of its end portions exposed to sub-surface ambient pressure and the other end portion exposed to the fluid pressure of said cylinder, said piston being reciprocably movable from a retracted position within said cylinder to an extended position, and
said piston being formed for engaging and securing said articulated hook means when extended and for releasing said articulated hook means when retracted,
whereby said piston can be held in an extended position by filling said fluid cylinder with fluid and blocking said third passageway for maintaining fluid pressure on the piston,
said hook-releasing retraction of said piston being accomplished by unblocking said third passageway to permit fluid flow from the cylinder into said reservoir in ambient sub-surface pressure acting upon the exposed end of the piston.

3,262,174
LICENSE PLATE CLAMPS
Alfred L. Duna, 5 Lull St., Worcester, Mass.
Filed Sept. 9, 1964, Ser. No. 395,138
2 Claims. (Cl. 24—263)

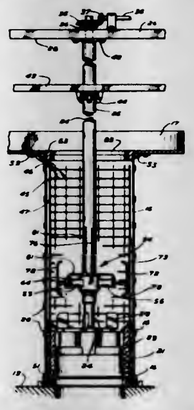


1. A clip for attaching a plate to an object, said clip comprising a substantially Z-shaped first plate which includes two generally parallel flat portions offset with respect to each other and connected by means of a jog, and a second plate which is generally flat, said second plate having means for loosely attaching it to the first plate in the area of the jog thereof so that it underlies a hole formed in one of the offset portions of the first plate and a screw in the hole, said screw bearing on the second named plate and forcing it in a pivoting action away therefrom, and means on the other offset portion of the first-named plate for attaching the same to the object to which it is desired to secure the plate.

3,262,175
CONCRETE PIPE MACHINE
Larry C. Gourlie, Kent, Wash., Curt M. Cowell, Salem, Oreg., and Thomas K. Breitfuss, Kent, Wash., assignors to Hydrotile Machinery Company, Nashua, Iowa, a corporation of Iowa
Filed July 29, 1964, Ser. No. 385,870
12 Claims. (Cl. 25—36)

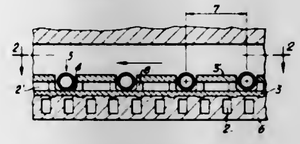
6. A device for positioning a reinforcing cage within an outer mold of a pipe machine having a rotatable axially movable packer head concentric with said outer mold, said device including a plurality of extensible members vertically movable with said packer head and positioned spaced above said packer head, said members being movable from extended position wherein they hold said reinforcing cage substantially co-axial with the packer

head to a retracted position wherein they will clear the inside diameter of the pipe formed by the packer head,



and means to move said members between their extended and retracted positions.

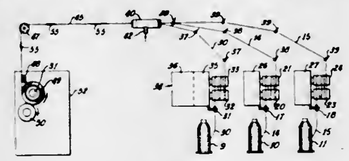
3,262,176
CONTINUOUS KILN FOR FIRING CERAMIC MATERIALS
Adriano Bossetti, 22 Via Verdi, Novara, Italy
Filed Mar. 15, 1965, Ser. No. 439,543
Claims priority, application Italy, July 29, 1964, 49,765
5 Claims. (Cl. 25—142)



1. A furnace for ceramic material, the furnace having a vault and a sole, the sole having a continuous bottom and a plurality of transversely extending spacers extending across said bottom, said spacers defining transverse grooves between them, rollers disposed in and extending lengthwise of said transverse grooves and protruding a short distance above said spacers, said spacers having cavities for heating elements therein extending lengthwise of said spacers and disposed between upper portions of said spacers and said continuous bottom, and openings extending horizontally through said spacers and communicating between said grooves.

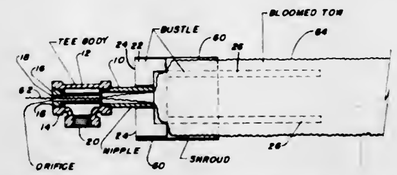
3,262,177
APPARATUS FOR PRODUCING NOVELTY BULKED YARN
Edward S. Cobb, Franklin, Mass., and Carl F. Jackson, Cumberland, R.I., assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Filed Nov. 1, 1961, Ser. No. 149,357
3 Claims. (Cl. 28—1)

1. Apparatus for producing texturized yarn including an air turbulence nozzle adapted to texturize yarn passed therethrough, feeding means delivering yarn to and through the nozzle, collecting means taking up the yarn from the nozzle, driving means for the feeding means operating at a predetermined speed, a second driving means for the feeding means operating at a predetermined speed substantially greater than the speed of the first driving means, a clutch for selectively engaging the first driving means or the second driving means with the feeding means, and a device activating the clutch at irregularly timed intervals, said activating device including an electric eye and means directing successive light beams toward the electric eye, said means directing successive light beams including a rotating disc with radially extending



and variedly spaced reflective strips and a light source directing a light beam at a point crossed by the reflective strips, said light beam being successively reflected from said strip as successive light beams directed toward the electric eye.

3,262,178
TOW TREATING APPARATUS
William L. Aspy, Jr., and James K. Pannill, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 12, 1963, Ser. No. 287,227
4 Claims. (Cl. 28—1)

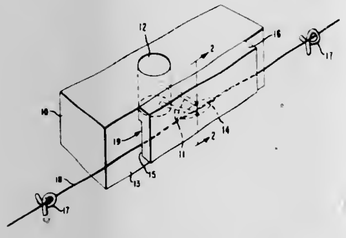


1. A two-treating jet having substantially cylindrical entrance and exit means comprising as a main body a pipe T, said body having an entrance opening into which is fitted a drilled plug with a circular orifice substantially smaller in diameter than the opening of said T, whereby the noise accompanying use of the jet is reduced, a pipe nipple fitted into an exit opening of the main body of the pipe T, the inside of said plug being equipped with a tube of substantially the same diameter at both ends thereof and the inside of which is the continuation of the orifice in the plug, an opposite end of the tube terminating at the inside edge of an opening in the opposite end of said T at a point just beyond a separate opening located close to the entrance of said jet at an angle to the tube and forming part of the pipe T whereby a fluid medium may be added to the jet, said tube being provided with radial orifices for entrance of said fluid medium, said orifices permitting direction of said fluid medium substantially along the path of two moving through said jet into the pipe nipple, whereby the tow then moving in the pipe nipple may be partially bloomed with a completion of the blooming taking place as filaments of the tow separate and the fluid expands.

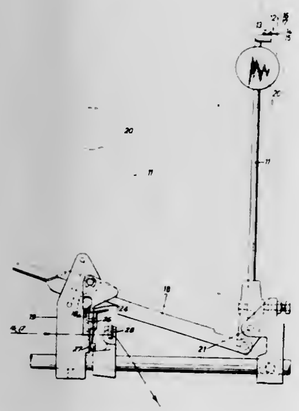
3,262,179
APPARATUS FOR INTERLACING MULTIFILAMENT YARN
Wayne Clifford Sparling, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 1, 1964, Ser. No. 414,974
1 Claim. (Cl. 28—1)

An apparatus for interlacing multifilament yarn, including in combination a body member having a yarn-treating face; a vortex cavity in said face; a well member having a planar surface spaced from said yarn-treating face

to form a yarn passageway, yarn guide means for controlling the direction of yarn travel through said passageway; and a pair of fluid conduits through said body member and terminating at opposite sides of said vortex cavity in the yarn-treating face, on a line approximately at right-angles to the direction of yarn travel and positioned to direct fluid against said planar surface of the wall member; said vortex cavity having as the greatest depth a depth perpendicular to the yarn-treating face two to three times the spacing of said planar wall surface from said face, and having the boundaries of the cavity entirely within the edges of said face; the distance between the axes of said fluid conduits at said yarn treating face being about 4 to 10 times the spacing of said wall surface from said face.

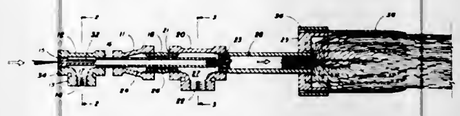


3,262,180
DEVICE FOR DETECTING YARN BREAKAGE
Eric Findlow, Macclesfield, England, assignor to Ernest Scragg & Sons, Limited, Macclesfield, England
Continuation of application Ser. No. 292,335, July 2, 1963. This application May 12, 1965, Ser. No. 459,509
12 Claims. (Cl. 28—50)



1. In a textile machine, in combination, an elongated rod; support means supporting said rod for free falling movement to a given position; and yarn-engaging means carried by said rod for engaging a plurality of yarns while maintaining said rod above said given position thereof as long as said yarn-engaging means engages said plurality of yarns, said yarn-engaging means being swingably connected to said rod for turning with respect thereto to release said rod for falling movement to said given position thereof when any one of the plurality of yarns breaks.

3,262,181
METHOD FOR OPENING FIBROUS TOW
Roy E. Hawkins and Perry S. Barker, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 22, 1963, Ser. No. 325,576
7 Claims. (Cl. 28—72)



1. A process for opening a tow made up of crimped continuous filaments which comprises introducing the crimped tow into a treating zone in a substantially unidirectional path, directing thereagainst in substantially the same direction as the movement of said tow a first stream of motivating gas, downstream from said introduction of said first motivating gas directing a separate stream of motivating gas against said tow also substantially in the direction of movement of said tow, said separate stream being directed in a path concentric to the axial path of said first stream to a point at which said streams merge in a single, confined, generally cylindrical course, thereby blooming the previously crimped filaments of said tow and adapting same for compacting into a unitary rod-like structure.

3,262,182
METHOD OF MANUFACTURING METAL STRIPS OR SHEETS
Georges Duret, Antony, and Lucien Alfille, Paris, France, assignors to The Commissariat à l'Energie Atomique, Paris, France, a society of France
Filed Oct. 8, 1962, Ser. No. 229,120
Claims priority, application France, Oct. 13, 1961, 875,840
2 Claims. (Cl. 29—18)



1. A method of making a metal strip which comprises taking a metal of the group consisting of uranium, magnesium, zirconium, beryllium and alloys consisting chiefly of at least one of the above mentioned substances, which metal is of a crystalline nature having a single gliding plane,

preparing, by drawing, a cylindrical piece of said metal in such manner that, in every zone of its lateral surface, the gliding plane corresponding to said zone is parallel to said surface,

heating said metal piece to a temperature much below the softening temperature of said metal,

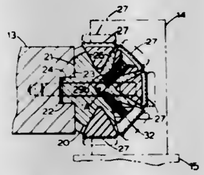
imparting a movement of revolution to said cylindrical metal piece about its axis,

simultaneously driving the linear edge of a cutting tool into the lateral surface of said revolving piece in such manner as to limit the depth of penetration of said tool into said piece to less than 0.2 mm., and to give a value of at least 55° to the angle between the half plane tangent to the lateral surface of said metal piece and passing through the cutting edge of said tool, said half plane extending in the direction corresponding to the rotation of said metal piece, and the half plane of the strip detached by said tool from said metal piece,

pulling the strip cut by said tool away from said metal piece, and

winding up said metal strip.

3,262,183
BROACHING TOOL
Emery C. Raehrs, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 25, 1964, Ser. No. 399,268
8 Claims. (Cl. 29—95.1)



8. A broaching tool for semi-circular cuts comprising in combination:

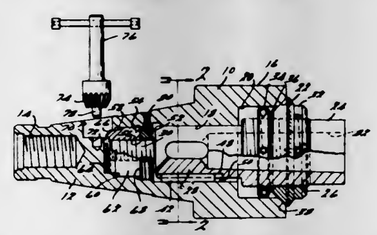
(a) a semi-cylindrical holder having longitudinal V-shaped grooves circumferentially spaced around the holder, each groove having sloping walls and each groove extending through the holder from the front to the rear thereof and flaring slightly outwardly as the groove extends rearwardly,

(b) a plurality of triangular cutting bits received in each groove in spaced relation, two edges of each bit seating on the walls of the groove and the other edge of each bit extending across the groove above the holder,

(c) a plurality of triangular backing members received in each groove, each backing member behind a cutting bit and having a pin extending into the walls on both sides of the groove to support the bit against the longitudinal rearward thrust exerted on the bit by the cut, and

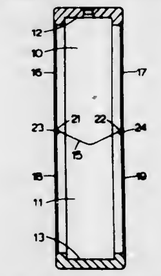
(d) a plurality of triangular wedge blocks received in each groove, each wedge block secured to the holder between a cutting bit and the next forward backing member to clamp each cutting bit against the backing member behind said cutting bit.

3,262,184
ADJUSTABLE TOOL HOLDER
Allen N. Sweeny, Grosse Pointe Farms, Mich., assignor to De Vlieg Machine Company, Royal Oak, Mich., a corporation of Michigan
Application Oct. 28, 1963, Ser. No. 320,603, which is a continuation of application Ser. No. 45,498, July 26, 1960. Divided and this application May 21, 1965, Ser. No. 457,764
3 Claims. (Cl. 29—96)



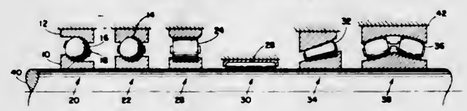
1. A cutting tool assembly including a tool holder having a bore provided with a first bore portion, a second bore portion disposed rearwardly of said first bore portion, and a seat at the forward end of said bore, said bore being open to the forward end of said tool holder; an adjustable tool supporting body carried in said bore and having an adjusting member engageable with said seat, an intermediate portion snugly but slidably fitted in said first bore portion and a threaded portion at the rear end thereof; a threaded locking member having a circular cylindrical outer surface snugly but rotatably positioned in said second bore portion, said threaded locking member being supported for rotation by said second bore portion with the threads thereof engageable with the threads of said threaded portion of said tool supporting body; means defining an abutment shoulder between said first and second bore portions abuttingly engageable with said threaded locking member, a first gear formed on said threaded locking member about the thread axis thereof, and means on said tool holder for supporting a second gear for rotation about an axis generally perpendicular to the axis of rotation of said first gear and in meshing engagement with said first gear, said last named means being arranged to permit the driving of the second gear from a location exteriorly and to the side of said tool holder.

3,262,185
BALL AND ROLLER BEARINGS
Charles W. Hornigold, Norfolk, England, assignor to Cooper Roller Bearing Company Limited, Norfolk, England
Filed Oct. 4, 1965, Ser. No. 492,478
Claims priority, application Great Britain, Apr. 16, 1963, 14,832/63
11 Claims. Cl. (29—148.4)



1. A method of making a race of a split ball or roller bearing, comprising shaping the race parts from high carbon steel containing chromium, clamping the race parts in juxtaposition to each other, welding the race parts together at localized positions at the annular edges thereof, the weld not encroaching materially on the race track, machining, heat treating and grinding the race, and finally cutting out the weld metal.

3,262,186
METHOD OF IMPROVING THE RELIABILITY OF A ROLLING ELEMENT SYSTEM
Erwin V. Zaretsky, Shaker Heights, Richard J. Parker, North Ridgeville, and William J. Anderson, North Olmsted, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Feb. 8, 1965, Ser. No. 431,235
11 Claims. (Cl. 29—148.4)



1. In a method of making a rolling-element system having elements in rolling and sliding contact wherein one or more elements in contact receive a greater number

of stress cycles during system operation than the other elements, the improvement comprising

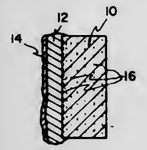
heat treating all elements to substantially the same hardness, and

tempering the elements receiving the greater number of stress cycles to one to two points Rockwell C hardness less than the elements in contact therewith thereby improving the load carrying capacity and fatigue life of said rolling-element system.

3,262,187
METHOD OF MAKING SUPERCONDUCTIVE WIRES

Lloyd R. Allen, Belmont, and Lewis R. Koller, Cambridge, Mass., and Anton E. van Arkel, Leiden, Netherlands, assignors to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Sept. 25, 1963, Ser. No. 311,438
10 Claims. (Cl. 29—155.5)



1. A method of making superconductors comprising the steps of preparing a foil of a first metal selected from group V B of the Periodic Table, preparing a film of brittle interstitial alloy of the first metal at the foil surface, the film having a thickness between .00001" and .0001", coating the said foil with a second metal selected from Groups III A and IV A of the Periodic Table, cold working the foil to reduce its thickness in excess of 50% to make a clad and disperse the brittle alloy and other residual brittle contaminants whereby the foil surface is rendered wettable by the second metal at elevated temperatures, heating the foil to dissociate the interstitial compound and diffuse the dispersed interstitial element into the foil whereby the foil is strengthened and heating the coated foil to diffuse the second metal into the surface of the foil to form a diffusion layer of superconductive alloy having a higher critical temperature than the first metal.

10. An improved method of cladding whereby interstitial strengthening is introduced comprising the steps of forming a film of interstitial compound on a first metal foil, cladding with a second foil in a mechanical working operation whereby the interstitial compound film is dispersed along the first metal foil and then heating the clad to dissociate the interstitial compound, diffuse the interstitial element into the first metal foil, and diffusion bonding the second metal foil to the first metal foil.

3,262,188
METHOD OF MAKING ELECTRICAL CONDUIT CONNECTOR

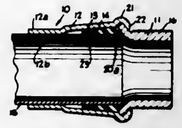
Theodore W. Briegel and Clifford P. Nelson, Galva, Ill.; said Briegel assignor to Roach-Appleton Manufacturing Company, South Bend, Ind., a corporation of Delaware

Filed Dec. 10, 1962, Ser. No. 243,370
4 Claims. (Cl. 29—157)

1. The method of making an electrical connector having a threaded tubular portion at one end for insertion into an electrical box opening and a tapered sleeve portion at the other end with a split compressible locking ring and an axially expansible resilient member therein comprising,

forming the threaded portion as a separate tubular shaped piece,

sequentially inserting the ring and the resilient member into the larger diameter inner end of the tapered portion,

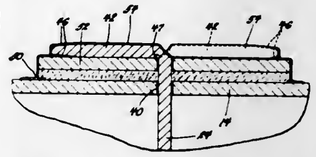


and rigidly joining the inner ends of the tubular portion and tapered portion thereby holding the ring and resilient member within the tapered portion.

3,262,189
MUFFLER CONSTRUCTION

Carl E. Nordquest and Marvin O. Ross, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Oct. 11, 1961, Ser. No. 144,355. Divided and this application Dec. 30, 1964, Ser. No. 422,381
2 Claims. (Cl. 29—157)



1. The method of manufacturing a porcelain coated muffler which comprises forming an assembly including a hollow shell having disposed therein transverse baffles having an edge provided with a plurality of cover securing tabs directed outwardly of the edge, providing each of the tabs with a reduced cross section across the width thereof adapted to be bent towards the edge to secure the cover on the shell, porcelain coating the interior of said shell and the surfaces of said baffles, including the tabs, providing a perforated cover, porcelain coating the perforated cover and thereafter attaching said porcelain coated cover to said shell by passing said tabs through the perforations in said cover and then bending the tabs along the reduced cross section over onto the cover so as to hold said cover in place relative to said baffles.

2. In the method of claim 1, the step of placing an auxiliary sealing member on the perforated cover to surround the tabs, prior to bending the tabs, whereby as the tabs are bent they are forced against the auxiliary sealing member to secure it to the cover and against the tabs.

3,262,190
METHOD FOR THE PRODUCTION OF METALLIC HEAT TRANSFER BODIES

William Rostoker, Chicago, and Robert H. Read, Chicago Heights, Ill., assignors to IIT Research Institute, a corporation of Illinois

Original application July 10, 1961, Ser. No. 122,844. Divided and this application Apr. 21, 1965, Ser. No. 476,770
5 Claims. (Cl. 29—157.3)



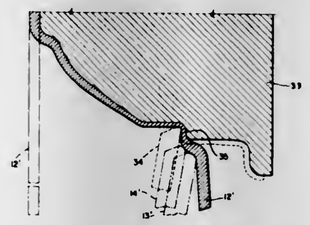
1. The method of making a heat transfer assembly which comprises positioning a heat transfer element in spaced relation to a foraminous surface, dispersing heat

conductive metal fibers in three dimensional random orientation to fill up the space between said heat transfer element and said foraminous surface, and thereafter metallurgically bonding said fibers to said heat transfer element, to said foraminous surface, and to themselves.

3,262,191
METHOD OF FORMING WHEEL DISKS

Meredith P. Albertson, Grosse Pointe Farms, and Donald N. Owens, Clawson, Mich., and Charles H. Haas, Philadelphia, and Henry F. Winnal, Huntingdon Valley, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 28, 1962, Ser. No. 248,023
9 Claims. (Cl. 29—159.01)



1. The method of making axial shaped tapered wheel disk from radial plane annular sheet steel blanks comprising the steps of: cutting a circular blank from a plate or sheet of steel of substantially uniform thickness, cutting a mandrel aperture in the center of said blank, mounting said blank between the headstock and tailstock of a contour spinning machine having a mandrel shaped to the inner surface contour of a wheel disk to be formed, said mandrel having an axial portion with a cone angle of approximately zero degrees, positioning a leading roll having a contact face having a radius of curvature for contacting a surface of said blank and being under control of a template having a contour shaped to the outer surface contour of a theoretical disk to be formed between said mandrel and said leading roll, positioning a trailing roll having a contact face having a radius of curvature smaller than said radius of curvature of said leading roll and being under control of a template having a contour shaped to the actual outer surface contour of a disk to be formed by said rolls, maintaining said trailing roll behind said leading roll under template control, maintaining said trailing roll closer to the axis of rotation of said mandrel than said leading roll under template control, and power roll forming by the action of both said rolls for reducing the thickness and shape of said disk from a radial plane annular blank to an axial shaped tapered disk having an axial portion thereon substantially parallel to the axis of rotation of said mandrel.

3,262,192
APPARATUS FOR PREPARING PROTECTED METAL SHEETS

Rudolph L. Vukovcan, Ambridge, Donald K. Archer, Pittsburgh, and David Barr, Leetsdale, Pa., assignors to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 1, 1963, Ser. No. 299,326
6 Claims. (Cl. 29—200)

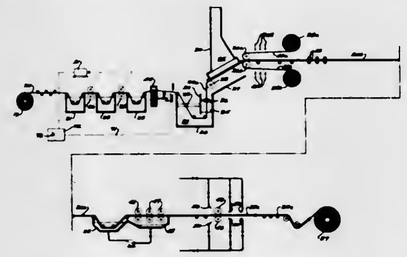
1. In an apparatus for producing a building sheet of the character having a metal core sheet and fibrous layers covering the surfaces of the core sheet and secured thereto by thin layers of non-corrodible metal adhesive alloyed to the surfaces of the metal core sheet and keyed to the fibrous layers;

said apparatus comprising in sequence:

metal core sheet uncoiling apparatus, metal core sheet cleaning bath means, a molten bath containing the said metal adhesive, guide roll means engageable with the said metal core sheet, fibrous layer bonding roll means, and building sheet receiving means;

said apparatus further including drive means for advancing the said metal core sheet therethrough;

the improvement comprising:



control means for locating the axis of the said guide roll means and means preceding the said molten bath for maintaining the said metal core sheet at predetermined tension when in engagement with the said guide roll means whereby the position of the said metal core sheet relative to the said bonding roll means may be controlled by adjustment of the said guide roll means.

3,262,193
WIRE STRAPPING TOOL

Hans J. Goldman, Glen Ellyn, and Roy A. Mahler, Chicago, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed May 22, 1964, Ser. No. 369,490
6 Claims. (Cl. 29—203)



1. A tool for manually strapping a wire around a terminal comprising:

a shank having two ends and a passageway through which said wire can pass, one of said ends having an internal thread portion and the other end thereof having an external thread portion;

a cap with an aperture through which the wire enters the tool and an internal thread portion which engages said external thread portion thereby connecting said cap to said shank portion;

an end piece having an aperture aligned with said passageway and an external thread portion engaging said internal thread portion of said shank thereby fixedly connecting said end piece to said shank portion;

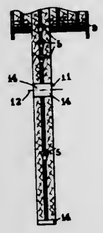
and a nose rotatably connected to said end piece to feed the wire and follow the contour surface of the terminal in response to the circular movement of said shank, said nose having a passageway aligned with the passageway of said shank portion and two ends, one of said ends extending within the aperture of said end piece and the other end thereof being curved and projecting at an angle with respect to the longitudinal axis of said shank to feed the wire parallel and adjacent to the contour surface of the terminal and thereby avoid the introduction of cold working of the wire.

3,262,194
METHOD OF APPLYING STOCK CHAIN FOR SLIDE FASTENERS

Jean André Fady, Brunoy, France, assignor to Societe Francaise de Fermetures de Luxe, Choisy-le-Roi (Seine), France, a corporation of France

Application June 22, 1964, Ser. No. 376,692, now Patent No. 3,225,429, dated Dec. 28, 1965, which is a division of application Ser. No. 73,311, Dec. 2, 1960, now Patent No. 3,149,927, dated Sept. 22, 1964. Divided and this application Oct. 18, 1965, Ser. No. 496,911

8 Claims. (Cl. 29—408)



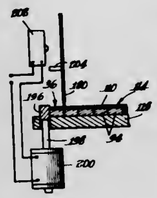
1. A method of securing a chain section from a chain stock of relatively great length that is adapted to be coiled on hosiery, knitwear, clothing, bags, pockets, briefcases and the like to constitute fasteners therefor, said method comprising the steps of sewing the lateral supporting tapes carrying the fastener members of the end portion of the chain stock onto the edges of an opening in the article by simultaneously applying two parallel lines of stitches to the tapes of such end portion so as to fix the two tape ends to the garment simultaneously, severing said end portion of the chain stock from the remainder of such stock, finishing the separated section provided with a slider so as to confine the movement of the slider on the separated section, said finishing including the provision of end stops on the supporting tapes of such separated section in the path of movement of such slider.

3,262,195
METHOD OF MAKING DAMPER LEVER ASSEMBLIES, CATCHER ASSEMBLIES AND LIKE PARTS FOR PIANO ACTIONS

Clifford W. Andersen, De Kalb, and Phillip J. Roehrig, Rockford, Ill., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Original application Sept. 13, 1963, Ser. No. 308,828. Divided and this application Apr. 12, 1965, Ser. No. 447,472

6 Claims. (Cl. 29—411)



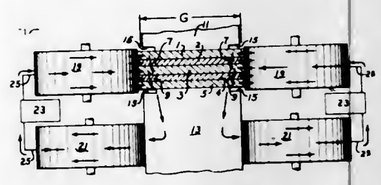
1. The method of making damper lever assemblies and like parts for a piano action mechanism which method comprises the steps of: securing an elongated strip of flexible resilient material to a plurality of aligned parts bodies whereby to interconnect said parts bodies forming an articulated workpiece; supporting said workpiece for longitudinal movement; engaging said workpiece at the parts bodies thereof with an impositive drive for continuously urging said workpiece along a predetermined path; selectively stopping said workpiece in said path; assembling a rod member to one of said parts bodies adjacent the leading end of said workpiece; severing said strip interjacent two leading parts bodies to separate a parts body from said workpiece; and releasing said workpiece to the action of said impositive drive momentarily to advance said workpiece.

3,262,196
METHOD OF AND APPARATUS FOR PRODUCING MARGINALLY BONDED SPACED PLATE AND LIKE STRUCTURES AND THE PRODUCT THEREOF

Gordon A. Davis, Attleboro, Mass., assignor to Metals & Controls Inc., a corporation of Massachusetts

Filed July 13, 1960, Ser. No. 42,697

16 Claims. (Cl. 29—471.1)



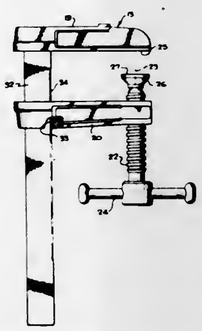
1. The method of producing marginally bonded spaced-plate assemblies comprising interleaving at least two clean plates of malleable metal with at least one weld-resistant spacer held therebetween, applying clean strips of malleable metal at opposite margins of said plates and applying opposed backing members to opposite sides of the outermost planes of the plates to form an assembly, moving the assembly through and relative to opposed contact squeezing rolls engaging the opposite margins of the assembly which are generally perpendicular to said outermost planes to deform said margins, passing current through the rolls, the edges of said plates and said strips to heat them when and where deformed to produce bonds between said plates and strips during squeezing, and removing the spaces.

3,262,197
SPATTER PROOF WELDING CLAMP AND WELDING METHOD

Rudolph Peck, 999 S. San Rafael, Pasadena, Calif.

Filed July 16, 1963, Ser. No. 295,350

6 Claims. (Cl. 29—493)



1. A spatter proof welding clamp for holding a work structure during a welding operation and comprising a jaw for engaging and bearing against a first side of said work structure, a gripping element opposite said jaw and relatively movable toward and away from the jaw to engage and bear against the opposite side of the work structure, a tightening screw operable when rotated to tighten said gripping element toward the jaw and against the work structure to tightly clamp the latter between the jaw and gripping element, said screw having threads positioned in proximity to the gripping element and exposed to spatter of molten welding material onto the threads during performance of a welding operation on the gripped work structure, said threads being formed of metal and having a coating thereon consisting essentially of a tin-metal-phosphate complex in which the metal is that from which the threads are formed and to which coating molten spattered welding material will not effectively adhere.

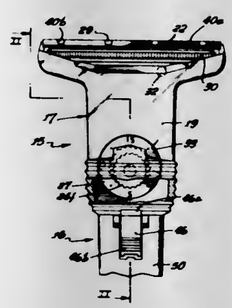
6. The welding method that comprises clamping a work structure in a predetermined condition for welding by means of a clamp having an adjusting screw with threads exposed to spatter of welding material thereonto, turning said screw to tighten the clamp on the work structure, welding the work structure in close proximity to the screw with the result that molten welding material may spatter on said threads of the screw, and precoating said threads of said screw with a coating consisting essentially of a tin-metal-phosphate complex, in which the metal is that from which the threads are formed, to prevent adherence of the molten spattered welding material to the threads.

3,262,198
MAGAZINE FOR A RIBBON-LIKE SHAVING BLADE

Warren I. Nissen, Topsfield, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Continuation of application Ser. No. 305,734, July 1, 1963. This application Feb. 9, 1966, Ser. No. 529,911

11 Claims. (Cl. 30—40.1)



1. For use in a razor, a magazine for a ribbon-like blade of uniform width having a longitudinally extending rear edge and a parallel sharpened edge, said magazine comprising

means for receiving a supply of ribbon-like blade;

take-up means for receiving an end of a blade;

path-defining means for a path of travel for a blade between said supply means and take-up means,

said path-defining means including a portion defining a shaving zone for a length of such blade,

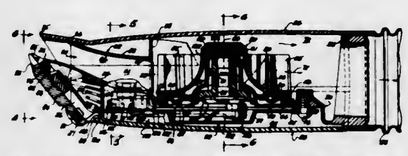
and means adapted to impart a frusto-conical form to a portion of a blade at each end of such blade length in the shaving zone, the apex of each such frusto-conical portion lying forwardly of a sharpened edge of such blade thereby increasing the stress of the blade adjacent the sharpened edge of such frusto-conical portions.

3,262,199
AIR-POWERED CUTTING TOOL FOR HAIR AND THE LIKE

Gerald M. Magarian, Long Beach, Calif., assignor to Preco Incorporated, Los Angeles, Calif., a corporation of California

Filed June 4, 1964, Ser. No. 372,649

14 Claims. (Cl. 30—133)



1. A vacuum driven cutting tool for hair and the like, comprising in combination

elongated housing structure adapted to be hand held,

a cutting head mounted at one end of the housing structure and comprising relatively movable toothed cutting blades,

said housing structure enclosing a turbine chamber having generally flat top and bottom walls and a generally cylindrical front wall,

an air turbine journaled in the turbine chamber on an axis perpendicular to the chamber bottom wall and comprising a turbine wheel having an annular rim portion adjacent the bottom wall and circumferentially spaced turbine blades mounted on the rim portion and extending axially therefrom toward the top wall, the forward portion of the turbine periphery being closely adjacent the front wall of the turbine chamber, and the rear portion of the turbine periphery and the axial face of the turbine opposite the rim portion being spaced from the housing structure and defining therewith an open portion of the turbine chamber,

structure forming an air intake adjacent the teeth of the cutting head,

passage structure for directing an airstream from the air intake obliquely toward the turbine through said cylindrical front wall in a tangential and radially inward direction,

air outlet structure adapted for connecting to a suction conduit and communicating with said open portion of the turbine chamber,

and coupling means for driving the relative movement of the cutting blades in response to turbine rotation.

3,262,200
HAIR CUTTING GUIDE ATTACHMENT FOR HAIR CLIPPER

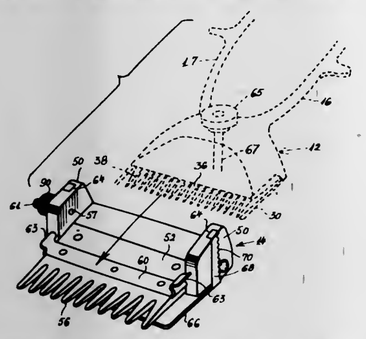
Joseph M. Suozzi, 102—14 63rd Road, Forest Hills, N.Y.

Filed Oct. 22, 1965, Ser. No. 501,841

3 Claims. (Cl. 30—201)

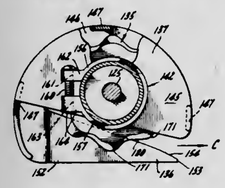
1. For use with a hair clipper device having a reciprocating cutter plate and a comb plate, a device for guiding the hair-cutting operation, said latter device including a casting having a rectangular flat body with upstanding flanges at the ends thereof, said flanges having vertically disposed grooves intersecting the top and bottom ends thereof, means on the body for clamping the comb plate thereto, a fixed comb plate supported on said body with its teeth extending laterally thereof, a guiding plate supported by the flanges of the body below the latter comb plate and movable toward and away from the last-named comb plate, means for moving said guiding plate including upstanding spaced posts on the guiding plate fitted in said grooves, said posts having teeth on one side thereof, a rotatable shaft supported between said flanges, an extension on one end of the shaft, gears fixed on the ends of said shaft disposed in the grooves in the flanges mesh-

ing with the teeth on the posts, a spring-pressed knob slidably mounted on the extension and operatively connected thereto for turning the shaft, said knob having an axial bore and cross passages intersecting the bore, said extension having an elongated closed slot therein, a pin



extending through the passages, bore and slot, a coil spring interposed between the outer end of the extension and the base of the bore for urging the knob outwardly on the extension, and means for holding the knob in moved turned position.

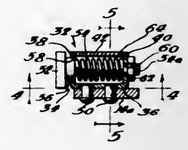
3,262,201
CUTTING DEVICE
Melford H. Docken, Holcombe, Wis., assignor to W.P.B. Industrial Products, Racine, Wis., a corporation of Illinois
Continuation of application Ser. No. 226,629, Sept. 27, 1962. This application Mar. 11, 1965, Ser. No. 443,756
5 Claims. (Cl. 30—240)



1. In a tool for cutting light flexible material such as fabrics and the like, the improvement in cutting head assembly comprising: a generally circular blade rotatable in a first prescribed plane about an axis, a plurality of lobes formed around the periphery of said blade and defining cutting edge means, and a stationary blade lying in a second prescribed plane inclined to said first plane, said stationary blade having an elongated substantially straight base edge upon which said head assembly rides as the material is cut and a substantially straight cutting edge inclined at a predetermined angle to said base edge, said cutting edge cooperating with the cutting edge means on said lobes at a substantially constant cutting angle approximating said predetermined angle as said generally circular blade rotates.

3,262,202
SHOCK ABSORBING MEANS FOR SHEARS
Leonhard L. Porzky, Watertown, Wis., and Jack D. Economy, Bellwood, Ill.; said Porzky assignor, by mesne assignments, to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed May 18, 1964, Ser. No. 368,052
5 Claims. (Cl. 30—271)

1. In combination, a pair of metal blades pivoted together for mutual sliding engagement, said blades having handle portions on one side of the pivot to be grasped to swing the blades about the pivot and bring the blades and handle portions together for cutting; mutually engageable shock absorber means on each of said handles, said shock absorber means comprising a metal base having upstanding walls to form a U-shaped frame, said walls having aligned openings therethrough for receiving a bumper member; means on said base member for securing the shock absorber to the handle portion of said blades adjacent said pivot; a bumper shaft having



an enlarged end forming a bumper pad, said bumper shaft extending through the aligned openings in said walls; a spring about said shaft intermediate said walls, said spring abutting against one wall and said pad to absorb the forces received on said pad as said shaft moves laterally in response to said pad striking the shock absorber on the opposite handle as the blades are brought together; and a cover enclosing said base, said spring and said shaft.

3,262,203
CARVING KNIFE WITH SPACER ATTACHMENT
Jerome S. Hahn, Roslyn Heights, N.Y., assignor to Regent-Sheffield, Ltd., Whitestone, N.Y., a corporation of New York
Filed June 3, 1964, Ser. No. 372,282
5 Claims. (Cl. 30—293)



1. A hand knife for slicing material into a series of slices of precise thicknesses comprising a handle, an elongated blade mounted on said handle, an elongated slicing guide mounted in side-by-side relation to said blade for contacting the edge of said material, a threaded adjustment element and a guide rod extending from said spacer in spaced apart and parallel relation, said handle being formed with bearing surfaces on opposite sides of said blade and through bores for receiving said adjustment element and guide rod respectively, and a pair of control members having internal threading which engage the threads of said adjustment element on opposite sides of said blade such that said slicing guide is capable of being locked in a series of selected positions which are spaced-apart from said blade through the rotation of said control members which are capable of being seated against said bearing surfaces and unseated from said bearing surfaces.

3,262,204
TAPE CUTTER
John R. Holthaus, Baltimore, Md.
(8573 Main Ave., Riviera Beach, Md. 21122)
Filed Nov. 3, 1964, Ser. No. 408,512
2 Claims. (Cl. 30—298)

1. A cutting implement, comprising, a flattened structure of inverted U-shaped cross-section at one end and curved into a loop at its other end, said U-shaped end being generally rectangular and extending tangentially in continuation from the bottom of said loop and having a slot formed between the legs of the U and running lengthwise thereof, a blade removably fitted into said slot with

a sharp edge thereof slightly protruding downwardly from said slot, said U-shaped end and said blade each having apertures in register with one another, and means attached to said flattened U-shaped end for holding said blade in said slot, said holding means including a retaining spring extending along said U-shaped end and having



at one end tab elements bent around said U-shaped end to obtain attachment of said retaining spring to said U-shaped end and pin elements mounted to said retaining spring and passing through said apertures of said U-shaped end and said blade for obtaining the removable fitting of said blade into said slot.

3,262,205
SCALPEL
Thomas R. Arden, 3 Deer Hill Drive, Danbury, Conn.; Ruth B. Arden executrix of said Thomas R. Arden, deceased
Filed Jan. 21, 1964, Ser. No. 339,198
1 Claim. (Cl. 30—338)



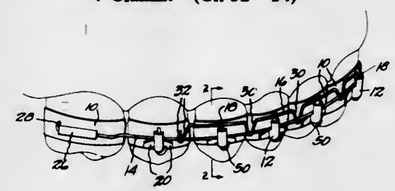
A scalpel comprising, a handle having a shank provided with a blade support at one end adapted to retain a blade provided with an elongated aperture by attachment thereto without deflection of the blade, said support including a base portion having an upper flat surface substantially parallel with the longitudinal axis of said handle and of substantially less width than said blade, an elongated boss on said base portion engageable within said blade aperture, said boss of a width less than said base portion and a length less than said aperture and having a peripheral recess adjacent said base portion, a pivotal latch bar fixedly attached at one end to the shank of said handle and having its free end disposed in overlying relationship to said base portion, the free end of said latch bar normally biased towards engagement with said base portion and arcuately displaceable therefrom, a finger release on the underside of said latch bar and projecting outwardly from the shank of said handle, and catch means on the underside of the free end of said latch bar juxtaposed said upper surface intermediate said elongated boss and shank, said catch means including a rearwardly facing locking edge adapted to engage the rearmost edge of said blade aperture to retain said scalpel blade when placed upon the upper surface of said base portion and oriented by said boss, whereby the forward portion of said aperture will be disposed within the forward portion of said recess to prevent rearward displacement of said blade while said catch means on said fixedly attached latch bar engaging the rear portion of said aperture prevents forward displacement of said blade.

3,262,206
RAZOR BLADES
Harry F. Tomek, 4524 Tennessee, St. Louis 11, Mo.
Filed Apr. 6, 1964, Ser. No. 357,603
1 Claim. (Cl. 30—346)



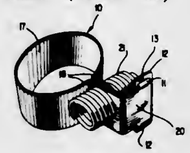
A razor blade adapted to provide with at least one other blade a plural cutting edge comprising a generally flat double-edged razor blade and a plastic band bonded to each of the opposite flat faces of said blade, inboard of said edges and parallel therewith, said bands being bonded to one another through holes in said blade, each of said plastic bands having a thickness between .003 and .012 inch.

3,262,207
ORTHODONTIC TORQUING ARCH WIRE LOCK
Peter C. Kesling, 22 Green Acres, La Porte, Ind.
Filed May 6, 1964, Ser. No. 365,392
7 Claims. (Cl. 32—14)



1. In combination,
a main dental arch wire,
a torquing auxiliary wire having a vertically projecting bend intermediate its length and having torque applying engagement with said main wire,
a plurality of tooth-encircling bands,
a bracket carried by selected bands and including an upwardly projecting part defining a shoulder and spaced from said band to confine said main arch wire while bearing upon said shoulder, and
a plurality of locking pins having their upper ends mounted on said auxiliary wire and each fitting in a bracket to overlie said main arch wire and maintain a substantially predetermined spacing between said wires.

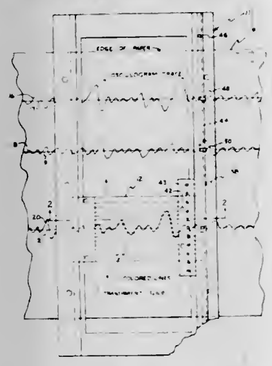
3,262,208
DENTAL MATRIX DEVICE
Dewey E. Johnson, Jr., 112 Folly Road, Charleston, S.C.
Filed Oct. 2, 1963, Ser. No. 313,302
1 Claim. (Cl. 32—63)



A reuseable and readily removable dental matrix device comprising a band having a substantially closed loop body portion to engage over and completely surround a tooth in snug-fitting relation thereto, radial end portions extending from one side of said loop body portion in

opposed substantially contacting relation and including extension disposed substantially at right angles to the radial portions, means detachably securing said extensions together in opposed substantially contacting relation, and detachable resilient clamping means for said radial portions to maintain them together in contacting relation, said clamping means consisting of a coil spring receiving said radial portions of the band frictionally and clampingly between adjacent spring coils, said coil spring interposed between said extensions and loop body portion and maintained thereby against appreciable movement on said radial portions.

3,262,209
OSCILLOGRAM DATA READER
Anthony J. Saponaro, Perryville, Md., and Dilwyn J. Herbert, Jim Thorpe, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed Apr. 7, 1964, Ser. No. 358,132
2 Claims. (Cl. 33—1)



1. Apparatus to facilitate reading data on an oscillogram comprising a frame to be placed over a paper bearing oscillogram traces to be examined, a transparent slide reciprocably mounted on said frame, there being substantially parallel reference lines on said transparent slide, said lines extending transversely to the direction of reciprocation of said slide on said frame, said slide carrying an indicia plate adjacent one end of the slide and adjacent the frame, said indicia plate bearing numbers extending in consecutive order in opposite directions from a centrally disposed zero index, said reference lines being aligned with the reference numbers with the centermost reference line aligned with the zero index forming a zero reference line of one color, and additional pairs of reference lines, with each pair being distinctively colored and the lines of each pair being disposed on opposite sides of said zero reference line, and at least one marker mounted on said frame and slidable to a position to indicate an oscillogram trace other than the trace under examination.

3,262,210
CONTROL SYSTEM
Henry L. Shapiro, Massapequa, and Everett T. Shockley, Williston Park, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed May 6, 1963, Ser. No. 278,313
6 Claims. (Cl. 33—46)

1. In a sighting apparatus for use in producing control signals representative of the angular displacements of the sight line of an operator about orthogonal axes relative to a fixed reference direction normal to said orthogonal axes, the combination comprising

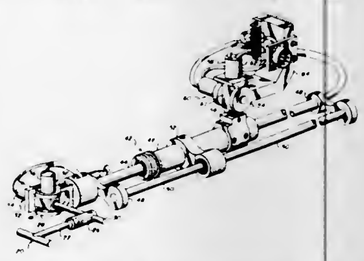
(a) a reference support member with respect to which the reference direction is fixed,

(b) head gear including line of sight defining means adapted to be worn by said operator and including a further support member that is fixed relative to the head of the operator,

(c) coupling means between said reference support member and said head gear support member for generating said control signals while permitting free translational movement therebetween, said coupling means comprising

(1) shaft means extending between said reference support member and said head gear support member,

(2) first means pivotally connecting one end of said shaft means to said reference support member for freedom about said orthogonal axes,

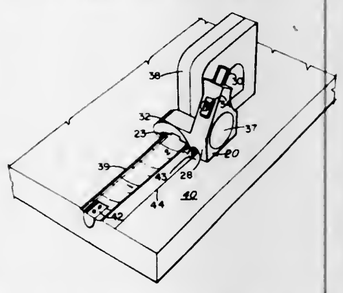


(3) second means pivotally connecting the other end of said shaft means to said head gear support member for freedom about said orthogonal axes,

(4) first and second pick-off means at each of said pivot connections and responsive to angular movements of said shaft means about each of said orthogonal axes, and

(5) means for algebraically combining the signals produced by each of said pick-off means for producing resultant control signals proportional to angular movements only of said line of sight relative to said fixed direction.

3,262,211
MARKING DEVICE
Norman P. Beckett, Fort Collins, Colo., assignor to Measure Markers, Inc., Fort Collins, Colo., a corporation of Colorado
Filed Feb. 24, 1965, Ser. No. 434,822
8 Claims. (Cl. 33—189)



1. In a marking device for use with a graduated scale, an integral body having a housing portion for enclosing the scale and inclusive of a recess through which an extended portion of the scale extends, said recess being slightly larger than the section of the scale for sliding movement of the scale therein, said body including a bottom portion between the scale and a work surface to be marked, said body having an external surface at the forward end of the recess in a plane perpendicular to the longitudinal axis of the extended scale for providing a sight for graduations on the scale emerging from the recess, another portion of the body containing a bore inclined in two directions, one inclination being in a plane substantially parallel to a side edge surface of the scale and the other inclination being in a plane transverse to said edge surface of the scale for supporting a scribing device in the bore so that its marking surface will extend to the work surface and to the plane of said external surface whereby the position of a sighted graduation and a measured line parallel to the scale may be marked on the work surface while the extended portion of the scale is fully visible, and locking means for maintaining the scribing device in the marking position in said bore.

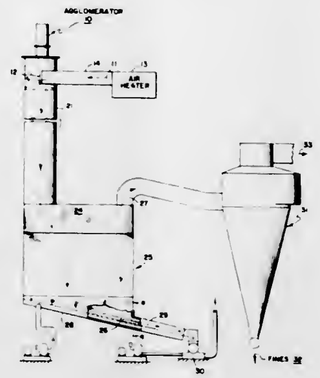
3,262,212
APPARATUS AND PROCESS FOR FREEZE DRYING
Johann G. de Buhr, Erlangen, Bavaria, Germany, assignor, by mesne assignments, to United Fruit Company, Boston, Mass., a corporation of New Jersey
Filed Mar. 11, 1963, Ser. No. 268,852
18 Claims. (Cl. 34—5)



7. In a process of freeze drying heat sensitive products wherein the product is frozen and the frozen product is maintained in a chamber having a partial pressure of water vapor of less than about 4 mm. Hg abs., the improvement which comprises raising the total pressure within said chamber by an amount in excess of 1 mm. Hg by introducing into the chamber a partial pressure of a dry inert gas selected from the group consisting of hydrogen, carbon dioxide, air, nitrogen and the noble gases and mixtures thereof, meanwhile removing water vapor from the chamber without significantly lowering the partial pressure of the inert gas, then subsequently decreasing the total pressure within said chamber and the partial pressure of the inert gas before the localized pressure of water vapor at the ice surface is raised sufficiently to provide an impedance to water vapor travel which would allow the ice in the product to reach a water vapor equilibrium at high temperatures exceeding the melting point of the ice, said decrease of pressure being an amount in excess of 1 mm. Hg., and repeating this raising and lowering of the partial pressure of the inert gas in the chamber as a series of pulses.

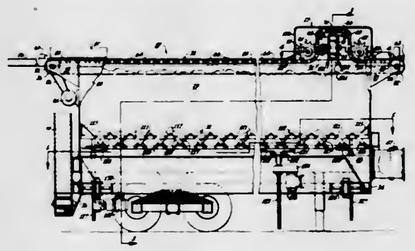
3,262,213
METHOD AND APPARATUS FOR DRYING AGGLOMERATES
Curtis L. Austin, Minneapolis, and Donald E. Schaetzel and Leo Riconda, Wayzata, Minn., assignors to General Mills, Inc., a corporation of Delaware
Filed Apr. 2, 1963, Ser. No. 270,069
3 Claims. (Cl. 34—10)

1. A method of drying fragile, moist flour agglomerates which comprises feeding said flour agglomerates into an air stream having a temperature of about 250 to about 400° F., co-currently passing the heated air and flour agglomerates downward through a drying zone wherein flour agglomerates and air move uninterrupted and vertically downward throughout the entire zone and wherein the velocity of movement of said flour agglomerates through the zone is influenced by gravity, feeding the air and flour agglomerates to a separation zone where the speed of the air stream is reduced thereby allowing



the dried flour agglomerates to settle out of the air stream, cooling the dried flour agglomerates and then recovering the dried flour agglomerates from said separation zone.

3,262,214
COUNTERCURRENT DRYING PROCESS AND APPARATUS
Wells A. Webb, 609 Via Vista Drive, Redlands, Calif. 92373
Filed July 26, 1965, Ser. No. 477,354
6 Claims. (Cl. 34—10)



6. A dehydration method comprising the steps of:

(a) providing a dehydration zone;

(b) passing a current of heated air upwardly through said zone;

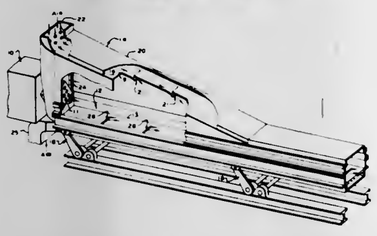
(c) spreading substantially horizontal layers of wet material across the top of said zone to substantially fill said zone with horizontally stratified layers of such particles, said particles moving slowly downwardly through said zone without substantial mixing or relative movement;

(d) drying said particles as the stratified layers move downwardly through the zone;

(e) removing any material from the bottom of said zone; and

(f) adding finely divided material to said current of heated air before said air current passes upwardly through said zone whereby cracks in the material being dehydrated are filled by said finely divided material.

3,262,215
DRYING AND CONVEYING OF SOLIDS
Charles L. Davis and Hugh E. Berger, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed May 6, 1963, Ser. No. 278,291
9 Claims. (Cl. 34—17)



1. A method of drying and conveying rubber particles whereby a slurry of rubber crumb and water has substantially all of the water removed therefrom to produce a non-agglomeated mass of rubbery particles, said method comprising:

A. passing said slurry to an extrusion drier;

B. working said rubber in said drier under pressure so that a substantial amount of water is removed from said rubber;

C. separating the thus squeezed water from rubber;

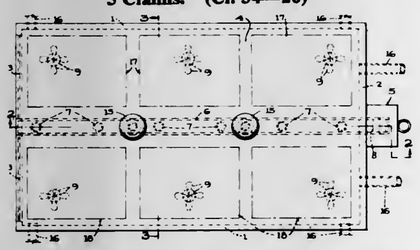
D. extruding said rubber through a die plate into a zone of lower pressure, thus causing the rubber to expand suddenly, breaking into particles and thereby releasing added moisture to vaporization;

E. enveloping said particles with a heated gas as they are extruded through the die plate to maintain said added moisture in vapor condition and to prevent condensation of water vapor on the particles, and to prevent agglomeration of said particles;

F. collecting said particles on a conveyor and transporting said particles away from said extrusion dryer; and

G. maintaining said heated gas in contact with said particles as they are being conveyed away from said die to cause further drying of said particles and to prevent condensation of water vapor on said particles.

3,262,216
PROCESS FOR ARTIFICIALLY DRYING LUMBER
George F. Dugger, Sr., Elizabethton, Tenn., assignor to Hardwood Drying & Mfg. Co., Inc., Elizabethton, Tenn., a corporation of Tennessee
Filed Nov. 19, 1963, Ser. No. 325,526
5 Claims. (Cl. 34—26)



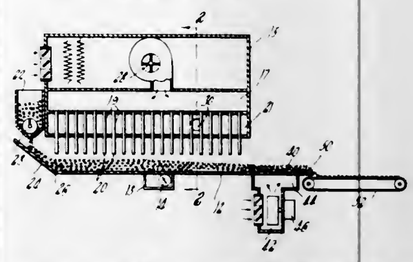
1. A process of drying green hardwood lumber comprising stacking the lumber in an enclosure separated from the outside atmosphere with a central open space running the length of the enclosure between lumber stacks and a perimeter open space between the enclosure walls and the lumber stacks, and thereafter simultaneously:

(a) Maintaining the air temperature and relative humidity inside the enclosure substantially uniform throughout by continuously circulating the air through the enclosure and the stacked lumber at a high velocity, the said circulation being maintained by circulation means positioned above the stacked lumber so as to move the air through the stacked lumber and reflect the air from the enclosure floor;

(b) Gradually raising the temperature of the lumber and circulating air by withdrawing a portion of air from the enclosure to a heat exchange means, and reintroducing the heated air free from contact with the outside atmosphere into the enclosure by forced upwards flow in the central open space of the enclosure, thereby directing the hot air toward the circulation means above the lumber, and blending the hot air with the circulating air to substantially the same temperature and humidity thereof before contacting the lumber; and,

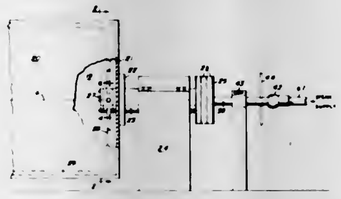
(c) Gradually reducing the moisture content of the lumber and the circulating air by reflecting the circulating air from moisture condensing and removal means on the floor under the lumber, the said moisture condensing means covering the floor area under the lumber.

3,262,217
APPARATUS FOR THE CONTINUOUS TREATMENT OF SOLID PARTICLES IN A FLUIDIZED STATE
Ernest C. Brown, Danvers, and Robert S. Temple, Concord, Mass., assignors to Wolverine Corporation, a corporation of Massachusetts
Filed Oct. 23, 1963, Ser. No. 318,262
6 Claims. (Cl. 34—57)



1. Apparatus for thermally treating particles as they advance continuously comprising a substantially horizontal elongated trough, means for feeding particles continuously and at a constant rate into one end of said trough, means for vibrating said trough with an amplitude and frequency to cause said particles to advance along said trough and drop off an open exit end thereof, a series of nozzles arranged to project hot gaseous streams perpendicularly downwardly into a portion of said trough to fluidize said particles as they move therealong, means for exhausting said gases upwardly away from said trough between said nozzles, said trough portion constituting a leading treating zone located in advance of an adjoining trough portion constituting a trailing exit zone wherein said particles are deaerated and densified upon losing their fluidization as they emerge from said treating zone, said exit zone portion of said trough having a length exceeding the projection of the slope of the leading edge of said advancing deaerated unfluidized particles at the drop-off end of said trough, and means for controlling the vibrations of said trough to maintain a fixed rate of advance of said unfluidized particles through said exit zone regardless of the rate of particle feed from said feeding means, thereby creating a resistance controlling the rate of advance of said fluidized particles through said treating zone so that the dwell time of said fluidized particles in said treating zone remains constant but their depth increases as said rate of feed is increased and permitting, within limits, a higher rate of said feed, without exceeding a required minimum dwell time of said particles in said treating zone, than would be procured were said exit zone trough portion not present.

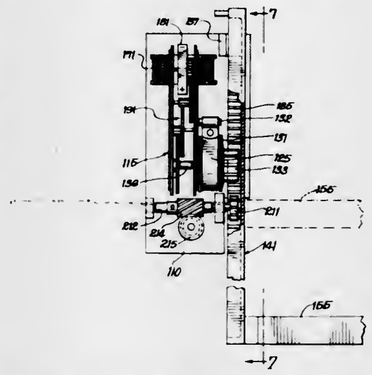
3,262,218
TREATING APPARATUS
Lubomyr M. O. Cymbalisty, Edmonton, Alberta, Canada, assignor, by direct and mesne assignments, of thirty percent to Cities Service Athabasca, Inc., a corporation of Delaware, thirty percent to Imperial Oil Limited, a corporation of Canada, thirty percent to Atlantic Richfield Company, a corporation of Pennsylvania, and ten percent to Royalite Oil Company, Limited, a corporation of Canada
Filed Apr. 12, 1963, Ser. No. 272,702
4 Claims. (Cl. 34—124)



1. Apparatus for fluid treatment of material comprising: an enclosed chamber defined by a rotary drum, said drum being rotatable about a longitudinal axis through its center, means for rotating said drum around said axis, a first rotary valve member coaxial with said axis, fixed to and rotating with said drum, said member having a plurality of ports angularly spaced around said axis and in the same plane perpendicular to said axis, a plurality of fluid passages fixed in said drum, one for each of said ports, each passage connecting the respective port with said chamber at a certain angular position around said axis and on said drum, the respective positions being spaced angularly around said axis, a second rotary valve member coacting with said first rotary valve member, coaxial therewith, and having a valve port, said valve members having coacting spherical surfaces, and means resiliently urging said spherical surfaces together, whereby said valve members maintain resilient contact during vibration and axial misalignments therebetween,, means for holding said secondary rotary valve member in fixed position with its valve port axially abreast said plurality of ports for sequential connection therewith when said drum rotates, and a fluid passage for connecting the valve port of said secondary rotary valve member with an external fluid moving means, whereby as said drum rotates said external fluid moving means will be connected sequentially with said chamber at the successive angular positions of said drum, which positions correspond in succession with a portion of said chamber which is angularly fixed with respect to said valve port.

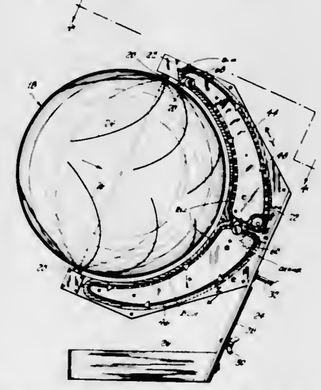
3,262,219
READING TRAINING APPARATUS
Howard A. Bristol, Dolton, Ill., assignor to Supreme Products Corporation, Chicago, Ill.
Filed Nov. 29, 1963, Ser. No. 326,914
15 Claims. (Cl. 35—35)

1. Reading training apparatus for the purpose described comprising a framework, rectilinear guiding means mounted on said framework, a scanner bar slidably carried on said means adapted to be traversed from the top of a piece of printed matter to the bottom thereof at a predetermined rate and means for driving said bar comprising a spring motor, means coupling the output side of said motor to said scanner bar to traverse the same, an electrical generator including a rotor and a field winding, an adjustable electrical load connected to said winding, transmission means coupling the output side of said motor to said rotor to drive the same, whereby the



retarding torque on the rotor is fed back to the motor to control the unwinding rate thereof at some selected value in proportion to some adjusted value of the load to control the rate of delivery of driving force from the motor to the scanner bar.

3,262,220
MECHANICS OF CORIOLIS-DEMONSTRATOR
Ben Lorenz, Katonah, N.Y., Dalton L. Shimko, Vernon, N.J., and Robert L. Wyener, Woodside, N.Y., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 10, 1964, Ser. No. 337,109
4 Claims. (Cl. 35—46)



1. A device for simulating the effect upon the earth of air currents comprising,

a housing,

a globe member, said globe member simulating the earth's surface and including an equator and North and South poles,

means in said housing retaining said globe member,

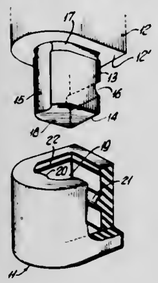
simulated wind movement means in said housing and adjacent the globe member, said simulated wind movement means comprising,

an endless chain member,

said endless chain member being wider at a point adjacent the globe equator and narrower adjacent the North pole to illustrate the direction of air currents,

actuating means engaging and adapted to move said simulated wind movement means,
and said actuating means comprising a motor and sprocket drive means to rotate said endless chain member,
and marking means on said simulated wind movement means engaging said globe member whereby direction of movement of air currents on the earth's surface is illustrated.

3,262,221
HEEL WITH REPLACEABLE LIFT
Rodolfo Barriga Antelo, 6802 Dartmouth St., Forest Hills, N.Y.
Filed May 26, 1965, Ser. No. 458,851
5 Claims. (Cl. 36—34)



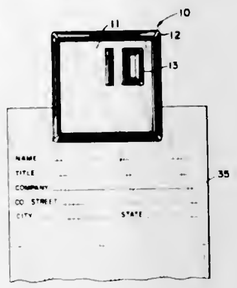
1. A heel with a replaceable lift comprising an elongated heel body, a lift receiver carried by said body and projecting downwardly therefrom, a cup-shaped lift removably engaging said lift receiver, and cooperating means on said lift receiver and said lift for securing said lift in position on said lift receiver, said lift receiver including a vertically disposed channel on one side thereof and extending throughout the length thereof and a horizontally disposed groove on another side of said receiver and wherein said lift includes a vertically disposed ridge cooperating with said vertical channel and a horizontally disposed ridge cooperating with said horizontal groove.

3,262,222
SHOE-CLEANING MASK
Dorothea F. Howsberger, 10 Nebert Ave., South Weymouth, Mass.
Filed Dec. 13, 1963, Ser. No. 330,348
3 Claims. (Cl. 36—72)



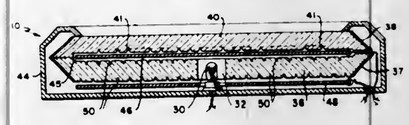
1. A shoe mask for protecting the sole of a shoe from polish applied to the upper, comprising a flat one piece web of thin moisture-resistant sheet material, said material being self-supporting yet with sufficient lateral resiliency to permit limited flexing thereof, said mask being formed with an opening conforming in outline to the shape of a shoe and dimensioned to permit said mask to be fitted between said sole and said upper, said mask being split to facilitate attachment and detachment to and from said shoe by spreading said mask apart, said mask being formed with slots along the inner edges thereof and detachable panels each being formed with a tongue for insertion in said slots, said panels when mounted to said mask covering selected areas of the shoe upper.

3,262,223
MEDALLION CLASP
Hans F. Stoffel, Tuckahoe, N.Y., assignor to Stoffel Seals Corporation, Tuckahoe, N.Y.
Filed Jan. 3, 1964, Ser. No. 335,492
6 Claims. (Cl. 40—1.5)



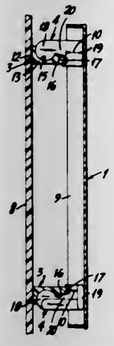
1. A badge, comprising a molded plastic body having spaced first and second projections on its rear side, a relatively thin needle, said needle having one end mounted in the first of said projections, said first projection being flexible and permitting motion of said needle both laterally and toward and away from said second projection, said second projection having a clasp for receiving the point of said needle.

3,262,224
COMPOSITE ILLUMINATION DEVICE
George K. C. Hardesty, P.O. Box 156, Mayo, Md.
Original application Dec. 7, 1960, Ser. No. 74,438. Divided and this application Sept. 29, 1964, Ser. No. 404,546
2 Claims. (Cl. 40—130)



1. An indicator illumination system comprising an incandescent lamp as a first light source and at least one electroluminescent element as a second light source, indicia to be illuminated, said electroluminescent element comprising an opaque light shield on one surface thereof and interposed between said light sources and said indicia to prohibit direct lighting of said indicia by said light sources, a reentrant light conducting circuit extending from said light sources to said indicia whereby light entering said circuit from said light source is conducted through said circuit to illuminate said indicia and is recirculated through said circuit to enhance the illumination, said reentrant light conducting circuit comprising a first light conducting element into which light from said light sources is injected, and a second light conducting element for carrying illumination to said indicia and cooperating with said first light conducting element to receive light therefrom, and one of said light conducting elements having light reflective facets adapted to carry light around said opaque light shield.

3,262,225
CHANGEABLE LETTER ARRANGEMENT, LETTER SUPPORTING KIT AND LETTER SUPPORTING CLIP AND TRACK
Glenn A. Offenhauer, Palmetto, Fla., assignor to Florida Plastics, Inc., Palmetto, Fla., a corporation of Florida
Filed Dec. 1, 1964, Ser. No. 414,991
7 Claims. (Cl. 40—140)



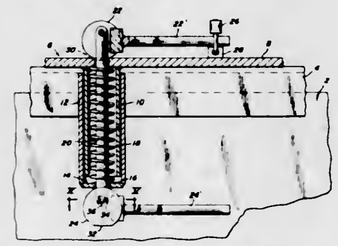
1. A letter mounting assembly comprising a pair of tracks spaced apart on a panel, each said track having an outwardly disposed longitudinal round groove and a tapered longitudinal flange extending from said round groove, a letter including at least two rear-facing vertically spaced apart clips, said vertically spaced apart clips each including inwardly facing rounded portions, the neck portion of each of said clips having a slope substantially equal to the tapered longitudinal flange of said track grooves, one of said clips adapted to pivotally fit into one of said track grooves, the other of said clips adapted to ride up the slope of said tapered longitudinal flange of the other of said track grooves and resiliently fit therein holding said letter mounted.

3,262,226
WINDOW CONSTRUCTION
Sven Eric Persson, Stow, Ohio (Box 20034, Malmo, Sweden)
Filed Oct. 29, 1963, Ser. No. 319,775
2 Claims. (Cl. 49—324)



1. A window construction comprising a stationary frame and a vent mounted in said frame for pivotal movement about a horizontal axis intermediate the upper and lower portions of the window, a U-shaped unit extending along the bottom of the frame and up the sides thereof serving as a weathering section between the frame and vent, track-carrying means mounted on the sides of the vent below the pivotal axis and provided with guide tracks, said guide tracks comprising position-adjusting and -maintaining tracks adjacent said pivotal axis and closing and locking tracks remote from said pivotal axis, means carried by said U-shaped unit for cooperating with the guide tracks for displacing said vent about its pivotal axis and securing it in locked position, said displacing means comprising vertically extending rods each having two vertically spaced lugs thereon, means for simultaneously vertically reciprocating said rods, a first of said two lugs on each rod engaging with said position-adjusting and -maintaining tracks to swing the vent about said axis, a second of said two lugs on each said rod cooperating with the closing and locking tracks to engage in said closing and locking tracks when the vent is adjacent to closed position, so that as said displacing means are actuated to reciprocate said rods in one direction vertically, said first lugs will cooperate with said position-adjusting and -maintaining tracks to swing the vent toward open position and said second lugs will leave said closing and locking tracks, and in the other direction of vertical reciprocation of said rods said first lugs will swing the vent toward closed position and said second lugs will enter said closing and locking tracks and lock the vent in closed position with a wedge action.

3,262,227
COVER ASSEMBLY FOR ACCESS HATCH
Horace T. Pentecost, San Pedro, Calif., assignor to United States Steel Corporation, a corporation of Delaware
Filed Apr. 17, 1964, Ser. No. 360,636
2 Claims. (Cl. 49—354)

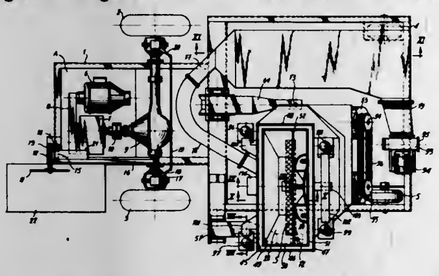


1. In a hatch defined by a peripheral frame, a hatch closure comprising a plate having a bottom surface adapted to cover said hatch, a pivot tube having one end rigidly affixed to the bottom surface of said plate adjacent an edge thereof and the other end extending into said hatch, a bearing sleeve attached to one side of the interior of said hatch frame and surrounding said tube, said tube being rotatable in said sleeve, a wall having a center hole therethrough on the end of said sleeve remote from said plate, a link coaxial with said tube, respective ends of said link projecting slidably through said plate and the hole in said wall, compression spring means in said tube acting between the plate and the said sleeve wall normally biasing said plate away from said hatch, and cam means carried by each of the projecting ends of said link, said cam means being adapted to cooperate with said plate and said wall, respectively, to lock said link in position extended in one direction and lock said plate in position covering said hatch.

3,262,228
BLAST CLEANING APPARATUS
Robert A. M. Schenck, Wilrijk, near Antwerp, Belgium, assignor to Mercantile Marine Engineering & Graving Docks Co., Naamloze Vennootschap, Antwerp, Belgium, a company
Filed July 31, 1962, Ser. No. 213,784
Claims priority, application Belgium, May 11, 1962, 617,521
7 Claims. (Cl. 51—9)

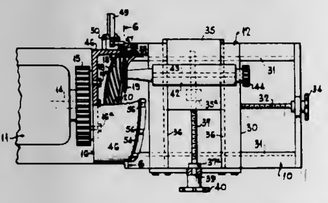
1. An apparatus for abrading surfaces by impact thereon of a continuous jet of small abrasive bodies traveling at high velocity, said apparatus comprising a housing having a first air outlet, rotary propulsion means within said housing for propelling said abrasive bodies to produce, impact and recycle said jet of abrasive bodies, said housing having a second outlet for expelling said bodies therefrom and a return passage through which said bodies after impact and rebound on the surface to be treated, are fed

back to said rotary propulsion means, means comprising a suction pump, an air filter and a conduit connecting said first air outlet with said air filter for abstracting and purifying air through said first air outlet and control means



for producing said jet of abrasive bodies only when the rotary speed of said propulsion means exceeds a predetermined value and when there is a tight junction between said second outlet of the housing and the surface to be treated.

3,262,229
APPARATUS FOR AND METHOD OF FORMING LUBRICANT RETAINING GROOVES IN TEXTILE SPINNING AND TWISTING RINGS
Henry R. McKelvie, 816 E. King St., Kings Mountain, N.C. 28086
Filed Jan. 17, 1964, Ser. No. 338,402
8 Claims. (Cl. 51—105)



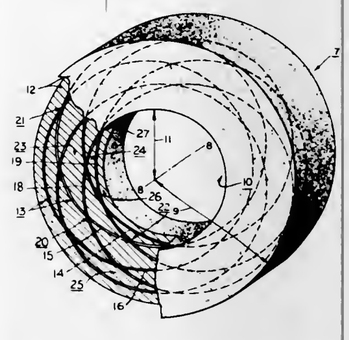
1. Apparatus for forming a lubricant retaining groove in the internal cylindrical wall surface of spinning or twisting rings and along a latus rectum intercept of an elliptical element of said surface comprising: means for mounting said ring for rotation about an axis passing through the origin of said intercept and normal to a plane containing said origin and its corresponding latus rectum intercept, and means disposed radially of said origin and engageable with said surface along the path of said intercept for forming a circular groove in the ring upon the rotation of said mounting means.

3,262,230
REINFORCEMENT OF MOLDED ABRASIVE ARTICLES
James A. Seymour, Warren, and Robert L. Holden, Westboro, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed Feb. 10, 1964, Ser. No. 343,792
45 Claims. (Cl. 51—206)



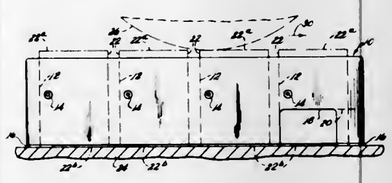
4. A reinforced molded abrasive wheel, comprising a body of abrasive particles secured together by binder material, at least one reinforcement web embedded within said body and including a substantially continuous band of high-tensile-strength material wound into a plurality of substantially circular full loops which are angularly offset and are eccentric in relation to the center of the wheel, each of said loops being overlapped with other of said loops at a plurality of cross-over sites, and means securely bonding the material of said loops at a plurality of said cross-over sites to form an integrated web independently of the embedding thereof within said body.

3,262,231
INTERNAL REINFORCEMENT OF MOLDED ROTATABLE ARTICLES
Frank J. Polch, Jefferson, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts
Filed July 1, 1964, Ser. No. 379,469
11 Claims. (Cl. 51—206)



1. A reinforced molded article having a substantially central opening, comprising a body of bonded composition, at least one reinforcement web bonded with said composition, said web including a plurality of angularly-offset individual loop portions each of which surrounds and is in eccentric relation to the opening and all of which overlap with other of said loop portions, said loop portions each being formed separately of cord having a plurality of substantially continuous high-tensile-strength filaments, and means for fixing said loop portions together at a plurality of sites where said loop portions overlap, a whole number of said loop portions being symmetrically distributed angularly about said opening with the radially innermost parts thereof in closely-surrounding relationship to said opening.

3,262,232
HOLDER FOR GRINDING MACHINES
George B. Hilbrunner, 1215 Howe Road, Kent, Ohio
Filed Sept. 5, 1963, Ser. No. 306,954
6 Claims. (Cl. 51—217)



1. In a holder for cylindrically shaped metal articles of ferrous content with said articles adapted to have one end thereof positioned on a magnetic bed with the other end exposed for precision parallel surface grinding, the combination of

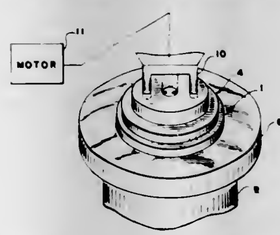
a shaped block of non-ferrous material having a plurality of substantially circular holes uniformly positioned and extending through the height thereof, said holes adapted to operatively receive a plurality of said metal articles in substantially sliding close fitting relation thereto so that one of the ends of said articles is in contact with said magnetic bed and the other ends extend a sufficient distance out from said block to be exposed for said precision parallel surface grinding,

separate screw means operatively received in said block associated with each hole and adapted to removably engage said metal articles in said holes to maintain said metal articles in proper position therewith,

metallic leg means having a ferrous content operatively affixed to said block at substantially all the bottom corners thereof to support said frame in a raised spaced relation to said magnetic bed, and

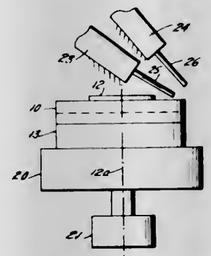
said block having an access opening through a side wall to the bottom portion of at least one of said holes to facilitate lifting one of said metal articles positioned therein for checking or gaging said article.

3,262,233
METHOD OF POLISHING PLASTIC LENSES
Israel Schrier, Irondequoit, N.Y., assignor to Bausch & Lomb Incorporated, Rochester. N.Y., a corporation of New York
Filed Jan. 2, 1963, Ser. No. 249,040
6 Claims. (Cl. 51—281)



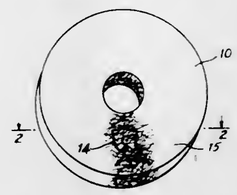
1. The method of polishing plastic lenses comprising steps, mounting a plastic lens on a rigid lens block, polishing a major surface of the plastic lens with an aqueous solution of water miscible lubricant including a wetting agent and tin oxide of a size less than 5 microns.

3,262,234
METHOD OF FORMING A SEMICONDUCTOR RIM BY SANDBLASTING
Thomas J. Roach, Palos Verdes Estates, Calif., assignor to International Rectifier Corporation, Segundo, Calif., a corporation of California
Filed Oct. 4, 1963, Ser. No. 313,856
3 Claims. (Cl. 51—320)



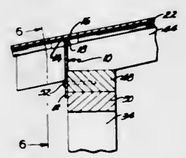
1. The method of tapering an edge of a semiconductor wafer having an edge and a junction plane therein; said method comprising the steps of applying a first and second high speed jet of abrasive material toward the edge of said wafer and at angle thereto; said first and second jets of abrasive material forming angles of approximately 10° and 30° respectively to the junction plane of said wafer.

3,262,235
PRINTING
William H. Fulkerson, Troy, N.Y., assignor to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed June 12, 1964, Ser. No. 374,796
2 Claims. (Cl. 51—400)



1. A non-woven polishing article comprising a non-woven web having a discontinuous surface; said web being formed of a plurality of adhesively-bonded non-woven fibers; a plurality of interconnected voids within said web formed by spaces between said fibers; abrasive grains bonded to said fibers within said web and on said surface; and marking media applied to only some of said fibers and associated abrasive both below said surface and on said surface; said marking media below and on said surface combining to present legible indicia when viewed from above said surface.

3,262,236
ROOFING AND SIDING FLASHING MEMBER
David Poyer, Los Angeles County, Calif. (6129 Vineland Ave., North Hollywood, Calif.)
Filed May 6, 1963, Ser. No. 278,237
1 Claim. (Cl. 52—58)



A flashing member for sealing the space between building members having a plurality of non-planar surfaces and a building frame to which they are secured comprising:

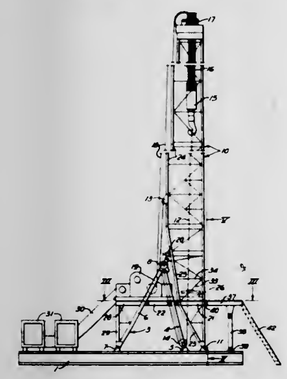
a flat base portion attachable to said frame and fabricated of a single piece of plate material;

a shaped edge having a plurality of non-planar surfaces on said base portion of the same configuration as said building surfaces; and

a cross member of plate material extending transversely of said base portion on opposite sides thereof and having a surface in the transverse plane of the same configuration as said edge of said base member and said building surfaces, said member being connected to said edge and adapted to be held in abutment over its entire surface with said building surfaces upon attachment of said base portion to said frame so that said base portion and said member seal said space;

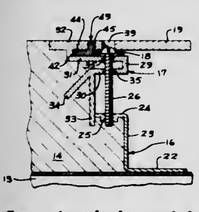
said cross member being fabricated of a plate material having sufficient flexibility to flex relative to said base portion and assume various angles to said base portion in order to fully abut said building surface.

3,262,237
OIL WELL DRILLING APPARATUS WITH HIGH FLOOR IN MAST AND GIN POLE
Cecil Jenkins and Joseph R. Woolslayer, Tulsa, Okla., assignors to Lee C. Moore Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1964, Ser. No. 344,269
5 Claims. (Cl. 52—116)



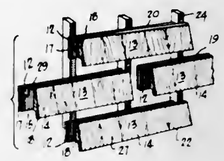
1. Oil well drilling apparatus comprising a base having front and rear ends, a gin pole mounted on the base having upwardly tapered sides, an upright mast disposed above the base in front of the gin pole, means pivotally supporting the lower end of the mast on the base so that the mast can be swung forward and down to reclining position in front of the gin pole, means detachably fastening the upright mast to the gin pole, a floor mounted in and supported by the gin pole a considerable distance above said base and having a machinery-receiving area between said gin pole sides, and a floor mounted in and supported by the mast in front of said gin pole floor.

3,262,238
ELEVATED TILE-STOP MEMBER FOR ADJUSTABLE ELECTRICAL TRENCH
Frank W. Fork, Allison Park, Pa., assignor to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1963, Ser. No. 312,708
10 Claims. (Cl. 52—221)



1. In an underfloor electrical trench having in combination:
an upright channel having a base and upright sides;
a linear screed strip extended along each of the said upright sides and having a horizontally disposed, upwardly-presented supporting ledge;
a cover plate disposed above the said base and having lateral edge portions of its bottom surface disposed above the said supporting ledge and secured thereto; and
adjusting means for setting the vertical distance between the said cover plate and the said base;
whereby the said channel, linear screed strips and cover plate comprise a continuous enclosure for the interior of the said trench;
the improvement comprising:
a screed lip which is integral with the said linear screed strip and which is disposed laterally of and above the said supporting ledge, said screed lip having an upper surface which is substantially coplanar with the upper surface of the said cover plate;
the said screed lip being spaced apart from the adjacent side edge of the said cover plate;
a lengthwise slot in the said linear screed strip located beneath the upper surface of the said screed lip and located at least in part above the said supporting ledge;
a tile-stop member comprising a tile-stop extension and a tongue disposed angularly thereto, the said tongue being disposed within the said slot and the said tile-stop extension being disposed between the said screed lip and the said cover plate with the extremity of the said tile-stop extension being elevated above the said screed lip and the upper surface of the said cover plate.

3,262,239
LAMINATED WOOD BUILDING UNIT
Thomas W. Mills, 31 Sweet Bay Road, Portuguese Bend, Calif.
Filed Aug. 27, 1962, Ser. No. 219,381
1 Claim. (Cl. 52—540)



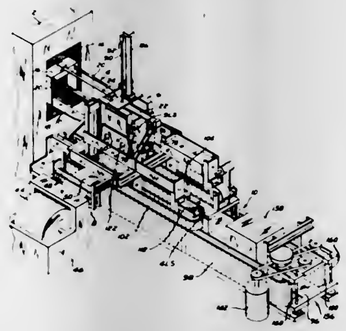
A composite building unit for use as combined sheathing and weather facing to provide walls and roofs for building structures, comprising: a single, integral, elongate, natural wood sheathing board having a uniform width and a uniform thickness, its length being much greater than its lateral dimensions, the grain of the board running lengthwise from end to end to provide the necessary strength to resist beam bending loads, said board being adapted to be secured in a horizontal position to studding or rafters in a building structure; and a plurality of weather facing members secured to said board; each of said members being rectangular in planform and formed of natural wood and secured to said board with its grain running at right angles to the grain of the board; said members being edgewise bonded to each other along their edges which extend transversely to the length of the board and being facewise bonded to the board to form a composite whole; the grain of said members extending vertically when the board is mounted in horizontal position to simulate conventional shingles and to shed water in the same way; said members combining to form a first longitudinal edge substantially flush with a first longitudinal edge of said board and a second longitudinal edge parallel to the first and extending laterally well beyond the second longitudinal edge of said board to form an overhang portion; said members being wedge-shaped with the thin portion of the wedge at the first longitudinal edge and with the overhang portion recessed on its underside to receive the first edge of an adjacent building unit; said unit being adapted to be combined with duplicate units to form a complete siding or roof for a building structure with the first edge of each board adjacent to the second edge of the succeeding board and with the first edge of the assembly of weather facing elements lying in the recess of the adjacent overhang portion; the building units being adapted to be firmly nailed to supporting structure with nails passing through substantially any part of the board and the overlying portion of the members, and with the overhang portion of the succeeding unit completely covering the nailing portion to hide the nails and protect them against corrosion.

3,262,240
POST BASE
Leslie N. Schuman, Brecksville, and Howard W. Brandt, Solon, Ohio, assignors, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 4, 1962, Ser. No. 242,162
3 Claims. (Cl. 52—704)



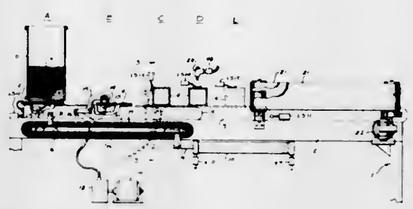
1. A post base for use in attaching a bridge railing post to a substructure having a planar surface, said substructure including oblong recesses therein opening through said surface, said post base comprising:
(a) a base plate adapted to overlie a recess in said substructure;
(b) four dependent legs extending from said base and located at the corners of an imaginary rectangle inscribed therein and having its major dimension coincident with the major dimension of said recess; and
(c) adjustable wedge means effective to urge each leg outward along a line extending outward from a central portion of said imaginary rectangle and passing through said corner.

3,262,241
CONTROL SYSTEM FOR ARTICLE STACK WRAPPER
Frank S. Hyer, Whitefish Bay, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 4, 1963, Ser. No. 262,428
7 Claims. (Cl. 53—55)



6. In an article stack wrapper, wrap feeding means, stack conveyor means, said wrap feeding means having a cycle of operation which consumes a greater period of time than the cycle of operation of said stack conveyor means, first control means operable to permit energization of said wrap feeding means, second control means for causing energization of said stack conveyor means and, when permitted by said first control means, for causing energization of said wrap feeding means, third control means actuated by movement of said wrap feeding means to maintain said wrap feeding means energized after said second control means deenergizes said conveyor means, and fourth control means actuated by movement of said stack conveyor means which prevents, during movement of said stack conveyor means, energization of said wrap feeding means consequent to operation of said first control means.

3,262,242
CONTROL CIRCUIT
Adrian T. Godschalx, 223 N. Green Bay, Appleton, Wis.
Filed Aug. 6, 1963, Ser. No. 300,232
13 Claims. (Cl. 53—55)

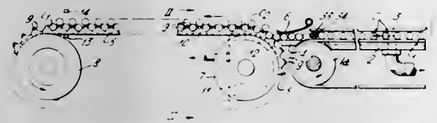


12. In a control circuit for a packaging machine that has a first electrically operated device that stacks rows of packages one above the other, a second electrically operated device that transports a group of stacked packages into a carton, and a third electrically operated device that moves cartons to and from a package receiving station, the combination therewith of:
a first test switch that detects completion of a row of packages;
a set of counting relays for operating said first electrically operated device in response to said first test switch, said relays having self-holding means for remaining in operated condition to indicate a count of the rows of packages, and the last of said counting relays having
first contacts for partially establishing a circuit for said second electrically operated device, and second contacts for energizing a hold relay;
a hold relay having
a coil with a circuit including said second contacts of said last counting relay,
a first set of contacts adapted to maintain operation of said first electrically operated device, and
a second set of contacts for partially establishing the circuit for said second electrically operated device;
second test switch means, responsive to an operation of the first electrically operated device, with contacts in the circuit for said second electrically operated device;
third test switch means, responsive to and indicative of machine operation resulting from said second controlling device;
reset relay means responsive to said third test switch means and having contacts in the circuit of said counting relays which are operated to reset the counting relays to unoperated condition; and
fourth test switch means responsive to completion of a carton filling operation of said second electrically operated device, which fourth test switch means has contacts that
deenergize said hold relay, and partially establish a circuit for said third electrically operated device.

3,262,243
APPARATUS FOR FILLING A CONTAINER WITH ROD-LIKE ARTICLES

Desmond Walter Molins, Deptford, London, England, assignor to The Molins Organisation Limited, a British company

Filed Feb. 25, 1963, Ser. No. 260,563
Claims priority, application Great Britain, Mar. 8, 1962, 8,972/62
14 Claims. (Cl. 53—150)

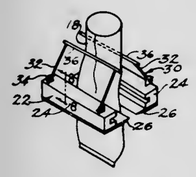


1. Apparatus for filling a container with rod-like articles, so that the container when filled contains a predetermined number of rows each containing a predetermined number of the rod-like articles, comprising a movable conveyor having prepared article-receiving positions in which rod-like articles can be received and carried on the conveyor to form a row containing a predetermined number of articles, the row running transversely to the axes of the articles, means to move the conveyor in a direction transverse to the axes of articles carried thereon, so that the conveyor is moved as articles are received thereon, detector means operative to detect and to stop the conveyor when a row containing a predetermined number of articles has formed thereon and is at a predetermined position, and to restart the conveyor when said row has been removed therefrom, means to feed rod-like articles at a feeding position successively into said prepared positions as the latter move past the feeding position, so as to form said row, container-support means to support a container at a positon opposite said row when the latter is in said desired position, and transfer means to move the articles contained in said row at said predetermined position longitudinally from the conveyor into a container thus supported, whereby a container can be filled by successively transferring rows of articles from the conveyor into the container.

3,262,244
PARTICLE STOPPER APPARATUS FOR FORM AND FILL MACHINE

Duncan B. Cutler, Chamblee, and Donald R. Middour, De Kalb County, Ga., assignors to The Woodman Company, Inc., Decatur, Ga., a corporation of Georgia

Filed Oct. 10, 1962, Ser. No. 229,569
2 Claims. (Cl. 53—182)



1. In an apparatus for stopping particles from entering the seal area in a form and fill packaging machine of the sort wherein a continuous sheet of material is formed into a tube through which the goods such as potato chips are fed in intermittent charges as bags are created from said tube by heat sealing jaws sealing the bottom of a top bag and the top of a bottom, filled bag, and wherein said heat sealing jaws move from opposite sides of the tube to close and form an elongated and flat seal, and wherein relative movement takes place between said tube and said jaws to bring said jaws to a new position on said tube each time a bag is formed therefrom, comprising:

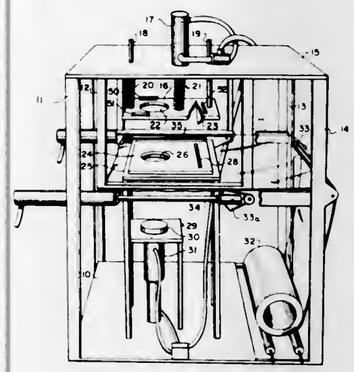
(a) a pair of particle stopping fingers mounted on said jaws on the top thereof and normally being inclined inwardly beyond the inner face of said jaws whereby said fingers will engage the opposite sides of the tube prior to the engagement by the jaws,

(b) and spring means normally biasing said fingers inwardly and against which said fingers will move as said jaws close to force said fingers against opposite sides of said tube.

3,262,245
APPARATUS FOR PACKAGING WITH SHRINKABLE FILM

William T. Snow, Jr., Greenville, S.C., assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

Filed Jan. 29, 1963, Ser. No. 254,676
4 Claims. (Cl. 53—184)



1. Apparatus for forming a shrink cover over an article comprising

(a) a stationary resilient, heat resistant bed plate having an orifice therein just slightly larger than the article to be covered;

(b) a support platform capable of lifting and lowering the article through said bed plate orifice to a height where at least the upper portion of said article is on a plane at least slightly above the top plane of the bed plate;

(c) means for feeding a sheet of high shrink energy, heat shrinkable thermoplastic film over the said bed plate;

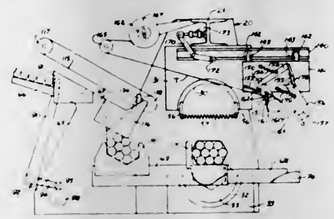
(d) a hot plate maintained at a temperature sufficient to heat said film to shrinking temperature and reciprocally movable into contact with film lying over said resilient bed plate, said hot plate having an orifice of a size slightly larger than said article and located to fit over the article.

3,262,246
WRAPPING MACHINE

Richard C. Olsen and Fred L. Remmele, St. Paul, and James W. Toensing, Minneapolis, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed June 26, 1962, Ser. No. 205,253
10 Claims. (Cl. 53—198)

1. In a machine for wrapping articles with a wrapping strip, a first semi-circularly shaped jaw rotatably attached to said machine and a second semi-circularly shaped jaw rotatably attached to said machine for movement toward and into contact with said first jaw to form a unitary circular ring with the articles to be wrapped carried by said second jaw until said articles are held between said jaws when said jaws are in contact with each other, means for rotating said ring while said jaws

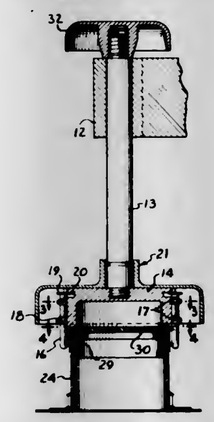


are in contact with each other to cause said articles to be rotated as said wrapping strip is wrapped around said articles, and means for moving said second jaw toward and away from said first jaw.

3,262,247
CAPPER

William R. Scholle, Long Beach, Calif., assignor to Scholle Container Corporation, Northlake, Ill., a corporation of Illinois

Filed July 23, 1963, Ser. No. 297,078
5 Claims. (Cl. 53—317)



1. A torque capper for container caps formed with notched peripheral portions, said capper comprising a generally cylindrical holder body portion, an axial shaft secured thereto, sleeve means rotatably retaining said shaft and for permitting said shaft to be axially reciprocated therein, said holder body portion being formed with a plurality of radially extending peripherally opening slots, gripping pins seated in said slots and projecting outwardly of the holder body in a direction opposed to that of said shaft, and resilient means embracing said pins and retaining them in yieldable pivotal engagement with said holder body.

3,262,248
APPARATUS FOR SECURING LIDS ON CONTAINERS

Jacob P. Lovoy, Birmingham, Ala., assignor to William C. Gilmer, Birmingham, Ala.

Filed June 17, 1963, Ser. No. 288,135
11 Claims. (Cl. 53—335)

10. Apparatus for securing a ductile lid on a container comprising;

(a) a supporting frame having a base and a head mounted in vertical spaced relation to each other and adapted to receive a container therebetween,

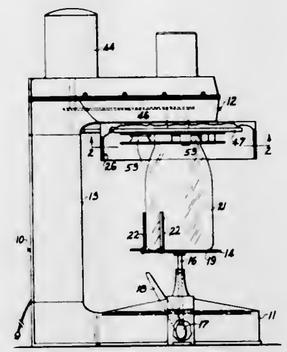
(b) a support member carried by said base member in position to support said container,

(c) means to impart relative vertical movement between said support member and said head whereby said container is positioned at selected positions relative to said head,

(d) a pressure plate carried by said head and disposed to engage the lid of a container positioned on said support member,

(e) a rotatable member carried by said head and mounted concentrically about said pressure plate,

(f) angularly spaced forming members mounted for rotation with said rotatable member in position to



engage the peripheral under surface of a lid on a container supported by said support member upon inward movement of said forming members,

(g) means to move said forming members inwardly upon rotation of said rotatable member,

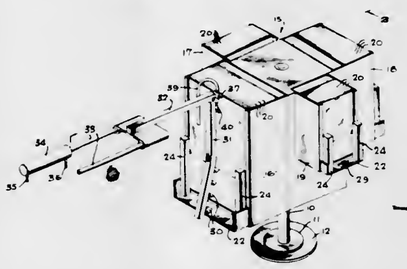
(h) an annular member on each of said forming members disposed to engage an annular bearing surface on said pressure plate to limit downward movement of said forming member relative to said pressure plate, and

(i) an annular stop on said pressure plate disposed to engage said forming member and limit inward movement thereof relative to said pressure plate.

3,262,249
BAG OPENING APPARATUS FOR SUPER MARKETS

Abraham Finerow, 744 S. Carondelet St., Los Angeles, Calif.

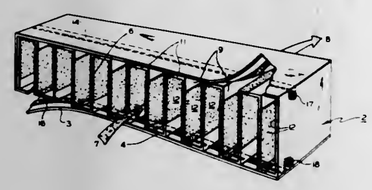
Filed May 16, 1963, Ser. No. 281,004
3 Claims. (Cl. 53—385)



1. A bag opener for super-markets comprising a pedestal, rack means on said pedestal for holding a plurality of folded bags thereon in upright position, retractable tray means mounted below said rack means, an arm movable toward and away from said rack means, self-

actuating latch means on said arm for engaging an edge portion of a bag in said rack means, hook means on said arm for retracting said tray means, and air-jet means on said arm directed toward the top of said bag.

3,262,250
COLLECTOR CELL FOR ELECTROSTATIC PRECIPITATOR
Evans E. Fowler, Louisville, Ky., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Aug. 29, 1963, Ser. No. 305,280
1 Claim. (Cl. 55—142)



A collector cell for an electrostatic precipitator comprising: a continuous sheet of dielectric material including a portion folded to form an enclosed open-ended frame having top, bottom and side walls and a remaining portion folded within said frame to provide a plurality of spaced, parallel side-by-side walls extending between said top and bottom walls and having intermediate wall connecting portions therebetween in contact with said top and bottom walls; said side-by-side walls and said intermediate connecting portions extending parallel to a gas stream to be treated as it passes through said open-ended frame; each of said parallel side-by-side walls and a preselected portion of said intermediate wall-connecting portions being substantially coated on the face portions thereof with electrically conductive material with adjacent walls being electrically insulated from each other and with alternate coated intermediate portions being electrically connected to alternate side-by-side walls to provide first and second interleaved sets of coated side-by-side walls; and a pair of electrically conductive stripe means, one extending along that portion of said sheet of dielectric material forming said top wall of said frame and the other extending along that portion of said sheet of dielectric material forming said bottom wall of said frame with each contacting said coated intermediate wall connecting portions adjacent thereto to connect one of said interleaved sets of side-by-side walls to ground and the other to an electrical charge.

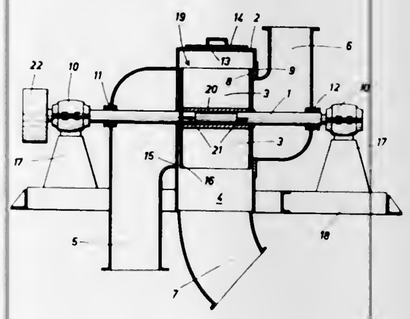
3,262,251
GAS DIFFUSION CELL ELEMENTS
John W. Hicks, Jr., Fiskdale, Mass., assignor to Mosaic Fabrications, Inc., Worcester, Mass., a corporation of Massachusetts
Filed Mar. 6, 1962, Ser. No. 178,526
5 Claims. (Cl. 55—158)

1. A gas diffusion device including a chamber, gas inlet and outlet means at opposite ends of the chamber, a gas diffusion element mounted in said chamber between the gas inlet and outlet means at opposite ends of the chamber, said gas diffusion element comprising a fused bundle of glass tubes maintained in a closely packed generally open array, the tubes of the open array being arranged such that fluid is maintained between a zone surrounding the periphery of the bundle of tubes and at least a substantial portion of the peripheral surface of each of said tubes of said fused bundle, gas barrier means adjacent opposite ends of said element and the inner wall of the chamber cooperating therewith to prevent passage of gas between



the tubes, and further gas outlet means in said chamber between said gas barrier means communicating with said zone surrounding the periphery of each of said tubes.

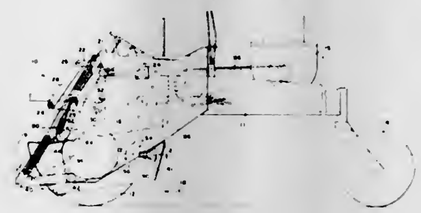
3,262,252
APPARATUS FOR SEPARATING GAS FROM FOAM
Heinrich Ebner, 12 Oberfeldstrasse, Linz (Danube), Austria
Filed July 17, 1961, Ser. No. 124,684
6 Claims. (Cl. 55—178)



1. Apparatus for separating gas from foam, adapted to be connected with the top of a container for liquid and foam, comprising a rotatable shaft, a rotor secured to said shaft and being provided with radial blades for acting centrifugally on foam; a cylindrical housing having two circular end surfaces, said shaft and rotor being eccentrically arranged parallel with the axis of the cylinder in said housing, said housing having on one of its end surfaces a foam inlet opening coaxial with the shaft, for the supply to the rotor of foam in axial direction and on its opposite end surface an outlet opening coaxial with the shaft for the escape of gas separated from foam; a foam and liquid outlet opening located at a peripheral part of the housing, which is remotest from the shaft; a foam inlet pipe connected to the foam inlet opening in the housing and adapted to be connected with the upper part of the container, for said axial supply of foam to the rotor; a gas outlet pipe connected to the gas outlet opening in the housing for the escape of gas separated from foam; a foam and liquid return pipe connected to the foam and liquid outlet opening in the housing, for passing the unseparated foam and the liquid resulting from splitting foam into the lower part of the container to a level substantially directly above the bottom of the container; a flat ring provided on the rotor adjacent the gas outlet opening in the housing in order to prevent escape of foam from the rotor through the outlet opening for the gas; the housing having a flange which is located opposite the flat ring of the rotor; the interior surface of said flange and the exterior surface of the flat ring being faced and said interior surface and exterior surface being spaced 0.5–2

mm. from each other in order to prevent the escape of foam and liquid from the housing through the outlet opening for gas.

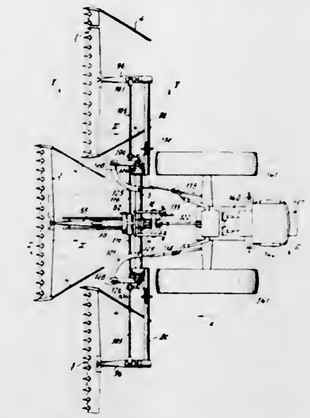
3,262,253
MOUNTING STRUCTURE
Lawrence M. Halls, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed May 25, 1964, Ser. No. 369,703
11 Claims. (Cl. 56—1)



1. An agricultural machine comprising a frame supported on wheels for ground travel, a crop conditioner detachably and pivotally carried in underslung relation to said frame, said conditioner having a forward end and a rearward end, a pair of cooperative transverse rolls rotatably carried on said conditioner forward end, drive means for rotating said rolls, a pair of coaxial transverse shaft sections affixed to said conditioner rear end and extending laterally outwardly thereof, one on one side of the conditioner and the other at the opposite side, a pair of clevis saddle brackets affixed to said frame and in which said shaft sections pivotally seat, each of said brackets being substantially equally spaced from said conditioner so that the conditioner is centered therebetween, each bracket having vertically spaced legs extending in a horizontal direction and connected by a forwardly located vertical bight, fastening means on said brackets detachably locking the shaft sections against rearward movement out of the brackets, a lift lever on said frame above said conditioner forward end and pivotal in a vertical direction, means for pivoting said lift lever, and hanger means detachably connecting said lift lever to said conditioner forward end to pivot the conditioner about said shaft sections in response to pivoting of the lift lever whereby the conditioner forward end may be raised and lowered.

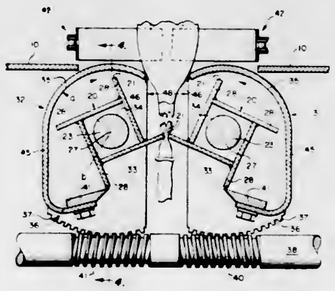
3,262,254
RECIPROCATING MOWER MOUNTING AND DRIVE MECHANISM
Cornelis van der Lely, Zug, Switzerland, and Leendert van Wingerden, Dubbeldam, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited-liability company
Filed June 25, 1962, Ser. No. 205,034
Claims priority, application Netherlands, July 19, 1961, 267,274; Oct. 18, 1961, 270,385
19 Claims. (Cl. 56—6)

1. A mower comprising a frame movable over the ground and a mowing bar connected to said frame, said bar having a movable cutter blade and a relatively stationary cutting blade, said cutter blade being coupled to a rockable member, said member being pivotally mounted on said frame and having a part which cooperates with a driving rotatable guide means, said guide means being rotatably mounted on said frame to turn on an axis substantially parallel to the axis of rotation of said rockable member and at least one additional mowing bar including a movable cutter blade and a relatively stationary cutter blade, said additional mowing bar being connected to said frame in laterally offset relationship with respect to said first mentioned mowing bar, a first link means connected to said movable cutter of said additional mowing



bar at one end and connected to a second rockable member at the other end, a second link means connecting said first and said second rockable members.

3,262,255
ROTARY STRIPPER PLATES
Elof K. Karlsson, East Moline, and Ralph L. Sutton, Rock Island, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 9, 1964, Ser. No. 358,534
8 Claims. (Cl. 56—107)

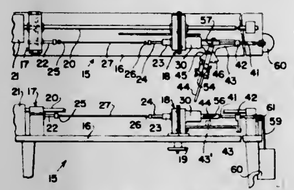


1. A stripper plate for a corn-harvesting machine comprising a pair of end section plates, said end section plates having means for rotatably supporting them about an axis normal to said end section plates, each of said end section plates having a peripheral edge described by an arc having its center of rotation on said axis, gear teeth along one portion of one of said peripheral edges, a material-engaging sheet secured to said end section plates along another portion of said one of said peripheral edges and extending along said axis to connect said end section plates, said material-engaging sheet having a material engaging edge that is rolled downwardly about a center proximate said axis.

3,262,256
WINDING MACHINES USED IN THE MANUFACTURE OF STRINGS FOR MUSICAL INSTRUMENTS

Amelio Vinciguerra, 2218 McDonald Ave., Brooklyn, N.Y.

Filed Apr. 21, 1964, Ser. No. 361,510
3 Claims. (Cl. 57—11)



1. In a machine for winding a wire on a pliable core of the type including a frame, a first shaft and a tubular shaft in alignment with the first shaft and spaced therefrom, both journalled on said frame, means for rotating both said shafts in unison in the same direction, a second shaft fitted in said tubular shaft for lengthwise sliding movement, keyed thereto to rotate therewith and extending from both ends thereof, means on each of the facing ends of the first and second shafts to hold an end of the core respectively, a bar mounted on the frame for longitudinal movement thereon along the line of said shafts; said second shaft being intermediate said first shaft and said bar, a means biasing said bar away from the first shaft, means adapted for shifting said bar towards the first shaft, the end of said bar nearest the second shaft being in alignment therewith and means associating said bar and the second shaft whereby on movement of said bar towards the first shaft, said second shaft will be pushed by said end of the bar towards said first shaft whereupon a suspended core will be slackened and upon movement of said bar by said biasing means, said bar will pull the second shaft away from the first shaft whereupon the suspended core will be tensed; said associating means including a bearing structure to receive the pull of said bar, the improvement consisting of sturdy means fixed on the frame, maintaining the second shaft and said bearing structure against lateral movement with respect to the common axis line of said shafts.

3,262,257
POLYPROPYLENE BULKED YARN

Bruce Eugene Martin, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed May 7, 1965, Ser. No. 453,968
2 Claims. (Cl. 57—140)



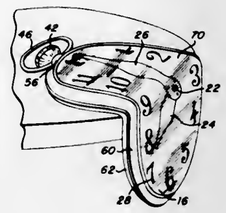
1. An improved bulked yarn of crystalline polypropylene filaments having an exceptional degree of compressional resilience, crimp and covering power, the filaments being characterized by

(a) gamma orientation,
(b) an orientation angle of 10 to 60°,
(c) alternate "S" and "Z" twist sections throughout the length,
(d) a random number of turns between twist reversals,
(e) a random continuously varying angle of twist along the filaments,
(f) a random number of twist reversals per inch,
(g) at least one "Z" turn and at least one "S" turn per inch with each turn having a twist angle averaging at least 5°,
(h) and a random, persistent three-dimensional, nonhelical, curvilinear crimped configuration continuously along the length, said filaments being substantially free from stable crunodal loops.

3,262,258
NOVELTY CLOCK

Donald B. Poynter, 7 Arcadia Place, Cincinnati, Ohio

Filed Aug. 3, 1964, Ser. No. 387,113
17 Claims. (Cl. 58—2)

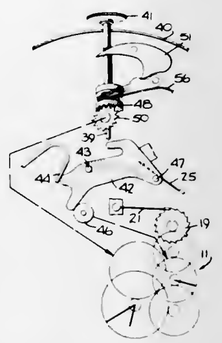


1. A flexible clock including therewith means for moving the hands of the clock, said clock having a flexible face panel having at least the twelve hour indicators thereon and properly spaced therearound and of a material having pronounced flexibility such that the panel will bend freely of its own weight when a portion of the area thereof overhangs an edge of a supporting ledge or the like, the said hands of the clock including a flexible hour hand, a flexible minute hand, means supporting said hands in position to sweep the said face of the panel, said moving means including a motor in operative connection with and for moving the hands in proper sweeping relation to said face of the panel, said flexible hour and minute hands being of a material such that they will operate when the said panel is in said bent condition.

3,262,259
TIME SETTING MECHANISM FOR ELECTRONIC TIMEPIECES

William O. Bennett, Bayside, N.Y., and William W. Mutter, Paramus, N.J., assignors to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York

Filed Feb. 10, 1965, Ser. No. 431,676
5 Claims. (Cl. 58—85.5)



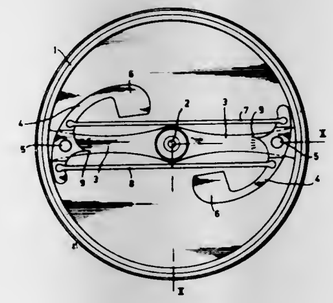
1. A time-setting mechanism for an electronic timepiece, wherein an index finger attached to a vibratory element engages the ratchet teeth on an index wheel operatively coupled to a gear train having a minute wheel and a seconds wheel and wherein a pawl also engages said teeth to prevent retrograde motion of said index wheel, said mechanism comprising:

(A) first means adapted to lift said pawl away from said ratchet wheel to prevent rotation of said index wheel without disengagement of said index finger,
(B) second means adapted to brake said seconds wheel,
(C) third means adapted to engage and turn said minute wheel to adjust the minute and hour hands of the timepiece, and
(D) control means operatively coupled to said first, second and third means to actuate same without interfering with the action of said index finger, said control means being adapted to stop said timepiece and to permit setting thereof by rendering said first, second and third means operative in the named sequence, and adapted to restart said timepiece after the setting thereof by rendering said third, second and first means inoperative in the named sequence.

3,262,260
CLOCKWORK BALANCE HAVING AN ADJUSTABLE MOMENTUM OF INERTIA

Charles Perrot-Audet, Maiche, Jura, France, assignor to Etablissements Perrot-Audet, Maiche, Jura, France

Filed June 11, 1964, Ser. No. 374,388
Claims priority, application France, June 11, 1963, 937,760
1 Claim. (Cl. 58—107)



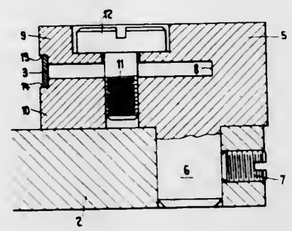
In a balance having an adjustable momentum of inertia including a balance staff, a balance arm and a balance rim;

(A) two arm sections extending in opposite directions along a diameter of said staff securing said rim to said staff; each arm section having an opening near the point of attachment thereof with the rim; at least one section having a scale near said point of attachment;
(B) a regulating member consisting of an incurved sheet of metal having a curvature at least equal to that of the rim movably mounted in each of said openings;
(C) each member having a short arm and a longer arm; said longer arm having an enlarged end forming a weight;
(D) said regulating members being so disposed that a long arm of one and the short arm of the other lie on the same side of said staff;
(E) at least one of said regulating members having a projection on its lateral surface defining the position of said member with respect to said scale on said arm section;
(F) a pair of parallel rods pivotally connected at their ends with said regulating members for retaining a symmetrical arrangement between said members.

3,262,261
DEVICE FOR SECURING THE OUTER END OF A HAIRSPRING TO THE FRAMEWORK OF A TIMEPIECE

Théo Monnin, Neuchatel, Switzerland, assignor to Ebauches S.A., Neuchatel, Switzerland

Filed Nov. 9, 1964, Ser. No. 409,743
Claims priority, application Switzerland, Nov. 27, 1963, 14,503/63
3 Claims. (Cl. 58—115)

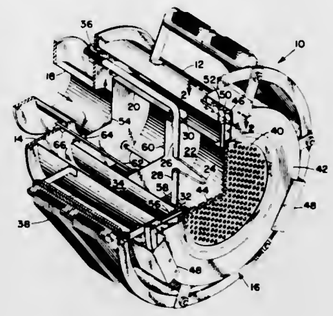


1. A device for securing the outer end of a hair spring to the framework of a timepiece comprising a hair spring stud, supporting means for the stud adapted to be engaged in the framework, means defining a slot in the stud forming a pair of vice jaws, a screw extending through one of said vice jaws and the threadedly engaged in the other of said vice jaws so that the jaws are closed upon tightening of the screw, and means defining opposed recesses at the ends of the jaws, the surfaces of said recesses providing bearing surfaces for the hair spring.

3,262,262
ELECTROSTATIC ION ROCKET ENGINE

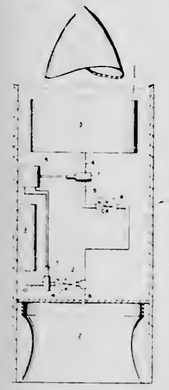
Paul D. Reader, North Olmsted, and Harold R. Kaufman, Berea, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Jan. 18, 1965, Ser. No. 426,455
9 Claims. (Cl. 60—35.5)



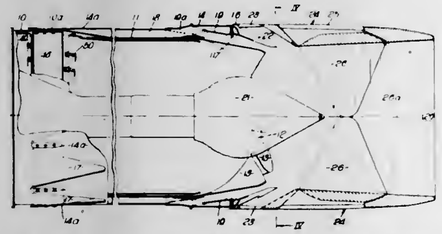
8. An electrostatic ion rocket engine comprising
a chamber for containing an ionizable propellant,
means for introducing said propellant into said chamber about the periphery thereof adjacent one end,
means within said chamber for bombarding said propellant with high velocity electrons to form ions,
means positioned at said one end of said chamber adjacent said propellant supply means to accelerate said ions away from said engine.

3,262,263
PROPELLANT PURGE SYSTEM
Harvard Eng, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Jan. 16, 1964, Ser. No. 338,269
5 Claims. (Cl. 60—35.6)



1. A fuel purge system comprising: a pressurized fuel supply, means for providing fluid communication between said fuel supply and a rocket motor, means for supplying a non-flammable purging liquid to said motor, means for interrupting fluid communication between said fuel supply and said rocket motor and simultaneously opening fluid communication between said non-flammable liquid supply and said motor at a predetermined time before complete evacuation of said fuel supply.

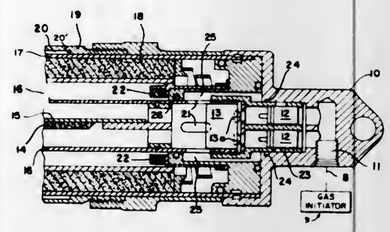
3,262,264
JET PROPULSION POWER PLANT
Terence Edward Gouvenôt Gardiner, John Rodney Dyson Fuller, Daniel Edward O'Neill, and Philip William Davis, all of Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company
Filed Aug. 29, 1963, Ser. No. 341,820
Claims priority, application Great Britain, Sept. 3, 1962, 33,704/62
6 Claims. (Cl. 60—35.6)



1. A jet propulsion power plant including means for producing a source of compressed air, walls defining a nozzle, a centre body lying within the walls defining the nozzle and defining a nozzle outlet therewith, and means for moving the centre body axially in relation to the walls defining the nozzle between an upstream and a downstream position in order to vary the effective cross-sectional area of the nozzle outlet, said means comprising a double-acting ram assembly operated by compressed air and means for leading compressed air from the source of compressed air to the ram assembly, said ram assembly including a movable cylinder which constitutes a stem for the centre body and which is formed with a number of axially spaced walls at least two of which are acted upon by the compressed air during operation of the ram assembly for movement of the cylinder in either direction, a support tube mounted in fixed relation to the walls defining the nozzle and having the downstream end portion surrounded and overlapped with radial clearance by the centre body, and at least two sets of axially spaced bearings on which the movable cylinder is mounted within the support tube, the centre of gravity of the centre body at least in its upstream position lying axially between said sets of bearings.

6. A method of operating an axially-displaceable centrebody lying within the outlet nozzle of a jet propulsion power plant. in order to vary the effective cross-sectional area of the nozzle outlet, comprising the steps of supplying compressed air to both sides of a ram assembly, including a movable cylinder connected to the centrebody and then reducing the pressure on one side only of the ram assembly, so as to cause the movable cylinder and centrebody to be displaced in the required direction and rotating the movable cylinder and centrebody about the axis of the cylinder during such axial displacement in either direction.

3,262,265
COMBINED ROCKET AND CATAPULT MOTORS
Norman J. Waecker, Masonville, N.J., and Albert Benditt, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Army
Filed June 3, 1964, Ser. No. 372,439
3 Claims. (Cl. 60—35.6)



1. A combined catapult and rocket motor for use in aircraft ejection seat apparatus comprising a propellant actuated catapult motor for initiating seat ejection, a rocket type propellant actuated motor radially outside and slidably receiving said catapult motor, said rocket motor being actuated in response to a predetermined relative longitudinal travel of said catapult motor, a first initiator adjacent said catapult motor, firing pin means responsive to gas from said first initiator for igniting propellant of said catapult motor to develop a pressure dit ferential for moving said catapult motor, a secondary igniter adjacent said rocket motor, and means uncovered by movement of said catapult motor for communicatively connecting unexpended gas from said first initiator and residual gas from said catapult motor with said secondary igniter, so constructed and arranged that said first initiator and secondary igniter will respectively ignite said catapult and rocket motors in a manner to minimize misfires.

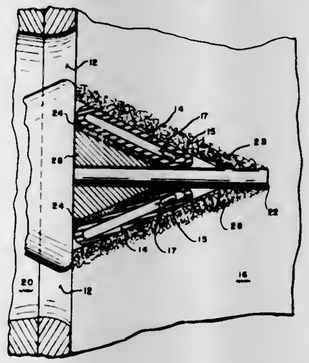
3,262,266
ROCKET INTERSTAGE ADAPTER
James F. Howison, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 31, 1964, Ser. No. 393,452
7 Claims. (Cl. 60—35.6)

1. In a multistage missile having at least an after stage booster motor and a forward stage sustainer motor:
a separable interstage connector assembly for coupling together said motors during at least a portion of the initial phase of flight;
said connector assembly including an outer structural member of lightweight inorganic material;
said connector assembly further including an inner protecting member of organic material;
said outer and inner members when assembled having passages therethrough which provide for symmetrical



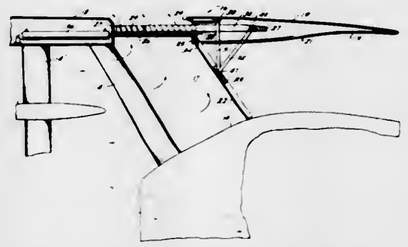
dispersion of exhaust gases of said forward stage motor; and
said connector assembly coupled to said after stage motor and said forward stage motor so as to present no physical restraint therebetween;
whereby when the after stage motor thrust falls below that of the forward stage motor said interstage connector assembly will provide for separation of said after and forward stage motors through continued acceleration forces of said forward stage motor.

3,262,267
ROCKET NOZZLE SHUTOFF DEVICE
William Pennington, Los Angeles, Calif., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Jan. 13, 1965, Ser. No. 425,361
3 Claims. (Cl. 60—35.6)



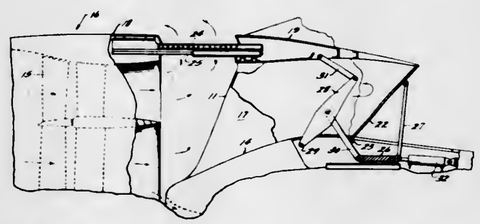
1. In a rocket motor having a high velocity gas generating chamber and a reaction nozzle connected therewith: means for terminating the flow of gas through said nozzle comprising at least one inflatable member positioned within said gas generating chamber, a solid fuel element initially surrounding said member, means for burning said solid fuel element, and gas generating means contained within said member for subsequently inflating said member after burning away at least part of said fuel element to release said member to be moved by the high velocity gas flow whereby said member is forced into the nozzle to produce blockage of said gas flow through said nozzle.

3,262,268
THRUST REVERSER
Robert G. Beavers, Mason, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 7, 1965, Ser. No. 462,790
10 Claims. (Cl. 60—35.54)



1. In a jet propulsion powerplant of the fan type having an inner wall and a fan concentric therewith and extending radially beyond said wall, thrust reverser mechanism comprising,
a cowling surrounding said fan and spaced from said wall to form a bypass duct,
said cowling being split into forward and aft abutting portions forming inner and outer flow surfaces in cruise position,
a fixed ring of flow reversing cascades disposed within said aft portion,
a plurality of peripherally disposed blocker flaps pivoted at their upstream ends to said aft portion and forming part of the inner flow surface thereof in cruise position, and
actuating means disposed within said cowling and controllably interconnecting said flaps and aft cowling portion for translating and rotating said flaps into extended blocking position in said duct and simultaneously translating said aft portion downstream for uncovering cascades and maintaining substantially constant flow area from said duct and reverse the duct flow.

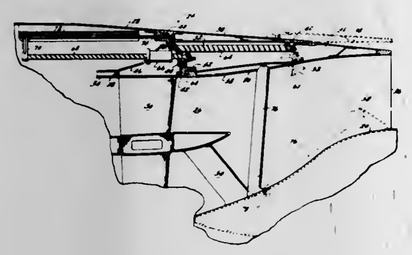
3,262,269
THRUST REVERSER
John T. Kutney and George H. Israel, Jr., both of Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed June 7, 1965, Ser. No. 462,791
10 Claims. (Cl. 60—35.54)



1. In a jet propulsion powerplant of the fan type having an inner wall and a fan concentric therewith and extending radially beyond said wall, thrust reverser mechanism comprising,
a cowling surrounding said fan and spaced from said wall to form a bypass duct,

said cowling being split into forward and aft abutting portions forming inner and outer flow surfaces in cruise position,
a fixed ring of flow reversing cascades disposed within said aft portion,
a plurality of peripherally disposed blocker flaps pivoted at their upstream ends to said wall, and
actuating means controllably interconnecting said flaps and aft cowl portion for rotating and extending said flaps into said duct and translating said aft portion downstream for uncovering said cascades and maintaining constant flow exhaust area from said duct and reversing the duct flow.

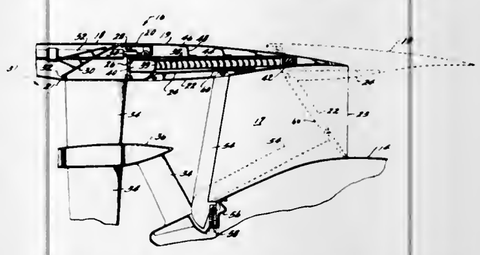
3,262,270
THRUST REVERSER
Robert G. Beavers, Mason, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 7, 1965, Ser. No. 462,793
14 Claims. (Cl. 60—35.54)



1. In a jet propulsion powerplant of the fan type having an inner wall and a fan concentric therewith and extending radially beyond said wall, thrust reverser mechanism comprising,
a cowling surrounding said fan and spaced from said wall to form a bypass duct,
said cowling having fixed forward and aft portions forming an opening therebetween and a translatable intermediate portion adapted to cover said opening and form a smooth outer surface with said fixed portions,
a fixed ring of flow reversing cascades disposed within said opening,
an actuation member connected to and movable with said translatable portion,
a plurality of peripherally disposed blocker flaps connected to said member and forming part of the inner flow surface of said duct under said cascades,
actuating means disposed within said cowling and connected to said actuating member for translation downstream, and
link means connected to said flaps and said wall for guiding said flaps into duct blocking position for reversing the duct flow.

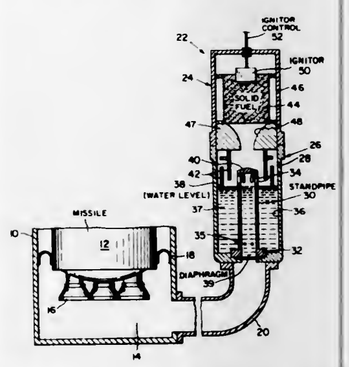
3,262,271
THRUST REVERSER
Robert G. Beavers, Mason, Ohio, assignor to General Electric Company, a corporation of New York
Filed July 30, 1965, Ser. No. 476,100
12 Claims. (Cl. 60—35.54)

1. In a jet propulsion powerplant of the fan type having an inner wall and a fan concentric therewith and extending radially beyond said wall, thrust reverser mechanism comprising:
a cowling surrounding said fan and spaced from said wall to form a bypass duct,
said cowling being split into fixed forward and translatable aft abutting portions forming inner and outer flow surfaces in cruise position,
a fixed ring of flow reversing cascades disposed within said aft portion,
an actuation member connected to and movable with said translatable portion,
a plurality of peripherally disposed blocker flaps



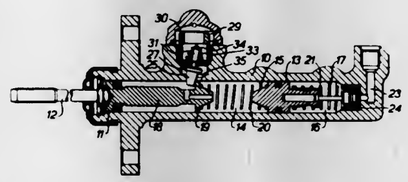
pivoted at their upstream ends to said aft portion and forming part of the inner flow surface of said duct under said cascades in cruise position,
actuating means disposed in said cowling and connected to said actuation member for translation of said member downstream, and
link means connected to said flaps and said wall for guiding said flaps into duct blocking position and reversing the duct flow.

3,262,272
METHOD OF EJECTING A MISSILE FROM A LAUNCHING TUBE
Edward J. Barakauskas, Saratoga, and Ronald G. Holdbrook, San Jose, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 17, 1964, Ser. No. 338,541
1 Claim. (Cl. 60—39.05)



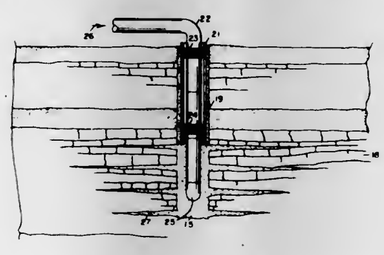
A method of reducing the temperature of a generated gas, said method including:
burning a solid fuel in an enclosure so as to generate a pressurized gas at a relatively high temperature;
conducting one portion of the gas so generated into a mixing chamber;
conducting the remaining portion of the gas so generated to the surface of a body of water to pressurize the latter;
injecting the water so pressurized into the said mixing chamber so as to mix with that portion of the generated gas conducted thereinto,
maintaining a ratio between the amount of pressurized water injected into the mixing chamber and the volume of solid fuel burned so as to produce a saturated mixture in said chamber composed of one part solid fuel combustion products, one part water vapor, and one part liquid water.

3,262,273
MASTER CYLINDERS FOR HYDRAULIC BRAKING SYSTEMS
Dennis Francis Harvey, Birmingham, England, assignor to Girling Limited, Birmingham, England, a British company
Filed Dec. 30, 1964, Ser. No. 422,156
Claims priority, application Great Britain, Jan. 1, 1964, 20/64
10 Claims. (Cl. 60—54.6)



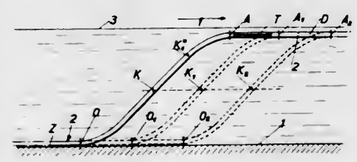
10. A master cylinder for an hydraulic braking system comprising a cylinder, a pressure space in the cylinder, at least one piston working in the cylinder bore to apply pressure to liquid in the pressure space, a reservoir for liquid communicating with said pressure space through a valve port controlled by a tipping valve, a stem on said tipping valve extending into said cylinder bore through an opening in the wall of the cylinder, a return spring adapted to urge said piston into a retracted position, an abutment defined by a part of the cylinder wall around said opening and against which a mid portion of the stem of the valve is adapted to engage when said piston is in said retracted position, and at least one of the stem and the wall of the opening through which the stem extends being coned whereby the load applied to the stem by the return spring for the piston is wholly contained within the stem and there is no moment tending to rock the stem about its engagement with the wall of the opening.

3,262,274
CONTAINMENT OF RADIOACTIVE WASTES
Murrell D. Nelson, Jr., Arlington, Tex., assignor to Mobil Oil Corporation, a corporation of New York
Filed Sept. 27, 1962, Ser. No. 226,581
3 Claims. (Cl. 61—.5)



1. A method for the containment of radioactive wastes comprising the steps:
(a) mixing radioactive wastes; an emulsion formed of an aqueous medium, oil, a water-in-oil emulsifier in an amount to effect temporary emulsification of said aqueous medium and oil; and a solids medium comprised at least in part of hydraulic cement to produce a containment composition, said emulsion containing between about 10 and 75 percent by volume of said oil as the continuous phase, said emulsion being present in the containment composition in an amount between about 30 and 70 parts by weight of the emulsion to 100 parts by weight of hydraulic cement,
(b) passing the containment composition into a subsurface storage area, and
(c) maintaining said composition in said storage area unttil it sets to thereby obtain complete and safe containment of the radioactive wastes.

3,262,275
METHOD OF LAYING IMMERSED PIPE LINES
Georges Perret, 5 Square du Champ de Mars, Paris, France
Continuation of application Ser. No. 65,795, Oct. 28, 1960. This application Apr. 5, 1965, Ser. No. 445,500
Claims priority, application France, Nov. 16, 1959, 810,225, Patent 1,292,209
5 Claims. (Cl. 61—72.3)

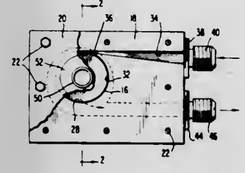


1. In a method for laying a hollow steel pipe to be used as a pipeline on an immersed bottom from one shore to another shore by imparting to said pipe a resilient deformation in an immersed section thereof that joins a pipe portion already laid to a pipe portion awaiting to be laid with the latter portion adjacent the vicinity of but below the surface of the water and in a position substantially parallel to the surface of the water, said deformation being such that said pipe section has a lower branch tangential to the bottom and an upper branch having a horizontal terminus and an S-curve between the bottom and said horizontal terminus, the S-curve having an inflection point between said branches, said section progressively sinking to the bottom during laying of the pipe so that the S-curve advances toward said another shore with said horizontal terminus moving above and in advance of said inflection point and said inflection point moving above and in advance of the point at which said lower branch is tangential to the bottom, with said horizontal terminus and said inflection point and said tangential point all advancing in that order lengthwise along the pipe, said pipe further having by itself when immersed a negative buoyancy; the improvement comprising imparting to said upper branch a positive buoyancy by fixing to said portion awaiting to be laid float means that are immersed and extend lengthwise along the pipe and sink with said upper branch, exerting on a portion of said pipe awaiting to be laid a horizontal traction in the direction of said another shore, relieving the buoyant force of the portions of said float means in the vicinity of said inflection point as each of said portions of said float means successively reaches the vicinity of said inflection point to the extent that the buoyancy of the pipe changes from positive to negative and at the same time said float means continues to impart to said upper branch a positive buoyancy and said lower branch maintains a negative buoyancy as said S-curve advances toward said another shore during the progressive sinking of the pipe, and fixing to said pipe portion awaiting to be laid further float means substantially continuously replacing the buoyancy of said portions buoyantly relieved in the vicinity of said inflection point.

3,262,276
METHOD AND APPARATUS FOR REDUCING THE TEMPERATURE OF PRESSURIZED LIQUIDS AT NEAR SATURATION TEMPERATURE

Robert A. Fisher, Canoga Park, Calif., assignor to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed July 8, 1964, Ser. No. 380,998
8 Claims. (Cl. 62—5)
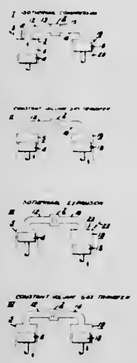


1. A method of temperature reduction of a body of pressurized liquid at near saturation temperature comprising the steps of: depressurizing said liquid body to cause superheating thereof, moving said liquid body in a vortex path, evaporating a portion of the superheated moving liquid body in said vortex path whereby the temperature of the remaining portion of said moving liquid body is inherently reduced, and repressurizing said remaining liquid body.

3,262,277
LOW TEMPERATURE THERMAL REGENERATOR

Loyd B. Nesbitt, Alplaus, N.Y., assignor to General Electric Company, a corporation of New York

Filed Feb. 2, 1965, Ser. No. 429,818
13 Claims. (Cl. 62—6)



13. A method for providing low temperature operation of a regenerator in a reversing refrigeration cycle which includes an expander and a compressor comprising the steps of

sorbing helium gas on the regenerator material to significantly increase its heat retention characteristics,

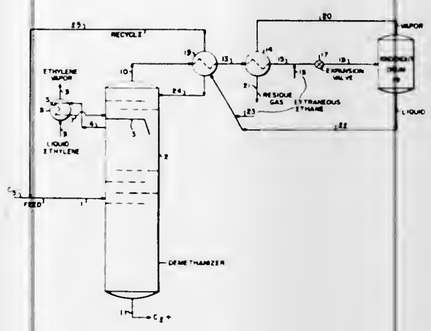
flowing helium gas from the compressor through the regenerator to impart the heat of the helium gas to the regenerator, and

flowing helium gas back from the expander through the regenerator to impart the heat retained by the sorbed helium gas to the flowing helium gas as required for proper operation of the refrigeration cycle.

3,262,278
INCREASED ETHYLENE RECOVERY BY ETHANE ADDITION

Andrew Carl Thorsten, Union, Robert B. Lynch, Elizabeth, and Donald R. Schlotterbeck, Belleville, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Aug. 19, 1963, Ser. No. 302,805
6 Claims. (Cl. 62—20)

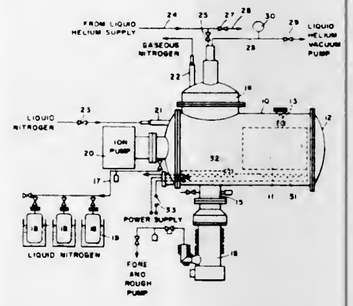


1. In a process for recovering ethylene from a gaseous stream containing 3 to 6 volume percent ethylene, 0.1 to 1.0 volume percent ethane, and the remainder being lighter gases, by expanding the said gaseous stream from a temperature of —140 to —165° F. and a pressure of 400 to 600 p.s.i.a. to a temperature of —170 to —200° F. and a pressure of 50 to 200 p.s.i.a. to thereby obtain condensation and separation of a part of the ethane and ethylene from the lighter gases, the improvement which comprises adding 1 to 5 volume percent of additional ethane (based on total gas) to the gas prior to expansion thereby increasing the amount of ethylene condensed.

3,262,279
EXTREME HIGH VACUUM APPARATUS

Raymond W. Moore, Jr., Brookline, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Oct. 9, 1964, Ser. No. 402,898
8 Claims. (Cl. 62—45)



1. A high-vacuum chamber, comprising in combination

(a) a vacuum-tight horizontally oriented cylindrical inner vessel;

(b) means for circulating a cryogenic fluid in heat transfer relationship with the outer wall of said inner vessel;

(c) an experimental vacuum chamber located at one end of said inner vessel adapted to be accessible for insertion and withdrawal of an experimental body;

(d) conduit means at the other end of said inner vessel and communicating with vacuum pump means;

(e) cryopumping surface means located within said inner vessel between said experimental vacuum chamber and said conduit means;

(f) means separate from (b) for bringing a cryogenic fluid in heat exchange relationship with said cryopumping surface means thereby to maintain them at a cryopumping temperature;

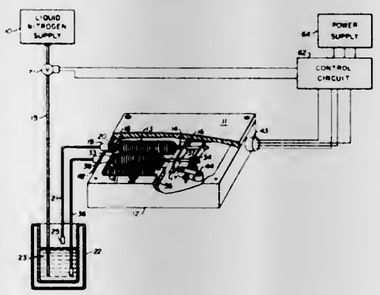
(g) radiation shield means within said inner vessel between said cryopumping surface means and said experimental vacuum chamber; and

(h) an outer vacuum-tight horizontally oriented cylindrical vessel immediately surrounding said inner vessel and defining an evacuatable guard volume around said inner vessel.

3,262,280
LEVEL CONTROL FOR CRYOGENIC LIQUID

Ray L. Chaney, San Leandro, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 26, 1964, Ser. No. 406,634
5 Claims. (Cl. 62—49)

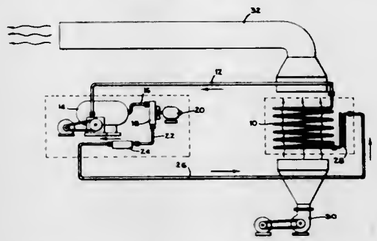


1. A liquid level control for use with a cryogenic liquid vessel comprising, in combinaton, a first sensing unit having a first bellows and a first tube sealingly coupled thereto and enclosing a first volume of gas, said first tube having an end situated in said vessel at the lower level limit therein an electric switch operated by expansion of said first bellows and being connected to initiate the flow of additional cryogenic liquid to said vessel, a second sensing unit having a second bellows and a second tube sealingly connected thereto and enclosing a second volume of gas, said second tube having an end situated in said vessel at the upper level limit thereof, means operatively coupling said second bellows to said switch to terminate the flow of cryogenic liquid to said vessel when said second bellows contracts, a third bellows coupled to said first tube through a flow restriction causing expansion of said third bellows to be delayed relative to expansion of said first bellows whereby said third bellows does not expand if said end of said first tube is promptly re-cooled by said flow of additional liquid to said vessel, and means sensing expansion of said third bellows to detect a condition wherein said liquid level is not promptly raised above said lower limit.

3,262,281
REFRIGERATION HEAT EXCHANGE PROCESS AND APPARATUS

Robert W. Alexander, 4041 Reedhurst, San Jose, Calif., assignor to Crystal-Aire Manufacturing Corporation, San Jose, Calif., a corporation of California

Continuation of application Ser. No. 53,988, Sept. 6, 1960. This application Jan. 9, 1964, Ser. No. 338,281
8 Claims. (Cl. 62—115)

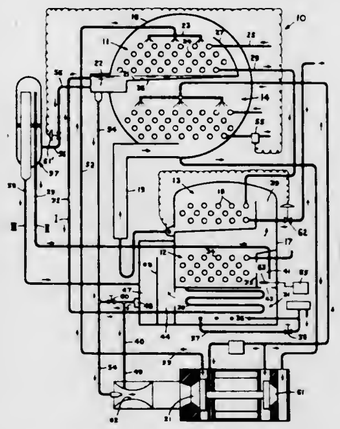


1. A heat exchange process which comprises moving a volatile refrigerant liquid through a closed cycle, with a relatively high pressure on the liquid at one portion of the cycle, reducing the pressure in another portion of the cycle only to that extent where at least 5% (five percent) by volume of the volatile liquid remains in the liquid state continuously during normal operation throughout the entire low side but a substantial temperature reduction is effected, thereafter increasing the pressure of the liquid and vapor and then reducing the temperature so as to condense that portion of the volatile liquid in the vapor state to reestablish the volatile liquid in a completely liquid state at the initial, relatively high pressure, and a correspondingly high temperature to thus complete the closed cycle.

3,262,282
ABSORPTION REFRIGERATION SYSTEM CONTROL

David Aronson, Upper Montclair, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed Feb. 1, 1965, Ser. No. 429,513
7 Claims. (Cl. 62—141)



1. In a closed absorption system circulating saline solution and having an absorber including a solution holding sump and solution distribution means, an evaporator, a generator, a condenser, and a heat exchanger connected to pass refrigerant and absorbent therethrough, said system including a circuit communicating the absorber and

the generator and carrying weak solution in varying degrees of concentration therebetween:

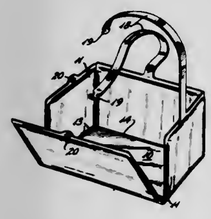
(a) said heat exchanger being communicated in said circuit and carrying stream of solution at varying degrees of concentration into heat exchange contact,

(b) conduit means for said circuit carrying a first stream of solution, said conduit means being in communication with the generator downstream side in which solution at a greater concentration than solution in said conduit means is held, said generator downstream side being in flow communication with said heat exchanger,

(c) said solution in said first stream being operative to dilute the concentration of solution leaving the generator to avoid crystallization of solution in the heat exchanger,

(d) and temperature sensing means operative to sense the temperature of said mixture of said first stream and said solution leaving the generator, said temperature sensing means providing an output signal responsive to excessive temperature.

3,262,283
REFRIGERATING JACKET
Frank A. Taylor, West Palm Beach, Fla., assignor of fifty percent to A. Yates Dowell and A. Yates Dowell, Jr., Washington, D.C.
Filed Dec. 18, 1964, Ser. No. 419,444
2 Claims. (Cl. 62—372)



1. A jacket applicable about a carton of articles for retarding heat transfer between such articles and the atmosphere, said jacket comprising a relatively hollow body having relatively thin flat wall means of a size snugly to fit about a carton to which it is applied, said relatively thin substantially flat wall means corresponding in size and shape to the exterior walls of a carton, said wall means equipped with portions connected at their extremities to provide a substantially continuous enclosure for the sides of a carton to retain the latter therein, said relatively flat wall means being hollow and containing a temperature modification medium of a character to retard heat transfer for an extended time to produce a prolonged temperature effect, said jacket being foldable and stackable and being of an inexpensive construction and containing inexpensive substance within said hollow wall means such as gelatin whereby it may be used and readily discarded.

3,262,284
UNIVERSAL JOINTS
Leslie Maxwell-Holroyd, Sutton Coldfield, England, assignor to B.R.D. Company Limited, Aldridge, England, a British company
Filed Aug. 4, 1964, Ser. No. 387,334
4 Claims. (Cl. 64—17)

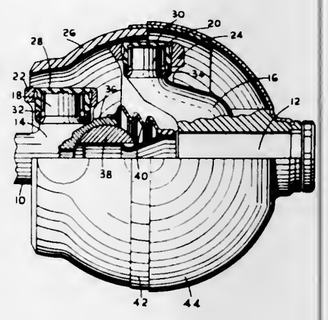
1. A Hooke's joint in which the sealing means between a bearing cup and a trunnion includes a sealing ring of elastomeric material comprising—

(a) a body portion having:

(1) a curvilinear inner surface which bears against and is supported by a shoulder of corresponding curvilinear form provided on the trunnion, and

(2) a flat surface which is directed towards the adjacent end face of the bearing cup and is formed with an annular seating in which a washer is disposed in abutting engagement with the end face of the bearing cup,

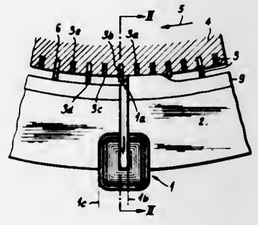
(b) an annular flange portion surrounding said flat surface and projecting therefrom, the inner face of said flange portion being in contact with the outer surface of the adjacent end portion of the bearing cup, and



(c) an inwardly directed rib at the end of said flange portion remote from said body portion and said rib engaging in a circumferentially extending groove formed in the outer surface of the cup,

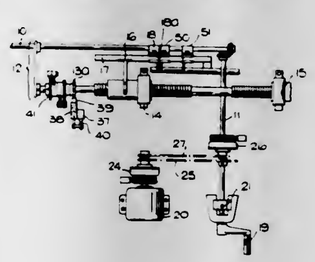
the cross section of said groove corresponding to that of said rib and a seal path of generally labyrinthine form being defined between the outer surface of said bearing cup on the one hand and the washer, the inner face of the flange portion and the inwardly directed rib on the other hand.

3,262,285
ELECTROMAGNETIC NEEDLE SELECTION MECHANISM
René Beguin, Chemin des Vignettes, Villette; André Corbaz, 20 bis Rte. de Drize, Carouge; and Serge Ramseier, 17 Ave. Vibert, all of Geneva, Switzerland
Filed July 9, 1963, Ser. No. 293,799
Claims priority, application Switzerland, July 11, 1962, 8,326/62; May 31, 1963, 6,820/63
12 Claims. (Cl. 66—50)



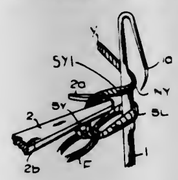
1. A knitting machine comprising a plurality of needles and a mobily mounted longitudinally edged jack associated with each of said needles for said jack to be advanced and by selection be deflected laterally edgewise of the jack toward a position corresponding to selection of the associated needle, and a needle selecting mechanism comprising at least one electromagnet having poles and an energizable winding for deflecting those of said jacks whose needles are to be selected, said poles being arranged and having inclined surfaces divergent from the path of advance of the jacks for a longitudinally edged portion, of each of said jacks successively in advancing past said electromagnet, to pass adjacent to leading ends of said poles and, when said winding is energized, for said longitudinally edged portion of the laterally mobile advancing jack to be magnetically engaged with said leading ends of said poles and move the jack magnetically attracted toward said inclined surfaces, whereby said jack is displaced laterally edgewise of the jack by selection toward said position corresponding to selection of the associated needle.

3,262,286
STRAIGHT BAR KNITTING MACHINES
William Bentley, Oadby, and Raymond Blood, Shepshed, England, assignors to William Cotton Limited
Filed Dec. 14, 1962, Ser. No. 244,804
Claims priority, application Great Britain, Dec. 15, 1961, 44,945/61
11 Claims. (Cl. 66—89)



8. A straight bar knitting machine having means including one pair of selvedge stops for producing knitted blanks of different shapes and sizes, reset mechanisms operably connected with said pair of selvedge stops for predetermining the shapes and sizes of the blanks, and program controlled switch means for rendering the reset mechanisms sequentially effective.

3,262,287
STRAIGHT BAR KNITTING MACHINE AND METHOD
Herbert E. Woodcock, Wilton Hill, Hawick, and Francis Simpson, Wilton Dean, Hawick, Scotland, assignors, by mesne assignments, to William Cotton Limited, Loughborough, England
Filed Sept. 6, 1962, Ser. No. 221,837
Claims priority, application Great Britain, Sept. 9, 1961, 32,432/61
12 Claims. (Cl. 66—90)



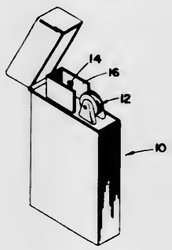
2. In a straight bar knitting machine, including a yarn carrier, and bearded needles, in combination, selvedge control means comprising yarn engaging means; means for mounting said yarn engaging means for movement between an inoperative position and an operative position located closely spaced from said needles; and operating means for moving said yarn engaging means to said operative position when said yarn carrier lays a selvedge yarn, said yarn engaging means in said operative position being adapted to separate old loops on said needles from selvedge yarn newly laid by said yarn carrier, and to hold the latter spaced from the old loops while said bearded needles are pressed.

3,262,288
STOCKING
Samuel I. Burd, New York, N.Y., assignor to Magnet Mills, Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 7, 1965, Ser. No. 493,682
5 Claims. (Cl. 66—172)



1. A single thickness stocking welt knit of welt yarn which is not lively having a marginal band comprising terminal courses knit of multi-filament synthetic lively yarn and a non-lively yarn whereby said marginal band when unrestrained spontaneously curls upon itself to form a tight roll.

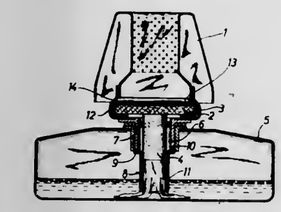
3,262,289
IGNITION SPARK WHEELS
Ginn Biesenbach, 120 Madison Ave., Reading, Pa.
Filed Oct. 28, 1964, Ser. No. 407,035
9 Claims. (Cl. 67—7.1)



9. An ignition device comprising a casing, an ignition fuel supply in said casing, a flame producer operatively

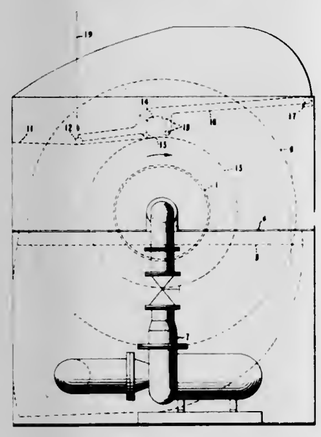
connected to said fuel supply, a flint on said casing adjacent said flame producer, and a spark wheel rotatably mounted on said casing, said spark wheel comprising a hollow, circular disc constructed of nitrided steel alloy and having a peripheral wall provided with an abrasive surface, said abrasive surface being in rotatably frictional contact with said flint.

3,262,290
MOUNTING OF FUEL-FEEDING COMPONENTS IN LIQUID-FUEL BURNERS
Georg Huber, Starnberg, Upper Bavaria, Germany, assignor to Webasto Werk G.m.b.H., Stockdorf, near Munich, Germany
Filed Feb. 10, 1964, Ser. No. 343,752
Claims priority, application Switzerland, Mar. 14, 1963, 3,228/63
6 Claims. (Cl. 67—55)



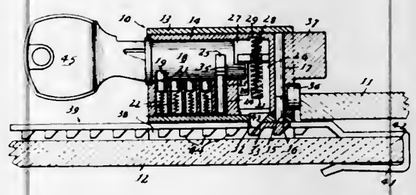
1. A liquid-fuel storage tank for a burner comprising a wick stone supported at the top by an O-ring disposed within a socket-like housing in the top wall of the tank, said wick stone being spaced from the wall of said housing and from the bottom of said tank, and a bottom support attached to the socket-like housing and extending beneath the wick stone wherein the wick stone is prevented from downward slipping.

3,262,291
FABRIC TREATING APPARATUS
Paul Morrison Cole, Carrcroft, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 27, 1963, Ser. No. 326,511
1 Claim. (Cl. 68—150)



In an apparatus for treating a fabric with a fluid comprising a vessel for containing said fluid and having bottom, side and end portions, disposed above said bottom portion and generally between said end portions, a hollow rotatably mounted beam about which the fabric is adapted to be wound in roll form, said beam being perforate about a centrally located portion thereof, means for cycling said fluid from said vessel into said beam and outwardly from the perforations thereof, and means for rotating said beam; the improvement, for effecting compression winding of said fabric about said beam, comprising a roll substantially traversing at least the centrally located perforate portion of said beam, frame means mounting said roll for movement of said roll to and from a position in rolling contact with fabric as it winds about said beam, and a guide bar mounted by an extension of said frame means, said guide bar being spaced from said roll and substantially parallel thereto.

3,262,292
LOCK ASSEMBLY FOR SHOWCASES AND OTHER CLOSURES
Dwight W. Glass, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed June 19, 1964, Ser. No. 376,323
4 Claims. (Cl. 70—14)

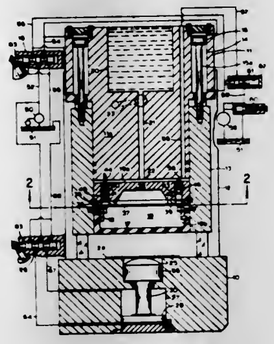


1. A lock assembly comprising a hollow housing open at both ends and having a generally T-shaped longitudinally extending slot in the base thereof, a lock cylinder detachably mounted within said housing, said housing and said cylinder having aligned openings, a retainer pin positioned in said openings to retain the cylinder in the housing, a plug rotatably mounted in said cylinder having a transverse arcuate slot in the surface thereof, a plug stop pin mounted in the cylinder and extending into the arcuate slot to limit rotary movement of the plug, a projection on the inner end of the plug, a lock bolt mounted in the cylinder and yieldably biased into the T-shaped slot, said bolt having an elongated slot receiving the projection on the plug, a resilient bumper mounted on the end of the cylinder opposite the plug, an extension on the end of the cylinder adjacent and overlapping said bumper, and an elongated locking bar adapted to be received in the T-shaped slot and having a plurality of longitudinally aligned locking notches cooperating with the bolt, said bar having a hooked end cooperating with the article to be locked.

3,262,293
METHOD OF MANUFACTURING WIRE
Martin B. MacInnis, Towanda, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
No Drawing. Filed May 25, 1964, Ser. No. 370,108
4 Claims. (Cl. 72—42)

4. The method of mechanically working tungsten wire to a desired diameter which comprises the steps of passing the wire through an aqueous potassium permanganate solution of 0.1 Normal concentration to form on the wire an adherent layer of tungsten oxide; water-rinsing the wire to remove by-products of the oxidation of the tungsten; passing the wire through an aqueous suspension of graphite to provide a coating of graphite on the layer of tungsten oxide; heating the wire to a temperature of about 800° C.; and thereafter passing the wire through a reducing die.

3,262,294
HYDRAULIC FORMING PRESS
Charles L. Mitchell, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 16, 1963, Ser. No. 302,567
8 Claims. (Cl. 72—63)



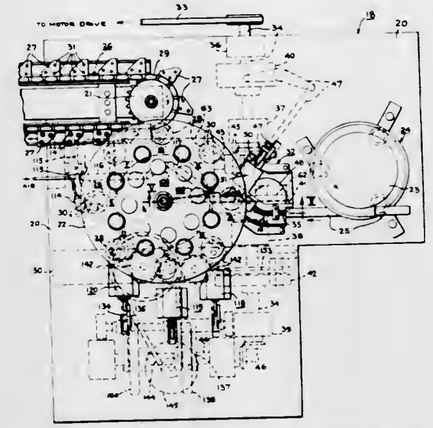
1. In a hydraulic forming press, the combination comprising means defining an expandable pressure chamber, said means including a flexible diaphragm closing one end of the pressure chamber, said pressure chamber having an opening through which hydraulic fluid is received as the chamber expands, and a partition extending across the chamber between said opening and the flexible diaphragm to divide the chamber into two sections; said partition isolating the section of the chamber between the partition and the flexible diaphragm from the section of the chamber between the partition and the opening as the chamber expands.

3,262,295
FINNED TUBE, APPARATUS AND METHOD FOR MAKING SAME
Boleslaw M. Woloszynek, 1125 Willaview Road, Cleveland, Ohio
Filed July 20, 1961, Ser. No. 125,584
17 Claims. (Cl. 72—75)



1. Apparatus for providing helical fins on the outer wall of a metallic cylindrical member comprising in combination a plurality of rotatable fin-forming elements disposed to form helical fins in a said cylindrical member moving intermediate said elements, guide means for guiding said cylindrical member in forming position intermediate said elements, said elements in forming said helical fins exerting a forward driving force upon the fins formed on said cylindrical member to feed the same forwardly of the apparatus intermediate of said elements, and pneumatic feeding means feeding said cylindrical member forwardly along the guide means and intermediate of said elements during the forming of fins on the cylindrical member by said elements to diminish the said forward driving force exerted upon said fins by said elements.

3,262,296
APPARATUS FOR REPAIRING AND FEEDING HOLLOW METAL ARTICLES
Henry P. Hasell, Bloomfield, and Geoffrey A. Daines, West Caldwell, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 14, 1963, Ser. No. 287,919
13 Claims. (Cl. 72—86)



1. Apparatus for automatically arranging a plurality of hollow metal articles in a predetermined geometrical pattern and refinishing the peripheral edge portions of said articles while the latter are disposed in said pattern, which apparatus comprises,

means for receiving a row of said articles disposed in upstanding side-by-side relation,

means located adjacent said receiving means for arranging selected articles at the end of said row in the desired pattern,

holding means adapted to pick up the arranged articles as a group and maintain them in the aforesaid pattern with their peripheral edge portions accessible,

means for moving said holding means and group of articles to a series of work stations and then to an unloading station,

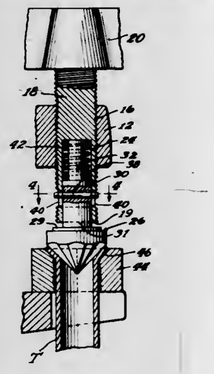
means located at each of said work stations movable and toward and away from a preselected and different one of the articles in the group carried by said holding means and adapted, when actuated, to engage and compressively roll the peripheral edge portion of that article, and

means for actuating said rolling means when said holding means is located at the respective work stations.

3,262,297
FLARING AND BURNISHING TOOL
Abraham M. Samuels, Chicago, and Eugene B. Shapiro, Skokie, Ill., assignors to Chicago Specialty Manufacturing Co., Skokie, Ill., a corporation of Illinois
Filed Feb. 4, 1964, Ser. No. 342,482
8 Claims. (Cl. 72—117)

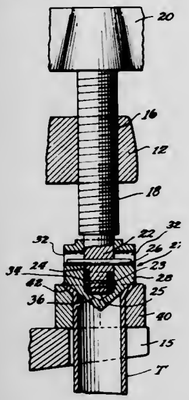
1. A tube flaring and burnishing tool comprising a frame member having a threaded bore through one portion thereof and a support portion adapted to have a tube end supported therein in alinement with said threaded bore, an externally threaded shaft engaged in said threaded bore for rotative and axial movement relative to said frame, said shaft having a bore at the lower end thereof,

said bore having stop means inside said bore at a point removed from the entrance to said bore, tube flaring means including a cone and a stem with the stem supported in said shaft bore, said stem having means at its upper end within said bore for engaging said stop means to limit the inward axial movement of said tube flaring means, spring means around said stem and engaging said stem and said stop means for normally urging said tube flaring member axially outward, a handle for rotating said shaft and said flaring means in either direction to



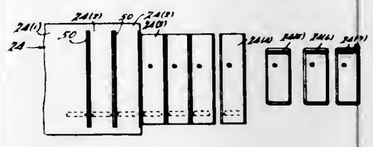
advance or retract said shaft, means between said shaft and said tube flaring means for coupling same to permit axial movement between the flaring means and said shaft and rotative movement with said shaft, said stop means being engaged by said upper end of said stem after said flaring means has been advanced so that the cone engages a tube for flaring operation, said spring means forcefully maintaining said cone urged against a tube to effect a burnishing thereof during retracting rotation of said shaft until said cone disengages from the tube.

3,262,298
FLARING AND BURNISHING TOOL
Abraham M. Samuels, Chicago, and Eugene B. Shapiro, Skokie, Ill., assignors to Chicago Specialty Manufacturing Co., Skokie, Ill., a corporation of Illinois
Filed Feb. 4, 1964, Ser. No. 342,483
6 Claims. (Cl. 72—117)



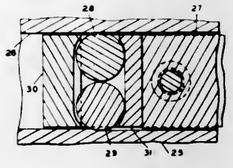
1. A tube flaring and burnishing tool comprising a frame member having a threaded bore through one portion thereof and a support portion adapted to have a tube end supported therein in alinement with said threaded bore, an externally threaded shaft engaged in said threaded bore for rotative and axial movement relative to said frame, tube flaring and burnishing means including a cone, said cone having a bore with the end of said shaft secured within said bore, coupling said cone to said shaft secured within said bore, coupling means for coupling said cone to said shaft for permitting axial movement of said cone with respect to said shaft but rotative movement therewith, spring means positioned within said bore between said cone and said shaft, a handle for rotating said shaft and said cone in either direction to advance or retract said shaft, said spring means normally urging said cone outwardly, said coupling means limiting the outward movement of said cone, said shaft having means engaging said cone for limiting the inward movement of said cone relative to said shaft when the shaft is advanced and said cone is in tube flaring operation, said spring means forcefully maintaining said cone urged against the tube to effect a burnishing thereof during retracting rotation of said shaft until said cone disengages from the tube.

3,262,299
MULTIPLE STAGE DIE FOR SLEEVE BEARINGS
Kermit M. Hart, Edward A. Idzkowski, and John L. Petro, all of St. Johns, Mich., assignors to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Original application July 20, 1962, Ser. No. 211,162. Divided and this application Nov. 13, 1964, Ser. No. 418,577
21 Claims. (Cl. 72—130)



1. A multiple stage die for making substantially semicircularly shaped sleeve bearing blanks from a strip of material comprising means for transversely grooving the strip at preselected intervals, means for severing the strip along the grooves therein to form free blanks and including a knife edge locatable in at least one of the grooves, and means for forming the free blanks into substantially semicircularly shaped sleeve bearing blanks.

3,262,300
PROCESS AND TOOL FOR PRECISION SLOT FINISHING
Carl W. Kaesemeyer, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 10, 1963, Ser. No. 308,004
5 Claims. (Cl. 72—203)

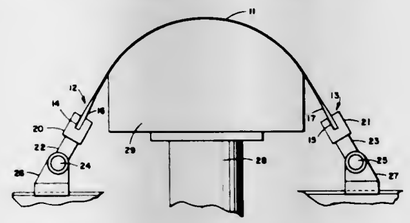


1. The process of producing a precision slot from a rough planed slot in a metal workpiece comprising the steps:

(a) passing a scraper tool through the rough slot to clean the sides thereof, and

(b) passing a tool therethrough having rollers in forcible contact simultaneously with the opposed sides of the cleaned rough slot to roll finish the sides thereof to final size and smoothness.

3,262,301
METAL FORMING PROCESS
Eugene M. Langworthy, Whittier, Calif., assignor to Chemical Contour Corporation, Gardena, Calif., a corporation of California
Filed June 12, 1963, Ser. No. 287,298
9 Claims. (Cl. 72—296)



1. The method of producing a curved part of predetermined length and thickness comprising the steps of

forming a unitary workpiece

of greater length than said predetermined length of said part to be produced,

with integral opposite end marginal portions thicker than said predetermined thickness of said part,

and portions intermediate said ends of said predetermined thickness and at least said predetermined length,

then contouring said intermediate portions by gripping said opposite end portions and pulling outwardly thereon

while simultaneously bending said intermediate portions about a die,

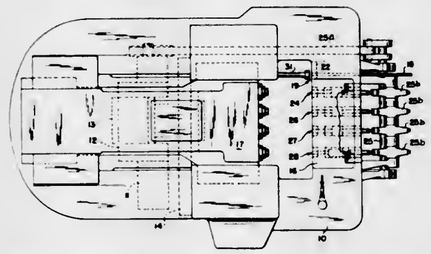
and then removing said end portions from said intermediate portion in an amount sufficient to provide said intermediate portion with said predetermined length.

3,262,302
METHOD OF FORMING THREADED WIRE
Charles D. Toney, Jr., Atlanta, Ga., assignor to The Auto-Soler Company, a corporation of Georgia
Continuation of application Ser. No. 173,197, Feb. 14, 1962. This application Feb. 3, 1965, Ser. No. 430,034
8 Claims. (Cl. 72—366)



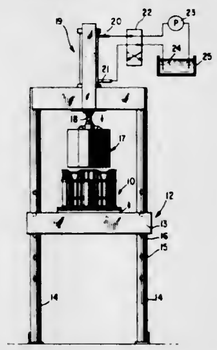
1. The method of spirally configurating wire which comprises impressing discontinuous segments of spaced, spiral, thread-like grooves at the surface of a length of wire, and simultaneously impressing said discontinuous segments in a sidewise spaced succession following a spiral path about said wire of a pitch less than the pitch of the impressed groove segments so that the groove segments extend across said path.

3,262,303
EXTRUDING METAL TUBES FROM WIRE
Herbert L. McClellan, Tiffin, Ohio, assignor to The National Machinery Co., Tiffin, Ohio, a corporation of Ohio
Filed Aug. 1, 1962, Ser. No. 213,999
4 Claims. (Cl. 72—368)



1. A method of forming hollow articles from a material subject to grain growth aging comprising sequential steps of symmetrically upsetting a cylindrical piece of stock increasing its radius and decreasing its length, thereafter socketing said stock a substantial distance therethrough forming a blind passage along the central axis thereof, thereafter punching a slug from said stock forming a central passage through said stock thereby leaving only material which has been radially displaced, and thereafter symmetrically extruding a hollow article, the period of time between each step being sufficiently short to prevent substantial aging of said material.

3,262,304
CASE STRAIGHTENER
Jerome R. Schultz, 310 12th St., Garden City, Kans.
Filed Aug. 6, 1962, Ser. No. 215,207
2 Claims. (Cl. 72—393)



1. A fabricated wire case straightener for returning a case to its original form comprising,

a support member for engaging the bottom of a case to support it in position for straightening,

a head member for engaging a case to be straightened from within the case,

a reciprocating rod engaging said head member and being hydraulically actuated to move between two extreme positions,

said head member having four angle iron members engageable in respective corner portions of said case,

two linkage connections being provided between said rod and each of said angle iron members, each of said linkage connections having means to adjust the length of said linkage connection,

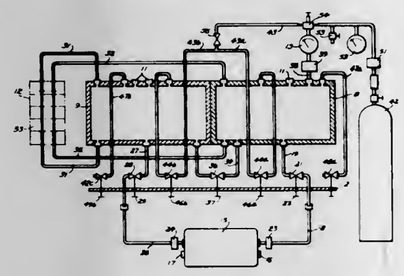
said reciprocating rod, said linkage connections and said angle iron members cooperating to constitute a collapsed form of said member out of engagement with the interior contour of said case when said reciprocating rod is in a first extreme position and to constitute an expanded form of said head member in engagement with the interior contour of said case when said rod is in a second extreme position,

said means to adjust said linkage connections permitting variation in the size of said head member when in expanded form,

said head engaging said support on movement of said reciprocating rod from said first extreme position to said second extreme position,

whereby said head is caused to vary from said collapsed form to said expanded form.

3,262,305
METHOD AND APPARATUS FOR CALIBRATING DIFFERENTIAL PRESSURE CELLS
Jack S. Dawley, 2132 Mayfair Drive, Napa, Calif.
Filed Mar. 11, 1964, Ser. No. 351,257
7 Claims. (Cl. 73—4)



6. A method of calibrating a differential pressure cell having high and low pressure sides comprising:

providing separate enclosed water heads one on the high side of the cell and the other on the low side,

successively applying gaseous fluid pressure to one of said enclosed heads and then to the other,

concurrently with said successive pressure applications successively venting one side of the cell and then the other for insuring solid air-free water heads,

then equalizing water pressure on both sides of the cell,

applying a controlled and gauged gaseous fluid pressure to the enclosed water head of said high side of the cell while venting the enclosed water head of said low side,

varying said applied gauged pressure, and

adjusting the differential pressure response of the cell to said varied pressure in conformity with said gauged pressure.

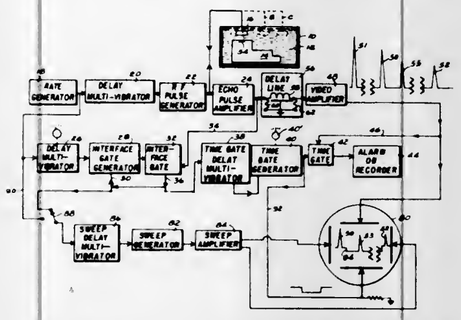
3,262,306
ULTRASONIC TESTING SYSTEM
Elliott A. Henry, Newtown, Conn., assignor, by mesne assignments, to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware
Filed Sept. 19, 1962, Ser. No. 224,713
5 Claims. (Cl. 73—67.9)

1. In ultrasonic testing apparatus of the kind including a response-signal registering device and

(a) transducer means for applying successive short pulses of compressional-wave energy to a boundary surface of a test specimen and for generating response signals upon the return of echoes from such specimen, and including

(b) control circuitry responsive to the first such response signal from each of said pulses for performing a gate-opening function to allow transmission of the succeeding response signals to said registering device, said control circuitry having an unavoidable time delay tending to cause undesired suppression of early response signals from within the test specimen, and

(c) normally-closed gating means responsive to said



control circuitry and connected in a signal path between said transducer means and said registering device,

(d) the improvement which comprises signal path delay means connected in said signal path between said transducer means and said gating means for transmitting the train of echo signals to said registering device after a delay period at least equal to said unavoidable time delay of said control circuitry;

(e) whereby delay in the response of said control circuitry to said first response signal will not result in suppression from said registering device of closely-following echo signals from within said specimen.

3,262,307
OMNIDIRECTIONAL ULTRASONIC SEARCH SYSTEM
Stephen D. Hart, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 28, 1963, Ser. No. 319,616
2 Claims. (Cl. 73—71.5)



1. An omnidirectional ultrasonic search system for detecting a flaw in a material, which comprises:

a transducer for generating axially aligned acoustical rays of energy which are directed onto a material to be tested for a flaw and receiving acoustical rays of energy reflected back by a flaw within the material to be tested,

a polyfaced structure secured relative to said transducer coaxial therewith, said polyfaced structure having an odd number of sloping faces forming a small open end and a larger open end with the faces sloping toward the axis at the small end,

said polyfaced structure being secured relative to said transducer with the small end thereof at the output-receiving end of said transducer in axial alignment therewith,

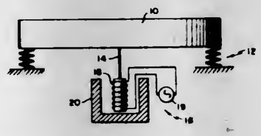
a small cone-shaped body secured within said polyfaced structure on the axis thereof with the base thereof in the same plane as the base of said polyfaced structure and the vertex end directed toward said transducer,

said cone-shaped body operative to reflect incident acoustical rays from said transducer onto said polyfaced structure and to reflect rays returned from said polyfaced structure onto said transducer,

said polyfaced structure having sloping inner wall surfaces to focus incident acoustical rays onto a test material on a line along the axis of said transducer wherein a flaw in the test material reflects the acoustical rays back to said transducer via said polyfaced structure and to said cone within said polyfaced structure, and

an indicator means for recording a signal produced by said transducer due to the acoustical rays returned to said transducer whereby the recorded signal represents a flaw in the test material.

3,262,308
VIBRATING TABLE STRUCTURE
Fred Schloss, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 10, 1964, Ser. No. 337,102
7 Claims. (Cl. 73—71.6)



1. A vibrating table structure including:

a table surface member having a periphery;

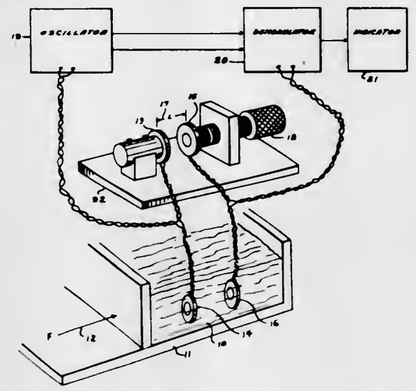
resilient mounting means directly supporting said table surface member on said periphery;

a relatively thin rod being secured at its ends only and one end being secured to the table surface member and freely hanging downwardly therefrom;

and a shaker attached to and suspended from the other end of said rod, thereby placing said rod in tension between said table surface member and said shaker; whereby, when said shaker is caused to vibrate, it will transmit axial vibrations, and substantially only axial vibrations through said rod to said table.

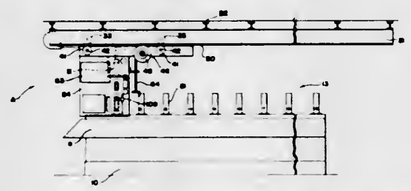
3,262,309
STRAIN GAGE
Marvin E. Anderson, South Holland, Ill., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 21, 1964, Ser. No. 361,600
3 Claims. (Cl. 73—88.5)

1. A strain gage for measuring the strain in a substance comprising: a first driving coil for emitting electromagnetic flux embedded within the substance; a first electromagnetic flux sensing coil embedded within the substance, magnetically coupled in substantially axial spaced-apart relationship with said first driving coil; a second driving coil, external to said substance, for emitting electromagnetic flux; a second electromagnetic flux sensing coil, external to said substance, magnetically coupled in substantially axial spaced-apart relationsihp with said second driving coil; a source of alternating current connected to said first and said second driving coil; connecting means connecting in electrical opposition said first and said second sensing coils; demodulation means cooperating with said source of alternating current and said connecting means providing an output which is indicative in magnitude and polarity of spacing differential between, said



first driving coil and said first sensing coil, and said second driving coil and second sensing coil; means providing adjustment of said spaced-apart relation of said second driving coil and said second sensing coil; and indicating means cooperating with said output of said demodulation means.

3,262,310
COMPRESSION TESTING MACHINE
Michael M. Gruich, 1244 Golden Gate, Cleveland, Ohio; Wallace E. Wason, 1596 Wrenford, South Euclid, Ohio; and Robert J. Weaver, P.O. Box 653, Newtonville, N.Y.
Filed Sept. 19, 1963, Ser. No. 309,929
8 Claims. (Cl. 73—94)



2. A soil compression testing apparatus comprising:

a horizontal track;

a carriage;

means suspending said carriage from said track for longitudinal movement therealong;

a drive assembly on said carriage operable to move said carriage along the length of said track;

said drive assembly including a plurality of hardened steel wheels rotatably secured to said carriage;

a load cylinder secured to said carriage and adapted to exert a downward thrust in a direction transverse to said track;

a rigid test stand beneath said track;

a plurality of vertically extending spaced apart test cylinders on said stand beneath said track;

each of said test cylinders being adapted to receive a soil specimen therein;

means for actuating said load cylinder to compressively engage the soil specimen in the selected one of said test cylinders;

means on said carriage limiting the compressive movement of said cylinder to a predetermined range of movement;

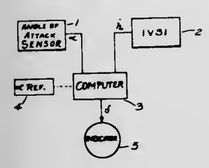
means to measure the deformation of the specimen in response to the compressive load of the cylinder; and

reference means on said track cooperating with said drive assembly for absorbing the reactive thrusts of said loading cylinder whereby vertical deviation of said carriage is prevented when said soil specimens are compressed by said load cylinder;

said reference means comprising a machined surface on the lower surface of said track;

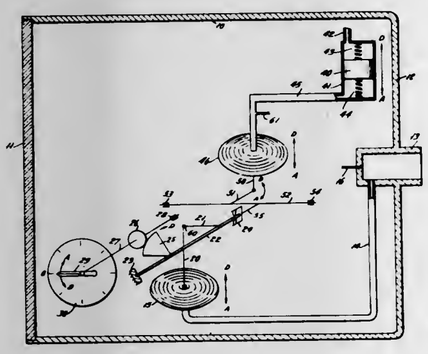
said machined surface being engaged by said hardened steel wheels.

3,262,311
AIRCRAFT DIRECTOR SYSTEM
Edward S. Gwathmey, Earlysville, Va., assignor, by mesne assignments, to Teledyne, Inc., Hawthorne, Calif., a corporation of Delaware
Filed Sept. 9, 1963, Ser. No. 307,692
12 Claims. (Cl. 73—178)



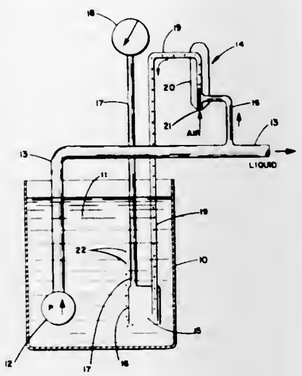
1. In an aircraft instrument system, in combination, instrument means for determining angle of attack, an instrument for determining vertical speed of said aircraft, a computer for operatively combining outputs of said angle of attack instrument means and said vertical speed instrument, and instrument means connected with said computer for indicating the optimum ratio of flight speed to stall speed of said aircraft.

3,262,312
VERTICAL VELOCITY INDICATOR
Walter Angst, Douglaston, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Nov. 5, 1963, Ser. No. 321,541
6 Claims. (Cl. 73—179)



1. A vertical velocity indicator comprising, in combination, pressure-transducer means for measuring a change in static pressure, indicator means for indicating vertical velocity, linkage means for connecting said pressure transducer means to said indicator means, and compensation means operatively connected to said indicator means; said compensation means including means for measuring vertical acceleration and deceleration of said indicator; said compensation means including auxiliary linkage means connected to said indicator means for adjusting the indication of said indicator means in accordance with the lag of said pressure transducer; said compensation means including an inertial mass, a cylinder for confining said inertial mass, and a second pressure transducer connected in the portion of said cylinder confined by said inertial mass; said second pressure transducer being connected to said auxiliary linkage.

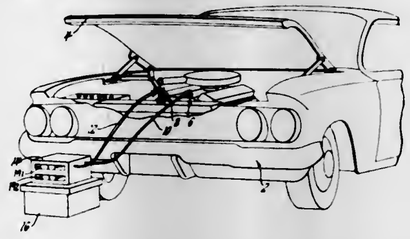
3,262,313
PRESSURE CHAMBER LEVEL GAUGE WITH BUBBLE SUPPLY
Archibald Leland Hanna, Foxboro, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts
Filed Nov. 9, 1964, Ser. No. 409,628
2 Claims. (Cl. 73—302)



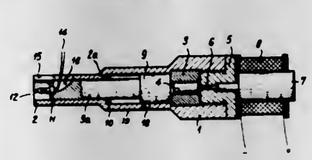
1. A liquid level measurement system comprising a tank, an air chamber in the form of an inverted cup for location within a liquid body in said tank, at a selected depth therein, pressure take-off means connected into said air chamber, a fluid outlet pipe from said tank, means for moving liquid from said tank through said outlet pipe, a feedback pipe from said outlet pipe back into said air chamber, and aspirator means from atmosphere into said feedback pipe, whereby a flow of liquid is produced from said tank through said outlet and back to said tank through said feedback pipe during said outlet flow, as an air bubble entrainment system from atmosphere to said air chamber.

3,262,314
METHOD AND MEANS FOR TESTING THERMOSTAT OPERATION
James L. Gregg, Russiaville, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 8, 1963, Ser. No. 300,860
5 Claims. (Cl. 73—342)

1. In testing means, a first temperature responsive resistance element adapted to be mounted on an internal combustion engine block, a second temperature responsive resistance element adapted to be supported in the fluid in the radiator of a vehicle, a bridge circuit in which the first and second temperature responsive resistances form two of the arms, said bridge circuit having an input and an output circuit, a source of electrical voltage connected across the input circuit of the bridge, current indicating means connected across the output circuit of the bridge, a second current indicating means connected between the source of electrical voltage and the output circuit of the bridge so that the first current indicating means will indicate the difference in temperature between the engine block and radiator fluid and the second current indicating means will indicate the temperature in the fluid in the engine block, a resistor of known value connected in shunt circuit with the temperature responsive resistance element adapted to be mounted on the engine block, and switching means connected to the resistor of known value and the temperature responsive resistance element to alternately connect one or the other in circuit for purposes of calibrating the second current indicating means.



3,262,315
METHOD OF AND APPARATUS FOR MEASURING THE TEMPERATURE OF A HOT METAL BODY
Benno Lux, Norbert Perlhefter, and Raphaël Nachmias, Carouge, Geneva, Switzerland, assignors to Societe Lorraine de Laminage Continu (Sollac), Societe Anonyme, Paris, France
Filed Apr. 15, 1963, Ser. No. 273,172
Claims priority, application Switzerland, Apr. 19, 1962, 4,818/62
12 Claims. (Cl. 73—343)



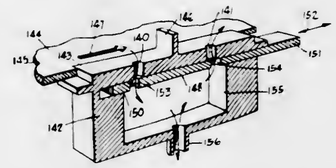
1. In a method of equipping a hot metal body with a thermocouple having elements in a thermocouple relation to the hot metal body, the art which includes establishing said thermocouple relation of said elements to said hot metal body by propelling and penetrating at least one projectile including said elements into said hot metal body by detonation of an explosive.

3,262,316
STATIC POSITION ERROR COMPENSATION SYSTEM AND APPARATUS
Samuel G. Hansen and David W. Stratton, Los Angeles, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Original application Aug. 28, 1962, Ser. No. 219,911, now Patent No. 3,228,247, dated Jan. 11, 1966. Divided and this application May 26, 1965, Ser. No. 470,952
6 Claims. (Cl. 73—388)

1. A static pressure pickup structure useful in connection with an aircraft static pressure sensing system, comprising, in combination:

a housing;

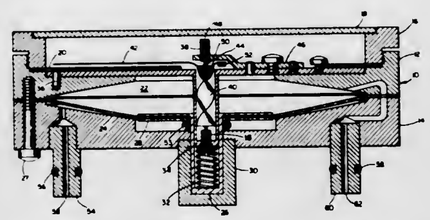
a movable element carried by said housing and having a static pressure sensing port therein, said port lying in an outer surface of said element and having an axis which is generally perpendicular to said outer surface;



means for moving said element generally along the direction of said axis in and out relative to said housing; and

means carried by said housing for coupling said sensing port to said static pressure sensing system.

3,262,317
DIFFERENTIAL PRESSURE GAGE
Somers H. Smith, Jr., 554 Waterway Drive, Falls Church, Va.
Filed Sept. 30, 1963, Ser. No. 312,795
3 Claims. (Cl. 73—407)



1. A differential pressure responsive device which comprises:

a housing,

an upper and lower portion of said housing secured together in axial relationship defining a chamber within said housing,

a flexible diaphragm separating said chamber in said housing into high and low pressure areas,

a first cylindrical member open at the upper end and closed at the lower and and secured at the upper end thereof to said diaphragm coaxial with said housing and said diaphragm,

means secured to the bottom of said housing coaxial therewith for receiving and guiding said cylindrical member in a direction axially of said housing,

a second cylindrical member secured at the upper end thereof to the upper portion of said housing and extending downwardly into said first cylindrical member coaxial therewith,

spring means confined within said first cylindrical member separating the inner surface of the bottom of said first cylindrical member from the lower surface of the bottom of said second cylindrical member,

a helix in axial alignment with said housing and each of said cylindrical members rotatably secured within said second cylindrical member,

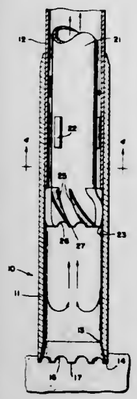
a pressure indicating arm secured to the upper end of said helix and rotatable therewith,

magnetic pole pieces secured on the diaphragm about said helix whereby said helix and said pressure indicating arm are rotated simultaneously as said mag-

netic pole pieces are moved axially with said diaphragm relative to said helix due to a pressure change on either side of said diaphragm, and

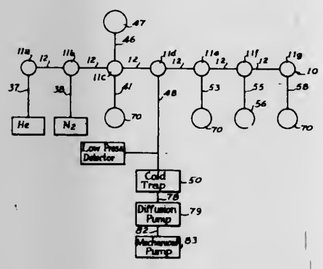
pressure connection means having passages in said housing connecting with said low and high pressure areas in said chambers.

3,262,318
SAMPLING PROBE
Robert W. Decker, Washington, D.C. (11313 Frederick Ave., Beltsville, Md.)
Filed Aug. 5, 1964, Ser. No. 387,567
15 Claims. (Cl. 73—421)



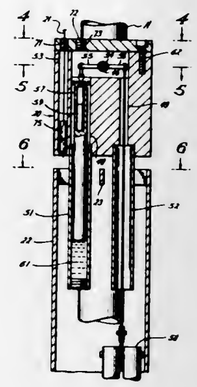
10. A sampling probe comprising an inner tube and an outer tube, an axially extending space between said tubes adapted to be connected with a source of gas under pressure, said inner tube adapted to be connected with a point of reduced pressure, and means in the said space for causing gas issuing therefrom to have a component of velocity in a circumferential direction.

3,262,319
METHOD AND APPARATUS FOR OBTAINING DATA FOR DETERMINING SURFACE AREA AND PORE VOLUME
Clyde Orr, Jr., Atlanta, and Warren P. Hendrix, Lawrenceville, Ga., assignors to Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia
Filed May 10, 1963, Ser. No. 279,360
14 Claims. (Cl. 73—432)



4. An instrument for obtaining the data necessary to compute the pore volume distribution for a sample of material in the interior of a sample flask, said instrument comprising, in combination, a manifold with a gas-tight interior, means for selectively connecting and disconnecting the interior of the sample flask to the interior of the manifold, extra volume means, means selectively connecting and disconnecting the extra volume means to the interior of the manifold, means for admitting controlled amounts of a gas into the interior of the manifold, means for removing all gas from the interior of the manifold, means for indicating gas pressure in the manifold, means for indicating the temperature of a gas in the manifold, means for the controlled heating of the sample of material, and means for cooling the sample of material.

3,262,320
DIFFERENTIAL FLOAT DEVICE
Orville Edgar Haley, Houston, Tex., assignor to Associated Engineering & Equipment Company, Inc., Houston, Tex., a corporation of Texas
Continuation of application Ser. No. 260,179, Feb. 21, 1963. This application June 17, 1965, Ser. No. 464,622
7 Claims. (Cl. 73—454)



1. In a fluid testing device, the combination of:

a plurality of pivotally supported weights,

means for supporting said weights in a housing,

means allowing at least one of said weights to directly come into contact with fluid present in the area surrounding said device, combination means for preventing another of said weights from contacting said fluid present and for containing a reference fluid intended to at least partially encompass said another of said weights,

energy transmitting means adjacent one of said weights,

means for activating said energy transmitting means, and

means causing said activating means to activate said energy transmitting means on one of said weights coming into contact with said fluid present.

3,262,321
TWO-ROD SEEKER HEAD
George E. Moul, Jr., Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 16, 1963, Ser. No. 309,359
6 Claims. (Cl. 74—1)

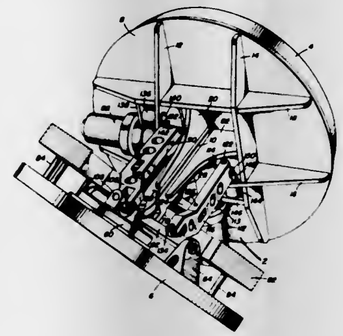
1. A positioning device, comprising

a base,

an element pivotally mounted on said base and movable in three dimensions, and

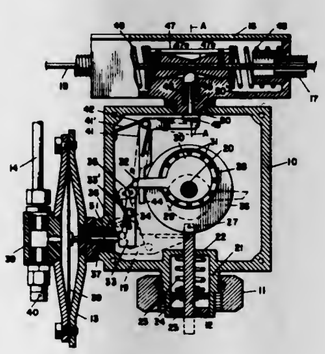
a pair of actuator means each pivotally connected to said element,

at least one of said actuator means being slidably connected to said element,



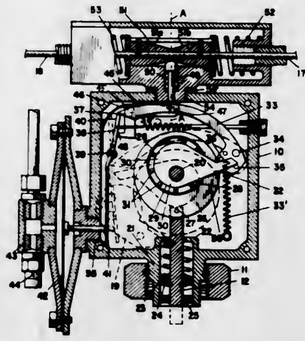
each actuator means being actuable to move said element in each of three mutually orthogonal planes.

3,262,322
CONTROL DEVICE
Charles Fallis, Park Ridge, Carl H. Mayer, Jr., Wilmette, and Arthur Rodgers, Northbrook, Ill., assignors to The Fire Guard Corporation, a corporation of Illinois
Filed July 21, 1964, Ser. No. 384,170
9 Claims. (Cl. 74—2)



1. A control device for providing a large actuating force in response to a small triggering force comprising, in combination: a housing; an actuating rod having a lower end protruding from the lower end of said housing; a compression spring biasing said actuating rod from a raised set position to a lowered released position to provide said large actuating force, the upper end of said rod terminating in a coupling eye within said housing, said coupling eye having a central circular opening; a disc received within said circular opening and having a latch arm extending radially therefrom; a shaft eccentrically secured to said disc and mounted to said housing for rotation about an horizontal axis so that rotation of said shaft from a first position in which the center of said disc is below said shaft to a second position in which the center of said disc is above said shaft, moves said actuating rod from its released position to its set position to compress said compression spring; and a trigger means in said housing and including an engaging portion positioned under said latch arm to hold said shaft and disc in said second position, said trigger means being responsive to said triggering force to disengage said latch arm and release said disc so that said compression spring moves said actuating rod from its set to released position to provide said large actuating force.

3,262,323
CONTROL DEVICE
Charles Fallis, Park Ridge, Carl H. Mayer, Jr., Wilmette, and Arthur Rodgers, Northbrook, Ill., assignors to The Fire Guard Corporation, a corporation of Illinois
Filed July 21, 1964, Ser. No. 384,171
9 Claims. (Cl. 74—2)

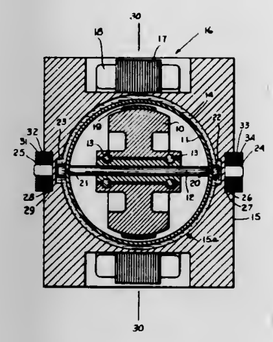


1. A control device for providing a large actuating force in response to a small triggering force comprising, in combination: a housing; an actuating rod having a lower end protruding from the lower end of said housing; a compression spring biasing said actuating rod from a raised set position to a lowered released position to provide said large actuating force, the upper end of said rod terminating in a coupling eye within said housing, said coupling eye having a central circular opening; a disc received within said circular opening and having a latch arm extending radially therefrom; a shaft eccentrically secured to said disc and mounted to said housing for rotation about an horizontal axis so that rotation of said shaft from a first position in which the center of said disc is below said shaft to a second position in which the center of said disc is above said shaft, moves said actuating rod from its released position to its set position to compress said compression spring; a latch lever pivoted intermediate its ends in said housing and including at one end spaced projections positioned on opposite sides of said latch arm to hold said shaft and disc in said second position; biasing means biasing said latch lever in a direction to move said projections from said latch arm; and trigger means engaging the other end of said latch lever to block pivoting movement thereof and responsive to said triggering force to disengage said latch lever so that rotation of said latch lever by said biasing means moves one of said projections positively against said latch arm to start rotation of said latch arm and disc so that said compression spring moves said actuating rod from its set to released position to provide said large actuating force.

3,262,324
ROTATING FLOAT GYROSCOPE
Marvin Taylor, Bethpage, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York
Filed May 3, 1961, Ser. No. 107,350
9 Claims. (Cl. 74—5)

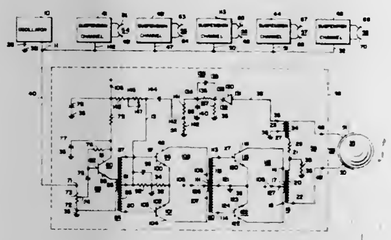
1. In a gyroscopic apparatus, a housing having a substantially spherical cavity therein, a substantially spherical sealed casing in said cavity, a gyroscopic wheel, said

wheel being mounted in said casing for rotation about an axis fixed to said casing, a fluid in said cavity submerging said casing and suspending said casing in substantial neutral floatation therein, and electrical windings on said housing adapted to create a magnetic field for



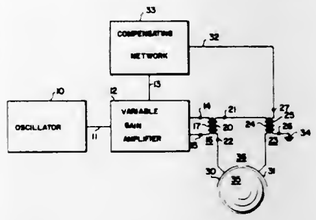
driving said wheel about said axis, said casing being interposed between said wheel and said housing whereby rotation of said wheel in said casing results in rotation of said casing in said fluid and hydro-dynamic centering of said casing in said housing.

3,262,325
CONTROL APPARATUS
Paul D. Senstad, Golden Valley, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Sept. 18, 1962, Ser. No. 224,453
9 Claims. (Cl. 74—5)



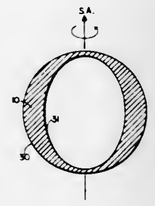
1. A free gyro system including a gyroscope having an electrically conductive rotor and a plurality of rotor supporting electrodes generally disposed about and adjacent said rotor, and means for applying electrostatic supporting potentials between said electrodes and said rotor so as to support said rotor free of contact with said electrodes, said potential applying means comprising:
means including an oscillator means and a variable gain amplifier means operatively connected to said electrodes for establishing supporting potentials between said electrodes and said rotor;
inductive means including a transformer having a primary winding means and a secondary winding means inductively coupled to said primary winding means and means connecting said secondary winding means to said electrodes;
and means including said primary winding means and compensating network means connected to said amplifier means to vary the gain of said amplifier means as a function of the rate of change of electrode voltage.

3,262,326
CONTROL APPARATUS
Arthur E. Schott, Mounds View, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Nov. 7, 1962, Ser. No. 236,074
5 Claims. (Cl. 74—5)



1. In an inertial system having an electrically conductive member and a plurality of pairs of member supporting electrodes generally disposed about and adjacent to said member, means connected to said electrodes for levitating said member, said member levitating means for each electrode pair comprising:
inductive means including a transformer having a primary winding means and a secondary winding means;
means connecting said secondary winding means to one of said electrode pairs, said secondary winding means and the capacitance between said member and said electrodes forming a resonant L-C circuit;
means including a variable gain amplifier means connected to said primary winding means for establishing supporting potentials between said electrodes and said member;
and a variable frequency signal generating means, having a characteristic operating frequency somewhat higher than the resonant frequency of said L-C tuned loop when said member is equally displaced from said supporting electrodes, connected to said amplifier means for automatically causing the initial levitation of said member by sweeping the frequency during the levitation cycle from a frequency higher than said characteristic operating frequency down to said characteristic operation frequency.

3,262,327
CONTROL APPARATUS
Harley Cohen, Minneapolis, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Mar. 6, 1964, Ser. No. 349,808
10 Claims. (Cl. 74—5)

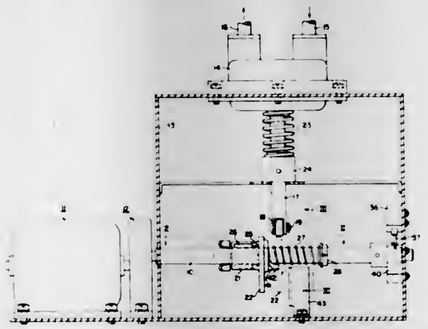


1. An inertial instrument comprising:
a base; and
a hollow inertial member, having a non-rotating static and a rotating dynamic condition, universally supported on said base for rotation in said dynamic condition about a spin axis at a predetermined angular velocity ω, said member in said static condition having a symmetrical geometric shape about an axis of symmetry substantially colinear with said spin axis and passing through a point of origin centrally located within said member, the surface contour of said member in said static condition being defined by

$$r(\theta)=R-d(\theta)$$

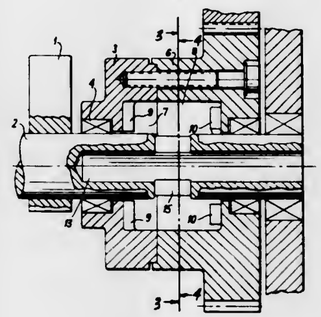
where $r(\theta)$ is the distance of a point on the surface of said member from said point of origin, R is the radius of said member in said dynamic condition, and $d(\theta)$ is the displacement of a point of the surface of said member radially away from said point of origin when said member is rotating at said angular velocity ω.

3,262,328
DISPENSING APPARATUS
Norman L. Fuqua, Wilbraham, Mass., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 24, 1964, Ser. No. 420,898
3 Claims. (Cl. 74—55)



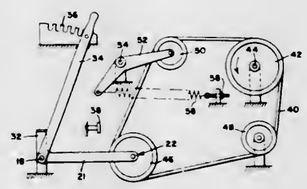
1. A drive mechanism comprising
a rotatable drive shaft,
a driven device,
means for driving said device by said drive shaft upon rotation thereof including a drive member slidably mounted on said drive shaft,
means for keying said drive member on said shaft against rotation relative to the shaft but permitting the same to move axially on the shaft between an operative position in which said drive member is in driving relation to said driven device and an inoperative position in which it is not in such driving relation,
an electric solenoid, means connecting said solenoid to move said drive member axially on said shaft from its inoperative to its operative position thereon when said solenoid is energized,
yielding means operatively connected to said drive member to normally return said drive member to its inoperative position by a yielding force upon deenergization of said solenoid,
a stationary abutment member, and
means for assuring return of said drive member to its inoperative position comprising cooperating parts of said abutment member and said drive member, one of said parts having an inclined surface and said parts being so formed and relatively positioned that during a portion of the rotation of said drive member in its operative position said parts engage each other and force the drive member toward its inoperative position.

3,262,329
MEANS FOR SHIFTING THE DIRECTION OF VIBRATIONS IN GROUND TAMPING PLATES OR THE LIKE
Joachim Herrmann, Munich, Germany, assignor to Hermann Wacker and Peter Wacker, Munich, Germany
Filed Feb. 6, 1964, Ser. No. 343,024
Claims priority, application Germany, Feb. 9, 1963, W 33,867
6 Claims. (Cl. 74—61)



1. Means for changing the direction of vibration of rotating eccentric bodies comprising a pair of eccentric bodies each mounted on a shaft, said shafts being adapted for use in ground tamping equipment and extending parallel to each other, said means including a shifting ring mounted in a shift housing on one said shaft, said shift housing comprising a driven gear and a shifting disk rotatably mounted on said one shaft and each provided with a bore, said shifting disk presenting a pair of prongs in its bore and said driven gear presenting a pair of slide cams in its bore, said shifting ring having a pair of claws on one side thereof for engagement with said prongs and having a pair of sliding cam followers on the other side thereof for engagement with said slide cams, and said shifting ring being mounted for sliding movement on said one shaft to alternately engage said prongs with said claws and said sliding cam followers with said slide cams.

3,262,330
BALER PICK-UP DRIVE AND COUNTERBALANCE
Leo G. Cheatum, Ottumwa, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed June 18, 1964, Ser. No. 376,075
9 Claims. (Cl. 74—227)



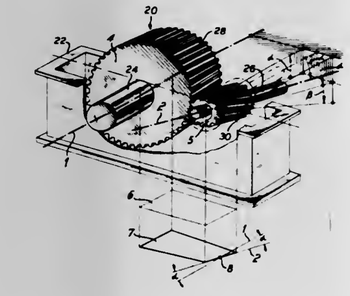
2. In an agricultural machine having a mobile frame having a power source, a working member carried by the frame for movement in a vertical arc about a substantially horizontal pivot extending transversely to the direction of machine travel and wielding a drivable part rotating

on a shaft parallel to and forwardly spaced from said pivot, and vertically adjustable support means for limiting the downward movement of said working member about its pivot, improved drive means for rotating said drivable part and counterbalancing the working member comprising a driven sheave carried by the working member shaft, a drive sheave rotated by said power source about an axis parallel to and spaced on the frame forwardly and upwardly from the driven sheave axis, a first idler sheave rotating about an axis spaced on the frame parallel to and downwardly from the drive sheave axis and forwardly from the driven sheave axis, a lever movable about a pivot affixed to the frame, a second idler sheave rotating about an axis carried by the lever parallel to and upwardly from the driven sheave axis, a continuous belt moving successively about the driven sheave, the first idler, the drive sheave, and the second idler, and means for biasing the second idler against the belt to provide tension in said belt which exerts an upward force on the driven sheave tending to raise the working member about its pivot, partly counterbalancing the weight of the working member.

3,262,331
OFFSET GEARING

Karl Breuer, Duisburg, Germany, assignor to Demag Aktiengesellschaft, Duisburg, Germany

Filed Mar. 15, 1965, Ser. No. 444,500
Claims priority, application Germany, Apr. 13, 1961, D 35,841
20 Claims. (Cl. 74—412)



1. A gearing comprising a first gear having first teeth, a second gear having second teeth in meshing engagement with said first teeth of said first gear, means mounting said first and second gears with their axes offset from a regular position, said first and second teeth being of ordinary configuration with at least one of said first and second teeth being formed at an angle (pitch) from its axis of a magnitude substantially equal to the magnitude of the offsetting of the axes of said gears to provide a tooth bearing pattern which under load remains intermediate the widths of said first and second gear teeth without causing undue end stressing of said teeth.

3,262,332
TELESCOPEABLE STEERING ASSEMBLY

Robert D. Wight, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 19, 1965, Ser. No. 441,038
12 Claims. (Cl. 74—493)

12. A telescopeable drive assembly comprising a tube having a longitudinal keyway formed therein, a shaft extending into said tube, a Woodruff key carried by said shaft and engaging said keyway, and resilient means carried by said shaft urging said key into frictional engagement wtih said keyway to provide predetermined controlled resistance to telescoping movement of said shaft and tube.

3,262,333
HANDBRAKE APPLYING MEANS

Matthew Alan Cope, Solihull, England, assignor to Girling Limited, Tyseley, England, a British company

Filed Oct. 17, 1963, Ser. No. 316,847
Claims priority, application Great Britain, Oct. 26, 1962, 40,543/62
3 Claims. (Cl. 74—502)



1. Means for applying a vehicle handbrake comprising a housing adapted to be mounted on structure of the vehicle and having an inner end and an outer end, a rod of a depth less than the depth of said housing axially movable in the housing and having an inner end and an outer end of which the rod at its outer end projects from the outer end of said housing, a handle on the outer end of said rod, a flexible cable connected to the inner end of said rod and adapted to be connected to the brake, ratchet teeth on the housing, a pawl tooth on said rod adapted to engage said teeth to hold the brake in the applied position, and a fulcrum in the housing about which the rod is adapted to be rocked to disengage the pawl tooth from said ratchet teeth.

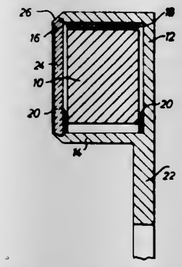
3,262,334
VISCOUS FRICTION DAMPERS

Maurice F. Edwards, Bolton, England, assignor to Hydrokin Limited, Bolton, England, a British company

Filed May 1, 1964, Ser. No. 364,124
Claims priority, application Great Britain, May 4, 1963, 17,728/63
5 Claims. (Cl. 74—574)

1. A viscous friction damper comprising an annular casing, an annular slipping flywheel enclosed within said casing in close spaced relation with the interior surfaces of said casing, a viscous damping fluid in said casing, and a non-metallic journal bearing comprising a ring

of non-metallic bearing material having inherent flexibility and resilience and arranged in free floating relation

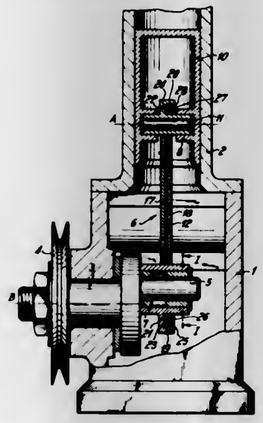


between axially extended surfaces of said flywheel and said casing.

3,262,335
CONNECTING ROD TRANSMISSIONS FOR COMPRESSORS AND THE LIKE

Werner Heinlein, Stuttgart, and Alexander von Löwis of Menar, Boblingen, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Feb. 27, 1964, Ser. No. 347,865
Claims priority, application Germany, Mar. 1, 1963, B 70,934
15 Claims. (Cl. 74—581)

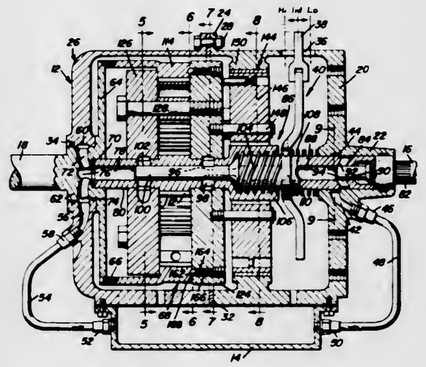


15. A connecting rod transmission for compressors or the like, comprising, in combination, rotary crank means having a predetermined crank axis about which said crank means rotates; cylinder means having an axis perpendicular to said crank axis; a piston axially slidable in said cylinder means; and connecting rod means having a pair of opposed end portions respectively connected operatively with said crank means and piston means for reciprocating said piston means in said cylinder means in response to rotation of said crank means, said connecting rod means being operatively connected to said piston means for turning movement relative thereto about a turning axis substantially parallel to said crank axis, and said connecting rod means having in the region of said end portions thereof a pair of springy yieldable portions, respectively, forming but a small fraction of the entire connecting rod means, each of said yieldable portions including a flat springy plate located in a plane substantially normal to said turning axis and crank axis, said connecting rod means being substantially rigid except for said yieldable portions thereof and including a relatively rigid plate structure engaging opposed faces of said springy plate at all parts thereof except said yieldable portions so that the latter are exposed and are free of yield, said plate structure including one plate engaging one face of said springy plate and a second plate engaging the other face of said springy plate and having edge portions of channel-shaped configuration receiving in their interiors opposed edges of said springy plate and said one plate, and said connecting rod means yielding at said yieldable portions thereof to compensate for any lack of parallelism between said turning axis and crank axis.

3,262,336
AUTOMATIC VARIABLE RATIO TRANSMISSION

Fred D. Jackson, Hamilton, Tex., assignor of sixteen and two-thirds percent each to Gordon Griffin, Sr., Gordon Griffin, Jr., and Levie Old, all of Brownwood, Tex.

Filed Oct. 11, 1963, Ser. No. 315,521
10 Claims. (Cl. 74—751)



1. A variable speed transmission comprising an output member, input means, gear means drivingly interconnected with said output member and said input means, torque responsive control means operatively connected to the gear means and the input means for reducing the drive ratio of the gear means from a relatively high drive ratio in response to an increase in torque differential between the output member and the input means, one-way engaging means operatively connected to the gear means for holding the gear means operative at a relatively low drive ratio in response to rotation of the input means in one direction and speed responsive release means operatively connected to said one-way engaging means for disengagement thereof in response to rotation of said input means above a predetermined speed to permit variation of the drive ratio by the torque responsive control means.

3,262,337
METHOD OF GUIDING A RIBBON-LIKE SHAVING BLADE THROUGH A MAGAZINE

Warren I. Nissen, Topsfield, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

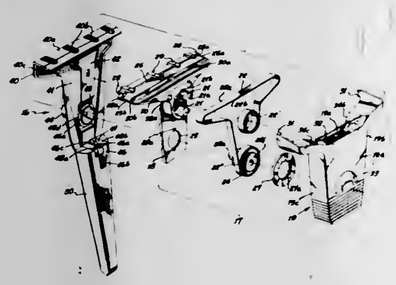
Continuation of abandoned application Ser. No. 485,136, July 6, 1965, which is a division of application Ser. No. 305,734, July 1, 1963. This application Mar. 4, 1966, Ser. No. 536,562
4 Claims. (Cl. 76—101)

1. A method of isolating and effectively rendering a portion of ribbon-like shaving blade of uniform width available for adjustment into effective shaving position while maintaining the major sections of said ribbon-like blade restrained in supply and take-up coil forms, comprising:

positioning a supply coil of ribbon-like blade and its take-up end portion with the rear edges of said blade

lying in substantially parallel and virtually coplanar planes;

placing a portion of such ribbon-like blade intermediate the take-up and supply coil sections thereof, with the rear edge of such intermediate portion in a plane parallel to but spaced in advance of said planes;



and isolating such intermediate portion from said supply and take-up sections by imparting an angular twist to said ribbon-like blade in zones beyond said intermediate portion, thereby confining the stress in tension in the intermediate portion along the sharpened edge thereof.

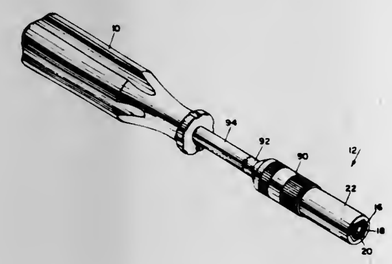
3,262,338

METHOD OF ASSEMBLING A SOCKET WRENCH

Edward J. Mahall, Springfield, Mass., assignor to Silverbrook Mfg. Co. Inc., Springfield, Mass.

Original application Aug. 3, 1964, Ser. No. 386,934. Divided and this application Apr. 23, 1965, Ser. No. 450,439

1 Claim. (Cl. 76—114)



The method of forming a wrench by telescopically assembling a plurality of progressively smaller sockets within a sleeve having an internal stop shoulder, each socket having a socket portion and a tubular extension integral with the socket portion, each tubular extension being slidable within the tubular extension of the next adjacent socket, comprising the sequential steps of sleeving a compression spring on the tubular extension of the largest socket, inserting the largest socket into the sleeve and swaging the end of its tubular extension to form a radial flange thereon abutting the stop shoulder, sleeving compression springs on the tubular extensions of the progressively smaller sockets, inserting the progressively smaller sockets within said largest socket and within each other and swaging the ends of the tubular extensions of each of said progressively smaller sockets to form a radial flange on each tubular extension abutting the socket portion on the next adjacent socket, sleeving a cap upon the sleeve and securing a handle to the sleeve, the cap being freely rotatable relative to the sleeve and handle to facilitate rotation of the wrench.

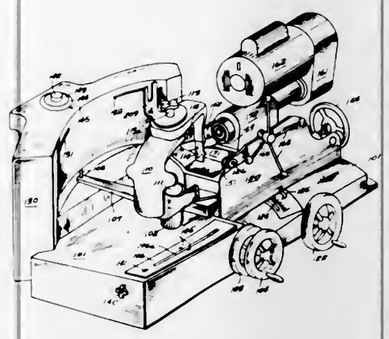
3,262,339

BALL DRILLING APPARATUS

David B. Scott, Walton, N.Y., assignor to Scott Machine Development Corporation, Walton, N.Y., a corporation of New York

Continuation of abandoned application Ser. No. 177,439, Mar. 5, 1962. This application Feb. 3, 1964, Ser. No. 342,861

34 Claims. (Cl. 77—31)



1. Bowling ball drilling apparatus, comprising in combination: a base; a drill carriage pivotally mounted on said base to pivot about a first axis, said drill carriage including drill feed means for advancing a drill tool along a second axis; ball support means mounted on said base for supporting a bowling ball in a reference position with respect to said ball support means, said ball support means being rotatable about and translatable along a third axis which is parallel to said first axis and which passes through the center of said ball; and means for providing a relative displacement between said drill carriage and said ball support means in a direction parallel to said first axis, said first axis being located so as to be tangent to said bowling ball at a first point on the exterior surface of said bowling ball.

3,262,340

BOWLING BALL DRILL JIG

Martin V. Sammons and Robert D. Baker, Sioux City, Iowa, and John F. Nixon, Omaha, Nebr., assignors, by direct and mesne assignments, to said Sammons, Victor I. Bianchini, South Sioux City, Nebr., and Donald K. Price, Sioux City, Iowa

Filed Jan. 27, 1964, Ser. No. 340,375

15 Claims. (Cl. 77—62)

1. A bowling ball drill jig comprising:

a base having a front and rear and designed for supporting a bowling ball,

a hinged lockable annular frame carried by said base so as to embraceably engage a bowling ball to hold it against movement relative to said base,

first and second elongated parallel bars pivotally secured at their respective centers at respective diametrically opposed points on said frame,

the longitudinal axes of said bars extending between the front and rear of said base,

a first releasable lock means to hold said bars immovable at times,

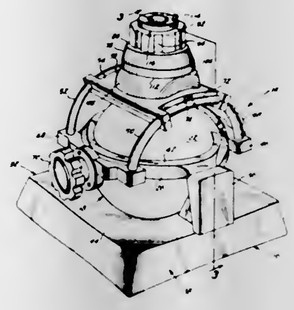
arched track means connecting said bars and having a curvature designed to be parallel to the perimeter of a bowling ball when such a ball is supported on said base,

carriage means movable on said base intermediate said bars,

a second releasable lock means to hold said carriage immovable at times,

a hollow semispherical housing mounted on said carriage,

a collar having a flat annular top edge and an underside formed for nesting arrangement on said housing so as to be universally movable relative thereto,



a cap for holding said collar immovable at times relative to said housing means,

said cap including a depending cylindrical hollow shank terminating within said housing so as to be in closely spaced relationship from the perimeter of a bowling ball on said base, and

a drill bit guide bushing of a selected size removably journalled in said shank.

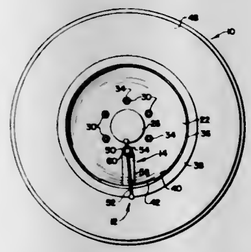
3,262,341

LUG WRENCH BRACE

John H. Cline and Jackie D. Cline, both of R.R. 2, Wakeeney, Kans.

Filed Apr. 7, 1965, Ser. No. 446,353

5 Claims. (Cl. 81—53)



1. The lug wrench brace which comprises: an arcuate metal shoe curved to seat against an inwardly-facing surface of a tire rim, a radially-extending strut having its outer end fastened to the shoe intermediate the ends thereof and its inner end terminating approximately the same radial distance from the axis of wheel rotation as the axis of the wheel-mounting studs, and a saddle-forming element mounted on the inner extremity of the strut adapted to support the shank of a lug wrench for rotational movement in position to remove the nut from a wheel-mounting stud when the shoe is located on the inside of the tire rim such that the strut occupies a position substantially parallel to a radial line passing through said stud.

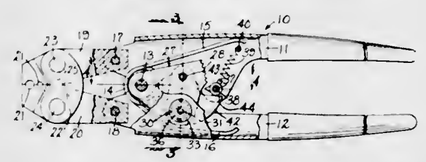
3,262,342

MOTION-COMPELLING MECHANISM FOR A HAND TOOL INCORPORATING STOP MEANS

George J. Filia, Shelton, Conn., assignor to Sargent & Company, New Haven, Conn.

Filed July 31, 1964, Ser. No. 386,594

4 Claims. (Cl. 81—313)



1. In a tool of the type having first and second handles relatively swingable on a common pivotal axis and operatively connected to first and second jaws respectively for relative opening and closing movement of the jaws on corresponding movement of the handles, the combination comprising a first member providing a ratchet segment movable only bodily with the first handle in its swinging movements during the operation of the jaws and supported from the first handle, a second toothed member on an axis parallel to and spaced from the pivotal axis of the handles for engagement with the teeth of the ratchet segment and carried by the second handle and angularly movable with reference thereto against a spring bias, the second toothed member being swingable on the axis of said handles beyond said ratchet segment in both directions, the bias of the second toothed member being effective to yieldably maintain said last-mentioned member in position to engage the ratchet teeth as the handes are relatively closed upon each other and opened so that after traversing one ratchet tooth reverse movement of the handles is prevented until the second toothed member has traversed every one of the ratchet teeth, and said second member being spring biased toward a neutral position and having cam means thereon coacting with means on said first member to angularly deflect the second toothed member in either direction from its neutral position in accordance with the direction of movement of the handles, and means on said first member providing an abutment positioned transversely of the path of travel of said second toothed member for engagement by the latter on relative closing movement to limit further movement of said second toothed member after the latter has moved a predetermined distance beyond the ratchet teeth so that further closure of the handles is prevented.

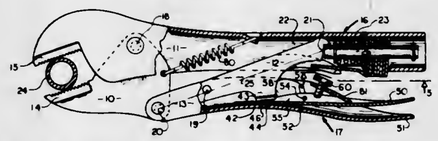
3,262,343

TOGGLE WRENCH HAVING AUTOMATIC ABUTMENT ADJUSTING MEANS

Robert W. Weller, 26017 Eshelman Ave., Lomita, Calif.

Filed Mar. 27, 1964, Ser. No. 355,214

12 Claims. (Cl. 81—370)

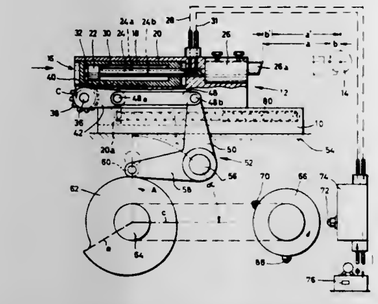


1. In a workpiece clamping device, a linkage characterized as of the four-bar type, work clamping jaws on the first and second bars, handles on the second and fourth bars, the third bar being free to translate at and relative to the second bar in response to handle closing movement tending to effect closing of the jaws, and means operable independently of said third bar translation for blocking said third bar translation in response to said handle closing movement.

3,262,344
CARRIAGE SPEED CONTROL APPARATUS

Gerhard Föll and Karl Spohn, Esslingen (Neckar), Germany, assignors to Index-Werke K.G. Hahn & Tessky, Esslingen (Neckar), Germany

Filed Feb. 14, 1964, Ser. No. 345,032
Claims priority, application Germany, Feb. 20, 1963, J 23,204
21 Claims. (Cl. 82—21)



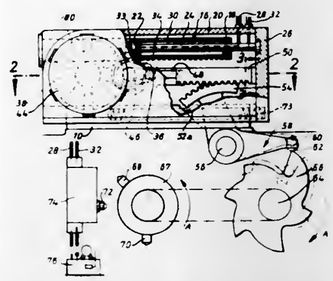
1. In a machine tool, in combination, support means, carriage means movably mounted on said support for fast movement between a retracted inoperative position and an intermediate position and for slow movement between said intermediate position and an advanced operative position; first drive means; a motion-transmitting chain connected at its input end to said first drive means and having at its output end a common motion-transmitting member associated with said carriage means for moving the same between said inoperative retracted, said intermediate and said operative advanced positions, and including first and second subsequent motion-transmitting means located between said input end and said common motion-transmitting means of said motion-transmitting chain, said first and second subsequent motion-transmitting means having an inoperative condition in which said motion-transmitting chain can not transmit motion impulses from said first drive means to said carriage means for movement of the same between said intermediate and operative advanced positions thereof and having an operative condition immovable relative to each other in which said motion-transmitting chain is adapted to transmit motion impulses to said carriage means for movement thereof between said intermediate and advanced operative positions thereof; and second drive means for directly transmitting motion impulses to said second motion-transmitting means and thereby to said carriage means when said first and second motion-transmitting means are in said inoperative condition thereof and for placing said first and second motion-transmitting means into said operative condition thereof so as to enable transmission of motion impulses from said first drive means to said carriage means.

3,262,345
TOOL CARRIAGE DRIVE

Karl Spohn, Esslingen-ober-Esslingen, and Gerhard Foell, Esslingen (Neckar), Germany, assignors to Index-Werke KG Hahn & Tessky, Esslingen (Neckar), Germany

Filed Jan. 27, 1965, Ser. No. 428,400
Claims priority, application Germany, Feb. 7, 1964, J 25,204; Feb. 20, 1963, J 23,204
13 Claims. (Cl. 82—21)

1. In an automatic machine tool, in combination, carriage means mounted for reciprocating movement; a tool holder mounted on said carriage means for indexing movement between a plurality of working positions, and for reciprocating movement with said carriage means toward and away from a workpiece; first drive means; first and second interconnected connecting means respectively connected to said first drive means and to said carriage means, said first and second connecting means being movable relative to each other and having a connecting condition connecting said first drive means with said carriage means so that said first drive means drives said carriage means at a working speed through said first and second connecting means in said connecting conditions, said second connecting means including a rotary member, and selectively operable clutch means for connecting said rotary member with said tool holder for rotation in at

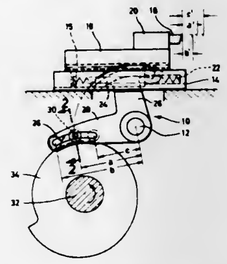


least one direction for indexing the same between said working positions; and second drive means including a hydraulic motor for rotating said rotary member, for moving said second connecting means at such a speed that said second connecting means reciprocates said carriage means toward and away from the workpiece at a higher speed than said working speed, and for placing said first and second connecting means in said connecting condition, said rotary member indexing said tool holder from each working position to the next following working position during a reciprocating movement of said carriage means.

3,262,346
ADJUSTABLE DRIVES FOR MACHINE TOOL CARRIAGES AND THE LIKE

Karl Spohn, Esslingen (Neckar), Germany, assignor to Index-Werke KG Hahn & Tessky, Esslingen, Germany

Filed Feb. 17, 1964, Ser. No. 345,317
Claims priority, application Germany, Feb. 20, 1965, J 23,205
1 Claim. (Cl. 82—24)

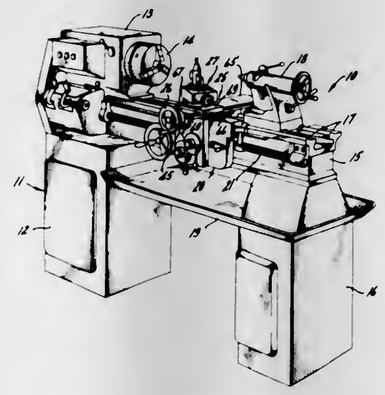


In a machine tool, in combination, carriage means having an underside; guide means supporting said carriage means and guiding the latter for movement back and forth along a given stroke; an elongated rack fixed to said underside of said carriage means and extending in the direction of said stroke thereof; a gear sector meshing with said rack; bell crank means having a predetermined turning axis which extends perpendicularly to said rack and which includes the center of curvature of said gear sector, said bell crank means having one arm fixedly carrying said gear sector at an end of said one arm distant from said axis, said bell crank means having a second arm longer than said one arm and formed with an elongated slot one end of which is nearer to said axis than the other; elongated, collared pin means substantially parallel to said turning axis and extending through said slot; means releasably fixing said collared pin means to said second arm in said slot thereof so that the distance of said pin means from said axis can be selected according to the position of said pin means in said slot; cam follower roller means rotatably carried by said pin means; and rotary cam means having a camming portion engaged by said roller means, whereby the selected location of said pin means along said slot will determine the size of the stroke of said carriage means.

3,262,347
TOOL CARRYING ASSEMBLY FOR ENGINE LATHES

Howard B. Carroll, Winnetka, Ill., assignor to Sheldon Machine Company, Inc., Chicago, Ill., a corporation of Illinois

Filed June 1, 1964, Ser. No. 371,493
3 Claims. (Cl. 82—24)



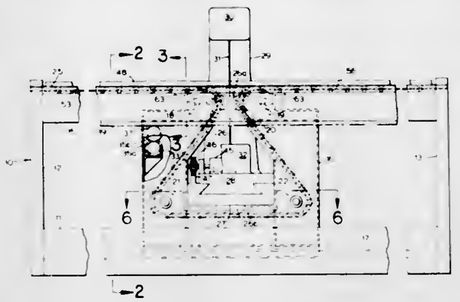
1. In an engine lathe having a headstock and bed ways supporting a tailstock, the combination comprising a carriage slidably mounted on said bed ways between said headstock and said tailstock, an elongated cross-slide mounted on said carriage for sliding movement transversely of said bed ways, a translating screw rotatably mounted on said cross-slide and carrying a hand wheel, means providing a threadable connection between said screw and said carriage so that rotation of said hand wheel translates said cross-slide on said carriage, a compound slidably mounted on said cross-slide for adjusting movement the length of the cross-slide transversely of said bed ways, and means for locking said compound to said cross-slide in any slidably adjusted position.

3,262,348
TABLE WITH SUPPORTED FLEXIBLE TOP

James G. Wiatt and Edward C. Bruns, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed Jan. 29, 1965, Ser. No. 428,980
7 Claims. (Cl. 83—155)

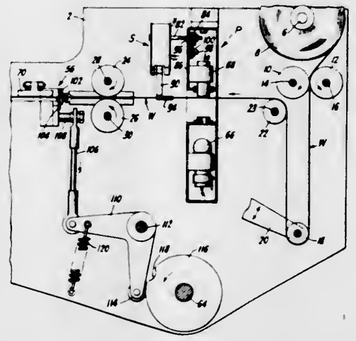
7. A machine for an operation on work comprising:
(a) a frame,
(b) a carriage mounted on the frame for movement along the frame,
(c) a flexible band carried by the frame and defining a loop at the carriage,
(d) a plurality of support bars for the flexible band each having means to engage the frame, the bars on one side of the carriage disengaged from the frame as the carriage passes, said disengaged bars reengaged with the frame on the opposite side of the carriage after the carriage has passed, and
(e) a tool carried by the carriage to operate on work which is supported by the flexible band and which spans the loop at the carriage.



3,262,349
WEB FEEDING AND REGISTERING MECHANISM

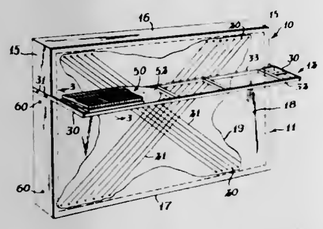
Frank Hollenton, Mountainside, N.J., and Peter F. Reiss, Whitestone, N.Y., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Feb. 6, 1964, Ser. No. 342,879
10 Claims. (Cl. 83—209)



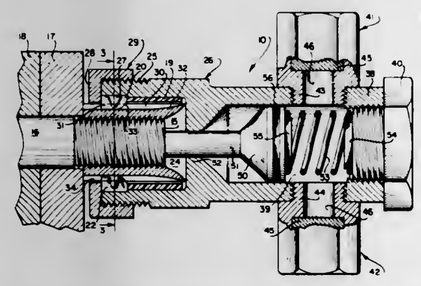
1. A web feeding and registering apparatus for successively registering predetermined lengths of an endless web wherein each length has a repeated series of contours of varying lateral edge dimensions along its length, comprising means for feeding said web, a sensing device, comprising a pair of opposed relatively moving guide means adapted to engage the lateral edges of said web, said guide means being pivotably mounted for free swinging movement substantialy at right angles to the path of movement of said web to sense variations in lateral extent of the repeated contour of said web, means operative by said sensing device when said device engages a predetermined lateral contour dimension of said web for incapacitating said feed means and stopping the advancing movement of said web, thereby effecting the desired registration of a predetermined portion of said web, and means for cutting a registered length of said web from the leading end thereof.

3,262,350
PIANO CONSTRUCTION
Melvin E. Johnson, Chicago, Ill., assignor to P. A. Starck Piano Co., Chicago, Ill., a corporation of Illinois
Filed June 2, 1964, Ser. No. 371,933
4 Claims. (Cl. 84—177)



1. For use in an upright piano the combination comprising, a piano back assembly operationally positioned generally upright and comprising a substantially rectangular frame assembly having upright end rails or posts, a combination key bottom support frame and key bed assembly extending transversely to and in front of said piano back assembly and comprising an open, rectangular metal framework having parallel elongated linear front and back frame members adapted to extend the length of said piano back and linear mounting arms affixed transversely to the opposite ends of said front and back frame members, said arms having integral portions projecting rearwardly of said back frame member and adapted for cantilever attachment transversely to the end posts of the piano back, each of said end posts having a channel cut transversely thereacross and extending inwardly of the outside end face thereof for matingly receiving a said mounting arm portion therein; and fastener means affixing said arm portions to said end posts and preventing the removal thereof from said channels, said key bottom support frame being adapted to undersupport assembled keys and action mechanisms directly thereon and said combined piano back and key bottom support being structurally independent of but adapted to support the exterior piano casing members.

3,262,351
SEPARATION NUT
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Anders R. Jensen
Filed Mar. 20, 1964, Ser. No. 353,645
3 Claims. (Cl. 85—33)



1. A contamination free separation nut for attachment to the threaded end portion of a bolt to secure structural members together, comprising:

(a) a segmented nut comprising a piurality of nut segments in threaded engagement with said bolt end portion;

(b) casing means for normally retaining said nut segments on said bolt and containing a closed chamber;

(c) piston means comprising a piston head located in said closed chamber and a piston rod located opposite the end of said bolt;

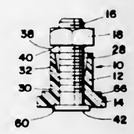
(d) a coil spring carried within said chamber and located between the closed end of the chamber and engaging the side of the piston head opposite the piston rod, said spring applying an axial force on said piston head so as to urge said piston rod into engagement with the end of said bolt, said spring permitting said piston rod to move inward in said closed chamber to permit tightening of said segmented nut on said bolt;

(e) means for introducing a working fluid into said closed chamber to move said piston rod against the end of said bolt to cause movement of said casing means relative to said bolt to release said segments;

(f) said chamber being constructed to limit outward travel of said piston head to maintain said chamber in closed condition and prevent the escape of said working fluid; and

(g) means movable with said casing means for exerting a separation force on the segments of said nut.

3,262,352
APERTURE SEALING FASTENERS
William A. Bedford, Jr., Littleton, Colo., assignor, by mesne assignments, to Republic Industrial Corporation, New York, N.Y., a corporation of Delaware
Filed June 29, 1964, Ser. No. 378,929
5 Claims. (Cl. 85—70)



1. A fastener for securing a part to an apertured panel through which the fastener protrudes, the fastener comprising a sleeve of relatively rigid plastic capable of severe plastic deformation without fracturing, a threaded nut at one end of said sleeve, a bolt having a threaded shank extending through and in sliding engagement with a portion of the sleeve, and means including a head on said bolt at the opposite end of said sleeve from the nut, said sleeve having—

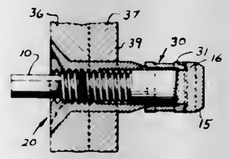
(a) a generally cylindrical outer contour for a substantial portion of its length from one end thereof which is to be inserted through a panel aperture,

(b an enlarged boss portion at its opposite end, and

(c) a conical internal bore converging inwardly from said one end for a substantial distance to a cylindrical bore extending toward said opposite end, said conical bore being coaxial with said cylindrical bore and having a side wall that forms an angle of from 5 to 10 degrees with the axis of said cylindrical bore, the conical bore defining an annular skirt extending from said cylindrical bore to said one end of the sleeve with a gradually decreasing wall thickness and a gradually increasing clearance about the bolt shank;

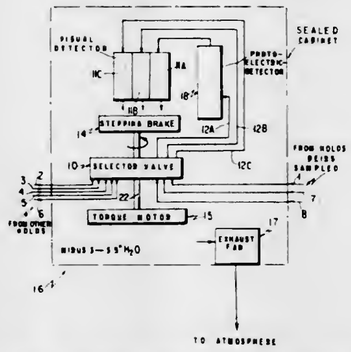
said means on said bolt and said nut constituting force applying members disposed to exert axial pressure on opposite ends of said sleeve as the nut is threaded along the bolt shank, one of said force applying members having an essentially planar surface perpendicular to the axis of the bolt shank and disposed initially to engage said one end of said sleeve with an essentially axially directed force when the sleeve is axially compressed between said force applying members, said planar surface extending from a location that is spaced radially outwardly beyond said annular skirt to said bolt shank, whereby by virtue of the conical bore of said sleeve, said one end of said annular skirt will curl radially outwardly and axially toward said opposite end with substantially a rolling action to form a flange compressed into sealing engagement with a panel or part through which the sleeve protrudes.

3,262,353
BLIND FASTENER
Ronald Waeltz, Hatboro, and Richard A. Walker, Philadelphia, Pa., assignors to Standard Pressed Steel Co., Jenkintown, Pa., a corporation of Pennsylvania
Filed Dec. 20, 1963, Ser. No. 332,052
3 Claims. (Cl. 85—72)



1. A blind fastener including a core bolt, a headed sleeve nut and a collar adapted to be drawn over the sleeve by the core bolt and radially expanded to provide a second clamping surface, said core bolt having a head, a straight unthreaded body section adjacent the head, a threaded shank portion intermediate the body and an end portion having driving surfaces, the maximum cross sectional dimension of the end having the driving surfaces being no greater than the minor diameter of the core bolt threads and the major diameter of the core bolt threads being no greater than the diameter of the body, the core bolt head joining the body at an acute angle to form an undercut driving shoulder; the head of said sleeve nut being provided with driving surfaces and said sleeve nut having a shank terminating in a tapered tip end section of reduced external diameter relative to the shank diameter, an axial bore extending through the sleeve nut, said bore being provided internal threads adapted to receive the threads of the core bolt, the portion of the bore extending from the tapered end to a point within the sleeve being provided with a counter-bore of a length and diameter which will permit the unthreaded core bolt body section to be received therein without interference during the drawing down and seating of the collar, said end taper effecting the reduction of the external diameter of the shank in a plurality of stages, the included cone apex angle of the outermost stage being about 60° and the included cone apex angle of the innermost stage being about 30° and where the innermost and outermost cone angles intersect at a point about midway between the sleeve walls; said collar having a stepped axial bore extending from end to end, the internal diameter of the collar bore at one end being such as to provide a close toleranced fit for the core bolt body and the internal diameter of the collar bore at the other end and in the barrel portion intermediate the collar ends being counterbored to a diameter slightly greater than the external diameter of the outermost portions of the tapered tip of the sleeve nut shank, the collar wall thickness in the barrel being thinner than the wall thickness at either end, such reduction in wall thickness being effected by reducing the external collar diameter in the barrel portion by about 15%, the end of the collar opposite the counterbored end of the sleeve being coned at an angle complementary to the acute angle at which the core bolt head joins the body; and the maximum external diameters of the core bolt head, the collar and the shank of the sleeve nut being substantially the same.

3,262,354
SMOKE DETECTING APPARATUS
Harry C. Grant, Jr., Ridgewood, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Oct. 11, 1962, Ser. No. 229,807
8 Claims. (Cl. 88—14)



1. In smoke detecting apparatus, the combination of a base having at least eight equidistantly circumferentially spaced apart ports therein each provided with an inlet and with an outlet for connection to a conduit for supplying air samples from a space in which smoke is to be detected, a rotor mounted for rotation with respect to said base including a head having a group of three ports each provided with an outlet and with an inlet arranged so that three head port inlets simultaneously register with three base port outlets respectively, three tubes arranged side-by-side for visually detecting smoke in the air samples and each provided with an inlet and an outlet, conduit means connecting each of said head port outlets with one of said tube inlets, and motor means for effecting stepwise rotation of said rotor to successively place three said head port inlets in registry with three said base port outlets, said conduit means being connected to cause an air sample from the same space to flow through each of said tubes at a different time so that a group of air samples is viewed with each sample of the group being viewed three times but in a different one of said tubes in a given sequence.

3,262,355
INFORMATION STORAGE AND REPRODUCING SYSTEM
Leroy C. Kleist, Ogden, and George L. Buenger, Champaign, Ill., assignors to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Nov. 6, 1961, Ser. No. 150,250
23 Claims. (Cl. 88—24)

1. An information storage and reproducing system for producing copies of elements in accordance with information on the elements:

means for storing identification data in the system;

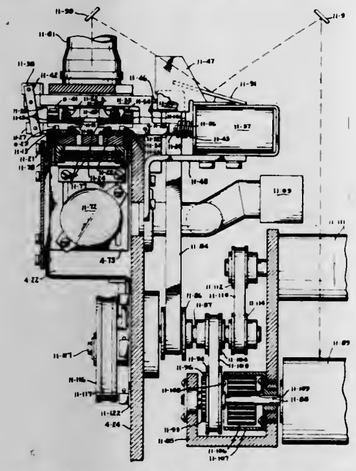
an element transport conveyor;

means for feeding said elements to said conveyor;

means for reading information on the elements transported by said conveyor;

means coupled to said storing means and to said reading means for comparing stored data with information read from the elements to produce signals having characteristics representing such comparison;

means coupled to said comparing means and responsive to signals having particular characteristics from said comparing means to produce copies only of particu-



lar elements represented by the signals with particular characteristics; and

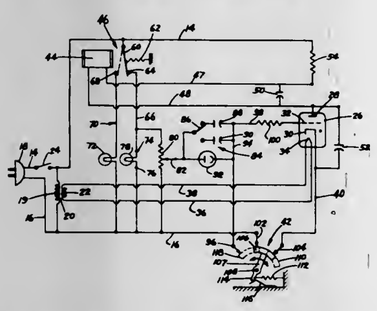
means for receiving the elements transferred from said feeding means to said conveyor.

3,262,356

LINE VOLTAGE COMPENSATING TIMER

Fred F. Forbes, Moundsview, Minn., assignor to The Regents of the University of Minnesota, Minneapolis, Minn., a corporation of Minnesota

Filed Apr. 10, 1963, Ser. No. 272,143
10 Claims. (Cl. 88—24)



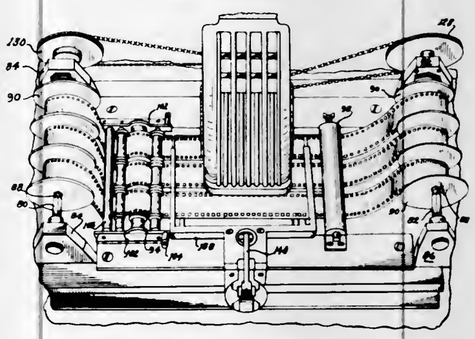
1. An apparatus for controlling the time interval that electrical power is available to a load by monitoring the line voltage by means of generating light directly from the line voltage source and coupling that light to a light responsive means whose impedance is a function of the variation in line voltage, said apparatus comprising in combination; a current controlling device having a control element therein, a voltage impressed upon said control element being adapted to vary the impedance of said current controlling device; a light source operatively connected to said current controlling device; a source of electric current connected to said current controlling device; said light source generating light directly from the line voltage source; a condenser charging circuit including a timing condenser and a light responsive means conductively connected to said timing condenser, conductor means between said condenser charging circuit and said control element, said light responsive means being positioned to receive light from said light source, the impedance of said light responsive means being dependent upon the intensity of the light incident thereto from said light source and a function of variation in line voltage, a source of electrical current connected to said condenser charging circuit to facilitate the charging of said timing condenser, whereby the time of charging said condenser varies with the change of impedance of said light responsive means as a function of the amount of light received thereby from said light source.

3,262,357

TRI-SYNCHRO FILM VIEWER

Sigmund S. Warzynski, Fort Walton Beach, and Noah Peacock, Crestview, Fla., assignors to the United States of America as represented by the Secretary of the Air Force

Filed May 22, 1963, Ser. No. 282,519
6 Claims. (Cl. 88—24)



4. A film spool spindle having a non-circular cross-section for mating with the opening of a film spool flange, said shaft being capable of accommodating a plurality of film spools along its length for unison rotation, means providing for rotation of individual spools on said shaft for synchronizing and tightening purposes, said means comprising circular grooves on said shaft so spaced as to allow the meshing of film spool flanges therein, so that an individual spool may be moved and rotated on the shaft, leaving the remaining spools undisturbed.

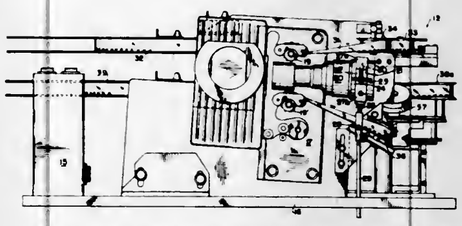
3,262,358

FOCUSING APPARATUS FOR A MOTION PICTURE PROJECTOR

Walter R. Hicks, Manhasset, and Adolph Mendelsohn, New York, N.Y., assignors, by mesne assignments, to Kirkeby-Natus Corporation, New York, N.Y., a corporation of Maryland

Original application Nov. 29, 1961, Ser. No. 155,593. Divided and this application May 11, 1965, Ser. No. 464,888

2 Claims. (Cl. 88—24)



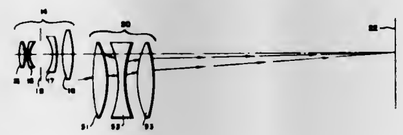
1. A focusing apparatus for a motion picture projector comprising a fixed lens mount member, a lens carrying sleeve slidable within said fixed member along a projection axis, aperture means defined by said fixed member exposing a portion of said movable sleeve, clamp means disposed in said aperture means and held axially therein by said member, said clamp means being free to move within the aperture against the movable sleeve to secure said sleeve, a shaft connected to said clamp means, means for moving said clamp means into engagement with said movable sleeve upon rotation of said shaft, and gear means on said shaft and said movable sleeve for moving said sleeve along said projection axis upon rotation of said shaft when said clamp is disengaged from said movable sleeve.

3,262,359

OPTICAL SYSTEM

Vance J. Carpenter, Rochester, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Dec. 30, 1963, Ser. No. 334,461
1 Claim. (Cl. 88—24)



A rear projection viewer comprising an object plane whereat an object is held to be projected onto a screen, said viewer further comprising a light source and a condenser aligned to illuminate said object,

a projection lens system including a pair of positive lenses and a negative lens aligned therebetween constituting a beam displacer, said lens system being located to form an immobile image of said object on said screen which is optically conjugate to said object plane,

a rotatable member which is mounted for rotation in a plane normal to the projection axis of said viewer and is located substantially concentrically of said axis, said beam displacer lens being held in said member eccentrically of said axis by a dimension less than the effective radius of said lens so as to function as a rotating beam displacer,

means operatively constructed to rotatably support said member, and

means for rotating said member at about 3600 revolutions per minute

whereby the image rays formed by said lens are focused at a stationary point on said screen while rotating about said axis to eliminate scintillation of the screen.

3,262,360

TILTABLE LENS MOUNTING FOR OPTICAL PROJECTORS

Heinz E. R. Gruner, Irondequoit, and Lawrence J. Meyers, Brighton, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York

Filed Mar. 16, 1964, Ser. No. 351,991
5 Claims. (Cl. 88—24)

1. A tiltable type of lens mounting for photogrammetric apparatus comprising the combination of

a lens holding member wherein a projection objective is secured,

a support member having an interior annular surface formed thereon which is fitted to receive said lens holding member,

a spherical surface formed on the exterior of said support member concentrically with a nodal point on said objective,

a two-part annular socket member, the parts thereof bearing on the spherical surface above and below its maximum diameter and being secured to each other to retain said support member,

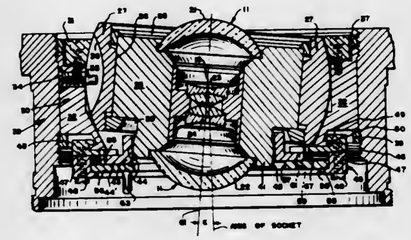
a frusto-conical seating surface formed on the upper and lower parts of the socket member adjacent tangent to said spherical surface,

at least one inwardly projecting pivot pin seated in said socket member, the axis of said pins passing substantially through a nodal point of said lens,

at least one pair of elongated axially directed walls formed in parallel spaced relation to each other in said spherical surface so as to define a slot which is fitted to receive said pin whereby a rotational movement of the socket above the lens axis is prevented,

means for mounting the socket member in said apparatus,

an axially directed circular flange formed on the lower



side of said lens holding member, said flange having a spherical outer contact surface formed thereon,

an annular actuating member swivelly carried on the lower side of said socket member surrounding and spaced radially from said last-named spherical surface,

a contact ring having a central cylindrical surface which is closely fitted to the said spherical contact surface and is operatively mounted to slide radially of said actuating member, and

operating means including a pin and helical slot connection cooperatively carried by said contact ring and actuating member so as to cause lateral movement and consequent tilt of said lens holding member about said nodal point upon rotation of said actuating member.

3,262,361

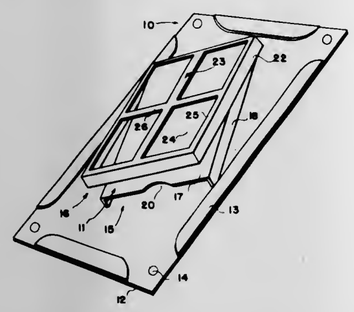
PHOTOGRAPHIC ENLARGING EASEL AND MASK

Pacifico T. Alfonsi, 1849 Niles-Cortland Road SE., Warren, Ohio

Filed June 2, 1964, Ser. No. 371,965
4 Claims. (Cl. 88—24)

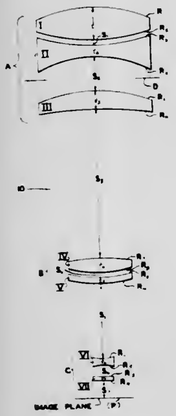
1. An enlarging easel formed of a rectangularly shaped flat base having guide strips affixed to the top surface thereof along its edges, said guide strips enclosing a rectangular area of the top surface of said base; and a masking frame comprising a base with a horizontal flat surface and two vertically disposed depending sides defining supporting legs, a vertical notch provided in each of said depending legs at corresponding positions therein, and a masking cover to fit over said masking frame base, said cover comprising a flat plate with four vertically disposed depending sections forming side, four rectangular sections being removed from the surface of said cover to provide exposure openings, horizontally disposed tabs depending from two of said depending sides in such a manner as to fit into the aforementioned vertical notches, said tabs being operative to limit the degree to which said cover may be separated from said base, said masking frame and easel being of such proportions as to

provide positive positioning of one of said four exposure openings substantially above the geometric center of enclosed area of said easel when any two adjacent sides of



said masking frame are in contact with any two adjacent guide members and when the longitudinal axis of the masking frame is essentially parallel with that of the easel.

3,262,362
LONG FOCUS PHOTOGRAPHIC OBJECTIVE
Nathan Rickless, Brighton, and Paul L. Ruben, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Mar. 1, 1963, Ser. No. 262,174
2 Claims. (Cl. 88—57)



1. A long focus photographic objective having a relative aperture of substantially $f/7.2$, said objective comprising

a front double convex lens I,

a double concave lens II spaced rearwardly therefrom,

a convex-concavo lens III spaced rearwardly from lens II,

a double convex lens IV and a concave-convex lens V spaced from lens III and from each other,

a double concave lens VI and a plane parallel plate VII spaced rearwardly from lens V and from each other,

the successive air spaces between and around said lenses and plate being designated S_1 to S_7, the successive refractive surfaces R_1 to R_{14} thereof, as well as their individual successive axial thicknesses t_1 to t_7 having values substantially as stated in the table herebelow wherein the minus (—) sign used with the R values signifies those refractive surfaces which have their centers of curvature located on the long conjugate side of the vertices of the surfaces,

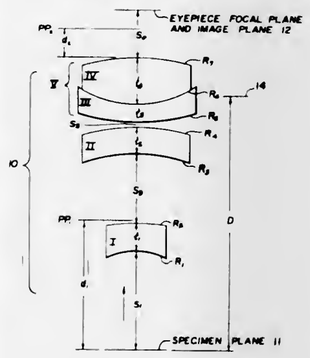
$$R_1=.314F$$
$$-R_2=.581F$$
$$-R_3=.646F$$
$$R_4=.278F$$
$$R_5=.353F$$
$$R_6=.969F$$
$$R_7=.388F$$
$$-R_8=1.012F$$
$$-R_9=.725F$$
$$-R_{10}=6.47F$$
$$-R_{11}=.441F$$
$$R_{12}=1.819F$$
$$R_{13}=\text{PLANO}$$
$$R_{14}=\text{PLANO}$$

$S_1=.002018F$	$t_1=.0192F$
$S_2=.0175F$	$t_2=.00639F$
$S_3=.774F$	$t_3=.01083F$
$S_4=.001328F$	$t_4=.00787F$
$S_5=.394F$	$t_5=.00492F$
$S_6=.00492F$	$t_6=.00492F$
$S_7=.0675F$	$t_7=.00246F$

where F represents the equivalent focus of said objective, the refracting lenses I to VI and plate VII being made of glass having a refractive index and Abbe number designated n_D and ν respectively, the values of which are given in the chart herebelow,

Refractive Part	n_D	ν
I	1.5173	69.6
II	1.61328	43.9
III	1.6259	35.6
IV	1.5173	69.6
V	1.61328	43.9
VI	1.720	29.3
VII	1.523	58.6

3,262,363
THREE COMPONENT MICROSCOPE OBJECTIVE OF LOW POWER
George F. Ziegler, Gates, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Mar. 26, 1963, Ser. No. 268,121
3 Claims. (Cl. 88—57)



1. A microscope objective of low power reversed telephoto type having a numerical aperture of substantially .09 and being corrected for spherical and chromatic aberrations, astigmatism, coma, and field curvature, said objective comprising

a negative meniscus singlet lens which is concave toward the entrant side of said objective and is designated I,

a positive meniscus singlet lens designated II which is concave toward lens I and is spaced rearwardly therefrom,

a positive doublet lens member spaced rearwardly from lens II and designated V, said doublet member being composed of a front convex-concavo meniscus lens designated III which is in contact with a rearward double convex lens designated IV,

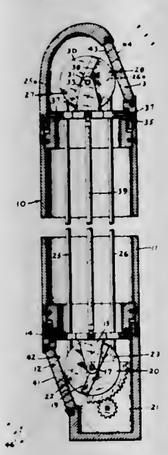
the radii of curvature for the successive lens surfaces of lenses I to IV being designated R_1 to R_7 and having respective values as specified in the table of mathematical statements herebelow, the minus (—) sign used with the R designations signifying those surfaces which have their centers of curvature lying on the entrant side of the vertex of said surfaces,

the object distance from the specimen to the first lens vertex being designated S_1, the axial air spaces between lenses I and II, and between lens II and doublet lens V being respectively designated S_2 and S_3, and S_4 designating the axial distance from the rearmost lens V to the image plane, the air spaces having values substantially as given in said table, and the values of the lens thicknesses t_1 to t_4 of the successive lens elements I to IV respectively being stated in said table,

$-R_1=.1872F$	$S_1=.571F$
$-R_2=.863F$	$S_2=.221F$
$-R_3=.516F$	$S_3=.01073F$
$-R_4=.488F$	$S_4=5.62F$
$R_5=.653F$	$t_1=.0857F$
$R_6=.308F$	$t_2=.0802F$
$-R_7=.536F$	$t_3=.0487F$
	$t_4=.1286F$

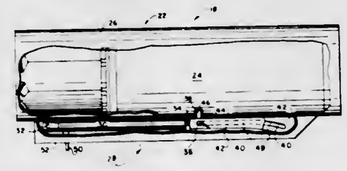
the values for the focal lengths $-F_I$, F_{II} and F_V of said lenses I, II and V respectively being substantially .483F, 5.69F and .735F respectively, wherein F represents the equivalent focal length of said objective.

3,262,364
PERISCOPE
Ernest O. Kollmorgen, Amherst, Mass., assignor to Kollmorgen Corporation, Northampton, Mass., a corporation of New York
Filed May 4, 1961, Ser. No. 107,673
7 Claims. (Cl. 88—68)



1. A periscope comprising a distortable tube, two windows at longitudinally spaced-apart positions on said tube, a first mirror having a plane reflecting surface positioned within said tube adjacent one of said windows and pivotally mounted about a first axis fixed with respect to said tube, a second mirror having a plane reflecting surface in fixed orientation with respect to the plane reflecting surface of said first mirror and pivotally mounted within said tube adjacent the other of said windows about a second axis extending parallel to said first axis and about a third axis extending transversely of said tube and perpendicular to said first axis, and control means responsive to distortion of said tube for maintaining said reflecting surfaces in fixed orientation with respect to each other as the tube is distorted intermediate its ends.

3,262,365
SPACE CAPSULE EJECTION ASSEMBLY
Alfred P. Warren, Huntsville, and Billy D. Lawson, Madison, Ala., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Original application Sept. 5, 1962, Ser. No. 221,945, now Patent No. 3,158,336, dated Nov. 24, 1964. Divided and this application June 15, 1964, Ser. No. 375,405
2 Claims. (Cl. 89—1.5)



1. An assembly mounted on a space vehicle for storing and ejecting a space capsule contained therein, said assembly comprising:

(a) a hollow cylinder for storing said capsule, said cylinder having one open end through which the space capsule is ejected,

(b) an elongated slot formed in said cylinder that terminates near the open end thereof,

(c) a pair of spaced elongated bracket members mounted to said hollow cylinder, said brackets being positioned such that the elongated slot in said hollow cylinder is between said pair of bracket members and parallel thereto,

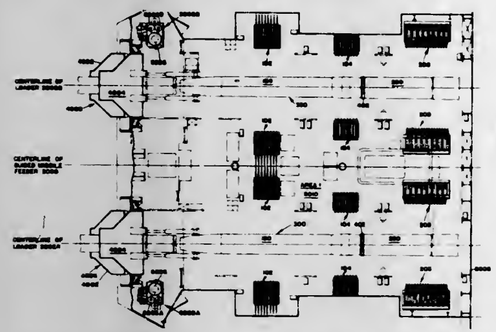
(d) said pair of bracket members each having an arcuate slot formed therein that curves away from said hollow cylinder,

(e) a fluid actuated ejector device pivotally mounted at one end thereof to said hollow cylinder, said ejector device including an extensible rod having a lug mounted on one end thereof, said lug including a cross member that rides in said arcuate slots formed in said bracket members and an upstanding finger which extends through said elongated slot in said hollow cylinder and engages said space capsule; whereby, actuation of said ejector device will result in said rod being rapidly extended to eject said space capsule, and said arcuate slots in said bracket members will deflect said lug member away from said hollow cylinder to withdraw said upstanding finger from engagement with said space capsule.

3,262,366
READY SERVICE MECHANISM FOR A GUIDED MISSILE LAUNCHING SYSTEM
Myron J. Bauer, St. Paul, Minn., Robert E. Carlberg, McLean, Va., and Lewis E. Hagbo, Bremerton, Ralph F. Hereth, Port Orchard, Robert K. Kirschner and Richard L. Linkletter, Bremerton, and George M. Sherman, Seattle, Wash., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed May 25, 1960, Ser. No. 31,785
6 Claims. (Cl. 89—1.8)

1. An automatic guided missile handling system comprising, a ready service mechanism for storing and selec-

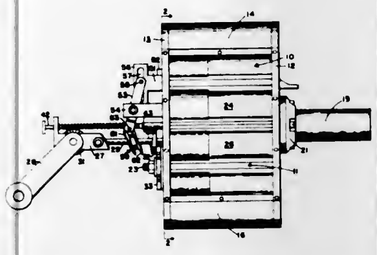
tively cycling in either a clockwise or counterclockwise manner one or a plurality of guided missiles, which plurality may be of a similar or assorted different types and shifting one or more thereof in either of two directions in either one or both of two ordinate planes and/or either or both of two abscissa planes for further selection of any one of said assortment of guided missiles, means for elevating a selected one of the missiles in an additional vertical plane from a transfer position in the uppermost of said ordinate planes to an overhead position in spaced adjacency with respect to said transfer position, means vertically spaced from said ready service mechanism for shifting a selected one of said assorted types of guided missiles from said last mentioned means of the ready service mechanism to additional handling apparatus associated with said handling system for further disposition of said elevated guided missile, said ready service mechanism having a pair of functionally inter-related cooperative longi-



tudinally spaced frames for shuttling said assortment of guided missiles in one or more of two parallel horizontal planes, and for one or more of two substantially parallel vertical planes, said spaced frames providing at least a pair of spaced upper and lower shuttling tiers, cooperative hoist means positioned at opposite sides of each of said pair of cooperative spaced frames with the hoist means on the corresponding sides of said longitudinally spaced frames being operatively coupled for contemporaneous movement to sequentially transfer said plurality of guided missiles between said upper and lower shuttling tiers of said ready service mechanism, said spaced frames each carrying an individual centrally disposed hoist means of said means for elevating a selected one of said missiles from a transfer position, means for correlating the functioning of said individual hoist means to provide conjoint movement thereof in unison during elevational transferring of a selected missile from said ready service mechanism to said shifting mechanism.

3,262,367
DUAL ROTOR MACHINE GUN
Wilford E. Martwick, Minneapolis, and Duane C. Youmans, Eden Prairie, Minn., assignors to Honeywell Inc., a corporation of Delaware
Continuation of application Ser. No. 352,999, Mar. 18, 1964. This application Sept. 28, 1965, Ser. No. 495,759
4 Claims. (Cl. 89—13)

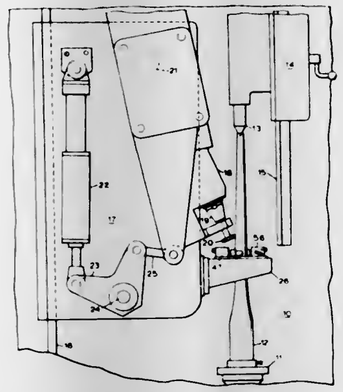
1. A machine gun, comprising:
a frame;
a gun barrel mounted in said frame having a bore;
a first cylindrical rotor mounted in said frame for rotation about a first longitudinal axis in parallel with said bore, said first rotor having a plurality of semi-cylindrical concave half chambers formed longitudinally in the periphery thereof and positioned therein so as to be successively aligned with said bore during rotation of said first rotor;
a second cylindrical rotor mounted adjacent said first rotor in said frame and being rotatable about a second longitudinal axis in parallel with said first axis, said second rotor having a plurality of semi-cylindrical concave half chambers corresponding in size and number to the chambers in said first rotor formed longitudinally in the periphery thereof and positioned therein so as to be successively aligned with said bore during rotation of said second rotor;
a Geneva wheel connected to said first rotor;
a crank operated continuously rotatable Geneva drive shaft mounted in said frame and connected to said Geneva wheel, said Geneva wheel converting the continuous rotation of said drive shaft into intermittent rotation to thereby rotate said first rotor to successively align said half chambers with said bore and to provide a timed dwell period for said first rotor after said alignment is achieved;
a sliding cam member extending through a slot in said frame and through said axis of said second rotor to support said second rotor within said frame;
a rocker arm pivotally mounted on said frame having a first end connected to said sliding cam member



and a second cam follower end positioned to follow a rotating guide cam mounted on said Geneva drive shaft;
said guide cam being designed to impart a reciprocating motion to said rocker arm during rotation of said drive shaft, said sliding cam member being moved axially by said rocker arm between a first position and a second position, said sliding cam member in said first position having a first portion thereon in said slot having dimensions corresponding to said slot to prevent lateral movement of said second rotor, said sliding cam member in said second position having a second portion thereon in said slot with reduced dimensions with respect to said slot to allow lateral movement of said second rotor in a direction away from said rotor;
and means for rotating said second rotor simultaneously with the rotation of said first rotor, said guide cam being programmed to move said sliding cam member to said first position during the dwell period of said first rotor and to move said sliding cam member to said second position during rotation of said first rotor.

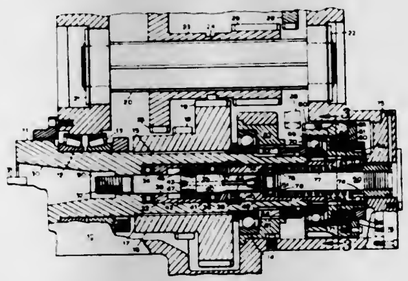
3,262,368
TURBINE BLADE MILLING APPARATUS
Lawrence A. Attermeyer and Louis W. Young, Cincinnati, Ohio, assignors to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 2, 1964, Ser. No. 408,051
13 Claims. (Cl. 90—11)

1. In a machine tool having a fixture for supporting a work blank by an end thereof and for rotating the work blank on a fixed axis and a cutting tool relatively movable along the work blank and simultaneously movable toward and away from the work blank, an intermediate support mechanism adapted to reduce lateral deflection of the work blank comprising:
(a) a platform having an opening centrally therethrough for loose receipt of the work blank,
(b) means for supporting said platform for free rotation on the fixed axis and for moving said platform toward the fixture in advance of the cutting tool,



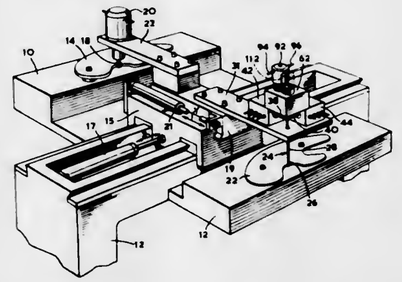
(c) gripping means on said platform for forcibly engaging the work blank therebetween, and
(d) release means for momentarily relaxing the engagement of said gripping means in timed relation with rotation of the work blank and platform.

3,262,369
MACHINE TOOL POWER DRAWBOLT MECHANISM
Tadeusz W. Piotrowski, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Feb. 19, 1965, Ser. No. 433,889
10 Claims. (Cl. 90—11)



1. The combination comprising:
(a) a spindle carrier,
(b) a spindle rotatably supported in said carrier,
(c) a drawbolt received centrally through said spindle for rotation therein,
(d) a drive member in said carrier for providing a drive torque bidirectionally,
(e) means for selectively connecting said spindle and drive member in train for rotation of said spindle, and
(f) means for selectively locking said spindle against rotation and for simultaneously connecting said drawbolt in train with said drive member to be rotated in one direction by a first maximum amount of torque from said drive member and in the other direction by a second and greater maximum amount of torque from said drive member.

3,262,370
CONTROL SYSTEM
Lincoln S. Magor, Galt, Ontario, Canada, assignor to Retor Developments Limited, Ontario, Canada, a corporation of Canada
Filed Aug. 19, 1964, Ser. No. 390,631
8 Claims. (Cl. 90—13.5)

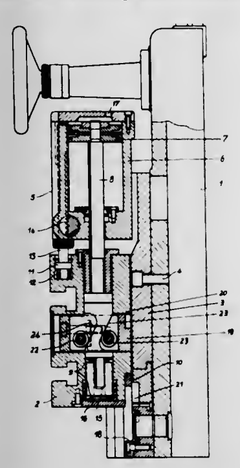


1. In a control for hydraulically operated machines wherein the relative movements between a tool and a workpiece correspond to relative movement between a tracer and a pattern to be reproduced;
a first valve connected to control relative movement of tool and workpiece in one direction;
a second valve connected to control relative movement of tool and workpiece in a direction perpendicular to said one direction;
a stylus mounted to form the operative part of said tracer and arranged to contact and be deflected by said pattern;
said stylus being connected so that when deflected, said first and second valves are controlled to the extent necessary to produce relative movement in said two directions such that the resultant relative movement of said stylus relative to said pattern is in the direction of said deflection;
means rotatably mounted for biasing said stylus in a predetermined direction, relative to said means;
an orientation control for said biasing means;
means for summing said relative movements in said two directions; and in response to said sum exceeding a predetermined amount, for rotating said orientation control in one direction;
and in response to said sum being less than a predetermined amount, rotating said orientation control in the opposite direction.

3,262,371
LOCKING MECHANISM FOR THE TOOL HOLDER OF A PLANING MACHINE
Gerhard Ladewig, Coburg-Cortendorf, Bavaria, Germany, assignor to Werkzeugmaschinenfabrik Adolf Waldrich Coburg, Coburg, Bavaria, Germany, a firm of Germany
Filed Mar. 13, 1964, Ser. No. 351,711
Claims priority, application Germany, Mar. 14, 1963, W 34,089
6 Claims. (Cl. 90—55)

1. A mechanism for locking the tool holder of a planing machine during the cutting stroke thereof comprising a guideway, a toolholder slidable longitudinally along said guideway, said guideway having a locking recess, a boltlike element slidable in said toolholder in a direction transverse to the direction of movement of said toolholder and adapted to engage into said locking recess when said toolholder is in its cutting position, and means for mov-

ing said tool holder from a retracted position to a cutting position and for also moving said boltlike element into

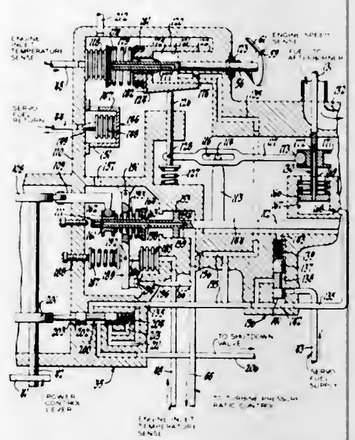


said locking recess when said tool holder is in said cutting position.

3,262,372
HYDRAULIC SPEED CONTROL APPARATUS
Gerhard Foell and Helmut Link, both of Esslingen (Neckar), Germany, assignors to Index-Werke KG Hahn & Tessky, Esslingen (Neckar), Germany
Filed Mar. 16, 1965, Ser. No. 440,230
Claims priority, application Germany, Mar. 17, 1964, J 25,471
20 Claims. (Cl. 91—414)

1. In a machine tool, in combination, hydraulic speed control apparatus comprising an operating unit including a fluid-operated member adapted to be connected to a machine element; a control unit including a cylinder member, a piston member forming in the same first and second control chambers, one of said members being movable relative to the other member in a limited stroke and inlet means and outlet means for a fluid connected with said first control chamber; first conduit means connecting said first control chamber with said operating unit and limiting the rate of flow of fluid in said first conduit means; and second conduit means connecting said second control chamber with said operating unit so that fluid supplied by said inlet means into said first control chamber rapidly moves said movable member to press fluid from said second control chamber into said operating unit whereby said fluid operated member rapidly moves the machine element, while after stopping of said movable member after said limited stroke the pressure increases in said first conduit means so that fluid flows at a predetermined limited rate of flow into said operating unit to move said fluid operated member and said machine element at a predetermined low working speed.

3,262,373
FUEL CONTROL SERVO SYSTEM
Harry C. Zeisloft, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Application Dec. 14, 1962, Ser. No. 246,651, now Patent No. 3,174,281, dated Mar. 23, 1965, which is a continuation of application Ser. No. 847,407, Oct. 19, 1959. Divided and this application Dec. 28, 1964, Ser. No. 421,428
4 Claims. (Cl. 91—468)

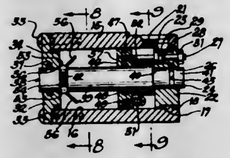


1. A fuel control device comprising, in combination, a closed case defining a cavity, at least one pressure-responsive device in the cavity exposed to the pressure within the cavity, means for transmitting a controlling pressure to the pressure-responsive device, at least one hydraulic servomechanism exhausting into the said cavity, the servomechanism exhaust back pressure thus being equal to the pressure in the cavity, fuel controlling means operatively connected with the pressure-responsive device and the servomechanism, means including a pressure-regulating device for supplying servo fluid at substantially constant pressure to the said servomechanism, the servomechanism providing a restricted fluid flow path from the said pressure regulating device into the cavity, means defining a vent for servo fluid from the said cavity, and valve means responsive to fluid pressure in the cavity controlling the said vent so as to maintain the fluid pressure in the cavity substantially constant at a value below said substantially constant supply pressure when the control device is in operation, the difference between the supply and cavity pressures providing the operating pressure drop across the servomechanism.

3,262,374
PNEUMATIC TIMING DEVICE
Sam S. Trombatore, Des Plaines, Wilbur J. Bradtke, Park Ridge Manor, and William J. Griswold, Bridgeview, Ill., assignors to Webcor, Inc., Chicago, Ill., a corporation of Illinois
Filed May 27, 1964, Ser. No. 370,407
10 Claims. (Cl. 92—16)

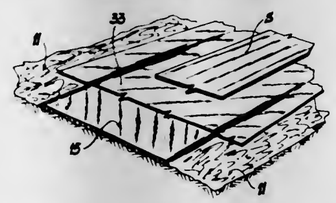
1. A pneumatic timing device comprising,
(a) a body having a cylindrical chamber and provided with end walls, each having a central bore,
(b) a piston having a central bore and being moveable within said chamber, all of said bores being disposed in axial registration,
(c) a ram slideably mounted in all of said bores,

(d) means biasing said piston in one direction,
(e) means in said piston for bleeding air from the chamber portion adjacent the leading face of the piston to the chamber portion adjacent the trailing face of the piston to control the rate of travel of said piston,
(f) said ram having an annular groove,
(g) releasable latching means within said chamber effective to lock said ram against movement,
(h) said latching means including a pair of oppositely disposed rod members arranged to be received in



said annular groove and to extend transversely of said ram to lock said ram against movement, and
(i) resilient means biasing said rod members into said groove,
(j) each of said rod members having a flat camming surface and a projection extending in angular relation to the plane of said surface and to the axis of said ram,
(k) said projections being arranged to be engaged by said piston whereby said rod members are cammed out of said groove to release said ram for movement.

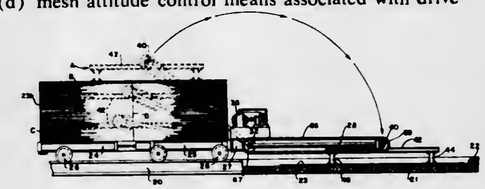
3,262,375
METHOD OF ROAD SURFACE MARKING
Ludwig Eigenmann, 11 Via Spinola, Milan, Italy
Filed Mar. 4, 1963, Ser. No. 262,538
1 Claim. (Cl. 94—1.5)



The method of providing an essentially irregular road surface with a marking material of cold-plastic type, which comprises the steps of melting in fluidified state a bitumen-based compound consisting essentially of a mixture of a major amount of a bituminous substance and a minor amount of a high molecular weight polymer appertaining to the group of synthetic rubbers, of spreading the molten compound on said road surface to form an irregularities covering layer thereon, of sleeking the upper face of said layer to form an essentially smooth face thereon, of unwinding a protective film from a roll of preformed protective film and covering said essentially smooth surface of said layer with the thus unwound protective film while the compound included in said layer is still in a plastic state, and of laying a marking material on said film.

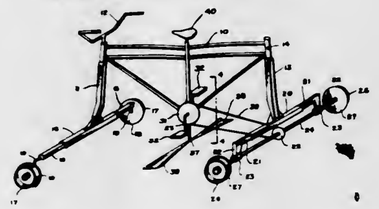
3,262,376
MESH PLACING MACHINE
Carl J. Heltzel, 523 Country Club Drive, Warren, Ohio
Filed Sept. 23, 1963, Ser. No. 310,731
15 Claims. (Cl. 94—39)

1. A mesh placing machine comprising
(a) a base,
(b) an arcuately oscillatable frame on the base,
(c) mesh pick up and transfer means carried by the frame in a location displaced from the center of oscillation, and
(d) mesh attitude control means associated with drive



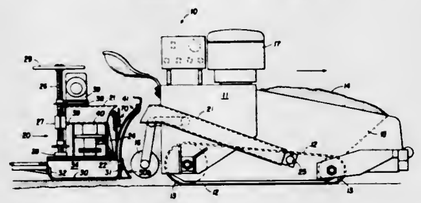
means on said base for restraining the latter from a non-horizontal attitude of transfer during oscillation of said frame.

3,262,377
TROWELING MACHINE
Fred O. Lursen, 18th Ave., Freeport, Ill.
Filed Dec. 6, 1963, Ser. No. 328,562
10 Claims. (Cl. 94—45)



1. A trowelling machine comprising a frame, wheel and axle means for supporting said frame, trowelling means rotatably journalled in said frame for horizontal rotation, and pedal means in said frame in driving relationship with said trowelling means whereby said trowelling means are rotated by operation of said pedals.

3,262,378
ADJUSTABLE STRIKE-OFF PLATE FOR FINISHING MACHINES
Vernon L. Schrimper, Cedar Rapids, Iowa, and Willard D. Page, Raleigh, N.C., assignors to Iowa Manufacturing Company of Cedar Rapids, Iowa, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 25, 1963, Ser. No. 319,033
7 Claims. (Cl. 94—46)



1. In a road surfacing machine having delivery means for delivering onto a roadway a surfacing mix during travel of said machine along the roadway, distributing means spaced rearwardly of said delivery means effective to distribute the mix delivered to the roadway by said delivery means transversely along the rear of said machine at a rate normally effective for maintaining the mix at a substantially uniform predetermined depth on the roadway, a screed assembly spaced rearwardly from said distributing means including a bottom screed plate extending transversely of said machine and effective to engage and smooth the mix distributed upon the roadway by said distributing means, said screed plate having means

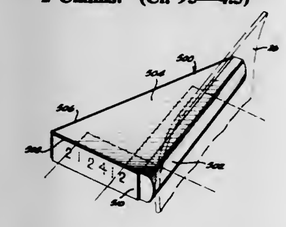
to impart vibration thereto effective to compact the mix engaged thereby, a mold board carried by said screed assembly extending transversely of said machine and downwardly between said distributing means and said screed assembly, and an adjustable strike-off plate extending downwardly adjacent the lower end of said mold board, the lower end of said strike-off plate being spaced forward of the leading edge of said screed plate, said mold board and strike-off plate together being effective both to confine the mix from said delivery means to said distributing means and to direct a continuous supply of the mix therefrom under said screed plate, said strike-off plate being operatively associated with said screed plate effective to permit vibration therewith and alteration of the height thereof relative to said screed plate and mold board, the combination therewith of adjusting means for altering the height of said strike-off plate, said means being connected to said strike-off plate and disposed at a location on said machine readily permitting alteration of said height during road surfacing operation of said machine.

3,262,379

APPARATUS FOR HIGH SPEED PHOTOGRAPHIC PRINTING

Charles H. Bauer, Jr., Northridge, Nelson N. Leonard, Los Angeles, and William H. Liggett, Redondo Beach, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed May 11, 1964, Ser. No. 366,586
2 Claims. (Cl. 95—4.5)



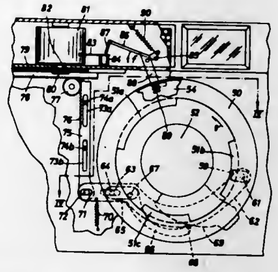
1. Printing apparatus comprising: means for supporting a photosensitive surface on which printing is to occur and for moving said surface through first and second locations, a drum mounted for rotation about an axis parallel to a line through said first location along which printing is to occur, at least a portion of the circumferential surface of said drum being transparent, an opaque mask defining a plurality of first and second transparent regions and a third transparent region disposed along the circumferential surface of said drum with said transparent regions located adjacent a transparent portion of said drum, said first transparent regions containing symbols to be printed and being arranged in rows and columns, each said row extending along a different line parallel to said axis and each said column extending along the circumference of a circle defined by the intersection of said mask with a different plane perpendicular to said axis, said second transparent regions extending along the circumference of a circle defined by the intersection of said mask with another plane perpendicular to said axis, each said second transparent region being associated with a different row of said first transparent regions, said third transparent region being disposed at a predetermined circumferential location along said mask in still another plane perpendicular to said axis, said first transparent regions being adapted to move through a region adjacent said first location, said second transparent regions being adapted to move through a third location, said third transparent region being adapted to move through a fourth location, a plurality of intermittently operable light sources each mounted at a fixed location within said drum axially displaced with respect to the location of every other intermittently operable light source, means for guiding light from the respective intermittently operable sources toward the respective portions along said line through said first location traversed by the respective columns of transparent regions on said mask, a developing light source positioned to illuminate the region of said photosensitive surface at said second location, a sensing light source, means for directing light from said sensing light source toward said third and fourth locations, first photosensitive means disposed adjacent said fourth location on the opposite side of said mask from said sensing light source for detecting light from said sensing light source which passes through said third transparent region of said mask and for generating therefrom a reference signal indicative of the instantaneous angular position of said drum, second photosensitive means disposed adjacent said third location on the opposite side of the said mask from said sensing light source for detecting light from said sensing light source which passes through said second transparent regions and for generating therefrom a timing signal when each of said second transparent regions passes through said third location, means responsive to said reference signal and to said timing signals for generating a plurality of first coded signals each representative of the instantaneous position of a row of transparent regions on said mask relative to said line through said first location, means for storing a plurality of second coded signals each representative of a selected symbol to be printed along said line through said first location from a different column of transparent regions on said mask, means for comparing each of said first coded signals with each of said second coded signals and for providing a command signal upon each correspondence of a first and a second coded signal, and means responsive to each command signal for triggering the intermittently operable light source adapted to illuminate the column associated with the said second coded signal resulting in the generation of said command signal when the row associated with the said first coded signal resulting in the generation of said command signal is adjacent said line through said first location.

3,262,380

AUTOMATIC CAMERA WITH INTERCHANGEABLE OBJECTIVES

Alfred Winkler, Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany

Continuation of application Ser. No. 138,038, Sept. 14, 1961. This application Apr. 5, 1963, Ser. No. 270,982
Claims priority, application Germany, Sept. 23, 1960, A 35,644
3 Claims. (Cl. 95—10)



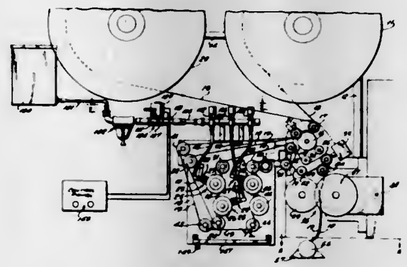
1. In a camera, in combination, automatic means for determining the position of part of the structure which determines the exposure made by the camera, said automatic means including a light meter having a movable pointer and a scanning assembly having a scanning edge adapted to cooperate with said pointer; manually operable means for actuating another part of the structure of the camera which determines the exposure made thereby; an objective movably carried by the camera and having a projection whose position, when the objective is attached to the camera, is in accordance with the largest exposure aperture which can be made by said objective; and correcting means actuated both by said projection and said manually operable means and cooperating with said automatic means for correcting the position of said light meter pointer and the scanning edge one with respect to the other in accordance with the largest aperture which can be provided by said objective and the manual setting of said other part of said structure by said manually operable means.

3,262,381

METHOD AND APPARATUS FOR IMPROVING UPON THE REPRODUCTION OF IMAGES RECORDED ON A PHOTOGRAPHIC FILM

August H. Zimmerman, West Englewood, N.J., assignor to Deluxe Laboratories, Inc., New York, N.Y., a corporation of New York

Filed Sept. 30, 1963, Ser. No. 312,607
9 Claims. (Cl. 95—75)



1. Apparatus for rendering invisible surface blemishes on a photographic film strip to be illuminated for reproducing a counterpart of the image carried thereby, which includes means for feeding said film strip along in the direction of its length, means for applying a film-like coating of a liquid having substantially the same index of refraction as that of said film on at least one side of said film as the same is moved, said coating means comprising a cylindrical drum formed to make surface contact across the width of the film being coated, liquid supply means adjacent the surface of said drum, said liquid supply means including a liquid chamber, wick means carried by said liquid supply means having one end thereof in contact with the liquid in said chamber and having the other end thereof in contact with liquid applying means, said liquid applying means being in contact with the surface of said drum for applying said liquid to said drum, means for passing light through said film in coated condition to form a reproduction of the images carried thereby on another medium and means to move said film away from the position of said light and reel the same up.

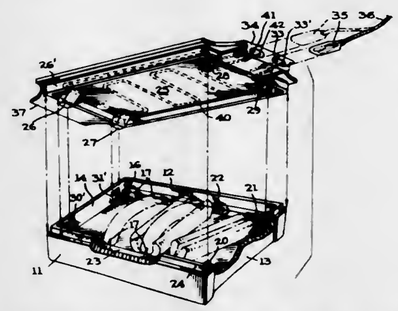
3,262,382

ELECTRIC FRANKFURTER COOKER AND GRILL

Beverly E. Williams, La Grange Park, Ill., assignor to Hodges Research and Development Company, New York, N.Y., a corporation of California

Filed Feb. 11, 1965, Ser. No. 431,821
5 Claims. (Cl. 99—339)

1. An electric cooking device comprising a hollow base, oppositely disposed bus bars in said base, oppositely disposed contacts on said bus bars, opposed pairs of said contacts being adapted to receive a frankfurter, an electric contact for each of said bus bars mounted in said base, a top for said base, electric contacts in said top for engagement with said electric contacts of said bus bars when said top is in position on said base, a heat conducting plate mounted in said top, electric resistance heating elements mounted in said plate, electric contacts in said top connected to said electric contacts for said bus bars and electric contacts in said top connected to said electric resistance heating elements.

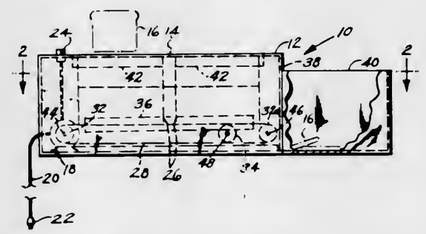


3,262,383

CONVEYER TYPE TOASTER

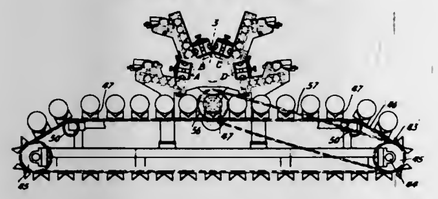
Philip F. Sturman, 548 West Belmont St., Chicago 13, Ill.

Filed Apr. 29, 1964, Ser. No. 363,411
1 Claim. (Cl. 99—386)



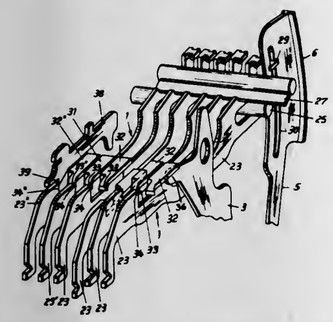
A conveyor type toaster comprising in combination a hollow rectangular housing having two side walls, two end walls, a top wall and a bottom wall, a motor mounted within said housing adjacent one of said side walls and one of said end walls, a sprocket gear mounted near each end wall at the center thereof, a drive shaft connecting said motor to one of said sprocket gears, an endless conveyor belt mounted on said sprocket gears, said belt and gears having cooperating inter-engaging means thereon, an idler roller mounted adjacent said other sprocket gear to provide support for the upper run of said conveyor belt, the top wall having an opening therein to receive vertically positioned slices of bread, there being parallel inturned lip portions along each side of said opening to serve as a guide for bread slices, two staggered, parallel heating elements located above and adjacent opposite sides of the upper run of the conveyor belt, a Z-shaped guard element extending along each side of the upper run of the conveyor belt so as to protect the belt from the heat generated by said heating elements, one leg of each Z-shaped element extending upwardly toward said inturned lip portions in the same plane thereof to also serve as a guide for a slice of bread, said other end wall having an opening therein through which a slice of bread may pass out of said housing, a tray integrally connected to said housing, to receive a toasted slice of bread as it emerges through said end wall opening and a switch for said motor, the heating elements, the motor, and the switch being in series circuit to provide simultaneous operation of the conveyor belt and the heating elements.

3,262,384
OFFSET MACHINES
Louis Gilbert Dubuit, 60 Rue Vitruve, Paris, France
Continuation of application Ser. No. 328,873, Dec. 9, 1963. This application Oct. 11, 1965, Ser. No. 500,472
Claims priority, application France, Dec. 13, 1962, 918,560
3 Claims. (Cl. 101—38)



1. In an offset printing machine for printing upon articles of diversified shape the improvement comprising in combination a frame; conveyor means carried by said frame for the objects to be printed upon; a report cylinder rotatably mounted in said frame and carrying a blanket comprised of at least two cylindrical segments having on their outer surface a layer of plastic material having sufficient affinity to ink; at least one printing cylinder longitudinally contacting said report cylinder and at least one curved printing plate carried thereby; an inking cylinder cooperating with each printing cylinder; first shafts each rotatably supporting a printing cylinder; second shafts each rotatably supporting an inking cylinder; first bearing means for each of said first shafts displaceable radially of the report cylinder; second bearing means for each of said second shafts displaceable substantially perpendicularly to the direction of displacement of said first bearing means; and first and second displacing means for said first and said second bearing means, respectively.

3,262,385
PRINTING DEVICE WITH ZERO SUPPRESSING MEANS
Helmut Gelling, Zurich, Switzerland, assignor to Precisa AG, Rechenmaschinenfabrik, Zurich, Switzerland
Original application Mar. 28, 1963, Ser. No. 268,646. Divided and this application Sept. 30, 1965, Ser. No. 491,648
2 Claims. (Cl. 101—93)



1. A printing device for a calculating machine comprising in combination: a frame, a plurality of printing mechanisms arranged in side by side relation supported in said frame, one for each digital position, including a spring-projected substantially vertically disposed type lever (41), a type wheel (43) rotatably mounted on the upper portion of said type lever having an annular series of type characters from "0" to "9" thereon, gear teeth (43*a*) provided on said type wheel, a gear wheel (44) rotatably mounted on the lower portion of said type lever (41) in mesh with said gear teeth, means operatively connecting said gear wheel by means of another gear wheel (54) to the actuating mechanism (9*a*) of said calculating machine, a trigger bar (56) engaging an angular lever (41*a*) pivoted to said type lever for preventing the latter from performing its operative printing movement until released, abutments (48) formed integrally with each of said type levers and engageable with counter-abutments (49) formed integrally with said gear wheels (44) to lock the gear wheels and type wheels, when the latter are in their zero position, from being printed for all digital positions higher than the first non-zero digital position.

3,262,386
DUPLICATING METHOD
William E. Gordon, Winchester, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Nov. 23, 1959, Ser. No. 854,909
7 Claims. (Cl. 101—149.4)

4. A method of forming duplicate copies of an original containing thereon indicia, capable of producing localized areas of heat, through a process of thermal reproduction, comprising the steps of

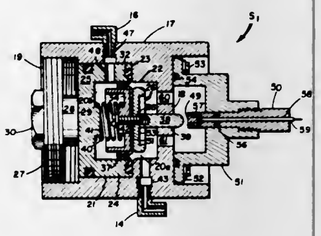
(a) interposing between said original and a master receptor tissue a tissue containing dithioxamide thereby to form a first assembly comprising said original, said master receptor tissue and said dithioxamide-containing tissue in intimate surface contact;

(b) exposing said first assembly to radiant flux of sufficient intensity and duration to generate in said indicia sufficient localized heat to sublime at least a portion of said dithioxamide corresponding in area to said indicia on said original and in direct proportion to the ability of said indicia to absorb and transmit heat whereby said dithioxamide is transferred to said master receptor tissue to form a master tissue;

(c) contacting said master tissue with a copy sheet to form a second assembly, said copy sheet containing metallic ions available for reaction with said dithioxamide to form a water-insoluble chromophoric complex; and

(d) heating said second assembly thereby to sublime a portion of said dithioxamide to contact said copy sheet and react with said metallic ions therein thereby to form a duplicate of said indicia in said copy sheet.

3,262,387
SUBMARINE SIGNAL
William H. Reams, Adelphi, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 29, 1964, Ser. No. 400,287
4 Claims. (Cl. 102—16)

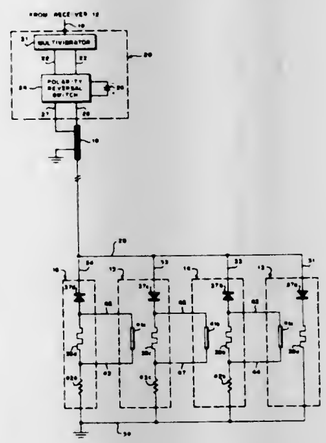


1. In a vehicle adapted to rise through the water and cross an air-water interface, said vehicle having electroresponsive means therein for initiating an event, an improved arming and firing system for said vehicle comprising

switch means for connecting a source of electrical energy to said electroresponsive means, said switch means comprising an arming switch responsive to the hydrostatic pressure of the fluid surrounding said vehicle and adapted to be open when said vehicle is below a predetermined depth and closed at shallower depths and a firing switch connected in series with said arming switch and responsive to the dynamic pressure of the fluid flowing past said vehicle to be open when said vehicle is under way and to close as said vehicle crosses said interface, said firing switch comprising a housing, having a chamber therein, a spring-biased piston and diaphragm assembly extending across said chamber, fluid conduit means extending from the space in said chamber on the side of said piston and diaphragm assembly which is opposite said spring to an orifice on the exterior of said vehicle, said orifice being directed into the flow of fluid passing said vehicle, and electric switch means responsive to the position of said piston and diaphragm assembly,

whereby, a complete circuit to said electroresponsive means is established at the instant that said vehicle crosses said interface.

3,262,388
ELECTRIC FIRING CIRCUIT FOR EXPLOSIVE CHARGES
Albert M. McCarty, Hatboro, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 24, 1964, Ser. No. 362,535
6 Claims. (Cl. 102—18)



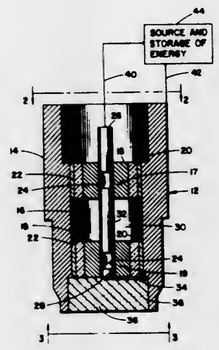
1. An electric firing circuit for selectively firing a plurality of explosive charges, comprising:

actuator means responsive to a command signal for producing a reversing polarity D.C. voltage at the output thereof;

a plurality of parallel detonating circuits having their common connections connected to the output of said actuator means, each of said detonating circuits having a detonating element operatively connected to one of the explosive charges; and

frangible arming means operatively connected between adjacent detonating circuits and in shunt relation with said detonating element, said frangible arming means providing a low impedance electrical path across said detonating element.

3,262,389
SAFETY SWITCH FOR PREVENTING VOLTAGES BELOW A PREDETERMINED VALUE IN A CIRCUIT
Theodore N. Bryla, Glendora, Floyd E. Jacks, Whittier, and Robert M. Hillyer, Riverside, Calif., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 20, 1964, Ser. No. 346,358
2 Claims. (Cl. 102—28)



1. A switch mechanism comprising

(a) a pair of spaced electrically conductive cylindrical sleeves,

(b) a pair of spaced cylindrical electrical terminal plugs respectively received in the distal ends of said electrically conductive sleeves in electrical contact therewith,

(c) each of said terminal plugs being adapted to be connected across a source of electric energy,

(d) a cylindrical connector plug interposed between said pair of spaced electrically conductive sleeves and having its opposite ends frictionally received within the proximal ends of said electrically conductive sleeves,

(e) said connector plug comprising a body of electrically conductive material at least partially covered by a dielectric material,

(f) said dielectric material on said connector plug covering the surfaces of the end portions of said connector plug in respective engagement with said pair of spaced electrically conductive sleeves to prevent inadvertent discharge of voltage across the space therebetween bridged by said connector plug, and

(g) said dielectric material being broken down by a predetermined voltage magnitude for discharging a selected voltage of the predetermined magnitude across the space between said pair of electrically conductive sleeves through the electrically conductive body of said connector plug.

3,262,390
TRACER SHOTSHELL
Raymond I. Cowles, Woodbridge, Edward D. Lowry, Branford, Joseph W. Silva, New Haven, and William B. Woodring, Branford, Conn., assignors to Olin Mathieson Chemical Corporation
Filed May 29, 1964, Ser. No. 371,210
11 Claims. (Cl. 102—42)

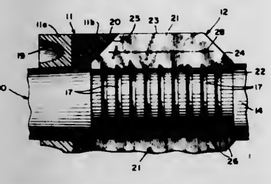
1. A tracer vehicle for use in a shotshell to accompany the shot and visibly indicate the trajectory of said shot as it travels toward a target, said tracer vehicle including a spherical solid body portion, a cylindrical tail portion attached to said body portion and a pyrotechnic

mix positioned in said cylindrical tail portion ignitable to produce a visible signal indicating the trajectory of said tracer vehicle, said cylindrical tail portion being



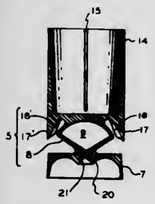
operative to maintain said tracer vehicle oriented so that said signal is visible to a shooter as the tracer vehicle travels toward said target.

3,262,391
SUBCALIBER PROJECTILE AND SABOT
George B. Shober, Philadelphia, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 12, 1964, Ser. No. 403,311
5 Claims. (Cl. 102—93)



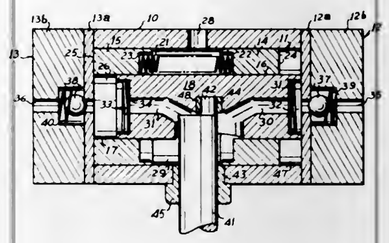
1. The combination comprising: a subcaliber projectile having an elongated body provided, at its midsection, with a plurality of teeth; a gas seal fitted on said body rearwardly of said teeth; and a sabot fitted on said body in front of said seal in engagement therewith for receiving thrust from said seal and transmitting it to said body, said sabot comprising a multiplicity of substantially flat, radial discards having teeth engaged with the teeth of said body for transmitting thrust thereto, said seal having an inclined surface and said discards having bevelled edges abutting said inclined surface, whereby the thrust transmitted therebetween has a longitudinal component for impelling said projectile forwardly and a radial inward component for holding said teeth of said discards in engagement with the teeth of said body, said teeth of said discards and of said body having base thicknesses inversely proportional to the yield strength of their respective materials.

3,262,392
SHOT SHELL WAD
Clarence J. Becker, Chalbourn Road, Vestal, N.Y., and John J. Faber, 705 Irving Ave., Endicott, N.Y.
Filed Apr. 6, 1964, Ser. No. 357,529
3 Claims. (Cl. 102—95)



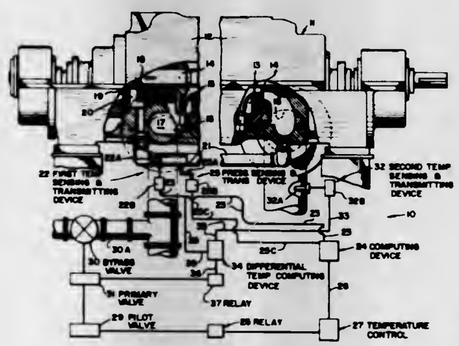
1. A one piece cylindrical wad column for shotgun shells comprising a lower generally cylindrical overpowder section and an upper generally cylindrical shot supporting section spaced therefrom, said shot supporting section comprising a generally tubular portion having a disk shaped closure closing one end thereof, said closure having a pair of outer lip members extending from the periphery of said closure toward said lower section and being spaced therefrom, an elastic intermediate portion having a pair of resilient inner members, spaced radially inwardly from said lips and extending between and connecting said closure with said lower section, said lower section having portions thereof being lesser and greater in diameter than the transverse distance between said lip members, said lower section upon being expelled from a cartridge casing compressing said resilient members and partially telescoping and expanding said outer lip members.

3,262,393
VARIABLE OUTPUT CONSTANT PRESSURE PUMP
Robert L. Allen, Atlanta, Ga.; Carmen S. Allen, executrix of said Robert L. Allen, deceased, assignor to Georgia Tech Research Institute, Atlanta, Ga., a corporation of Georgia
Filed Mar. 4, 1963, Ser. No. 262,484
11 Claims. (Cl. 103—37)



1. A pump for discharging varying quantities of liquid at a constant pressure, said pump comprising, in combination, a housing having a first end, a second end, a cylindrical bore extending through it from its first end to its second end and with a centerline, an inlet hole extending through it from the bore and positioned along the length of the bore between the first end and the second end of the housing, and an aperture extending through it from the bore and positioned between the first end and the second end of the housing; a first cap positioned across and closing the bore at the first end of the housing, said cap having a first passage extending through it from the bore; a second cap positioned across and closing the bore at the second end of the housing, said cap having a second passage extending through it from the bore; a first sleeve slidably positioned in the bore between the first cap and the position of the inlet hole along the length of the bore and having a hole extending through it with a centerline which coincides with the centerline of the bore; a second sleeve slidably positioned within the bore between the second cap and the position of the inlet hole along the length of the bore and having a hole extending through it with a centerline which coincides with the centerline of the bore; a piston having a cylindrical exterior surface, a first end slidably movable in the hole extending through the first sleeve, a second end slidably movable in the hole extending through the second sleeve, a centerline coinciding with the centerline of the bore, a first duct extending through it from its first end to a portion of its exterior surface between the first sleeve and the second sleeve, a second duct extending through it from its second end to a portion of its exterior surface between the first sleeve and the second sleeve, a slot in its exterior surface with its length perpendicular to the centerline of the piston, and a length less than the distance between the first cap and the second cap; a plurality of springs extending between the first sleeve and the second sleeve, equidistantly positioned around the piston, and urging the first sleeve toward the first cap and the second sleeve toward the second cap with a force substantially equal to the constant pressure; a first suction valve located at the first end of the piston and positioned to permit the flow of liquid only from that end of the first duct at the first end of the piston; a second suction valve located at the second end of the piston and positioned to permit the flow of liquid only from that end of the second duct at the second end of the piston; a first check valve located in the first passage and positioned to permit the flow of liquid only from the bore; a second check valve located in the second passage and positioned to permit the flow of liquid only from the bore; a rotatable shaft having an end inserted through the aperture in the housing; a nub on the inserted end of the shaft and in the slot in the piston, said nub being eccentrically positioned on the inserted end of the shaft so as to describe a circle with a diameter equal to the length of the slot in the piston when the shaft rotates; and means for rotating the shaft.

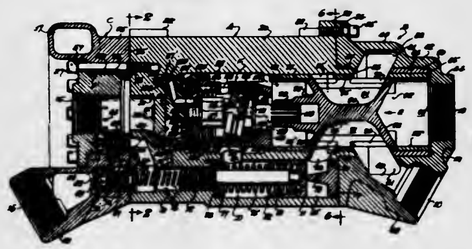
3,262,394
BOILER FEED PUMP CONTROL SYSTEM
John Pearson Smith, Westfield, and Samuel A. Carswell, Martinsville, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 19, 1964, Ser. No. 390,684
8 Claims. (Cl. 103—41)



1. A method of preventing the vaporization of water in a balancing drum chamber of a boiler feed pump comprising the steps of:
(a) sensing the temperature and pressure of the water in the balancing drum chamber of the boiler feed pump,
(b) transmitting a signal commensurate with the temperature and pressure sensed to a computing device,
(c) correlating the temperature and pressure signals into a resultant signal in accordance with the formula $P_1=P_2-K_1P_3$ wherein:
P_1 represents the resultant or computed signal
P_2 represents the temperature signal
P_3 represents the pressure signal, and
K_1 represents a constant factor which is a linearized "slope" of vapor pressure relative to a temperature curve,
(d) recirculating the fluid discharged from the pump when the value of P_1 reaches a predetermined value near the point at which the water in the balancing drum chamber will vaporize under the existing pressure therein.

7. A control system in combination with a boiler feed pump having a balancing drum and a balancing drum chamber therein for receiving the water at substantially inlet water temperature and pressure, the control system comprising:
(a) a computing device,
(b) a first temperature sensing and transmitting means for measuring the temperature of the water in the balancing drum chamber and transmitting a signal commensurate with the temperature measurement to said computing device,
(c) pressure sensing and transmitting means for measuring the pressure of the water in the balancing drum chamber and transmitting a signal commensurate with the pressure measurement to said computing device,
(d) said computing device being constructed and arranged to calculate the relationship of the temperature and pressure as conveyed by said temperature and pressure signals and transmitting a resultant signal,
(e) a recirculation line communicating with the discharge of the boiler feed pump,
(f) a by-pass valve in said recirculation line,
(g) operating means connected to said computing device and said by-pass valve for opening the by-pass valve at a predetermined resultant signal and for closing the by-pass valve at another predetermined resultant signal, and
a second temperature sensing and transmitting means for measuring the temperature of the water entering the boiler feed pump and transmitting a signal, a second computing device connected to said first-mentioned temperature sensing and transmitting means and said second temperature sensing and transmitting means to receive the temperature signals therefrom and compute the temperature differential between the water entering said feed pump and the water in the balancing drum chamber, and second operating means overriding said first-mentioned operating means to open said by-pass valve upon a predetermined maximum temperature differential and to close said by-pass valve upon a predetermined minimum temperature differential.

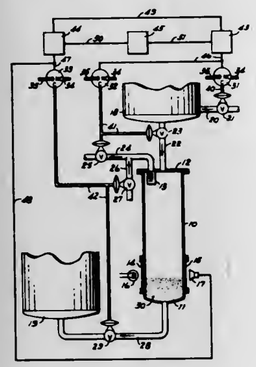
3,262,395
HYDRAULIC TRANSFORMER
Jorge A. Morando, Sherman Oaks, Calif., granted to National Aeronautics and Space Administration under the provisions of 42 U.S.C. 2457(d)
Filed June 10, 1963, Ser. No. 286,620
11 Claims. (Cl. 103—49)



1. In a fluid pressure transformer apparatus, in combination: a free-piston pump comprising a plurality of piston cylinder sets each comprising respective drive and pump pistons of differential diameter and cylinders of correspondingly different diameter in which said pistons

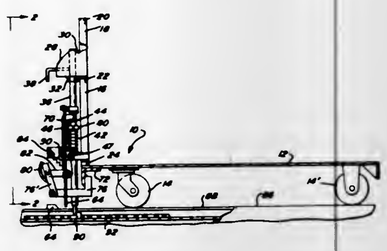
are respectively slidable, said drive pistons being arranged to transmit pumping strokes to said pump pistons; a drive fluid inlet for said pump; a rotary control valve operable to direct flows of drive fluid of one pressure from said inlet against said drive pistons in their respective cylinders in a cycling sequence, for effecting said pumping strokes; valve means for controlling intake of fluid into said pump piston cylinders and discharge of fluid under another pressure from said pump; and a rotary fluid motor having an inlet port connected to said drive fluid inlet to receive a portion of the inlet flow of said drive fluid and directly driven by said inlet flow, said motor having a driving connection to said valve for rotating the valve to effect cycling of the inlet flows to the cylinders of said drive pistons, said valve and motor being arranged end-to-end in axial alignment on the major axis of the apparatus, and said piston-cylinder sets being arranged in concentric array around said valve and motor, with their respective axes parallel to said major axis.

3,262,396
SLURRY PUMP
Albert William Kingsbury, Moorestown, N.J., assignor to Pfaudler Permutit, Inc., Paramus, N.J., a corporation of New York
Filed Nov. 9, 1964, Ser. No. 409,765
9 Claims. (Cl. 103—240)



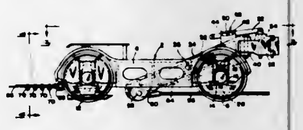
1. A pump for slurry consisting of a granular solid and a liquid, comprising a pump chamber, a slurry supply tank, a slurry receiving tank, a first pipe interconnecting said supply tank and a supply of liquid, a second pipe interconnecting said supply tank and said pump chamber, a third pipe interconnecting said pump chamber and a point of disposal, a fourth pipe interconnecting said pump chamber and a supply of liquid, a fifth pipe interconnecting said receiving tank and said pump chamber, valve means in each of said pipes, first control means connected and adapted upon actuation to open the valve means in said first, second and third pipes, second control means connected and adapted upon actuation to open the valve means in said fourth and fifth pipes, timing means connected with said control means and adapted to alternately actuate said first and second control means, said timing means comprising two separate timers each having switch means adapted upon motivation of the timer to close for a predetermined interval of time, each of said control means being connected with and adapted to be actuated by one of said switch means, and interconnections between said timers whereby each of said timers is adapted to motivate the other of said timers.

3,262,397
DRAGLINE MATERIAL HANDLING TRUCK
Lynn Bradt, Easton, Pa., assignor to SI Handling Systems, Inc., Easton, Pa., a corporation of Pennsylvania
Filed June 5, 1964, Ser. No. 372,939
10 Claims. (Cl. 104—88)



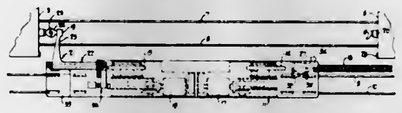
1. A material handling truck comprising a body, an upright tow pin supported by said body at one end thereof, means supporting at least one selector rod at said one end for rotation about a horizontal axis extending transversely across said body, means for raising said tow pin to an inoperative position, and means coupled to said rod and tow pin for raising said rod through a corresponding distance.

3,262,398
RAILROAD CAR BARNEY
Edward E. Cheek, Cleveland, Ohio, assignor to McDowell-Wellman Engineering Company, a corporation of Ohio
Filed May 5, 1964, Ser. No. 365,051
8 Claims. (Cl. 104—162)



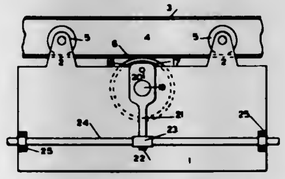
1. A barney for moving a railroad car along a main trackway, comprising in combination:
(a) a second trackway disposed within the main trackway;
(b) a carriage mounted on wheels movable along the second trackway;
(c) a coupler arm mounted on the carriage for rotation about an axis transverse to the second trackway;
(d) a pivot coacting between the carriage and the coupler arm intermediate the extremities of the coupler arm;
(e) means coupled to one extremity of the coupler arm for grasping a railroad car coupler to pull the car along the main trackway, said means when in pulling engagement being positioned further from the plane of the second trackway than the pivot, measured along a line transverse to the plane of said trackway;
(f) means coupled to the other extremity of the coupler arm for rotating the coupler arm to position said coupler grasping means relative to the railroad car coupler; and
(g) means coupled to the carriage for moving it along the second trackway, such that the coupler arm is in tension pulling the railroad car, and tends to rotate in a direction moving the coupler grasping means towards the plane of the trackway, thereby exerting against the railroad car coupler, a force to hold the railroad car firmly against rails of the main trackway.

3,262,399
RAILROAD CAR MOVER
Carl Ludwig, Cleveland, Ohio, assignor to McDowell-Wellman Engineering Company, a corporation of Ohio
Filed May 5, 1964, Ser. No. 365,052
5 Claims. (Cl. 104—176)



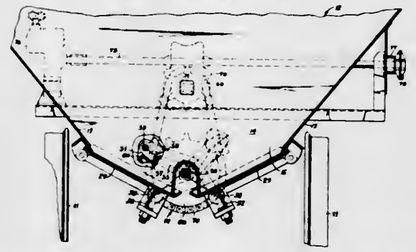
1. A device for moving a railroad car along a main trackway, comprising in combination:
(a) a second trackway disposed adjacent and parallel to the main trackway;
(a) a car mover mounted on wheels movable along the second trackway;
(c) an arm mounted on one end of the car mover for rotation in a plane normal to the main and second trackway;
(d) means secured to the free extremity of the arm for engaging the coupler of a roalroad car on the main trackway in order to pull the car along the trackway; and
(e) means mounted on the other end of the car for pushing engagement with an adjacently disposed railroad car on the main trackway.

3,262,400
DRIVES FOR OVERHEAD HAULAGE VEHICLES
Herbert V. Henderson, Germiston, Transvaal, Republic of South Africa, assignor to Anglo-Transvaal Consolidated Investment Company Limited, Johannesburg, Transvaal, Republic of South Africa
Filed July 6, 1965, Ser. No. 469,543
Claims priority, application Republic of South Africa, July 10, 1964, 64/3,271
2 Claims. (Cl. 105—73)



1. A locomotive adapted to be suspended from an overhead track, said locomotive comprising a rigid frame having track engaging wheels relatively positioned for engagement against opposite sides of the support track, bearing blocks carried by and spaced apart transversely of said frame, means supporting said blocks on the frame to have up and down movement relative thereto, one of said track engaging wheels being a drive wheel which is operatively connected with said bearing blocks for rotation, a draw bar extending longitudinally along one side of said frame, means on the frame supporting the draw bar for reciprocal movement, the draw bar being substantially perpendicular to the rotational axis of said drive wheel and being below said axis, said operative connection of the drive wheel with the bearing blocks including support guide means for the drive wheel adapted to permit swinging movement of the wheel in the longitudinal direction of the track, a rigid arm having upper and lower ends and connected intermediate its ends to said support guide means, means pivotally mounting the upper end of said arm on said frame above the rotational axis of the wheel to swing in a plane crossing said axis, guide means carried by said draw bar having the lower end of said arm loosely received therein whereby upon longitudinal movement of said draw bar said arm pivots about said pivotal mounting to raise and lower said drive wheel, and drive means for said drive wheel.

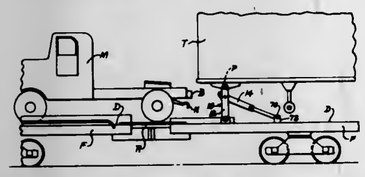
3,262,401
DROP BOTTOM RAILWAY CAR
William Gibson, Chicago, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed July 17, 1962, Ser. No. 210,345
1 Claim. (Cl. 105—250)



In combination, a railway hopper car having adjoining hopper compartments spaced from each other lengthwise of the car, including:
(a) a transversely extending hollow housing separating the hopper compartments and having transversely extending walls spaced lengthwise of the car from each other,
(b) each said hopper compartment being defined in part by transversely spaced longitudinally extending walls meeting with one of the walls of the housing and with another end wall spaced from said first named transverse wall to present a discharge area,
(c) a pair of longitudinally extending doors for each hopper pivotally mounted at their upper edges along the lower edges of the longitudinally extending side walls of the hopper and extending at an inclined slope towards each other when in closed position to close the discharge area,
(d) means for moving the doors and supporting them in closed position, including:
(e) a rotatable shaft projecting through said housing and both of the adjoining hopper compartments with the ends of said shaft extending through and terminating externally of said other end walls of said compartments,
(f) jackknife-type folding mechanisms carried by the portions of the shaft disposed externally of both of the end walls of each of the hopper compartments, a different pair of said mechanisms being connected with the opposite ends of each door,
(g) means for conjointly operating the doors of adjoining hoppers by rotation of the shaft with said means being disposed in the transversely extending housing between said compartments, and including:
(h) a driven sprocket wheel fast on the operating shaft approximately midway between said transverse walls of said transversely extending housing,
(i) a driving sprocket pinion rotatably mounted at an appreciable distance from the driven sprocket wheel and disposed in alignment therewith,
(j) a link belt connection interconnecting the the sprocket wheel and its associated pinion,
(k) a worm wheel fast with the driving sprocket,

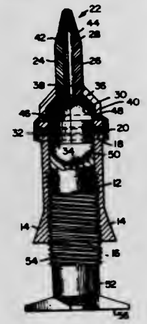
(l) a worm interengaging the worm wheel for driving the latter,
(m) a shaft nonrotatably connected with the worm and extending transversely of the car, and
(n) means for rotating said transversely extending shaft.

3,262,402
COLLAPSIBLE HITCH
Rolf Mowatt-Larssen, Bridgeton, and Adam D. Sweda, Florissant, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Dec. 30, 1964, Ser. No. 422,216
15 Claims. (Cl. 105—368)



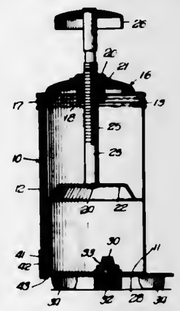
1. A hitch adapted to releasably secure the kingpin of a trailer or the like on a railway car, comprising: a supporting base, a generally vertical support extending upwardly from the base, means connected to the supporting base mounting said support for pivotal movement about a horizontal axis at a position intermediate the upper and lower ends of the support, a fifth wheel plate pivotally connected adjacent the upper end of said vertical support for releasably securing the kingpin, said vertical support being pivoted about its pivotal connection to said mounting means in a lever action upon the exertion of a longitudinal force from the kingpin to swing the lower end of the support in one generally horizontal direction relative to the supporting base and to swing the upper end and fifth wheel plate in an opposite generally horizontal direction, and cushion means between the supporting base and said lower end of said vertical support to cushion the pivotal movement of the support about its horizontal axis and to return the support to its original position after a generally horizontal cushioned movement of the lower end of the vertical support.

3,262,403
FORMING DEVICE
Lawrence H. Teel, Marblehead, and Joseph C. Dennesen, Beverly, Mass. (both of 35 Congress St., Salem, Mass.)
Filed July 29, 1963, Ser. No. 298,159
11 Claims. (Cl. 107—47)



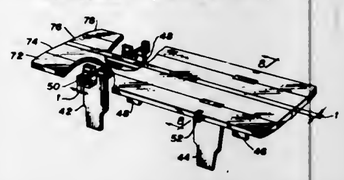
1. A lollipop making device comprising
a cylindrical body open at both ends and internally threaded over a portion of its length,
a head member made in separable parts removably secured to one end of the body and partially defining at that end a molding cavity open in the direction of the body,
an elongated recess defined by the separable parts of the member and communicating with the cavity, said recess housing the lollipop stick,
and a ram screwed into the threaded portion of the body from its other end and partially defining the molding cavity defined in part by the member.

3,262,404
COOKIE PRESS
James S. Morz and John W. Wiesner, both of Manitowoc, Wis., assignors to Mirro Aluminum Company, Manitowoc, Wis., a corporation of New Jersey
Filed May 29, 1964, Ser. No. 371,212
7 Claims. (Cl. 107—52)



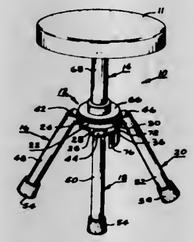
1. In a cookie press of the character described, in combination, a body portion in the form of a cylinder having a bottom wall and an open top end, said bottom wall having an opening therein located to one side of the center of the said wall, a cover for the open top end of the cylinder and which has a releasable connection therewith, a plunger located within the cylinder, means operatively connecting the plunger with the cover whereby actuation of said means will cause movement of the plunger axially of the cylinder, an apertured forming plate rotatably carried by the bottom wall exteriorly thereof, and said forming plate having a size to underlie the opening in the bottom wall, whereby the aperture in said forming plate may be aligned with the said opening by rotative adjustment of the said plate.

3,262,405
INTERLOCKING ASSEMBLABLE FURNITURE
Jon Sutton, 2135 Powell St., San Francisco, Calif.
Filed Oct. 13, 1964, Ser. No. 403,970
4 Claims. (Cl. 108—153)



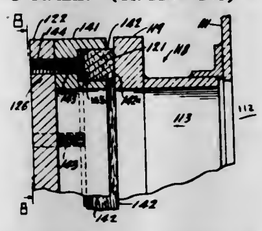
1. In a furniture construction the combination of a first vertical support having tongues mounted on opposite ends of the top edge of said vertical support, a pair of horizontal members mounted on said first member, each said horizontal member formed with a notch to receive the tongues of said vertical support member, a second vertical support member aligned with said horizontal member, means interlocking said second vertical support member with said first vertical support member, the inner edge of said horizontal members and the outer top edges of said second vertical support members being formed to provide an interlocking wedge to interlock said horizontal members with said second support members and the inner edge of said tongue and the mating notch of said horizontal members being formed in an interlocking wedge to prevent relative upward movement of said horizontal members relative to said first vertical support members.

3,262,406
COLLAPSIBLE PEDESTAL CONSTRUCTION FOR STOOLS AND THE LIKE
Hyrum E. Nickolaisen, 11511 Barman St., Culver City., Calif.
Filed Oct. 5, 1964, Ser. No. 401,412
24 Claims. (Cl. 108—157)



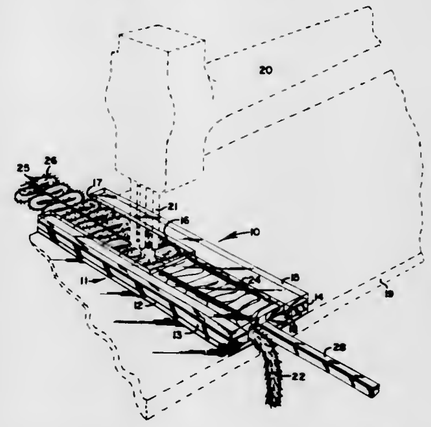
1. A collapsible furniture pedestal, comprising:
leg-connector means;
a plurality of legs having top portions; means pivotally connecting said legs to said leg-connector means for movement about different vertical axes with said top portions cooperatively defining a spindle-receiving opening;
and a spindle for mounting in a generally vertical position with an end of said spindle seated in said opening to prevent further pivotal movement of said legs.

3,262,407
CLOSURE MEANS FOR FURNACE VESTIBULE
Henry W. Schramm and Alfred G. Parkes, Toledo, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Filed Feb. 3, 1964, Ser. No. 341,988
5 Claims. (Cl. 110—173)



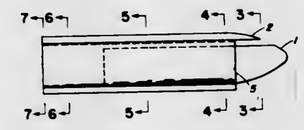
1. Apparatus comprising, in combination: wall means defining a vestibule having an opening; annular means connected to the wall means comprising an annular plate member having a first surface circumscribing the opening; movable door member having a second surface for abutting against the first surface for closing the opening; and a plurality of biasing means mounted on one of said members at spaced points disposed in an annular pattern circumscribing the opening for selectively biasing at least one local portion of one of said first and second surfaces toward the other of said first and second surfaces for closing any localized gap therebetween when the first surface is in abutting relationship to the second surface, each of said biasing means being totally contained at one of said spaced points and operative to selectively bias a local portion independently of other of said spaced points.

3,262,408
WORK-HOLDING AND FEEDING DEVICE FOR LOOPING ROPE
Vernie A. Elledge and Robert G. Bradshaw, both of Huntsville, Ala., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
Filed July 27, 1964, Ser. No. 385,200
1 Claim. (Cl. 112—136)



The combination with a sewing machine having a table, and a presser foot and needle assembly of a work-holding and feeding device comprising a work-holder for retaining looped rope therein to be sewn secured to said table in fixed relation thereto, and a looping tool for engaging said rope and forming it into loops in said work-holder, said work-holder including a base plate and a top plate and a pair of parallel spacing strips positioned intermediate of said base plate and said top plate, the combined width of said strips being less than the width of said plates and positioned along the length edges of said plates to provide a longitudinal passageway for said looped rope in said work-holder, and a slot in said work-holder to receive the presser foot and needle assembly of said sewing machine whereby stitches can be sewn in the looped rope to retain it in a rick-rack formation.

3,262,409
FABRIC-SHAPING DEVICES
Anthony G. Tucci, 9602 103rd Ave., Ozone Park, N.Y.
Filed June 25, 1962, Ser. No. 204,985
5 Claims. (Cl. 112—147)



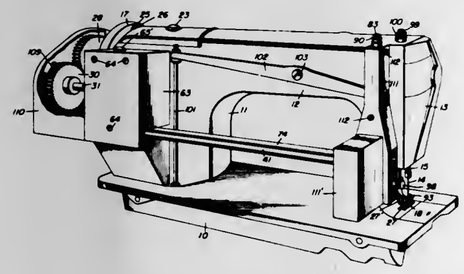
1. A device for folding two opposed parallel edges of a strip of flexible material, said device being adapted to be mounted above and immediately adjacent a relatively movable subjacent surface, which comprises in combination foot means for holding a medial portion of said strip

in frictional engagement with said relatively movable subjacent surface, said foot means having a leading edge adapted to be mounted in spaced relation to said subjacent surface, guide means cooperating with opposed edges of said foot means to define a pair of slots open at both ends, whereby a marginal portion of said strip may extend upwardly away from said relatively movable subjacent surface through each of said slots, said guide means having leading edges adapted to be mounted in contact with said relatively movable subjacent surface to turn said marginal portions of said workpiece upwardly into said slots, and shroud means overlying said slots for urging said marginal portions downwardly to overlie said medial portion, said strip of material being drawn through said device by relative movement between said device and said subjacent surface in a direction generally parallel with said slots.

3,262,410
SEWING MACHINE WORK-FEEDING MECHANISM

William J. Chernes, Sparta, N.J., assignor of one-half to Michael Bork, Brooklyn, N.Y.

Filed Nov. 5, 1964, Ser. No. 410,348
4 Claims. (Cl. 112—212)

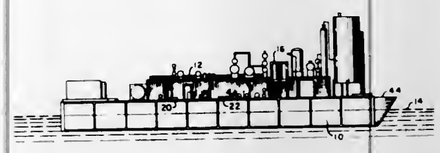


1. In a sewing machine having a main frame with a work supporting base and a drive shaft and stitching needle driven by said shaft providing an up and down working movement thereto into and out of material engaging positions with a bottom feed dog actuated in timed relation to stitching by said needle for exerting an advancing force on material being sewn for a predeterminable adjustable advance step movement, a top work-feeding mechanism for cooperation with said bottom feed dog comprising a pair of eccentric feed-drive elements, means for mechanically driving said eccentric feed-drive elements by said drive shaft in predetermined angular relationships, a pair of rocker arms each operably connected respectively to one of said eccentric drive elements, a pair of oscillatable drive rods each operably connected respectively to a separate one of said rocker arms and rotatably supported on said main frame, a second pair of rocker arms each operably connected respectively to one of said drive rods, a pair of rock shafts each operably connected respectively to one of said second pair of rocker arms, said operable connections of said eccentric drive elements to said drive shaft and to said rock shafts being angularly and oscillatably related respectively to provide for a major rocking movement of one of said rock shafts transversely toward and away from said needle and for a major rocking movement of the other of said rock shafts up and down in the direction of movement of said needle, a feed bar drivingly engaged by said rock shafts slidable respectively in directions perpendicular to the direction of major rocking movement of each rock shaft and drivingly engaged thereby in said respective major rocking movement directions, means for rockably and slidably supporting said feed bar, and a top feed dog operably carried by said feed bar alternately to engage and be disengaged from material above said bottom feed dog and for exerting an advancing force while the needle is out of material engaging position synchronously wtih said bottom feed dog.

3,262,411
BARGE BASED PROCESS PLANT

Lester V. Kaltenecker, Hollywood, Fla., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Original application Aug. 15, 1962, Ser. No. 217,202. Divided and this application June 2, 1965, Ser. No. 465,245
4 Claims. (Cl. 114—.5)



1. A portable chemical process plant such as an oil refinery and the like, with integral foundation for marine transport and support at a land site, comprising a generally rectangular concrete barge having a longitudinal dimension longer than its transverse dimension, a horizontal concrete deck extending across the top of said barge, a process plant disposed and supported on said deck, a first plurality of parallel spaced apart vertical concrete walls, said first plurality of walls extending longitudinally within said barge and between said deck and the bottom of said barge, a second plurality of parallel spaced apart vertical concrete walls, said second plurality of walls extending transversely within said barge and between said deck and the bottom of said barge, whereby said first and second plurality of walls provide integral support for said process plant, a plurality of integral post tensioned cables, said cables extending through at least one of the concrete apparatus elements comprising said deck, the outer walls and bottom of said barge, and said first and second plurality of walls, said cables being under tension in service whereby said cables provide a compressive reinforcing effect on said concrete apparatus elements through which said cables are extended, a plurality of terminal conical anchors, each of said anchors being attached to one end of one of said cables with the cable ends extending axially through said anchors and the apex of each of said anchors facing towards the cable to which said anchor is attached, and a plurality of hollow conical sockets, each of said sockets being disposed between one of said anchors and the respective concrete apparatus element, whereby the tension of each of said cables exerts a compressive force on the respective concrete apparatus element through terminal conical anchors and sockets.

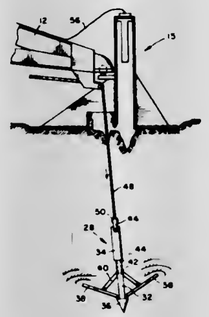
3,262,412
PAD-LOCK ANCHOR SYSTEM

Paul A. Dantz, Ventura, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 23, 1964, Ser. No. 413,381
10 Claims. (Cl. 114—206)

1. An underwater anchoring apparatus which is fixable to the bottom of a body of water comprising:
a frame assembly having a top and a bottom;
a housing mounted within said frame assembly;

support and anchor driving means mounted at a plurality of respective locations on said frame assembly for providing bearing support and for driving anchors downwardly into the bottom of the water;
a cable connected to each respective anchor and extending therefrom into said housing;
a cable winding assembly mounted within said housing,



each of said cables being connected to the winding assembly so as to be capable of being wound thereon; and
means within said housing for driving said cable winding assembly whereby after driving the anchors into the bottom of the water the frame can be drawn tight against the bottom by winding said cables on the cable winding assembly.

3,262,413
MOTORIZED SURFBOARD

James S. Douglas, Los Angeles, Calif., Alfred S. Bloomingdale, 131 Delfern Drive, Los Angeles, Calif., James G. Moran, Burbank, and Gordon D. Walker and Roland M. Joslyn, Malibu, Calif.; said Douglas, Walker, Moran, and Joslyn, assignors to said Bloomingdale

Filed Sept. 22, 1964, Ser. No. 398,162
10 Claims. (Cl. 115—70)

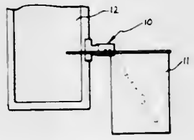


1. Self-propellable surfboard comprising:
rigid hull body having overall traditional surfboard configuration forming internally thereof a plurality of enclosures within said hull body;
internal combustion engine means mounted within one of said enclosures and having power output and starter shafts;
water jet propulsion means comprising,
cylindrical tubular housing for carrying a propulsion water jet stream axially thereof and mounted within one of said enclosures,
stator blades carried by said housing,
rotary propeller and propeller shaft means rotatably supported in said housing with said propeller means disposed upstream from said stator blades for generating the water movement associated with said propulsion jet stream,
water jet inlet port formed in the bottom surface of said hull body,
water jet inlet duct means hydraulically interconnecting said inlet port and said tubular housing,
jet outlet port formed at the stern portion of said hull body, and
water jet outlet duct means hydraulically interconnecting said tubular housing and said outlet port for directing said propulsion jet stream in the aft direction and through said jet outlet port in a forward thrust producing relation with respect to said hull body;
mechanical coupling means for connecting said propeller shaft means to said power output shaft;
air inlet means disposed in the top surface of said hull body;
air supply means extending through and including said plurality of enclosures from said air inlet means to said engine means for providing oxygen thereto;
water rejecting snorkel means pneumatically intercoupled in said air supply means for hydraulically isolating individual ones from another of said enclosures;
starter means mechanically communicating through the external surface of said hull body and connected to said starter shaft;
carburetor and ignition control means communicating through the external surface of said hull body and connected with said engine means; and
self-bailing means disposed in each of said enclosures.

3,262,414
MEANS TO ATTACH WARNING DEVICE TO VEHICLE

Carl E. Monk, 428 Southland Blvd., Louisville, Ky. 40214

Filed Mar. 8, 1965, Ser. No. 437,647
3 Claims. (Cl. 116—28)



1. A device to secure warning means to a vehicle comprising:
(a) first clamping means adapted to removably clamp to the vehicle,
(b) second clamping means secured to said first clamping means and adapted to removably secure and support a warning means,
(c) said second clamping means including a spring-biased pivotal plate having at least one slot therein, and
(d) a relatively stationary U-shaped element extending through said slot and adapted to receive and secure a warning means between the bight portion of said element and said pivotal plate.

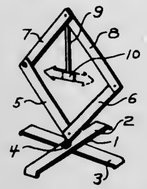
3,262,415
COLLAPSIBLE SAFETY EMERGENCY TRAFFIC REFLECTOR

Rocco Biscardi, 1748 21st St. S., St. Petersburg, Fla.

Filed Aug. 2, 1965, Ser. No. 476,255
2 Claims. (Cl. 116—63)

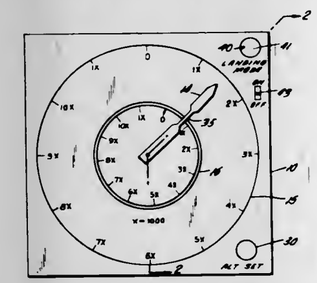
1. In a device of the character described a signal device comprising four flat arms of equal length, each said arm being pivotally connected at each end to one of the other arms, a base comprising two elongated legs pivotally connected at their midpoints, an upstanding bracket projecting above said base, said bracket including an elongated vertical slot and a horizontally projecting pin

beneath said slot, a pivot pin in one of said pivotal connections projecting through said slot, and elongated slots



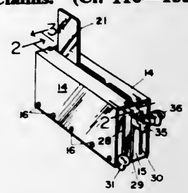
in the ends of the arms adjacent said pivot pin adopted to receive said horizontally projecting pin.

3,262,416
ALTIMETER STRUCTURE
David B. Nichinson, Great Neck, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed May 11, 1964, Ser. No. 366,466
1 Claim. (Cl. 116—129)



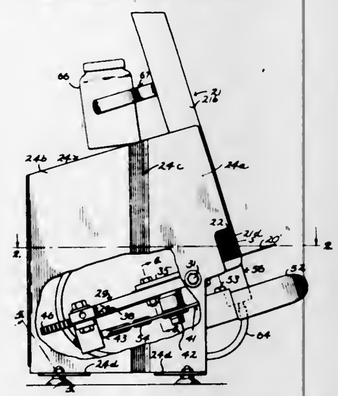
An altimeter structure comprising an altitude mechanism for measuring altitude pressure, and having movable output means movable as a function of altitude pressure, a rotatable indicating pointer, connection means connected from said movable output means to said rotatable indicating pointer for rotating said pointer as a function of altitude pressure, first support means connected to said connection means and supporting said connection means, a first and second dial having respective first and second circular dial surfaces, said first and second dial surfaces being coplanar, said indicating pointer mounted adjacent said first and second dial surfaces, said connection means extending through the axis of said first and second dials, the axis of rotation of said indicating pointed coaxial with the axis of said first and second circular dials, an altitude adjustment, second support means connected to said first support means and said first dial for stationarily mounting said first dial, bearing support means connected to said first and second support means and said second dial for rotatably mounting said second dial with respect to said first dial, said rotatable pointer rotatable with respect to both of said first and second dials, said second dial connected to said altitude adjustment means, said second dial rotating with respect to said first dial responsive to operation of said altitude adjustment means, and first and second illuminating means for said first and second dial surface repectively, independent control means connected to said first and second illuminating means for independently energized said first and second illuminating means, said independent control means energizing said first illuminating means for illuminating said first dial surface during normal flight conditions, said independent control means energizing said second illuminating means for illuminating said second dial surface only during landing and take-off operation.

3,262,417
SIGNALLING DEVICE
Isidore P. Zimmer, 415 76th St., Miami Beach, Fla.
Filed Oct. 20, 1965, Ser. No. 498,371
5 Claims. (Cl. 116—135)



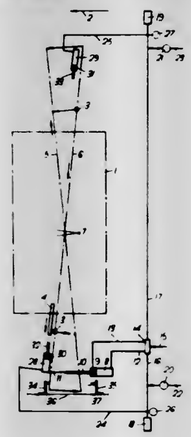
1. A signalling device comprising a housing having an end wall and a top wall, a bottom wall secured to said housing and forming a chamber, a plurality of rods mounted on said bottom wall and extending upwardly in said chamber, a sleeve slidably mounted on each of said rods, a pin secured to each of said sleeves, a signalling member secured to each of said sleeves and positioned within said chamber, said end and top walls having a plurality of slots, a plurality of posts mounted on said bottom wall, a plurality of levers extending through said slots in said end wall, a push button mounted on one end of said levers, pivot pins securing said levers to said posts for swinging movement of said levers, the other ends of said levers engaging said pins on said sleeves whereby upon exerting a force downwardly on said push buttons, said levers will pivot about said pivot pins and said signalling members are slid upwardly on said rods through said slots in said top wall to the signalling position.

3,262,418
APPARATUS FOR CONTROLLED DISPENSING AND CONDITIONING OF STACKED OBJECTS
Frederick N. Stephens, Leawood, Kans., and Charles C. Krug, Kansas City, Mo., assignors, by mesne assignments, to Stephens Industries, Inc., Kansas City, Mo., a corporation of Missouri
Filed Aug. 20, 1962, Ser. No. 217,866
6 Claims. (Cl. 118—1)



5. Apparatus for successively dispensing individual elongated tags from a stack of tags and simultaneously conditioning a portion of the dispensed tags with liquid adhesive, said apparatus comprising an upright tag magazine having end support means with an opening therein providing a flat support surface for the underside of the elongated tag at the lower end thereof, a source of liquid adhesive, means for communicating adhesive from said source to the opening in said support means whereby to contact adhesive with the lowermost tag in the stack adjacent one end of the tag support surface, and shuttle means operable to push said lowermost tag laterally from the lower end of the stack across said support surface and to pivot the tag about said opening to a position permitting its subsequent manual separation from the stack.

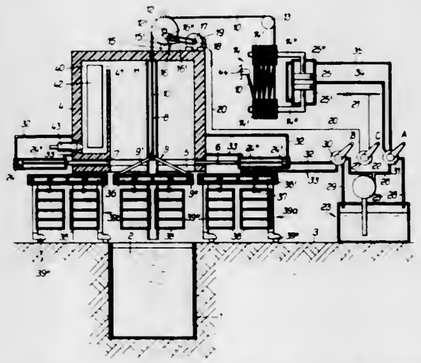
3,262,419
FLYING COATING HEAD MOUNTED ON PIVOTAL BEAM
Howard Richard James Knight, Leamington Spa, England, assignor to Carrier Engineering Company Limited, London, England, a corporation of Great Britain
Filed Mar. 24, 1965, Ser. No. 442,386
Claims priority, application Great Britain, June 15, 1960, 21,082/60
3 Claims. (Cl. 118—7)



1. Apparatus for coating an upright surface of an article, comprising a beam supportable for pivotal movement about a horizontal axis intermediate its ends in a vertical plane parallel to the path of a conveyor by which articles to be coated are moved in a straight path at a constant linear speed, a carriage mounted on the beam, work controlled means for reciprocating the carriage in a straight line path up and down the beam, a coating material spraying device supported on the carriage and arranged to spray coating material on to an upright surface of an article during movement of the article past the spraying device, and beam swinging means including fluid pressure control devices fixed to the beam and operable at the end of each stroke of the carriage to swing the beam about said axis, to reciprocate said carriage and dampen the carriage movement at said end of each stroke, whereby the spraying device during successive strokes thereof is traversed along straight line paths inclined on opposite sides of a line at right angles to the direction of movement of the articles and in a direction in each path such that a component of the movement of the spraying device always lies in the same direction as the direction of movement of an article being coated.

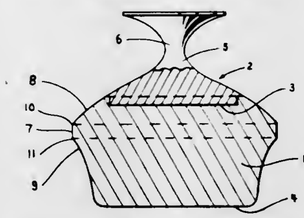
3,262,420
COATING AND OVEN SYSTEM INCLUDING WORK HANDLING MEANS
Giovanni Bossi and Bruno Pasqualini, Varese, Italy, assignors to Galvarplast S.N.C., Varese, Italy
Filed Mar. 21, 1963, Ser. No. 267,020
Claims priority, application Italy Mar. 22, 1962, 5,538/62, Patent A/21,673
6 Claims. (Cl. 118—57)

1. Apparatus for coating articles with coating substances by dipping heated articles into a fluidized bed of the coating substance comprising a container for holding the fluidized bed, an oven above said container, means for heating said oven, doors at the bottom of said oven, means for opening and closing said doors, a carrier for the articles to be coated, hoist means for raising and lowering said carrier whereby said carrier is movable to and from a position in said oven and in said container, means for stopping the movement of said carrier in a position between said oven and said container, holding



means for horizontally moving the articles, means on said carrier for receiving said holding means and horizontally moving articles, said hoist means for lowering and raising said carrier including pulley means mounted on parallel shafts arranged to be displaced in relation to one another, and shaking means including a rotatable cam operatively associated with said hoist means to impart a shaking movement to said carrier.

3,262,421
SHAPED CAKE OF MATERIAL WITH HANDLE ATTACHED
Robert B. Staver, 191 Hillview Ave., Los Altos, Calif.
Filed Aug. 12, 1963, Ser. No. 301,537
6 Claims. (Cl. 118—76)



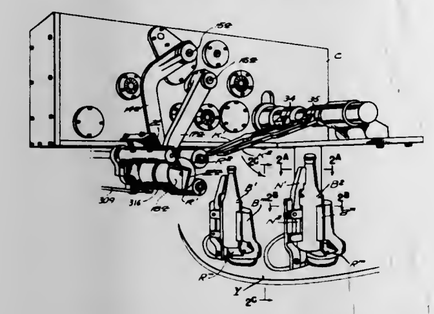
1. In combination, a body of erodable material of a size to be grasped by a hand and manipulated thereby, said body having an upper surface portion; a member extending upwardly from and attached to at least part of said upper surface portion of said body, which member has a maximum cross dimension substantially less than that of the body of erodable material, said body having an opposite surface for application to an object to be treated, said member including means for holding said body of material that include a slender stem portion, said stem being suffioiently slender to be positioned in the crotch of two adjacent squeezing fingers of a hand without spreading said fingers to an uncomfortable degree, the side of said body provided with a laterally projecting erodable rim so as to enable some of the fingers and the fleshy part of the palm of the hand to grip over, around, and under this rim, and the thumb of said hand to grip the side surface of the body below this rim, said rim intersecting the contiguous surface below non-tan-

gentially, so as to provide a protruding edge-line portion of the body of material in the general shape in vertical profile an an angular corner.

3,262,422
APPARATUS FOR APPLYING GUM TO A LABEL PICKER

Sidney T. Carter, Shrewsbury, Mass., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin

Filed May 20, 1963, Ser. No. 281,624
25 Claims. (Cl. 118—263)

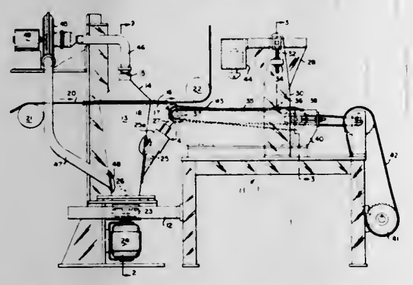


1. In combination in a labeling machine of the kind in which a label is taken from a stationary magazine by a gum-coated picker and carried by the picker to an affixing position, and wherein gum for coating the picker, contained in a supply reservoir, is caused to coat a rotatable supply roll, means operative, during one cycle of the machine, to transfer gum from the gum-supply roll to the picker, and other means operative, during the next following cycle, to transfer gum from the gum-supply roll to the picker.

3,262,423
APPARATUS FOR TREATING POROUS WEB MATERIAL

William J. Willhite, Green Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Oct. 4, 1962, Ser. No. 228,348
2 Claims. (Cl. 118—309)

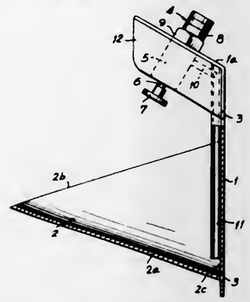


1. Apparatus for treating a moving web of porous material comprising the combination of an enclosed dispersing chamber, a rotating dispersing blade within and at the bottom of said chamber, an open inlet duct including a funnel for feeding treating material into said chamber, said inlet duct including a portion of relatively small cross sectional area extending into said chamber and terminating over the central portion of said dispersing blade so that the incoming treating material enters directly over said blade thereby creating an atmosphere of suspended particles within said chamber, opposed web guide and seal means each extending across the width of the chamber and incorporated in an upper part of a chamber wall at one end of said chamber for guiding a continuously moving web of porous material through said chamber, and offtake means located at the top of the chamber whereby said atmosphere is drawn through the porous material to thereby leave thereon a uniform pattern of treating material.

3,262,424
AUTOMATIC DRINKING WATER SUPPLY FOR DOMESTIC ANIMALS

Jarl R. Hjalmarsson, Lindsbergsgatan 6A, Uppsala, Sweden

FIled Oct. 21, 1965, Ser. No. 505,130
5 Claims. (Cl. 119—75)



1. An automatic apparatus for supplying drinking water to domestic animals, said apparatus comprising a drinking bowl, a valve disposed above, spaced from and in overlying relationship to said bowl adapted to be connected to a water supply line, said valve having a lateral outlet, a tube having an upper end positioned and adapted relative to said outlet to receive water therefrom when the valve is open, and valve operating means depending from said valve and adapted to be actuated upwardly by the animal to open the valve for injecting water from said supply line through said lateral valve outlet into said tube, said valve returning to normal shut-off position when the actuation of said valve operating means is discontinued, said tube having a tube outlet within said bowl and above the bottom of said bowl, the interior of said tube being inaccessible to the animal between the ends thereof, the spacing between the valve operating means and the tube outlet being such that the animal can consume water at and below the level of said tube only in positions definitely preventing the animal from operating the valve operating means, and so that the animal's head while actuating the valve operating means is prevented from drinking contact with the water from said tube.

3,262,425
ERASER TIP

Lawrence M. Waugh, 1013 N. Pleasant, Royal Oak, Mich.

Filed Apr. 13, 1964, Ser. No. 359,273
3 Claims. (Cl. 120—38)

1. An eraser tip for pencils, comprising:

a tubular member relatively short in length and of soft pliable plastic material having an eraser received and retained within one end thereof and being formed to receive and to be received on the end of a pencil to provide an eraser for use therewith,

said tubular member having an opening provided therethrough and longitudinally extended ribs on the inner peripheral wall of said opening for both eraser and pencil gripping engagement and being of uniform cross-section throughout its full length,

and said eraser being oversized with respect to the opening receptive thereof for press fitted unyielding engagement therewithin and said opening being undersized with respect to a pencil for use therewith for stretch fitted holding engagement of said member on the pencil within the modulus of elasticity afforded by said soft plastic material.



3,262,426
WRITING TOOL

Helmut Bross, Altenberg, Germany, assignor to Gebruder Schmidt, St. Georgen, Black Forest, Germany

Filed Apr. 20, 1965, Ser. No. 449,476
Claims priority, application Germany, Apr. 23, 1964, B 76,464; Feb. 10, 1965, B 80,448
12 Claims. (Cl. 120—42.13)

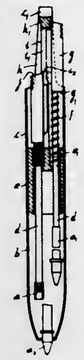


1. In a writing tool having a casing with an opening in the tip thereof, a plurality of lead or ink carriers axially slidable within said casing, first means for selecting any one of said carriers and for advancing the same from a retracted position within said casing to its writing position in which its writing tip projects through said tip opening of said casing and for returning it to said retracted position, and second means for arresting said carriers in said writing position, said first means comprising an actuating member within the rear end of said casing and partly projecting therefrom, a plurality of slide members axially slidable within said casing, each of said slide members having a bearing surface on one end, means on the other end of each slide member for connecting the same to one of said carriers, one of said bearing surfaces being centrally disposed substantially within the axis of said casing, and at least one other of said bearing surfaces at least partly surrounding said central bearing surface, a connecting element between said actuating member and said bearing surfaces, said connecting element being movable by its gravity in a direction transverse to the axis of said casing into selective alignment with any one of said bearing surfaces when said actuating member and said slide members are in their retracted positions so that, when said actuating member is then depressed, said connecting element will act upon the selected bearing surface and thereby move the same with its slide member and the carrier thereon to the writing position, and spring means for moving said actuating member and said slide members back to their retracted positions.

3,262,427
WRITING DEVICES

Marcel Joseph von Arx, 44 Rue du Point Jour, Montegeron, Seine et Oise, France

Continuation of application Ser. No. 235,763, Nov. 6, 1962. This application Oct. 6, 1965, Ser. No. 497,594
5 Claims. (Cl. 120—42.13)



2. A writing device comprising a casing; a plurality of elongated writing units; said writing units being mounted in said casing for axial movement along the axis of said casing and being separately movable between a writing position and a retracted position in said casing; spring means biasing each writing unit to its retracted position in said casing; abutment means fixed longitudinally relative to said casing positioned between said writing units; locking means on each of said writing units engageable by said abutment means when said writing units are moved into their writing positions for restraining said units against retraction by said spring means; and camming means integrally formed on each writing unit; the camming means of one of said writing units cooperating directly with an integral portion of another of said writing units when said other writing unit is in its writing position upon movement of said one writing unit from its retracted position toward its writing position to move the locking means of said other writing unit clear of said abutment means so as to cause a spring-biased retraction of said other writing unit to its retracted position.

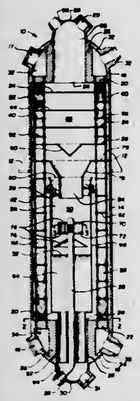
3,262,428
FLUID OPERATED STEAM GENERATOR HAVING STEAM OPERATED FEEDWATER PREHEATER

Nicholas Dimitrios Romanos, Chattanooga, Tenn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Dec. 30, 1963, Ser. No. 334,526
4 Claims. (Cl. 122—34)

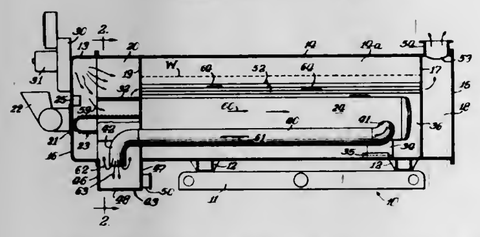
1. A vapor generator comprising a vertically elongated pressure vessel having an evaporator portion and a superheating portion; an elongated conduit concentrically arranged in the evaporator portion of said vessel having its wall spaced from the wall of said vessel to form a downcomer reservoir within said conduit and the evaporator portion thereabout; said downcomer reservoir having an upper vapor space and a liquid space at its lower end communicating with said evaporator portion; heating fluid tubes extending through said evaporator portion and said superheating portion; an annular opening in said conduit wall at the upper end thereof effecting communication between said evaporator portion and said vapor space; vapor separator means including circumferentially spaced, downwardly curved swirl-inducing vanes positioned in said opening and attached to said conduit and a centrally disposed reversing hood having its lower end communicating

with said vapor space below the discharge end of said vanes; annular partition means being attached to and extending between said vessel wall and said reversing hood above said annular opening separating said evaporator por-



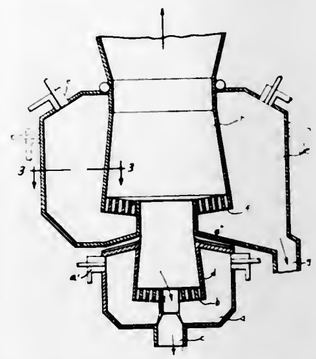
tion from said superheating portion; baffle means for directing fluid into repeated engagement with the heating fluid tubes in said superheating portion and vapor outlet means communicating with said superheating portion.

3,262,429
COAL BURNING BOILER
Frederick A. Loebel, Milwaukee, Wis., assignor to Cleaver-Brooks Company, a corporation of Wisconsin
Filed May 28, 1964, Ser. No. 370,809
1 Claim. (Cl. 122—149)



A solid fuel boiler for heating a liquid medium comprising: a shell having a front and a rear end; a rear tube sheet fixed in said shell and spaced from said rear end to define an exhaust chamber between said rear tube sheet and said rear end; an exhaust outlet communicating with said exhaust chamber; a front tube sheet fixed in said shell and spaced from said front end to define a manifold between said front tube sheet and said front end; the shell portion between said front and rear tube sheets defining a liquid chamber for receiving the liquid to be heated; an ash collection chamber at the lower portion of said manifold; a solid fuel inlet at the front end of said shell; a furnace within said liquid chamber and having front and rear ends; means for conveying said solid fuel from said inlet into said furnace through said furnace front end; means for igniting said fuel; means for blowing air across the ignited fuel and into said furnace so that the heated air and solid residue from the burned fuel entrained therewith make a first pass through said liquid chamber from front to rear of said furnace; a pair of large diameter first tubes having front and rear ends, the rear ends of said first tubes communicating with the lower portion of said furnace adjacent the rear end thereof and extending through said liquid chamber and said front tube sheet into said manifold above said collection chamber, the front ends of said first tubes being bent downwardly toward said collection chamber, so that the heated air and solid residue entrained therewith make a second pass through said liquid chamber from rear to front of said first tubes with the front end of said first tubes depositing the solid residue in said ash collector; and a plurality of small diameter second tubes in said liquid chamber, said second tubes each having a front end communicating with said manifold and a rear end communicating with said exhaust chamber, so that the heated air without the solid residue makes a third pass through said liquid chamber from front to rear of said second tubes and into said exhaust chamber and out of said shell through said exhaust outlet.

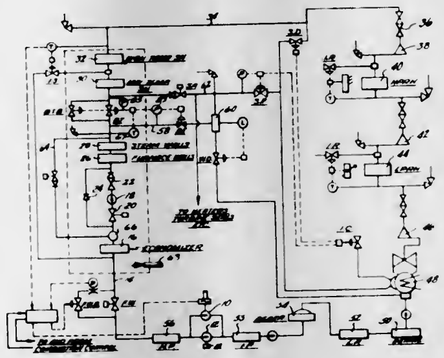
3,262,430
BURNER AND FURNACE ARRANGEMENTS, PARTICULARLY DOUBLE BURNER ARRANGEMENTS
August Schneider, Marl, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Germany
Filed July 27, 1964, Ser. No. 385,425
Claims priority, application Germany, Aug. 9, 1963, C 30,657
9 Claims. (Cl. 122—235)



1. A furnace having chambers capable of operating independently, comprising: wall means defining an upper chamber and separate wall means defining a lower chamber, said chambers being coaxial, the wall means constituting the lower portion of the upper chamber and the wall means constituting the upper portion of the lower chamber being substantially separated to reduce heat transfer therebetween, wall means defining central flues in both the upper and lower chambers which are open only at their upper and lower ends, the upper end of the lower flue extending into the lower end of the upper flue and being radially spaced therefrom, and burner means in both chambers for supplying combustible fuel means thereto.

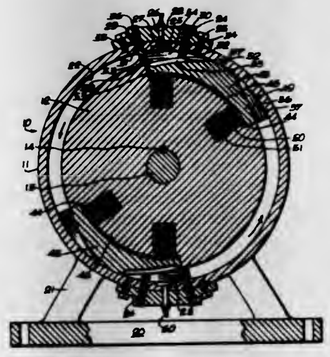
3,262,431
ECONOMIC COMBINATION AND OPERATION OF BOILER THROTTLE VALVES
Frederick J. Hanzalek, Suffield, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,512
26 Claims. (Cl. 122—406)

1. In a vapor generator system for supplying vapor to a load having a selected minimum flow requirement and having first and second heating sections and first and second valve means in parallel connecting said sections in series and an adjustable restriction at the outlet of said second section, in combination, means forcing a flow of fluid through said first section, said valve means said second section and said restriction in series, said first valve means being adjustable to impede said flow and maintain a predetermined working pressure in said first section, said restriction having a preselected opening position at which said selected minimum flow will produce a preselected pressure in said second section and a greater than critical pressure drop across said first valve means, said first valve means having a maximum flow capacity at



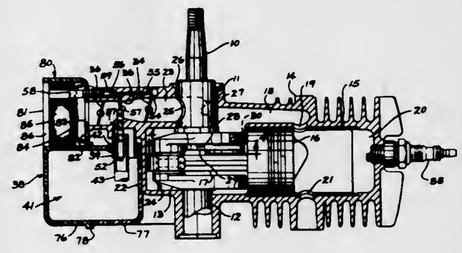
said working pressure only sufficient to raise the pressure in said second section to a raised pressure only slightly above that which will eliminate the critical pressure drop across said first valve means with said restriction in said preselected opening position, said second valve means being adjustable to maintain said working pressure in said first section at increased flows.

3,262,432
ROTARY ENGINE
Leroy W. Ross, P.O. Box 96, Coconut Grove Station, Miami, Fla.
Filed Apr. 6, 1964, Ser. No. 357,373
1 Claim. (Cl. 123—16)



In a rotary internal combustion engine, the combination comprising, a stator having a wall portion defining an internal cylindrical surface, a rotor member of lesser diameter than the diameter of said internal cylindrical surface and coaxially journalled therein for relative rotation within said stator, a recess in said internal cylindrical surface defining a compression zone, a piston member supported at the periphery of said rotor, means limiting said piston member to radial movement with respect to said rotor, said piston member having an arcuate outer surface portion in face-to-face contact with said internal cylindrical surface of said stator, means resiliently pressing said piston member outwardly against said internal cylindrical surface, said arcuate outer surface portion of said piston comprising a central transverse surface portion of such size as to periodically substantially seal off said compression zone recess during the rotation of said rotor, the arcuate surface of said piston member between said central transverse surface portion and the leading end thereof having a first groove of gradually increasing depth and terminating substantially flush with the peripheral surface of said rotor member, the arcuate surface of said piston member between said central transverse surface portion and the lagging end thereof having a second groove of gradually increasing depth and terminating substantially flush with the peripheral surface of said rotor, and resilient sealing means supported with respect to said stator and controlled by the surface contours of said leading and lagging grooves for sequentially, during the rotation of said rotor, compressing gas in said leading groove into said compression zone recess, sealing off said recess, and then expanding the compressed gas against the moving surface of said lagging piston groove, wherein said resilient sealing means comprises a first sliding sealing member resiliently supported with respect to said stator at a position forward of said recess, a second sliding sealing member resiliently supported with respect to said stator at a position rearward of said recess, said first sliding sealing member having a forward end portion operative to seat within and seal off said first groove, said second sliding sealing member having a forward end portion operative to seat within and seal off said second groove, wherein said first groove is formed with a central longitudinal depression and wherein said forward end position of said first sliding sealing member is formed with a central protruding portion complementary to said longitudinal depression.

3,262,433
TWO STROKE CYCLE INTERNAL COMBUSTION ENGINE
Edgar R. Jordan, 1937 Firlawn, Toledo, Ohio
Filed Oct. 7, 1963, Ser. No. 314,565
10 Claims. (Cl. 123—73)

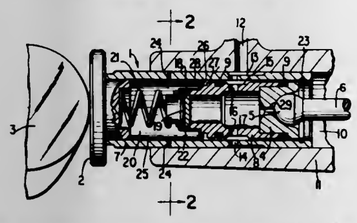


4. In an internal combustion engine: a crankshaft, a cylinder housing casting having a joining surface on the center line of said crankshaft, a crankcase casting having a joining surface for abutment with said joining surface of said cylinder housing casting, one of said castings and said crankshaft having matching surfaces of revolution which are in sliding sealing engagement and which contain cooperating valve ports, said one of said castings having a cast intake venturi passage that extends away from said surface of revolution of said one of said castings and communicates with its valve port.

3,262,434
SELF-ADJUSTING HYDRAULIC VALVE LIFTER FOR PISTON ENGINES

Richard Kuchen and Hans-Jurgen Sossna, Ingolstadt, Germany, assignors to Motomak, Motorenbau, Maschinen- und Werkzeugfabrik Konstruktionen, Ingolstadt, Germany, a corporation of Germany

Filed Feb. 27, 1964, Ser. No. 347,937
Claims priority, application Germany, Mar. 2, 1963, 55,968
14 Claims. (Cl. 123—90)

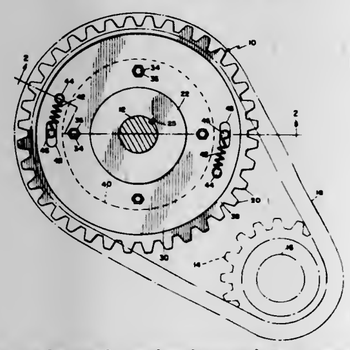


1. Self-adjusting hydraulic valve lifter for piston engines comprising two longitudinally slidable telescoped cylindrical members closed at their extreme ends defining between them a pressure chamber, check valve means connecting said pressure chamber with an antechamber located in one of said cylindrical members, radially directed bore holes through the cylindrical wall of said antechamber, means to provide a hydraulic fluid to said antechamber through said bore holes, said cylindrical members being telescoped into each other with relatively large clearance, elastic sealing elements sealing off said cylindrical members with respect to each other, at least one vent bore from said pressure chamber to the outside of the valve lifter, an additional structural element adjacent the wall of the pressure chamber in the area of the vent bore to form an annular slit between the wall of the pressure chamber and said additional structural element, said slit being of such a width that additional throttling of the vent bore results, said additional structural element being of a heat expandable material whereby it effects a constriction of the throttle slit upon heating.

3,262,435
AUTOMATIC VARIABLE VALVE TIMING DEVICE FOR INTERNAL COMBUSTION ENGINES

John R. Cribbs, 6034 Soledad Mountain Road, La Jolla, Calif.

Filed May 25, 1964, Ser. No. 370,761
9 Claims. (Cl. 123—90)



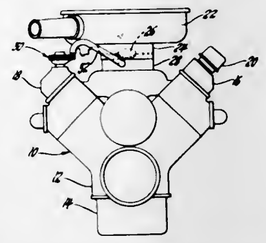
1. In an internal combustion engine: a camshaft and a crankshaft; automatic valve timing apparatus, comprising:

a resilient drive coupling effectively between said crankshaft and said camshaft biasing the camshaft into a lag position relative to the crankshaft and retarding valve timing as said crankshaft is accelerated ond operated at increased r.p.m.

3,262,436
PRESSURE REGULATING DEVICE

Albert L. Thompson, Grand Blanc, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 8, 1964, Ser. No. 416,705
4 Claims. (Cl. 123—119)



1. For use in a crankcase ventilation system of an internal combustion engine of the type having a crankcase and an induction system:

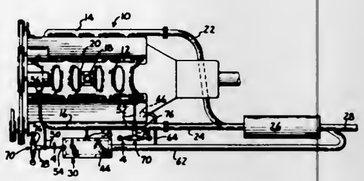
valve means normally operable to regulate the flow of crankcase vapors from the crankcase to the induction system;

and supplementary means responsive to pressures in the engine induction system to close the valve means during engine starting and to permit said flow regulation during normal engine operation.

3,262,437
AIR POLLUTION INHIBITING MEANS IN THE FORM OF A FUEL RECIRCULATING APPARATUS FOR AN INTERNAL COMBUSTION ENGINE

Harry A. Bradshaw, P.O. Box 795, Sierra Vista, Ariz.

Filed Dec. 16, 1964, Ser. No. 418,710
8 Claims. (Cl. 123—119)

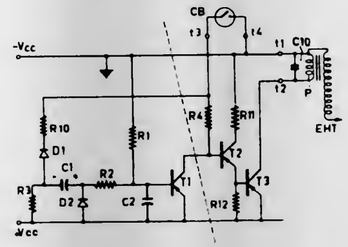


1. A combined fuel recirculating and smog-eliminating apparatus for an internal combustion engine of the type that has an intake manifold and an exhaust pipe, said apparatus comprising a tank providing a chamber, a vacuum line connecting the chamber to the intake manifold, a conduit connecting the chamber to the exhaust pipe, and a bleeder line connected to the vacuum line and communicating with the atmosphere, said vacuum line and chamber being responsive to subatmospheric pressure in said intake manifold and operative when subjected to such subatmospheric pressure to draw unburned fuel constituents from the exhaust pipe through said conduit to said chamber and from thence through the vacuum line to the intake manifold, said vacuum line being effective to draw atmospheric air through said bleeder line for mixture with the unburned fuel constituents issuing from the chamber prior to their introduction into the intake manifold.

3,262,438
IGNITION SYSTEM FOR INTERNAL COMBUSTION ENGINES

Kenneth Holford, Reigate, Surrey, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 30, 1963, Ser. No. 320,216
Claims priority, application Great Britain, Nov. 23, 1962, 44,383/62
18 Claims. (Cl. 123—148)

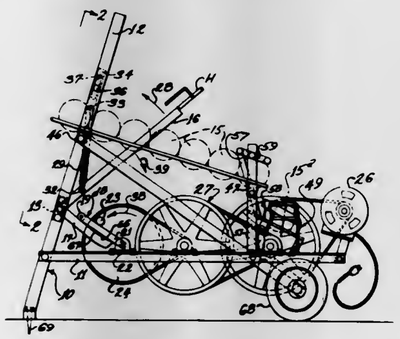


1. An engine ignition circuit comprising an ignition coil having a primary winding, a source of D.C. supply voltage, a transistor having an emitter-collector path and an input circuit for controlling current flow in said path, means for connecting said emitter-collector path effectively in series with said primary winding and said source of supply voltage, an engine driven contact-breaker, means controlled by said engine for applying a forward bias current to said transistor input circuit in the closed condition of said contact-breaker, and means providing a low resistance current path across said transistor input circuit when said engine is stationary thereby to inhibit the effect of said forward bias on said transistor.

3,262,439
BALL THROWING MACHINE

Clifton D. Johns, 1002 39th St., Columbus, Ga.

Filed Nov. 6, 1964, Ser. No. 409,370
3 Claims. (Cl. 124—7)



1. In a ball throwing machine including a frame, a throwing arm pivotally mounted on said frame for motion in a vertical plane between substantially horizontal cocked position and a substantially vertical discharge position, resilient means to move said arm upwardly in throwing motion toward the discharge position, and means to move the arm downwardly to the cocked position, the improvement which comprises:

(a) means to support a row of balls for movement in one direction,

(b) a vertical member secured to said frame adjacent the end of said support means toward which said balls move,

(c) a cross member the length of which is substantially the same as the diameter of one of said balls pivotally secured to said vertical member substantially parallel to said support means,

(d) first and second stop members secured to the ends of said cross member and extending above and across said support means a distance substantially the same as the diameter of one of said balls, said first stop member being secured to the end of said cross member nearest the above mentioned end of said support means, said second stop member being secured to the other end of said cross member,

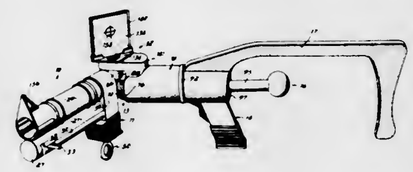
(e) means to tilt said cross member whereby said first stop member contacts and retains a ball on said support means until the throwing arm reaches its cocked position whereupon said first stop member releases said ball while said second stop member retains another ball, and

(f) means to deliver the ball released by said first stop member to the throwing arm.

3,262,440
TOY GUN WITH PIVOTABLE BARREL

James O. Kuhn, Cincinnati, Ohio, assignor to Kenner Products Company, Cincinnati, Ohio, a corporation of Delaware

Filed Dec. 23, 1964, Ser. No. 420,659
7 Claims. (Cl. 124—15)



4. A toy gun comprising a barrel section, a breech section, means hinging said sections whereby one section may be pivoted angularly with respect to the other in a plane about an axis, means including trigger means to create a charge of compressed air within said breech section, said means hinging said sections including means to convey said charge of compressed air from said breech section to said barrel upon the actuation of said trigger means, sighting means including a pivotal mirror residing in a plane normal to said first mentioned plane and adapted to rotate about said axis, and gear means interconnecting one of said sections to said pivotal mirror adapted to cause said mirror to pivot angularly at one-half of the pivotal movement of one section with respect to the other.

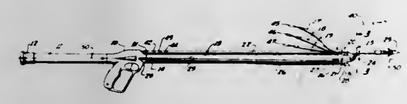
3,262,441
ELASTOMERIC SLING OPERATED SPEAR GUN

David L. Senne, La Habra, Calif., assignor to W. J. Voit Rubber Corp., a corporation of California

Filed Aug. 7, 1964, Ser. No. 388,062
4 Claims. (Cl. 124—22)

1. A spear gun comprising a grip assembly, a barrel attached to said grip assembly, a muzzle attached to the outer end of the barrel, an orifice in said muzzle for positioning a spear shaft in parallel relation to said barrel said muzzle having two wings projecting outwardly on both sides of said muzzle, said wings being spaced from each other and defining two channels therebetween with one channel being on one side and the other channel being

on the other side of said muzzle, said channels having a downwardly inclined front portion and a straight rear portion, and at least one rubber sling hooked onto said muzzle and passing through said channels, said wings holding those portions of the rubber sling adjacent to



said wings in positive engagement with respect to said muzzle, the longitudinal axes of said orifice and of said rear portions of said channels lying in a common plane whereby said sling is aligned with the longitudinal axis of said spear shaft when said sling is hooked onto the inner end of said spear shaft.

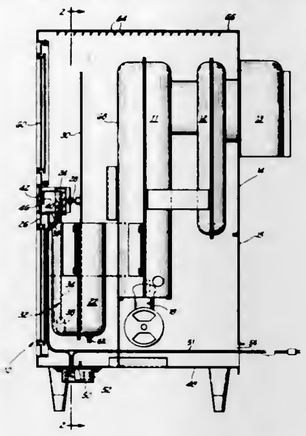
3,262,442
TAKE-APART BOW
Phillip B. Grable, Dimondale, Mich.
(3632 Cooley Drive, Lansing, Mich. 48910)
Filed Sept. 20, 1965, Ser. No. 488,365
6 Claims. (Cl. 124—24)



1. In an archery bow, the combination comprising:
(a) a central handle member having limb members selectively attached to the ends thereof; and
(b) means for selective insertion intermediate said handle member and said limb members for selective angular adjustment of the longitudinal axis of said limbs in their operative use position within the draw plane of the bow so as to selectively vary the draw weight of the bow.

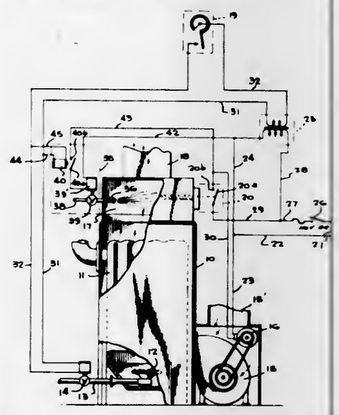
3,262,443
HUMIDIFIER
Robert F. Knudson, Concord, and Harold N. Minick, Marshall, Mich., assignors to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 14, 1964, Ser. No. 389,649
4 Claims. (Cl. 126—113)

1. In combination with a space heating device having a vertically extending heat exchanger, a vertically extending liquid reservoir disposed in horizontally spaced relation to said heat exchanger and having a top opening; a circular disc disposed on an axis perpendicular to said heat exchanger with a lower surface portion extend-



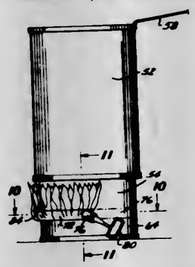
ing into said reservoir and an upper surface portion in spaced confronting substantially parallel relation to said heat exchanger; and drive means operatively connected to said disc for rotating said disc through said reservoir.

3,262,444
SPRAY HUMIDIFIER FOR HEATING SYSTEMS
Richard Moore Davidson, Winston-Salem, N.C., assignor to Aqua-Mist, Incorporated, Winston-Salem, N.C., a corporation of North Carolina
Filed Sept. 23, 1965, Ser. No. 489,702
5 Claims. (Cl. 126—113)



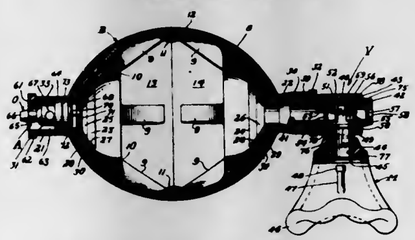
1. A warm air heating system comprising a furnace adapted to heat air for supply to a living space, air passage means extending through said furnace for circulation of air through said furnace, electrically controlled burner means for heating air in said air passage means, a room thermostat responsive to temperature in said living space for operating said burner means during the period said thermostat occupies a demand condition, an electrically driven blower for circulating air through said air passage means to said living space, switch means responsive to temperature in a selected zone of said furnace for operating said blower during the period the temperature in said zone is above a selected level, water spray means in said air passage means to humidify air circulating therethrough, valve means controlling water supply to said spray means, and electrical control means for said valve means intercoupled with said room thermostat and said switch means for opening said valve means only during concurrent operation of both said burner means and said blower.

3,262,445
HEATING MEANS AND CONTAINER COMPRISING SAME
Allan C. Stults, 929 Vista Del Playa, Orange, Calif., and Raymond H. Powell, 18212 Avolinda, Yorba Linda, Calif.
Filed May 17, 1965, Ser. No. 456,220
3 Claims. (Cl. 126—262)



1. A combination container having self-enclosed heating means comprising in combination, a first enclosure for foodstuffs to be heated, a second enclosure attached to said first enclosure and formed with an elongated horizontal opening extending substantially the entire periphery of said second enclosure, heating means within said second enclosure comprising non-combustible mineral fill firmly packed therewithin to eliminate substantially all voids, said fill being sufficiently packed within said second enclosure to protrude therefrom through said elongated opening to provide a horizontal continuous wick externally of said enclosure, said heating means further comprising fluid fuel saturating said fill, and a removable strip covering said opening to initially hold said fill within said second enclosure, said strip being removable to permit said fill to protrude as said horizontal continuous wick, whereby said wick can be ignited to provide heating of said first enclosure externally of said second enclosure.

3,262,446
RESUSCITATOR
George H. Stoner, Warminster, Pa., assignor to Air-Shields, Inc., Hatboro, Pa., a corporation of Delaware
Filed Nov. 18, 1963, Ser. No. 329,601
1 Claim. (Cl. 128—29)
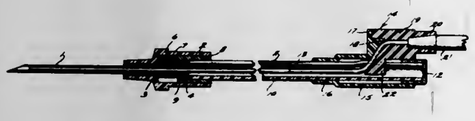


An artificial respiration device comprising a hand bulb, a breathing mask, and air flow passage and valve means providing for the forcible injection of fresh air into a patient during a compression stroke of the bulb, and upon release of the bulb, for discharge of air from the patient to the atmosphere during expansion motion of the bulb, the hand bulb comprising a hollow interior member and an exterior casing, the interior member being of a soft elastic and porous material and the exterior casing being formed of a flexible elastic and air-imperivous material, the exterior casing and interior member each having a pair of apertures therethrough, the apertures in the interior member being aligned with the apertures in the exterior casing to provide two access ports, the air flow passage and valve means comprising air intake passage means communicating with the interior of the interior member, through one of said access ports, oxygen intake passage means communicating with the air flow passage means, whereby supplementary oxygen may be mixed with the air taken into the device, a valve in the air intake passage means, said valve being adapted to permit flow into the interior member during the expansion motion of the bulb and to occlude flow of air and oxygen in either direction during the compression stroke of the bulb, the air intake passage means comprising a first tubular conduit member, and the oxygen intake passage means comprising a second tubular conduit member of outside diameter substantially smaller than the inside diameter of the first conduit member, the construction further including mounting means mounting the second conduit member within the first conduit member and occluding the space around the second conduit member within the first conduit member, the wall of the second conduit member being apertured to permit interflow between the outer conduit member and the inner conduit member, and a valve disk positioned to seat against the inner end of the inner conduit member and thus occlude flow therethrough.

3,262,447
RESPIRATOR FOR LARYNGECTOMIES
Edward P. Burke, 609 W. 204th St., New York, N.Y.
Filed Dec. 1, 1961, Ser. No. 156,357
1 Claim. (Cl. 128—140)



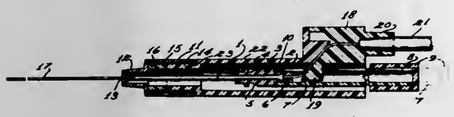
A respirator for laryngectomees, comprising a flexible neckpiece of substantially cup-shape and of substantially triangular outline with the apex of the triangle at the bottom portion thereof and with the base of the triangle adapted to extend in spaced, parallel relationship immediately underneath the chin of the wearer, wire means bridging said apex for adjusting the width of the lower portion of said neckpiece to fit different neck sizes of the wearer, an exhalation valve mounted on the side of said neckpiece and an inhalation valve mounted on the front thereof, said neckpiece including a substantially straight marginal portion along said base of said triangle for forming an air-tight seal with the front upper portion of the neck of the wearer, a corrugated tube having one end connected to said inhalation valve, a flexible connector having a portion of larger diameter for slip-fitting inside the other end of said tube, said connector also having a portion of smaller diameter adapted to be slip-fitted onto the outlet valve of an oxygen tank to enable administration of oxygen to the laryngectomee, and whereby, upon removal of said connector, said other end of said tube may be slip-fitted onto a filter canister, and including strap means attached to the marginal portions adjacent the sides of said triangle and substantially in alignment with said base of said triangle for mounting the neckpiece on the neck of the wearer.

3,262,448
INTRAVENOUS CATHETER PLACEMENT UNIT
Wallace H. Ring, Karl A. Pannier, Jr., and James L. Sorenson, all of Salt Lake City, Utah, assignors to Sorenson Research Corp., Salt Lake City, Utah, a corporation of Utah
Filed Nov. 6, 1963, Ser. No. 321,956
5 Claims. (Cl. 128—214)



1. In a catheter placement unit,
a cannulated needle,
hollow hub means on said needle,
a sleeve slidable in said hub means,
a catheter sheath having one end frictionally engaged in said sleeve,
said sheath having a slit therein extending longitudinally thereof,
a catheter in said sheath with one end extending into said needle,
catheter advancing means associated with said sheath and connected with the other end of the catheter,
means on said advancing means to open the slit in said sheath as the advancing means are moved therealong, and
an end portion on said advancing means of a size to push said sleeve out of engagement with said sheath and seat in the hub means of said needle when the catheter is fully advanced.

3,262,449
INTRAVENOUS CATHETER PLACEMENT UNIT WITH RETRACTABLE NEEDLE
Karl A. Pannier, Jr., and James L. Sorenson, Salt Lake City, Utah, assignors to Sorenson Research Corp., Salt Lake City, Utah, a corporation of Utah
Filed Feb. 11, 1964, Ser. No. 344,100
8 Claims. (Cl. 128—214)



1. In a catheter placement unit,
a cannulated needle,
a bushing on said needle,
a catheter sheath having a longitudinal slit therein temporarily bonded at one end thereof to said bushing,
catheter advancing means having a passage therethrough and arranged for connection to an infusion system and movable along said sheath with a portion of the advancing means extending through said slit,
a catheter in said sheath with one end anchored in the passage of said advancing means and the other end within said needle,
a needle hub around and spaced from said bushing,
holding means in said hub to prevent movement initially of said bushing relative to said hub, and
means carried by said advancing means to effect release of said holding means when the catheter is fully advanced,
whereby the needle may be retracted and sheathed within said hub and advancing means and the catheter sheath discarded.

3,262,450
VAGINAL APPLICATOR
Nathaniel M. Elias, 56 Washington Mews, New York, N.Y.
No Drawing. Filed Apr. 2, 1962, Ser. No. 184,538
4 Claims. (Cl. 128—270

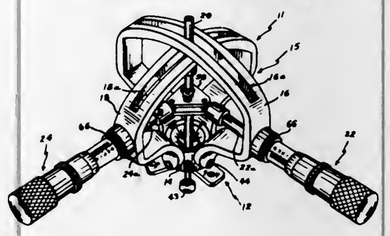
1. A topical applicator for vaginal insertion, comprising a porous flexible and elastic body made of a polyurethane foam material, said body having a network distributed at random therein, the apparent specific gravity of said body being between 0.01 and 0.04, and the average distance between opposing sidewalls not exceeding 1.5 mm., said applicator further including a foam producing material between said sidewalls.

3,262,451
NONPLANAR ABSORBENT FIBROUS PADS
Edward A. Morse, Fanwood, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Sept. 13, 1962, Ser. No. 223,488
12 Claims. (Cl. 128—290)



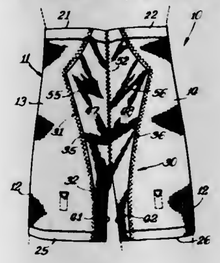
1. A preformed pad suitable for body padding or for absorbing body fluids comprising a relatively thick layer of fibrous material having a nonplanar configuration, and a layer of shrunken, axially-oriented plastic secured to a surface of said layer of fibrous material, the direction of said axial orientation of said shrunken plastic layer extending in the direction in which said fibrous layer is nonplanar, said shrunken plastic layer assisting in maintaining said layer of fibrous material in said nonplanar configuration.

3,262,452
GONIOMETER APPARATUS FOR BRAIN SURGERY
Wayne Hardy, 665 Grange Hall Road, and William F. Quinlivan, 3812 Wales Drive, both of Dayton, Ohio
Filed Apr. 17, 1963, Ser. No. 273,611
12 Claims. (Cl. 128—303)



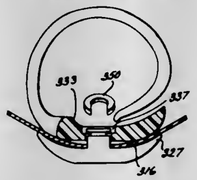
1. A goniometer having an angularly adjustable cannula guide and being adapted for attaching over a trephine in a patient's skull, thus permitting a surgeon to reach a predetermined area of the patient's brain with a cannula or other instrument guided by the cannula guide and comprising: a base having an upper and a lower end with an axial bore extending through said ends, the lower end being contoured and adapted for externally joining in a fixed non-rotating manner to a convex surface and the upper end having a seat coaxial with said bore, and an indexing head removably joined to said base for leaving said base in fixed position on the patient when said indexing head is removed and thus preventing body fluids flowing from the trephine in patient's skull and through said base from entering and encrusting on said indexing head; said indexing head comprising a base collar removably joined to said base, a cannula guide the lower end of which engages with the seat in said base when said indexing head is joined to said base, a first quadrant means pivotally joined at the lower end to said base collar and slidably engaging the upper portion of said cannula guide, a second quadrant means pivotally joined at the lower end to said base collar to be superimposed at substantially 90° to said first quadrant means and slidably engaging the upper portion of said cannula guide, a first adjusting means joined to said first quadrant means and pivotally moving said cannula guide on said base and pivoting said second quadrant means on said base collar, and a second adjusting means joined to said second quadrant means and pivotally moving said cannula guide on said base and pivoting said first quadrant means on said base collar.

3,262,453
PANTY GIRDLE
George L. Diebold, Skokie, Ill., assignor to Venus Foundation Garments, Inc., Chicago, Ill., a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,602
11 Claims. (Cl. 128—528)



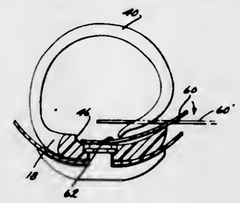
1. A panty girdle comprising a body portion and leg portions adapted to closely fit a wearer's body and legs, and a crotch portion including laterally arranged panels joined by a vertical seam and connected to said body and leg portions along marginal seams, said crotch portion including continuous front, rear and crotch sections extending from the upper marginal area to the rear central area of said body portion and forming inner leg areas thereof, said inner leg areas being secured to the body portion by laterally outwardly disposed seams such that said marginal seams are disposed forwardly and rearwardly of the wearer's crotch and inner leg areas, whereby the crotch and inner areas of the leg portions of said girdle are free of seams.

3,262,454
BINDER ASSEMBLY
George P. Shillinger, 735 Wendover Blvd., Muskegon, Mich.
Filed June 23, 1964, Ser. No. 377,294
1 Claim. (Cl. 129—1)



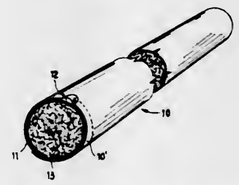
A loose leaf binder including a cover having a back panel, an elongated plastic plate located along the inside of said back panel, and having a plurality of integral, spaced sheet supporting rings extending from one face thereof away from said back panel; a plurality of locking sockets therein, each including a through opening and a countersunk enlarged recess in said one face; an elongated plastic locking bar along the outside of said back panel, including a plurality of spaced projections extending through said back panel and said sockets; each of said projections having edge slots near to but spaced from the outer end thereof; a plurality of enlarged diameter slotted collars slidably engaged on respective ones of said projections in said edge slots and received in said recesses; and said locking bar including a pair of resilient, deformable, edge lips curled toward said back panel and, when assembled, being resiliently deformed and under compression to hold said collars into tight engagement with said recesses.

3,262,455
RING
George P. Shillinger, 735 Wendover Blvd., Muskegon, Mich.
Filed June 24, 1964, Ser. No. 377,592
3 Claims. (Cl. 129—1)



1. A loose leaf binder structure comprising an elongated support strip having a plurality of sheet support rings extending therefrom; each of said rings forming a loop, having one side integral with said strip, forming an open split on the opposite side with said support strip, and having a free terminal portion at said second side extending toward said support strip and overlapping but spaced from a portion of said support strip, inwardly of said loop; said strip having sheet stop surface means forming sheet alignment means longitudinally of said strip, inside said rings, and between said one side and said second side, for transversely aligning perforations of inserted sheets with the free terminal portions of said rings; and said portion of said strip protruding along said second side and having a terminal edge adjacent said second side and said split, forming an elongated fulcrum for perforated sheets inserted into said splits to be fitted on said rings; and said terminal edge being cooperative with said terminal portions of said rings, forming retention means for, but allowing sheets to be fitted thereon and removed therefrom.

3,262,456
SELF-LIGHTING CIGARETTE AND IGNITION ELEMENT THEREFOR
Francesco De Capitani, Corso Magenta 83, Milan, Italy
Filed Jan. 14, 1963, Ser. No. 251,186
Claims priority, application Italy, Oct. 18, 1954, 13,702/54; Jan. 19, 1962, 1,197/62
8 Claims. (Cl. 131—7)



1. In a self-lighting cigarette having a wrapped tobacco roll including a fore portion, igniter means comprising:
an ignition element consisting of a strip of impregnated paper circumferentially positioned about said fore

portion and having an outer surface and an inner surface contacting the tobacco in said fore portion with the end face of the tobacco roll exposed to the air;

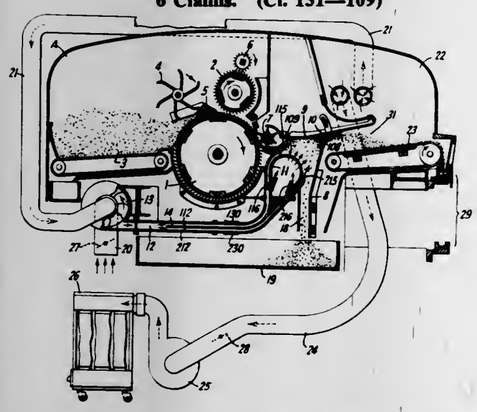
an ignition promoting rib of a composition adapted to ignite and promptly burn upon frictional engagement with a matching striking surface, said rib being secured against a limited area of said outer surface,

the said impregnated paper ignition element consists of paper material including, in its weight, 60 to 65% cellulose; 25 to 35% nitrocellulose; and 5 to 10% essentially incombustible matter taken from the group consisting of light magnesium carbonate and diatomite, and impregnated with a mixture of oxygen producing compounds taken from the group consisting of potassium chlorate and potassium nitrate.

3,262,457
TOBACCO FEED FOR AUTOMATIC CIGARETTE MAKER

Goffredo Gamberini, Bologna, Italy, assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed May 24, 1963, Ser. No. 282,978
Claims priority, application Italy, June 11, 1962, 12,303/62
6 Claims. (Cl. 131—109)

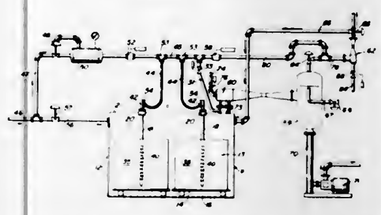


1. A tobacco feed for automatic cigarette makers, said feed having a blower device having two main blower outlets to separate the shredded tobacco fibers from the stems and other heavy impurities, to form a stream of selected tobacco, said blower outlets constructed and arranged to direct a first and a second convergent air current to effect said separation, a first tobacco selecting duct, formed between an interceptor screen inclined slightly forwardly from the vertical and an upper screen inclined slightly upwardly from the horizontal, both said inclinations in the direction of the tobacco flow, means for directing said first air current so that it grazes the upper screen so as to tend to project the selected tobacco in a direction which is slanted slightly upwardly with respect to the horizontal and substantially perpendicular with respect to the interceptor screen, means for directing said second air current so that its air stream is directed upwardly and grazes the interceptor screen before passing through said first duct, a substantially vertical wall opposing said interceptor screen to define, with said interceptor screen, front and rear walls of a second duct for selecting the heavier stems and impurities, said second current traversing across the entrance to said second duct in its path to said first duct, means for adjusting the height of the interceptor screen and means for adjusting the inclination of the upper screen.

3,262,458
METHOD AND APPARATUS FOR CONDITIONING TOBACCO

Fred H. Lindstrom, Homewood, Ill., assignor to Vacudyne Corporation, Chicago Heights, Ill., a corporation of Illinois

Filed Feb. 6, 1964, Ser. No. 342,993
17 Claims. (Cl. 131—133)



1. Apparatus for treating a bulk product such as tobacco to adjust the moisture content thereof to provide a uniformly humidified product, said apparatus comprising:

a vacuum chamber adapted to receive tobacco thereinto and for removal of tobacco therefrom;

vacuum producing means for removal of vapor and non-condensibles from said chamber and from said tobacco contained therein,

said vacuum producing means comprising first and second steam ejectors, and condenser means for condensing steam discharged through one of said steam ejectors;

conduit means for introducing steam directly into said vacuum chamber;

probe means for introducing steam directly into said tobacco contained in said chamber;

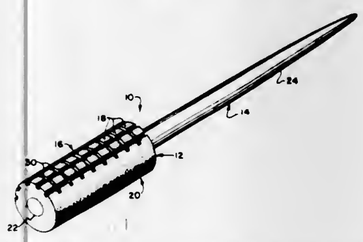
duct means for direct evacuation of said chamber and conduit means for evacuation of said chamber indirectly through said tobacco contained therein;

and means for selectively directing and controlling parts of steam introduction into said chamber and into said tobacco and paths of evacuation of said chamber and of said tobacco contained therein.

3,262,459
HAIR FASHIONING IMPLEMENT

Dennis M. Sheehan, 1021 Riverton St., North Brunswick, N.J.

Filed Sept. 12, 1963, Ser. No. 308,574
1 Claim. (Cl. 132—9)



An implement for fashioning hair into a desired style, said implement comprising:

a tubular member of flexible foamed plastic having a longitudinally extending cylindrical surface with a generally circular lateral cross-sectional configuration;

a series of longitudinal grooves in said member spaced laterally from one another along a substantial portion of the perimeter of the cross-sectional configuration and a series of lateral grooves in said member spaced longitudinally from one another and intersecting the longitudinal grooves to establish a plurality of protuberances providing a relatively coarse, resilient hair-engaging surface, each protuberance being flexible and having a resilient surface by virtue of the flexible nature of the foamed plastic tubular member;

a relatively smooth hair-smoothing surface extending along a substantial portion of the cylindrical surface beyond the relatively coarse surface;

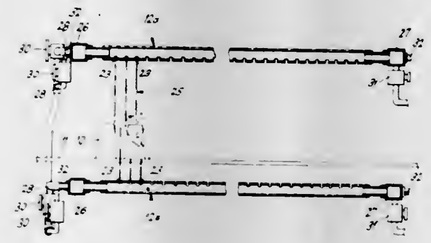
a rigid rod received longitudinally within the tubular member to reinforce the member and preclude unwanted flexing of the member along the length thereof without affecting the desired resilience of the cylindrical surface; and

a handle fixed to the rod and extending longitudinally beyond the tubular member for facilitating manipulation of the member during fashioning operations.

3,262,460
CONVEYOR TYPE CLEANING DEVICE FOR FRAGILE CONTAINERS AND THE LIKE

Harley E. Huddle and Vernon Baldwin, Cincinnati, Ohio, assignors to Cincinnati Cleaning and Finishing Machine Company, Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 17, 1964, Ser. No. 345,467
14 Claims. (Cl. 134—72)

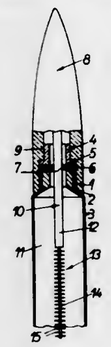


1. In combination in a cleaning machine for lightweight metallic containers and the like wherein the containers are advanced through a plurality of stations on a continuously moving perforate conveyor with the containers supported on said conveyor in inverted position, a washing station, a first drain and blow-off station immediately following said washing station, a rinse station immediately following said first drain and blow-off station, a second drain and blow-off station immediately following said rinse station, and a drying station beyond said second drain and blow-off station; said washing station and said rinse station each including a multiplicity of nozzles arranged both above and below said conveyor and positioned to direct streams of liquid downwardly onto the outer surfaces of the inverted containers and upwardly from beneath the perforate conveyor onto the interior surfaces of said inverted containers, means connecting the nozzles of said washing station to a supply of washing fluid, and means connecting the nozzles of said rinsing station to a supply of rinsing solution; each of said drain and blow-off stations comprising a blow-off head overlying said conveyor and extending transversely substantially the full width of said conveyor, and means for supplying air under pressure to said blow-off head, said blow-off head having outlet means oriented to direct the air under pressure downwardly onto the outer surfaces of the containers to remove the washing and rinsing solutions therefrom; said drying station including means for subjecting the rinsed containers to heated air to completely dry said containers prior to their removal from the conveyor.

3,262,461
CONTAINER AND DEVICE FOR REMOVING CONTENTS FROM A CONTAINER

Helene Kambersky, Hegelgasse 6, Vienna I, Vienna, Austria

Filed June 25, 1963, Ser. No. 290,475
Claims priority, application Austria, Feb. 20, 1963, A 1,325/63
5 Claims. (Cl. 132—79)



1. A cosmetic dispenser device adapted to receive a paste-like preparation, comprising a collapsible tube including a screw threaded neck having an upper rim, a sleeve member with a central bore having two portions of different inner diameters forming an inner shoulder, the larger portion being threaded and screwed onto the screw threaded neck of the tube, a disc-shaped stripper member inserted in said larger portion of the sleeve member and sandwiched in abutting relation against said inner shoulder in said sleeve member and the rim of the neck, said stripper member having a central bore, a removable cap in slidable engagement with the outer surface of said sleeve, said cap having secured thereon an applicator rod in gripping engagement with said central bore of the disc-shaped stripper member, the applicator rod including an end portion provided with interstices for receiving the contents of said tube, said tube being sufficiently collapsible to squeeze its contents in the proximity of said end portion.

ERRATUM

For Class 134—72 see:
Patent No. 3,262,460

3,262,462
JET-NOZZLE TYPE INDICATOR

Johann Hans Meier, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 31, 1963, Ser. No. 298,947
9 Claims. (Cl. 137—83)

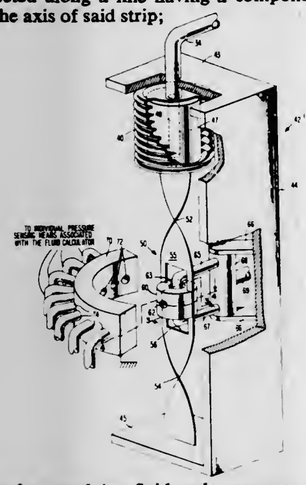
1. In a pneumatic indicating device for indicating the physical state of a system under observation, the combination comprising:

an elongated strip of elastic material, said strip having formed therein at least two permanently set, oppositely directed axial twists;

a frame member for supporting, at one end, said elongated strip in an axially stressed condition;

transducer means connected to said frame and to the other end of said elongated strip for varying the axial stress on said strip in accordance with variations in the physical state of the system under observation, the portion of said strip located between said axial twists thereby being caused to rotate about the axis of said strip an angular amount proportional to the degree of change in axial stress;

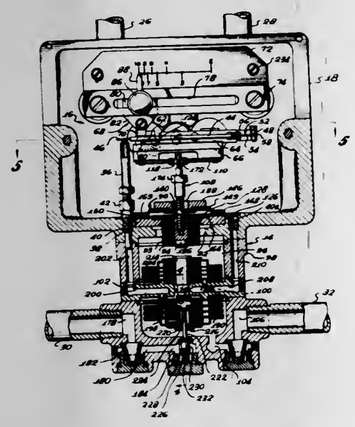
a nozzle rigidly mounted on said portion of said strip located between said axial twists, said nozzle being directed along a line having a component transverse to the axis of said strip;



means for supplying fluid under pressure to said nozzle whereby a stream of fluid issues from said nozzle along said line; and

means for detecting changes in the direction of said stream of fluid.

3,262,463
PNEUMATIC TRANSMITTER WITH IMPROVED CONTROL MECHANISM
Richard P. Granada, West Covina, and Victor N. Lawford, Pasadena, Calif., assignors, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Sept. 4, 1962, Ser. No. 221,664
6 Claims. (Cl. 137—85)



1. In a pneumatic transmitter, the combination of:

a case;

a vertically arranged nozzle mounted on said case;

a flapper having proximal and distal ends and positioned with its distal end in covering relationship with said nozzle to restrict flow therefrom, said flapper being arranged for rocking in a vertical plane to vary the restriction to such flow;

means including a flexure connected to the proximal end of said flapper and arranged to transmit movement thereof under the influence of an externally applied force to such rocking of the flapper;

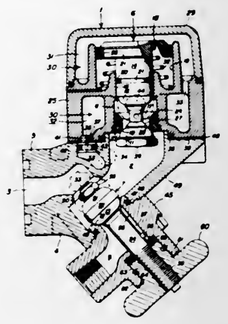
a carriage adjustably mounted on said case for lateral movement toward and away from said nozzle;

means carried by said carriage and arranged for vertical movement relative thereto for fulcruming said flapper for such rocking;

spring means on said carriage urging said flapper into engagement with said fulcruming means;

and means supported by said case establishing the vertical position of said fulcruming means, said last mentioned positioning means being responsive to changes in transmitted pressure for moving said fulcruming means vertically relative to said case to produce rocking of said flapper.

3,262,464
DRAIN VALVE
Virgil L. Frantz, Salem, Va., assignor to Graham-White Sales Corporation, Salem, Va., a corporation of Virginia
Original application Dec. 20, 1961, Ser. No. 160,866. Divided and this application Jan. 12, 1965, Ser. No. 426,473
7 Claims. (Cl. 137—204)

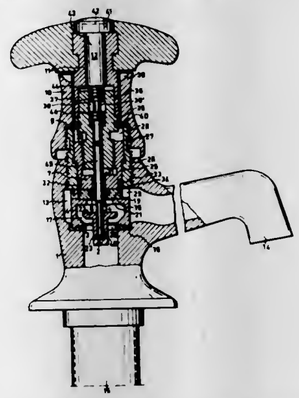


1. In a drain valve for a pressurized reservoir, the combination of a body, a valve chamber in said body, pressure-responsive valve means in and shiftable axially of said chamber for engaging and disengaging related valve seat means, a pressure chamber in said body and open to an end of said valve chamber, said pressure chamber surrounding and being substantially coextensive vertically with said valve chamber, a pressure inlet in said body and connected to said pressure chamber, and a restricted orifice in said body in the connection between said inlet and chamber pressure.

3,262,465
DEVICE IN A WATER TAP
Arne Gunnar Gillberg, Herserudsvagen 14, Lidingo, Sweden
Filed Apr. 27, 1964, Ser. No. 362,573
Claims priority, application Sweden, Apr. 26, 1963, 4,632/63
12 Claims. (Cl. 137—329.2)

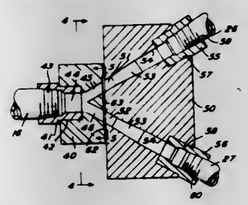
1. Device in a water tap which can be mounted in an arbitrary position and comprises a safety valve positioned at the inlet of the tap in front of the tap valve proper, said safety valve being open when the tap is in assembled condition, but blocking the water flow of the tap when same is disassembled, characterized in that a central spindle which also can be adapted to connect the handle of the tap with other elements of the tap mechanism in fully inserted position, extends through the tap mechanism and sealingly but axially movably passes through the tap valve

member in order so to hold the safety valve member at a distance from its seat that said distance does not change by the operation of the tap valve member, said safety



valve member, however, being pressed against its seat under the influence of a small water flow when said central spindle is axially moved at the dismantling of said tap.

3,262,466
FLOW CONTROL APPARATUS
Robert B. Adams, Bethayres, and Coleman B. Moore, Uwchland, Pa., assignors to Moore Products Co., Spring House, Pa., a corporation of Pennsylvania
Filed July 29, 1963, Ser. No. 298,285
2 Claims. (Cl. 137—561)



1. A fluid flow device having

a fluid supply connection,

divider nozzles of predetermined sizes connected to said fluid supply connection for separating the flow from said fluid supply connection into a plurality of fluid streams of proportioned flow,

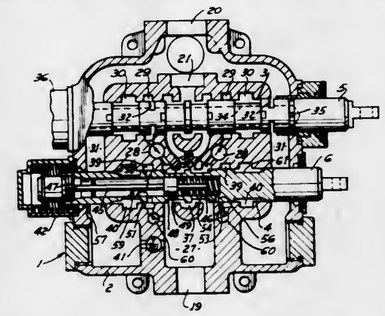
fluid delivery connections for each of said separated streams,

said fluid delivery connections having diffusers therein for pressure recovery, and

a pressure equalizing chamber in surrounding relationship to all of said streams downstream of said divider nozzles.

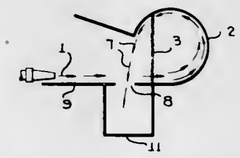
3,262,467
SPOOL VALVE WITH CAVITATION-MINIMIZING VALVE ASSEMBLY
Hugh J. Stacey, Chesterland, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed July 27, 1964, Ser. No. 385,117
5 Claims. (Cl. 137—596.2)

1. A valve assembly for controlling actuation of a double acting fluid motor comprising a housing having a bore intersected at axially spaced intervals therealong by an inlet port for connection with a fluid pressure source, a return port for connection with a fluid reservoir, and a pair of motor ports for connection with such motor; a valve spool axially movable in said bore from a neutral position blocking fluid communication between said inlet port and both motor ports to an operating position communicating said inlet port with one motor port and said return port with the other motor port for actuating such motor in one direction; a shuttle valve inside said spool movable to communicate said other motor port with said inlet port in response to fluid pressure in said



other motor port exceeding that in said inlet port as occasioned by a load on such motor tending to actuate it in such one direction; said spool having a groove which defines a flow restrictor with said bore between said other motor port and said return port when in said operating position thus to build up back pressure in said other motor port for shuttle valve actuation as aforesaid.

3,262,468
FLUID CATCHER MECHANISM
Eric E. Metzger, Silver Spring, Md., assignor to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
Filed Dec. 5, 1963, Ser. No. 328,213
15 Claims. (Cl. 137—802)

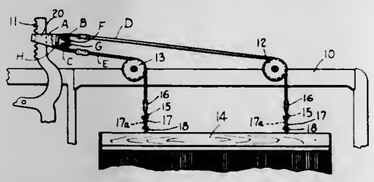


1. A fluid catcher structure comprising an entry passage for a well-defined stream of fluid, a fluid receiving region, and means for diverting the fluid in said stream through a single closed path, the tangents to the initial and terminal portions of which intersect one another so that the diverted fluid is directed across said stream, and impacts against said stream, said fluid receiving region lying along the tangent to said terminal portion of said path and located on a side of the tangent to the initial portion of said path opposite to the side thereof on which said closed path is formed.

3,262,469
LOOM HARNESS OPERATING MECHANISM
James T. Blakely, Jr., Rte. 1, Laurens, S.C.
Filed July 23, 1964, Ser. No. 384,631
2 Claims. (Cl. 139—84)

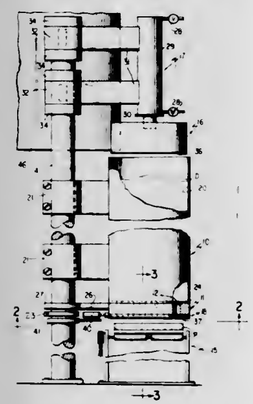
1. A dobby loop for connecting two lengths of dobby cord to a jack utilizing a single dobby loop, one of said lengths of dobby cord being connected adjacent the side of a harness remote from the jack and the other of said lengths of dobby cord being connected adjacent the other side of the harness including, an elongated body constructed of relatively hard but somewhat flexible material, said body comprising, a pair of spaced aligned side

members, means positioning the body upon the jack carried adjacent one end of the body for movement in a vertical plane with the sides, a pair of vertically spaced upper and lower connecting portions carried between the sides adjacent the other end thereof, said lengths of dobby cord having means connecting said one of said lengths to said upper connecting portion and said other of said



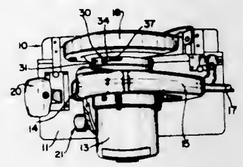
lengths to said lower connecting portion, said lengths of said dobby cords each being continuous from said harness to said cord and a restricting element carried by the elongated body between the sides thereof adjacent the connecting portions for locking said means connecting to the connecting portions, whereby two lengths of dobby cord carrying a harness may be connected directly by a single loop to a jack.

3,262,470
APPARATUS FOR EXTRUDING AND PANNING DOUGH
Anthony D. Alcaro, 2 Seymour St., Caldwell, N.J.
Filed Oct. 29, 1963, Ser. No. 319,758
14 Claims. (Cl. 141—129)



1. In apparatus for extruding measured masses of dough and placing the masses directly onto pans, the combination of a cylinder having imperforate side walls for confining dough and having a bottom corresponding in area to the cross-sectional area of said cylinder and provided with orifice means for extruding the dough therethrough, a conveyor under said bottom of said cylinder for supporting and moving pans beneath said orifice means to receive the dough extruded through said orifice means, piston means mounted in said cylinder for applying pressure on the dough therein to extrude the same through said orifice means, said piston means corresponding in cross-sectional area to the area of said bottom, means for driving said piston means so that said piston means is capable of extruding substantially all of the dough confined within said cylinder in a single continuous downward stroke, and means for predetermining the amount of dough extruded onto each pan, said last mentioned means including means for regulating the pressure applied by said piston means on the dough to determine the rate at which the dough is extruded, and means at the outlet of said orifice means for severing the extruded dough when the predetermined amount of dough has been extruded.

3,262,471
DEPTH CALIBRATION MEANS FOR PORTABLE POWER-DRIVEN SAW
George W. McCarty, Towson, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed May 8, 1964, Ser. No. 366,022
6 Claims. (Cl. 143—43)



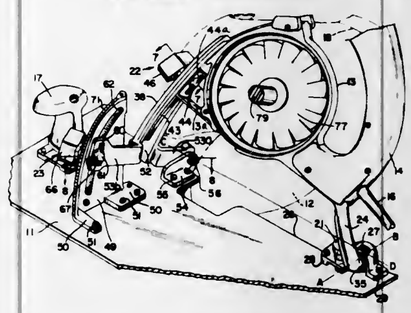
1. In a portable power-driven saw of the type having a shoe plate by means of which the unit is supported on a workpiece, a blade extending beyond the shoe plate to engage the work, a housing on the shoe plate with a motor to drive the blade, adjustable means to raise or lower the blade with respect to the shoe plate for selective depths of cut, a control handle on the housing, and a blade guard laterally of the handle, the guard and housing being rotatable relative to one another as the depth of cut is adjusted, a depth calibration means, comprising:

(a) a scale and a cooperating indication means, one on the guard and the other on the housing, whereby a relative movement is obtained between said scale and said indication means whenever the depth of cut is adjusted;

(b) said scale and indication means being mounted between said handle and guard and being readily visible to the operator in his normal position looking down on the unit; and

(c) said indication means being adjustably mounted, whereby the accuracy may be maintained whenever the blade is sharpened to a reduced diameter.

3,262,472
DEPTH AND BEVEL ADJUSTMENT MEANS FOR PORTABLE POWER-DRIVEN SAW
George W. McCarty, Towson, and Harry J. Foell, Jr., Lutherville, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed May 8, 1964, Ser. No. 366,070
6 Claims. (Cl. 143—43)



1. In a portable power-driven saw of the type having a shoe plate, a blade extending beyond the shoe plate, and a housing structure extending transversely of the shoe

plate with a motor connected to drive the blade; a depth and bevel adjustment means for the blade with respect to the shoe plate, comprising, in combination:

(a) means to pivotably mount the housing to the rear end of the shoe plate for movement about two axes, the first of which is substantially parallel to the blade axis, and the second of which is substantially perpendicular to the blade axis, thereby facilitating an adjustment in the depth of cut and the bevel of cut, respectively;

(b) an arcuate depth control member formed on a radius from the first axis and positioned in relation to the front of the housing opposite from said last-named means;

(c) means to adjustably secure said depth control member to the housing at selected raised positions of the housing with respect to the shoe plate;

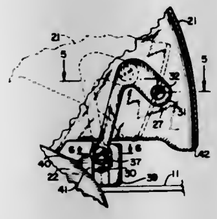
(d) a bevel control member secured on the shoe plate and including a portion thereof disposed laterally of said depth control member in a direction away from the blade; said bevel control member portion being formed on a radius from the second axis;

(e) said depth control member including a base portion having a respective pair of ears extending laterally therefrom, one in a direction towards the blade, and the other in a direction away from the blade;

(f) means to pivotally mount the end of said one ear in relation to the shoe plate for movement about said second axis; and

(g) means to adjustably secure the end of said other ear to said bevel control member portion at selected tilted positions of the housing with respect to the shoe plate; whereby the housing has a "three point" connection with respect to the shoe plate for greater rigidity at selected articulated positions of the depth and bevel adjustment means.

3,262,473
POSITIONING LINKAGE FOR ROTATABLY MOUNTED UPPER GUARD OF PORTABLE POWER-DRIVEN SAW
Donald E. Elson, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed May 11, 1964, Ser. No. 366,343
4 Claims. (Cl. 143—43)



1. In a portable power-driven saw of the type having a shoe plate, a saw blade extending beyond the shoe plate, a housing on the shoe plate with a motor connected to drive the blade, adjustable means to raise and lower the housing with respect to the shoe plate for selective depths of cut, and a substantially-hollow upper blade guard rotatably mounted upon the housing, the improvement which comprises:

(a) a link having a pair of ends; said link being positioned substantially within the lower forward portion of the guard;

(b) means to pivotably mount one end of said link to the rotatably-mounted upper guard; and

(c) means mounting the other end of said link in relation to the shoe plate for movement of said link in response to selective raising and lowering movements of the housing with respect to the shoe plate, whereby whenever the housing is raised with respect to the shoe plate, the guard rotates through an angle in a direction towards the forward end of the shoe plate, thereby maintaining the front of the saw blade substantially covered at all times.

3,262,474
HOLE SAW ASSEMBLY
Sherwood G. Enders, Bowley's Quarters, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Mar. 11, 1964, Ser. No. 351,078
14 Claims. (Cl. 143—85)



1. A hole saw assembly, comprising:

(a) a rotating driving body;

(b) an intermediate drive member slidably mounted, axially, on said driving body and keyed thereto for conjoint rotation, said member having at least one drive element projecting radially of said body;

(c) a tubular hole saw blade having cutting means formed along its exposed edge;

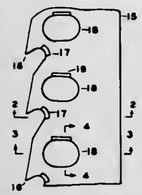
(d) means to replaceably mount said blade upon said driving body, said means comprising a peripheral bayonet slot formed in said blade to receive said drive element of said member, thereby driving said blade; and

(e) resilient means exerting an axial force on said intermediate drive member in a direction away from said cutting means, thereby constantly urging said drive element towards the bottom of said bayonet slot.

3,262,475
WOOD SAWS WITH HOLES FOR DISPOSING OF THE SAW DUST
Corlise M. Sweet, 1000 E. Montana St., Milwaukee, Wis.
Filed Jan. 29, 1962, Ser. No. 169,368
14 Claims. (Cl. 143—133)

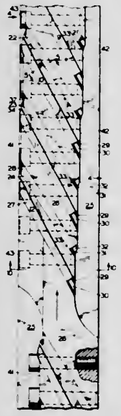
1. The method of sawing a board from a thick section of wood, comprising cutting wood chips to make a kerf with teeth on the edge of a blade that are moving at a speed of over 5,000 feet per minute, the step of directing the flow of said chips to the sides of said blade by means of chamfered gullets, accumulating part of said chips in through holes in said blade and conveying said chips out of the kerf with said through holes in the side of the blade

whereby using this method to cut timbers of the same thickness a thinner more flexible blade with smaller gullets



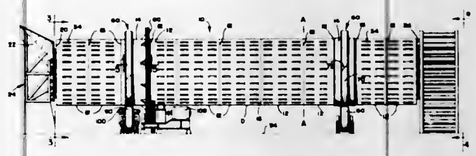
can be used on smaller diameter band mill wheels than can be used by present band mills which use blades with unsharpened gullets.

3,262,476
MEANS FOR OBTAINING SMOOTH WOOD FLAKES WHILE PRODUCING A FLAT SURFACE WOOD
Donald L. Johnson, 1340 Heatherwood W., Tacoma, Wash.
Filed Dec. 11, 1963, Ser. No. 329,665
8 Claims. (Cl. 144—176)



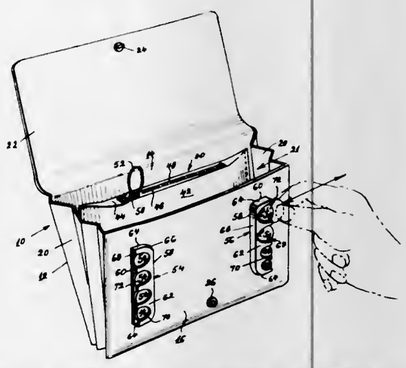
1. In a wood flaking and surfacing device of the character described having a rotating cutter head, a plurality of identical volute portions on the periphery of the cutter head each having a radius decreasing constantly in the direction opposite from the direction of rotation, said volute portions having identical equally-spaced knife slots extending from the working face, said knife slots inclined forwardly in the direction of rotation of said cutter head and extending in planes having the same angularity with the cutter head axis, said volute portions having identical equally-spaced pressure bar slots extending from the working face, each of said pressure bar slots located in advance of a knife bar slot in the direction of rotation of said cutter head, said pressure bar slots inclined forwardly in the direction of rotation of said cutter head and extending in planes having the same angularity with said cutter head axis, and pressure bars and knife bars secured in said pressure bar slots and said knife bar slots respectively, each pressure bar having a pressure face and each knife bar having a slicing blade on the working face of a volute portion, said pressure bar slots, knife bar slots, pressure bars and knife bars so arranged that the spacing between the edge of each knife blade and the heel of the associated pressure bar face will be approximately equal to the thickness of the wood flakes sliced by the knife blades, whereby said pressure faces of said pressure bars will exert a slight compressing force on the areas where the slicing takes place.

3,262,477
DEBARKING APPARATUS
Richard E. O'Brien, Manitowoc, Wis., assignor to Manitowoc Shipbuilding, Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed Dec. 26, 1963, Ser. No. 333,326
17 Claims. (Cl. 144—208)



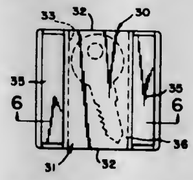
1. In apparatus for debarking logs, the combination of,
substantially cylindrical shell structure defined by a plurality of end-abutted elongate courses connected together to form a generally cylindrical chamber of substantially uniform diameter throughout the full longitudinal extent thereof,
said structure having at least two spaced imperforate shell courses disposed intermediate the perforate shell courses with said imperforate shell courses having a wall thickness greater than the wall thickness of said perforate shell courses,
means for rotatably supporting said shell structure,
lifter means mounted on the inner periphery of said perforate shell courses for lifting logs in said chamber as said shell structure is rotated,
said lifter means comprising a plurality of circumferentially spaced generally longitudinally extending rows of radially inwardly projecting rib members rigidly mounted to only the internal periphery of said perforate shell courses,
said shell structure having inlet and outlet passageways for the admission and discharge, respectively, of logs, and
an arrangement for enabling the discharge of logs, bark and other debris from the interior of said cylindrical chamber,
said arrangement comprising elongate slots extending generally longitudinally of said perforate shell courses at locations therealong which are intermediate adjacent rows of the lifter means.

3,262,478
COIN HOLDER POCKETBOOK
Lilly Amsterdam, 232 Sheppard Ave., Newark, N.J.
Filed Aug. 14, 1964, Ser. No. 389,723
2 Claims. (Cl. 150—37)



1. A handbag comprising a rectangular body having a front wall, a rear wall, a bottom wall and end walls, a panel associated with the front wall forming a pocket for cash, and a pair of coin and token holders on the outer surface of the rear wall, said bottom and end walls being corrugated and collapsible, a slidable closure for said cash pocket, and a flap hinged to the top edge of the front wall for concealing the coin and token holders, said coin and token holders each including an elongated rectangular casing having closely spaced outer and inner walls, end walls and one side wall, the other side being open, the edge of the outer wall adjacent the open side being notched forming spaced windows for exposing coins and tokens inserted into said casing and a compression spring in the casing opposite each window for urging the coins and token toward the windows.

3,262,479
CONCEALMENT MEANS FOR KEYS
Charles W. Leguillon, 211 Overwood Road, Akron, Ohio
Filed Oct. 20, 1964, Ser. No. 405,188
3 Claims. (Cl. 150—40)



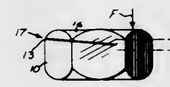
1. In a holder for keys capable of being magnetically held firmly to an underside of a non-planar surface of a paramagnetic metal support, in combination, an envelope comprising two distortionable side walls spaced from each other sufficiently to hold a key between them and joined to each other at their margins except for openings at the ends for the entrance and exit of a key, and two plastic magnetic strips attached to an outer surface of one of the said distortionable side walls and spaced each from the other so as to leave the wall between the plastic magnetic strips free to distort under pressure, whereby the distortion of the wall between the two magnetic strips enables each of the said strips to contact the non-planar surface of the support in a different plane one from the other.

3,262,480
NUT ENCLOSED IN PLASTIC BEARING MEMBER
Harold A. Storch, Birmingham, Mich., assignor to Federal Screw Works, Detroit, Mich., a corporation of Michigan
Filed Apr. 10, 1964, Ser. No. 358,734
3 Claims. (Cl. 151—7)



2. In combination with a member having a concave apertured recess and a male threaded member passing through said recess, a nut assembly including a metallic nut body having a threaded bore threadably engaging said male threaded member and an outer periphery of regular hexagonal cross section, a synthetic resinous bearing member having a central cavity of a cross-sectional shape closely fitting the outer periphery of said nut body, said nut body and said cavity being of hexagonal cross section, said cavity being open at the opposite ends of said bearing member, a convex outer surface on one end of said bearing member slidably engaging in said concave recess with the diameter of the opening at said one end being less than the minimum external transverse dimension of said nut body, said recess and said convex end surface being of substantially segmentally spherical shape and six circumferentially spaced resilient fingers on said bearing member projecting radially inwardly at the other end of said cavity and nonrotatably confining said nut body in said cavity, said fingers having cam surfaces on the outer sides thereof tapering inwardly toward said cavity, said cam surfaces being engageable by said nut body to cause said fingers to deflect radially outwardly out of alignment with said cavity and permit said nut body to be pressed into said cavity.

3,262,481
SELF-LOCKING SLOTTED NUT WITH DEFORMED THREAD PORTION
Curt H. Hanfland, Laustrasse 62, Stuttgart-Sonnenberg 7, Germany
Filed Dec. 17, 1964, Ser. No. 419,043
6 Claims. (Cl. 151—21)



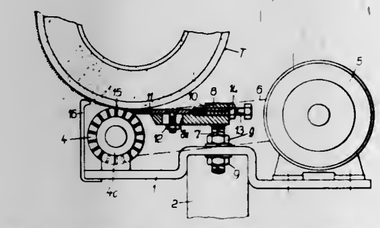
1. In a lock nut; a nut body having a threaded bore extendiing axially therethrough from the top end to the bottom end of the body, slot means in the nut body extending transversely therein from at least one side and intersecting a portion only of said threaded bore so as to leave a part of the threads in said bore uninterrupted from end to end of the nut body, said slot means being located between the middle of the nut body and one end of the body, said nut body and the threads therein at the inner end of said slot being upset so that the one portion of said body on one side of said slot means is displaced in parallelism with itself in the axial direction of the said body toward the other portion of the body so that the threads therein do not form a true continuation of the threads in the said other portion of said body and so that said slot is substantially closed, said slot means having at least a substantial portion thereof inclined at the same angle as the threads in said bore, said slot means comprising a single slot extending into said nut body from one side extending to beyond the axis of the bore in the nut body and terminating short of the wall of the bore on the other side of the nut body.

3,262,482
ADHESION OF ETHYLENE-PROPYLENE-DIENE TERPOLYMER RUBBER TO TEXTILES
Maurice C. Clifton, Grosse Pointe Park, Parks M. Nichols, Detroit, and Victor B. Whitfield, Berkley, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed June 17, 1963, Ser. No. 288,523
7 Claims. (Cl. 152—330)

7. A pneumatic tire having a carcass comprising an elastomeric vulcanizate in which the elastomer consists essentially of ethylene-propylene-copolymerizable diene terpolymer wherein the said diene is selected from 1,4-hexadiene and dicyclopentadiene, said vulcanizate being reinforced with textile cord adhered to the vulcanizate by means of an adhesive deposit on the cord applied prior to assembly with the said terpolymer from an aqueous solution containing a rubber latex, selected from butadiene-vinyl-pyridine copolymer latex and butadiene-styrene-vinyl-pyridine copolymer latex, and a water soluble resorcinol-formaldehyde resin having a ball and ring softening point of 102°–112° C. and a mole ratio or formaldehyde to resorcinol of from 1.0:2 to 1.8:2, the adhesive solution further containing from 5 to 30 parts by weight of added formaldehyde per 100 parts of said resin, the weight ratio of said rubber to resin in the adhesive

being from 0.6:1 to 4:1, and the pick-up of adhesive solids on the cord being from 0.1 to 4% by weight of the cord.

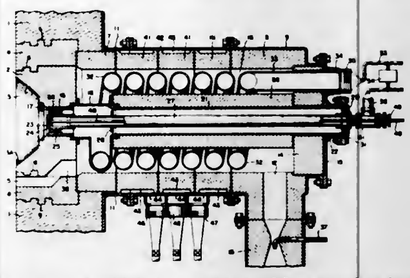
3,262,483
APPARATUS FOR REMOVING THE SQUEEZE-OUT ON RUBBER PRODUCTS
Karl Warnecke, Isernhagen NB.-Sud, Hans Helmerding, Hannover-Herrenhausen, and Helmut Paul, Lauenau, Deister, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Dec. 21, 1964, Ser. No. 420,033
Claims priority, application Germany, Dec. 23, 1963, C 31,741
6 Claims. (Cl. 157—13)



1. An apparatus for cutting off the squeeze-out on molded rubber products, especially pneumatic vehicle tires, which includes: cutting blade means adapted to be directed in tangential direction with regard to the molded rubber product from which the squeeze-out is to be cut off with one end of said blade means adjacent said product, said cutting blade means having a substantial planar top surface adjacent said product, said cutting blade means having a cutting edge at the said one end and having its front face at said one end receding from the cutting edge at the top surface thereof to the bottom surface of said cutting blade means, roller means arranged in front of and generally beneath said front face of said cutting blade means and having a portion of said roller means adjacent said cutting edge extend upwardly beyond the extension of the top surface of said cutting blade means, said roller means having its peripheral surface disposed closely adjacent said cutting edge and front face of said cutting blade means, means drivingly connected to said roller means and operable to rotate the same so as to move said peripheral surface of said roller means in such a direction that said peripheral surface meets said cutting edge prior to said front face, means resiliently urging said roller means toward said front face of said cutting blade means, and depressions in the peripheral surface of said roller means extending in substantially longitudinal direction thereof, said depressions leaving longitudinal ribs on said roller means for cooperation with said cutting edge to shear off squeeze-out from said product.

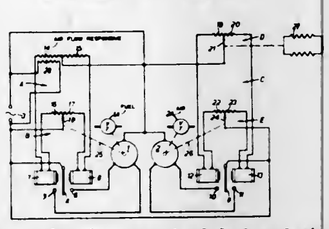
3,262,484
INDUSTRIAL BURNER WITH RECUPERATIVE MEANS
Frederic O. Hess, Skytop, Pa., assignor to Selas Corporation of America, a corporation of Pennsylvania
Continuation of application Ser. No. 154,455, Nov. 24, 1961. This application Oct. 9, 1964, Ser. No. 405,013
9 Claims. (Cl. 158—7.6)

1. An industrial gas burner comprising in combination: a burner block having a face and a back and being provided with an opening extending therethrough, structure attached to said block forming a chamber having a surrounding wall and an end wall with the back of said burner block acting as said end wall thereof, means including pipes through which fuel and air can be supplied to said burner block with said pipes terminating in discharge ports in said opening through which the gas and air are discharged to burn in front of said block, said pipes being at least partially located in said chamber and supported by said structure, means to withdraw products of combustion, including unburned fuel, from in front of said burner block and pass them through said chamber, said structure forming said chamber having



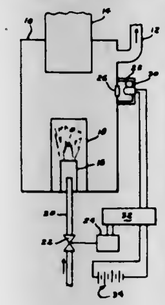
a portion thereof which is provided with a portion having a multiplicity of small openings, a manifold surrounding said portion, and means to supply air to said chamber through said manifold and said portion of said surrounding wall in sufficient quantities to burn with said unburned fuel.

3,262,485
CONTROL OF FUEL AND AIR SUPPLY TO BURNERS
Harold Arthur Page, Annan, and Alexander David Chalmers Gunn, Dumfries, Scotland, assignors to Cochran and Company, Annan, Limited, Annan, Scotland, a company of Great Britain
Filed Dec. 5, 1963, Ser. No. 328,407
Claim priority, application Great Britain, Dec. 6, 1962, 46,102/62
6 Claims. (Cl. 158—28)



1. Apparatus for the control of fuel and air supply to an oil or gas burner comprising delivery means for delivering fuel and air to the burner, a first control means operable to vary the rate of delivery of said fuel and air in the same sense, in accordance with the output required of the part with which the burner is associated, and a second control means comprising at least one electrical bridge circuit including a resistor of relatively high resistance temperature co-efficient located in one side of said bridge circuit and disposed in the air stream to the burner so that its temperature is affected thereby, a relay device associated with and responsive to changes in the condition of balance of said bridge circuit, a third control means controlled by said relay device and controlling the relationship between the fate of fuel supply and air supply to the burner, said second control means including valve apparatus controlling the air supply to the burner and a servo motor actuating said valve apparatus and controlled by said relay device, said relay device comprising differential electromagnetic apparatus arranged in the bridge circuit and including an armature whereby changes in the state of balance of the bridge circuit in one sense or the other with changes in the condition of air flow and hence the temperature of the resistor subject to the air flow cause said armature to move selectively from an equilibrium position in one direction or the other to close the appropriate one of two electric circuits and thus cause operation of the second control means in one sense or the other to restore the fuel and mass air flow to the desired proportions, a potentiometer in said bridge circuit and an interconnection between said potentiometer and said second control means to restore the bridge circuit to the determined condition of balance simultaneously with operation of said second control means to restore the fuel and mass air flow to the desired proportions.

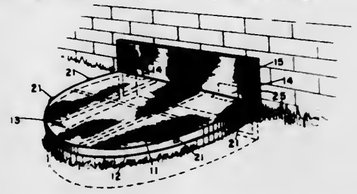
3,262,486
ULTRAVIOLET LIGHT RESPONSIVE FLAME MODULATING CONTROL
John J. Rose, 318 Dellwood Ave., Dayton, Ohio
Filed Aug. 7, 1964, Ser. No. 388,332
1 Claim. (Cl. 158—28)



In combination: a combustion apparatus having an outer shell, a plenum inwardly extending into said outer shell and joined to a first end thereof, a heat absorber joined to a second end of said outer shell and providing a combustion chamber within said outer shell between the inner end of said plenum and said heat exchanger, and a burner within said plenum; a fuel conduit means supplying metered fuel to the burner in said combustion apparatus; a normally open modulating control valve means in said fuel conduit means; a window means in the outer shell of said combustion apparatus longitudinally located in the combustion chamber region to the downstream from the visible flame emitting from the burner during normal combustion; an ultraviolet light responsive detector means externally mounted over said window means and scanning into the combustion chamber within said combustion apparatus substantially normal to the flame emitting from the burner; and a control unit means electrically disposed between said modulating control valve means and said ultraviolet light responsive detector means for receiving a signal generated in said detector means only during a period of overcombustion as signified by the ultraviolet light cone in the flame emitting from the burner lengthening to enter the scanning range of said detector means and thereby actuating said modulating control valve means to modulate the fuel flow to a predetermined lesser amount until such time as the signal generated in said detector means is cancelled.
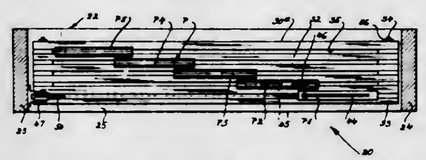
3,262,487
WINDOW WELL COVER
Eric W. Gustafson and Ethel L. Gustafson, both of 4018 Cherry St., Erie, Pa.
Filed Apr. 17, 1963, Ser. No. 273,722
1 Claim. (Cl. 160—88)

In combination,
a wall having a window opening therein,
a window well adjacent said window opening and being of a depth equal to a portion of the height of said window opening,
a window in said opening,
a well flange forming an inner lining for said well and extending slightly above the surface of the ground,
a screen engaging said wall above said window opening extending down parallel to said window and resting at its lower edge on said flange,
a perforated sheet binged at one edge to the lower edge of said screen and resting on the upper edge of said flange,
and laterally and longitudinally extending reinforcing



bars attached at their ends to said flange and supported thereon,
a transverse member,
a marginal frame fixed to said perforated sheet,
said frame being generally U-shaped with the ends of said U-shaped frame fixed to said transverse member,
said transverse member being fixed to said perforated sheet,
resilient clips attached to the edges of said sheet and frictionally engaging said marginal frame,
said marginal frame being disposed around the outside of said well flange.

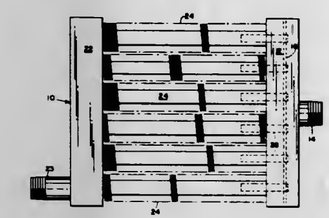
3,262,488
COLLAPSIBLE SHUTTER DEVICE
Zoltan Rieder, 569 W. 192nd St., New York, N.Y.
Filed Jan. 6, 1964, Ser. No. 335,939
2 Claims. (Cl. 160—202)



2. A closure device for a window opening, doorway and the like, comprising:
a horizontal trackway having a plurality of laterally spaced slots,
a plurality of panel assemblies each including a plate having an upper end disposed in one of the slots and slidable horizontally therein:
carriage members on the top of said plates supporting said plates and riding along the edges of the slots,
each of the carriage members including a cylindrical bar having a groove at one side and a laterally projecting pin at the other side engaging in the groove of an adjacent bar, said grooves and pins constituting lost-motion means of connection between the carriage members, so that movement of any panel assembly in any horizontal direction subsequently moves an adjacent panel assembly in the same horizontal direction;
a drive cord, the ends thereof being connected to one of the panel assemblies;
a pulley assembly carrying said drive cord in either of two opposite directions;
and means for driving said cord in one direction to dispose the panel assemblies in an extended array

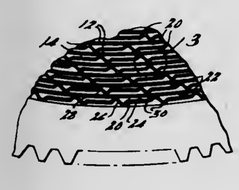
and for driving the cord in an opposite direction to dispose the panel assemblies in a retracted array, said driving means including a rotatable shaft on the frame for the window opening, a drive pulley fixed on one end of the shaft over which the cord is wound, and a hand wheel fixed on the other end of the shaft for turning the shaft.

3,262,489
HEAT EXCHANGER
Lawrence H. Fritzberg, Syracuse, N.Y., assignor to Aerofin Corporation, Syracuse, N.Y., a corporation of New Jersey
Filed Feb. 11, 1964, Ser. No. 344,055
2 Claims. (Cl. 165—1)



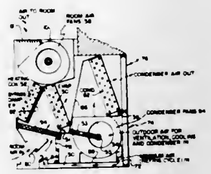
1. The method of transferring heat from a first fluid to a second fluid wherein the first fluid is at a temperature in excess of that recommended for the joinder of metal parts by brazing, which comprises the steps of:
(a) supplying the first fluid to a supply header having first and second compartments separated by an apertured partition;
(b) delivering the first fluid to heat transfer tubes in communication with the second compartment through a brazed joint and a condensate header remote from the supply header, the delivery being accomplished through relatively short delivery tubes having a connection with the partition as its sole support, so that the brazed joint is isolated from the high temperature fluid and heat from the first fluid that flows by conduction to the brazed joint will pass through structure subject to temperatures below the temperature of the first fluid; and
(c) supplying a source of fluid to be heated over the surface of the connected parts.

3,262,490
PROCESS FOR JOINING METALLIC SURFACES AND PRODUCTS MADE THEREBY
John H. Olson, Westfield, N.J., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Original application Apr. 21, 1954, Ser. No. 424,680, now Patent No. 3,129,502, dated Apr. 21, 1964. Divided and this application Sept. 20, 1963, Ser. No. 310,256
2 Claims. (Cl. 165—10)



1. A metallic structure comprising a plurality of metallic parts arranged in a joint forming relationship whereby an elongated recess is formed between said parts having its apex in said joint, a substantially uniform and continuous layer of nickel phosphorous alloy having between 85 to 97.5% nickel and 2½ to 15% phosphorous produced by electroless plating over said parts contiguous said joint and providing a continuous substantially uniform fillet-like web in the apex of said recess, said layer bonding said parts together and providing a highly corrosion resistant and gas tight joint between said parts in said joint, said layer having a thickness of at least about 0.0002".

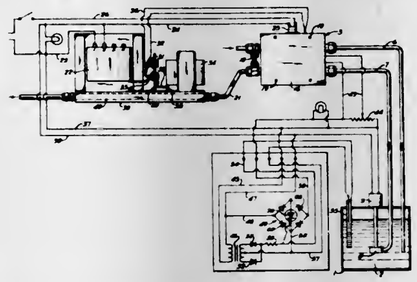
3,262,491
SELF-CONTAINED AIR-CONDITIONING UNIT VENTILATOR
Dale L. Selhost, Rock Island, Ill., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware
Filed Dec. 1, 1964, Ser. No. 415,145
11 Claims. (Cl. 165—16)



1. A self-contained, air-conditioning unit ventilator for serving an individual room, comprising:
a series of independent, separable sections securable together to form said unit ventilator;
said sections including a wall collar section, a refrigeration section, a heater-damper section, and a room air fan section;
said wall collar section having opposite open faces and a generally rectangular form;
said refrigeration section including a rear-facing portion carrying a condenser and condenser fans recessable within said collar section, and a front-facing portion carrying an evaporator, said condenser and said evaporator being spaced apart in a depthwise direction and separated by lengthwise-extending partition means;
said heater-damper section including means mounting it on said front-facing portion of said refrigeration section;
all of said sections except said collar section including depthwise-extending partition means having complementary, fitting edge portions to generally divide said unit ventilator into a major portion occupying most of the length of said unit ventilator, and a separate end portion containing compressor means and control means.

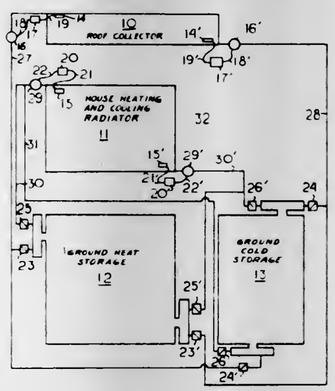
3,262,492
APPARATUS FOR MAINTAINING A LIQUID AT A CONSTANT LOW TEMPERATURE
Daniel F. Meenan, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 15, 1964, Ser. No. 374,935
10 Claims. (Cl. 165—27)

10. A constant temperature bath maintainable close to a selected temperature comprising, in combination, a tank containing a liquid comprising said bath, means for circulating the liquid to and from the tank to a heat exchanger, the heat exchanger comprising a cooling member and thermoelectric means for withdrawing heat from the cooling member whereby to cool the circulated liquid to at least the selected temperature or lower, heating means associated with the circulating liquid, and control means for energizing the heating means whenever the circulating liquid is brought to a temperature below the



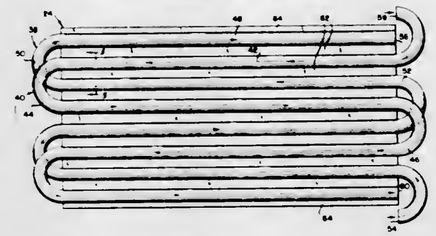
selected temperature whereby to heat the circulating liquid close to the selected temperature whereby the bath is maintained at said selected temperature.

3,262,493
MEANS FOR HEATING AND COOLING A STRUCTURE
David E. Hervey, Logansport, Ind., assignor to Industrial Institution International, Ltd., Elm City, N.C.
Filed May 20, 1963, Ser. No. 281,629
2 Claims. (Cl. 165—50)



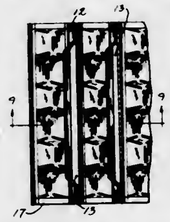
1. A structure heating and cooling system comprising a building at least part of which is exposed above the ground, said exposed portion having at least two walls and a roof, a first heat exchange means, said means being mounted on said roof and constructed in such a manner as to heat a fluid passing therethrough, a heat storage area located beneath the ground juxtaposed to said structure, a second heat exchange means constructed within said heat storage area, a warm storage area located about the vertical perimeter of said heat storage area, a third heat exchange means constructed within said warm storage area, a cold storage area located beneath the ground juxtaposed to said structure, a fourth heat exchange means constructed within said cold storage area, a cool storage area located about the vertical perimeter of said cold storage area, a fifth heat exchange means constructed within said cool storage area, sixth heat exchange means located within said structure, first fluid transfer means selectively connecting said first heat exchange means to second, third, fourth and fifth heat exchange means whereby heat and cold may be selectively collected by said first exchange means and selectively stored within one of the storage areas, second fluid transfer means selectively connecting said sixth heat exchange means to said second, third, fourth and fifth heat exchange means whereby heat and cold may be selectively removed from said storage areas and used to condition said structure.

3,262,494
RADIANT HEATER HAVING INDEPENDENT SINUOUS INTERNESTED TUBES
Horace L. Smith, Jr., Richmond, Va., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Nov. 14, 1963, Ser. No. 323,848
17 Claims. (Cl. 165—107)



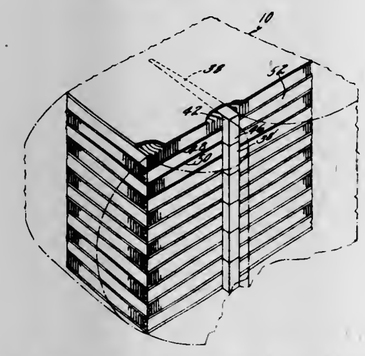
1. A radiant heating installation, comprising:
(a) a radiator having two sinuous internested tube assemblies providing independent flow circuits, each of said tube assemblies have substantially parallel straight runs connected by end bends, the centerlines of the straight runs of the two tube assemblies being substantially coplanar and the runs of the two tube assemblies being alternated and the end bends in one of said assemblies all lying to one side of the plane including said centerlines and the end bends in the other of said assemblies all lying to the other side of said plane; and
(b) means for heating and then subsequently effecting simultaneous counterflow of a heat transfer fluid through said independent circuits.

3,262,495
HEAT TRANSFER CORE STRUCTURE
Gordon F. Baird, Jamestown, N.Y., assignor to Blackstone Corporation, Jamestown, N.Y., a corporation of New York
Filed Dec. 21, 1961, Ser. No. 160,976
3 Claims. (Cl. 165—152)



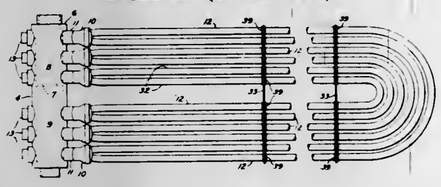
1. In a heat exchange core, at least two pairs of primary strips, laterally offset opposed zigzag margins on said strips interengageable to create in each pair a lengthwise water passage therebetween when suitably bonded together, the walls forming said passage being parallel and forming a zig-zag water course between said primary strips including parallel uniformly spaced outwardly extending transverse ribs, the valleys between said ribs being co-planer with the lateraly outwardly extending portions of said margins whereby to provide an edge to edge seat for suitable edge to edge bends of a secondary spacer strip and a secondary spacer strip between the two pairs of primary strips seated on said edge to edge seat of said primary strips and defining an air passage therebetween.

3,262,496
HEAT EXCHANGER CONSTRUCTION
Rafael R. Bawabe, Manchester, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 26, 1964, Ser. No. 378,218
8 Claims. (Cl. 165—166)



1. In a multi-pass, multi-channel heat exchanger comprising a core having a planar side, said core including a plurality of stacked layers, each layer having a continuous fin element, spaced plates sandwiching the sides of said fin element defining therewith a series of separate parallel open ended channels, said fin elements in alternate layers terminating at said planar side, closure bars in alternate layers having an elongated portion terminating at said side, means for supporting headers adjacent said side comprising a plurality of main bodies each of which include a rearwardly extending portion adapted to fit into a groove cut into a section of said fin elements of alternate layers and abut said spaced plates, a forward projecting portion adjacent said rearwardly extending portion projecting beyond the side of said core, whereby said forward projecting portion of each main body defines a rib extending the depth of said core.

3,262,497
HEADER-TUBE ASSEMBLY AND FITTING THEREFOR
Eugene Porter Worthen, Braintree, and John Henry Stelling, South Yarmouth, Mass., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
Original application Aug. 22, 1960, Ser. No. 51,043. Divided and this application Mar. 8, 1965, Ser. No. 437,944
2 Claims. (Cl. 165—176)



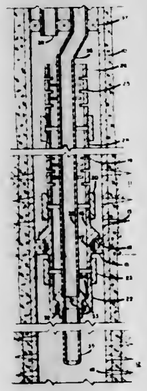
1. A header assembly comprising:
(a) pipe header means having:
an inlet chamber, and
an outlet chamber,
(b) a pair of multi-element fittings, each of said multi-element fittings comprising:
a pipe section secured to said pipe header means,
an enlarged convex head portion on said pipe section, and
a plurality of stubs secured normally to the surface of said enlarged convex head portion,
one of said multi-element fittings being in fluid communicating relation with said inlet chamber and the other of said multi-element fittings being in fluid communicating relation with said outlet chamber,
(c) a plurality of U-tubes having:
leg portions, and
end portions,
the leg portions of all U-tubes being parallel to each other, the end portions of said U-tubes being bent at an angle to their respective legs to meet squarely said stubs and buttwelded thereto.

3,262,498
SECONDARY RECOVERY OF OIL FROM A SUBTERRANEAN FORMATION
Carl Connally, Jr., and Elliott B. Elfrink, Dallas, and Lorld G. Sharp, Irving, Tex., assignors to Mobil Oil Corporation, a corporation of New York
No Drawing. Filed June 24, 1963, Ser. No. 290,167
5 Claims. (Cl. 166—9)

1. In a method of recovering oil from a subterranean reservoir penetrated by at least one injection well and one production well, said wells being spaced apart one from the other, the steps which comprise:
(a) introducing carbon dioxide into said reservoir through said injection well, and driving said carbon dioxide through said reservoir, into contact with said oil, said carbon dioxide being introduced into said reservoir in an amount to provide within said reservoir a first transition zone, said first transition zone including a portion next to said oil which is a mixture of said carbon dioxide and said oil, and a carbon dioxide phase following said mixture of said carbon dioxide and said oil;
(b) introducing a liquefied hydrocarbon material into said reservoir through said injection well, and driving said liquefied hydrocarbon material through said reservoir, behind and into contact with said carbon dioxide phase, said liquefied hydrocarbon material being introduced into said reservoir at a pressure which will maintain said liquefied hydrocarbon material in the liquefied state in said reservoir to provide within said reservoir next to said carbon dioxide phase a second transition zone, said second transition zone including a portion which is a mixture of said carbon dioxide and said liquefied hydrocarbon material, and a zone of said liquefied hydrocarbon material whereby said first transition zone, said carbon dioxide phase, and said second transition zone provide a smooth viscosity transition from said oil to said zone of liquefied hydrocarbon material;
(c) introducing into said reservoir through said injection well a driving fluid to displace said oil, said transition zones, said carbon dioxide phase, and said liquefied hydrocarbon material through said reservoir toward said production well; and
(d) producing said oil from said reservoir through said production well.

3,262,499
UPPER ZONE GRAVEL PACK
Aubrey D. Fleming, Ozark, Ala., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 352,171
10 Claims. (Cl. 166—16)

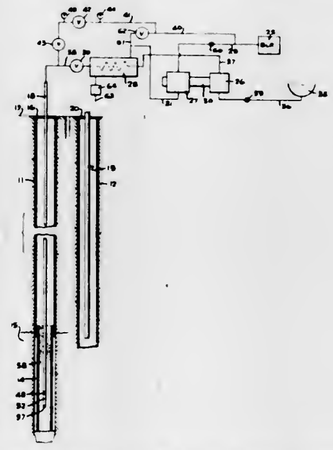
1. Apparatus for producing separately formation fluids entering separate sets of perforations in casing in a well in which the upper zone produces sand comprising, a packer with a large central opening set in the casing between said perforations, a large-diameter tubing section sealed through said packer, a cylindrical screen attached to the top of said large tubing section, and extending to a level above the top set of perforations in said casing, a tubing seal receptacle below said screen and attached to said large tubing section, a small tubing string sealed through said tubing seal receptacle and extending to the top of the well, said small tubing having an opening below said tubing seal receptacle for entry of fluids from the lower set of perforations and a gravel pack above said packer between said screen and casing and extending above the top set of perforations in said casing, whereby fluids from the upper set of perforations flow through said gravel as said fluids enter the well and flow up said well outside of said small tubing string.



6. A method for producing a well completed in two separate zones by perforating casing opposite said zones comprising, setting in said casing between the two sets of perforations a packer having a large central opening, lowering on a work string an assembly including a large-diameter tubing section, a cylindrical screen above said large tubing section, and a tubing seal receptacle below said screen, sealing said large tubing section through said packer, introducing gravel around said screen, detaching said work string from said assembly, withdrawing said work string from the well, runing a tubing string into said well and sealing said tubing string through said tubing seal receptacle, producing fluids from the bottom zone through said tubing string and producing fluids from the top zone through said gravel pack and screen and up said well outside said tubing string.

3,262,500
HOT WATER FLOOD SYSTEM FOR OIL WELLS
Russell R. Waterman, Long Beach, Calif., assignor of ten percent to Vernon D. Beehler, Los Angeles, Calif.
Filed Mar. 1, 1965, Ser. No. 399,919
1 Claim. (Cl. 166—52)

A hot flood water drive system for the secondary recovery of oil from producing strata comprising a production well extending into the strata having a pump line extending therefrom, a pressure sealed flood well extending into the strata and a hot flood water pressure line extending into the flood well, said pressure line comprising a pipe extending into the well, a source of supply for steam, a supply of flood water, a steam supply line in fluid communication with the source of supply for steam, a heat exchanger above ground level having a water passage therethrough in fluid communication at one end thereof with said supply of flood water and at the other end thereof with said hot flood water pressure line, and a steam jacket therein connected to the steam supply line and in heat exchange relationship with the water passage, and a live steam branch line from said source of supply



of steam extending into the hot flood water pressure line of the flood well whereby to create a hot water drive in the strata.

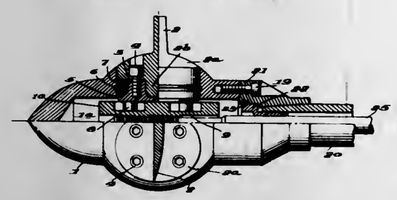
3,262,501
APPARATUS FOR PULLING A WELL LINER
Sam L. Winger, Taft, Calif., assignor to Midway Fishing Tool Co., Long Beach, Calif., a corporation of California
Original application Oct. 7, 1963, Ser. No. 314,275, now Patent No. 3,217,803, dated Nov. 16, 1965. Divided and this application Sept. 23, 1965, Ser. No. 489,642
2 Claims. (Cl. 166—131)



1. In an apparatus for withdrawing a liner from an oil well, the combination of: a rotary valve having means for securing the same on the lower end of a drill string and operable by rotation of said string between open and closed positions, said valve in open position providing free communication between the interior of said drill string and the exterior thereof and in its closed position shutting off such communication; an annular rubber packer slidably fitting the inside of the well casing and assembled on the lower end of said valve; and a spear assembled on the lower end of said packer, there being a central bore extending through said tool and communicating with the bore of said drill string and the lower end of said spear, said spear being operable by manipulation

of said drill string to optionally set said spear in internal gripping relation with a liner or, after having been so set to disengage said liner.

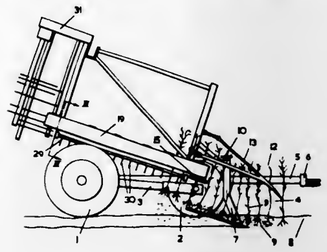
3,262,502
MANUAL CONTROLLABLE PITCH PROPELLER SYSTEMS FOR MOTORBOATS
Harry J. Nichols, 1122 Rue Ave., Point Pleasant, N.J.
Filed May 28, 1964, Ser. No. 371,057
2 Claims. (Cl. 170—160.43)



1. In a controllable pitch marine propeller system, the coordinated combination consisting of: a driven tubular propeller shaft; a propeller assembly coupled on the outboard end of said shaft including a hub with an axial bore and having radial propeller blades journaled in said hub so as to be turnable about their axes and a self-locking blade-turning movement having a grooved single cam for turning and locking said blades reciprocatable coaxially in said bore; an axially reciprocatable connecting rod fastened to said cam and extending through said propeller shaft; a demountable bolted twin-flange coupling assembly for driving said propeller shaft consisting of: a driven coupling flange having a cylindrical collar portion fitted to and demountably coupled coaxially on the inboard end of said propeller shaft, a hollow cylindrical spacer sleeve coupled coaxially on the rim of said flange, a similar driving coupling flange coupled coaxially on the opposite end of said spacer sleeve, and longitudinal internal clamping bolts for integrating said flanges and said spacer sleeve; and means for reciprocating said connecting rod comprising a cross-head plate fastened to said connecting rod within said spacer sleeve and reciprocatable coaxially therein, a ring thrust-bearing mounted around and coaxially slidable on said spacer sleeve, and means for fastening said thrust-bearing to said cross-head plate; whereby said thrust bearing, said cross-head plate and said cam are reciprocatable as an integrated unit for turning and locking said blades.

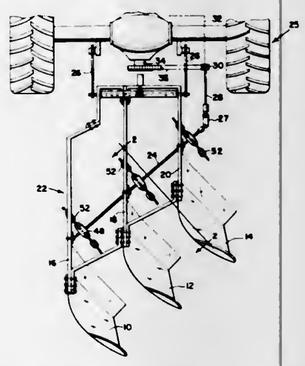
3,262,593
APPARATUS FOR HARVESTING AND COLLECTING CROPS SOWN OR PLANTED IN ROWS
Harm Zijlstra, deceased, late of Veendam, Netherlands, by Aaltje Zijlstra-Daniëls, executrix, Veendam, Netherlands, and Hendrik Foeke van der Laan, Veendam, Netherlands, assignors to Mechanox N.V., Veendam, Netherlands
Filed Dec. 21, 1964, Ser. No. 420,212
Claims priority, application Netherlands, May 4, 1961, 264,386
5 Claims. (Cl. 171—61)

1. An apparatus for harvesting and collecting crops growing in longitudinal rows, in which the crops are spaced apart from each other and so that superfluous earth can be removed from the roots of the crops without injuring said roots, said apparatus comprising a wheeled frame adapted to travel along the earth, a plough-share secured to said frame for digging crops, collector means disposed on said frame for collecting crops dug by said plough-share, a conveyor consisting of two parallel disposed endless belts having forward ends disposed adjacent said collector means to receive dug crops therefrom, roller means on said frame supporting the forward and rear ends of said belts, said belts being dispcsed longitudinally of the path of travel of said wheeled frame with a plurality of longitudinally spaced rollers arranged in zig-zag relation against the inner portion of each of said parallel belts so said belts portions are in contact with each other and secure and carry crops between and along said belts toward the rear end of said belts, a shaft means comprising an elongated oscillatable shaft mounted below and adjacent said belts,



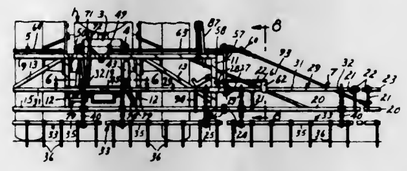
said shaft extending parallel to and spaced apart from the longitudinal axes of said belts, a plurality of spaced radially extending resilient pin members on said shaft extending perpendicular to the longitudinal axis thereof and distributed substantially along the entire length of the shaft, means for oscillating said shaft about its longitudinal axis and means to vary the angular oscillatory stroke of said shaft.

3,262,504
TRASH CLEARING PLOW ATTACHMENT
Raymond George Force, R.R. 2, Gettysburg and Pitsburg Road, Greenville, Ohio
Filed June 1, 1964, Ser. No. 371,399
5 Claims. (Cl. 172—45)



1. A plow having beam means and a plurality of moldboard plows mounted on said beam means in echelon defining an angle with respect to the direction of movement of the plow, and means for preventing trash and vegetation from accumulating on the plow comprising a shaft mounted on the plow at substantially said angle forward and above and at a predetermined distance from said moldboard plows, flexible flail-like elements having a length less than said predetermined distance mounted on the shaft in spaced relation to the moldboard plows, and means for rotating said shaft to cause said elements to drive trash and vegetation away from said moldboard, said elements being chains of light weight construction and adapted to be rotated at high speeds, compared to the speed of said plow in the direction of movement.

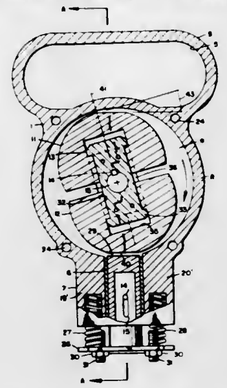
3,262,505
TRACTOR-MOUNTED FOLDING DRAG HITCH
Charles Brakhage, Murdock, Minn.
Filed Aug. 13, 1963, Ser. No. 301,772
4 Claims. (Cl. 172—456)



1. A folding drag hitch for use in combination with a tractor, said hitch comprising:
(a) a central frame section having an elongated generally horizontal rockshaft for supporting an implement,
(b) a pair of side frame sections each having an elongated generally horizontal rockshaft for supporting implements, said side frame sections being pivotally connected in opposite generally side-by-side alignment in operating position with each one on a different side of said central frame section,
(c) a pair of universal joints connecting the opposite outer ends of the rockshaft of the central frame section to the inner ends of the rockshafts of the side frame sections for universal cooperative rocking movements,
(d) actuating means connected to the rockshaft of said central frame section for rotary movement of said rockshafts between a first position wherein the implements carried thereby are disposed in a lower ground-working condition and a second position wherein said implements are disposed in a generally angularly upwardly extending inoperative condition, said actuating means comprising:
(1) a fluid pressure operated cylinder secured to said central frame section,
(2) a radially extending crank arm secured to the rockshaft of said central frame section, and
(3) an extensible and retractable piston rod cooperating with said cylinder and secured to said crank arm, and
(e) linkage means connected to each of the side frame sections and responsive to said actuating means for causing swinging movements of said side frame sections about their pivotal connections to said central frame section between lower positions wherein said side frame sections are generally coplanar with said central frame section and inoperative positions wherein said side frame sections are disposed in generally forwardly projecting relationship on opposite sides of the tractor.

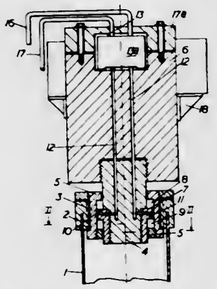
3,262,506
POWER HAMMERS
Herbert H. Hoffman, 4439½ Hazeltine Ave., Sherman Oaks, Calif.
Filed Aug. 17, 1965, Ser. No. 482,034
6 Claims. (Cl. 173—98)

1. In a power hammer device having a housing providing a hammer chamber, a transverse rotatably mounted shaft extending through said chamber and a tool holder, including means for slidably mounting the tool holder relative to the housing, extending partly into said hammer chamber to be impacted by a hammer within the chamber, the provision of:
yoke means mounted on said shaft to be rotated by said shaft within said hammer chamber;
a pair of opposed hammer heads, each said head comprising a unitary mass slidably mounted on said yoke means for limited radial movement and having an arcuate outer edge;
a tool holder impacting flat provided in said outer edge of each said hammer head, each said flat being offset from and inclined to a centerline of head radial movement relative to said yoke means; and



an arcuate portion in said outer edge of each head preceding the associated flat in the direction of head rotation which has a larger radius of curvature than arcuate portions of said edge following said associated flat.

3,262,507
DRIVING AND EXTRACTION OF PILES AND/OR ENCASING STRUCTURES
Frode Hansen, Westminster, London, England, assignor to Christiani and Nielsen Limited, London, England, a company of Great Britain
Filed Oct. 14, 1963, Ser. No. 315,850
Claims priority, application Great Britain, Oct. 17, 1962, 39,359/62
12 Claims. (Cl. 175—56)



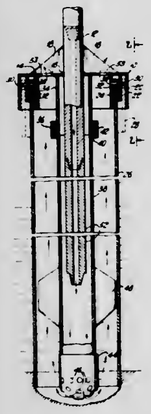
1. A method of moving an elongated member, e.g., a pile, through a compacted medium, e.g., earth, in contact with which one end of said member is held, said method comprising mounting on the free end of said member an assembly of a vertically reciprocable heavy reactant, non rotatable mass of substantial inertia, a high frequency liquid pressure oscillating device and at least one piston slidable in a cylinder connected by ducts to said oscillating device, actuating said oscillating device to provide rapid increases and decreases in liquid pressure in the range of 25 to 150 pulses per second on opposite sides of each piston in its cylinder thereby imparting high frequency vibrations axially of said elongated member, sensing said vibrations in said elongated member and the surrounding medium as said member moves therethrough, comparing the sensed vibrations to a standard vibration of optimum frequency feeding the difference between the sensed and

standard vibrations to means operable to control the liquid flow through said oscillating device to create a desired vibration frequency in the elongated member and to adjust the frequency and amplitude of said desired vibration to the optimum operating conditions for moving said elongated member through said medium.

3,262,508
HYDRAULIC DRILLING AND CASING SETTING TOOL

Tom B. Price, New Orleans, La., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 4, 1963, Ser. No. 327,941
9 Claims. (Cl. 175—207)



1. A tool for use in driving and setting a well casing in an underground formation by hydraulic jetting action comprising a supporting head provided with a suspending means to receive and releasably engage the axial extremity of a tubular well casing, an additional suspending means coaxial with said first named suspending means for receiving and releasably engaging the extremity of a well casing of substantially different diameter for suspending such casings in a vertical axis, said head having fixed thereto in coaxial relationship with both said suspending means a drill pipe sub adapted to be supplied with fluid and adapted to be suspended from a drilling derrick, pipe coupling means extending downwardly from said head and being coaxial with and of substantially greater diameter than said drill pipe sub and disposed between both said suspending means and said sub for receiving a jetting pipe, and passageways in said head for permitting outflow of jetting fluid through the annular space between both said suspending means and the pipe coupling means.

3,262,509
WEIGHING SCALE WITH DIAL AND ZERO-RETURN MECHANISM

Eugene W. Schellentrager, Shaker Heights, Ohio, assignor to The Atlas Bolt & Screw Company, Cleveland, Ohio, a corporation of Ohio

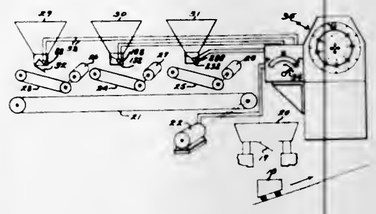
Original application Jan. 22, 1962, Ser. No. 167,832, now Patent No. 3,167,139, dated Jan. 26, 1965. Divided and this application Aug. 28, 1964, Ser. No. 392,861
1 Claim. (Cl. 177—3)

In a weighing system wherein, periodically, successive increments of a material are to be weighed into or out of a container, weight indicating means including

(1) a single rotatable weight indicator,

(2) means responsive to the weight of material in said container and operatively effective upon said indicator to produce rotation of the latter proportional to the amount of material handled, said means including a first motor and a clutch operatively connected between said motor and said weight indicator,

(3) return-to-zero means effective on said indicator and independent of said material weight responsive



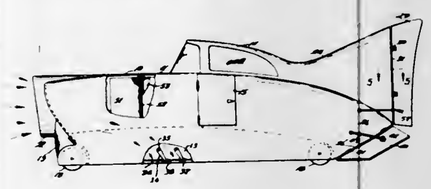
means to return said indicator to zero-weight position, said return-to-zero means including a second motor effective on said indicator to return the latter to zero-weight position, and

(4) control means for simultaneously causing disengagement of said clutch and starting said second motor.

3,262,510
AIR CUSHION VEHICLE WITH LIFT, TURN, AND BRAKE CONTROLS

Alphons J. Froehler, 12 Westwood Drive, Calgary, Alberta, Canada

Filed June 4, 1962, Ser. No. 199,933
3 Claims. (Cl. 180—7)

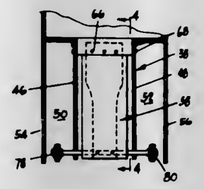


1. In an air cushion vehicle, the combination of an enclosed substantially hollow body shell, a cockpit formed in said body shell, at least one ducted fan mounted for rotation in the vertical plane at the front end of said body shell, a source of power in said body shell operatively connected to said ducted fan, an elongated air cushion port along each side of said body shell opening upon the underside thereof and communicating with said ducted fan, a plurality of spaced and parallel airfoil control louvres pivotally mounted in spaced and parallel relationship in each of said ports, combination elevator and aileron means pivotally mounted at the rear of said body shell rudder means pivotally mounted to said body shell adjacent the rear thereof in the vertical plane, foot control means in said cockpit operatively connected to said rudder means, and hand control means in said cockpit operatively connected to both said airfoil control louvres and said combination elevator and aileron means, vertically extending air deflector means pivotally mounted about a vertical axis in board of said ducted fan and adapted to divert proportionately air to each of said elongated air cushion ports, and means operatively connecting said air deflector means to said foot control means pivoting said rudder and said air deflector means towards each other and towards the same side of the vehicle upon operation of said foot control means.

3,262,511
JET THRUST CONTROLLER FOR GROUND EFFECT MACHINE

William F. Carr, Santa Monica, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Filed Sept. 6, 1962, Ser. No. 221,687
5 Claims. (Cl. 180—7)

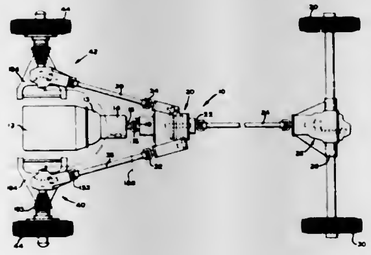


2. A ground effect machine comprising: a load supporting body; at least one longitudinally extending, downwardly opening air discharge passage laterally spaced at each side of the longitudinal axis of said body; means to supply air under pressure to said passages to produce downwardly directed air curtains; a plurality of longitudinally spaced guide vanes in each of said passages, each of said vanes being formed of flexible material and being generally planar and arranged generally vertically in neutral position and extending across the major portion of the width of said passage, the upper end of each vane being mounted in a fixed location and the lower end being movable to produce a curved guiding surface; and control means connected to said vanes and actuatable to curve said vanes forwardly or rearwardly to produce a longitudinal thrust component, and to twist said vanes individually about their vertical axes in any position of adjustment to produce a lateral thrust component; said control means including members connected to the lower ends of each vane at laterally spaced points and movable differentially longitudinally to cause laterally spaced points of each vane to move to differential longitudinal positions and introduce corresponding twists in each vane.

3,262,512
FOUR WHEEL DRIVE

Loren J. O'Brien, Grabill, Ind., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Filed July 23, 1962, Ser. No. 211,608
6 Claims. (Cl. 180—44)



1. A drive unit for use with a prime mover comprising in combination,

(1) a housing,

(2) a through shaft extending inwardly from the forward end of said housing and outwardly from the rearward end of said housing and being mounted in said housing for rotation about its axis and transmitting torque from the prime mover,

(3) a first and a second drive shaft mounted in said housing in a spaced relationship with each other and said through shaft for rotation in opposite directions about separate axes spaced from said through shaft axis and being operative to independently and simultaneously transmit torque,

(4) and means operative to transmit torque to said drive shafts including at least a differential unit comprising a gear carrier, compensating gearing carried by said carrier, and a pair of opposed side gears,

(5) said gear carrier and said side gears being disposed in said housing for co-axial rotation about said through shaft,

(6) means for connecting one of said side gears for unitary rotation with said through shaft,

(7) means drivingly connecting the other of said side gears to one of said drive shafts,

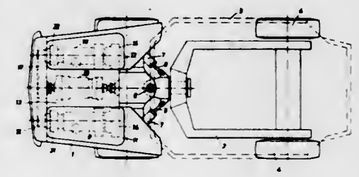
(8) and means drivingly connecting said compensating gear carrier to the other of said drive shafts,

(9) whereby said differential gear unit is operative to transmit torque to said drive shafts from said prime mover independently, simultaneously, differentially, and in opposite directions.

3,262,513
COMBINED POWER VEHICLE AND TRAILER STRUCTURE

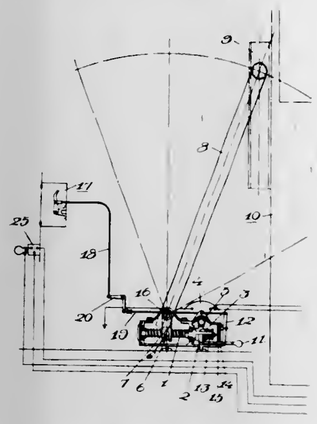
Sune Torsten Henriksson, Lingenstigen 2; Åke Malmgren, Tvargatan 5; Ragnar Ludvig Muotka, Kyrkogatan 46; and Lars Harald Widegren, Lararegatan 14, all of Kiruna, Sweden

Filed Sept. 16, 1963, Ser. No. 309,148
Claims priority, application Sweden, Oct. 2, 1962, 10,562/62
12 Claims. (Cl. 180—54)



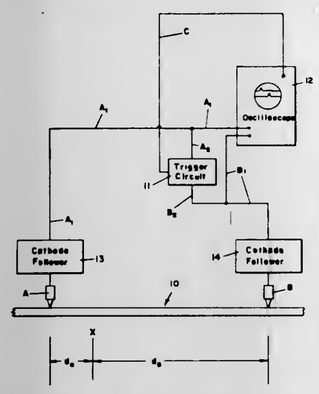
1. In a power vehicle adapted for propelling a trailer pivotally connected thereto, the combination of a frame, means at the rear end of said frame for coupling it to the trailer, a pair of wheels and associated drive axles mounted on the frame adjacent the rear end thereof, two power generating systems extending in the longitudinal direction of the frame within the same range of length thereof in front of the drive axles of the wheels, said systems comprising engines having their power shafts projecting at the fore end of the frame, the systems with the engines being situated along opposite side of the frame so as to leave a space between themselves sufficient for receiving a platform for a driver's seat and associated steering mechanism, a power transmission system common to both power generating systems provided in said space below said platform within the same range of length of the frame as the power generating system, gearings between the shafts of the power systems and said common transmission system, and means for delivering the power from said common transmission system to the wheel axles, all of the elements recited being positioned in front of the wheel axles.

3,262,514
AUTOMATIC DOOR SWITCH DEVICE FOR A VEHICLE, A BUILDING OR THE LIKE
Mitsuo Miura, Tokyo, Japan, assignor to Kabushiki Kaisha Sanyo-Sha, Tokyo, Japan
Filed Mar. 27, 1964, Ser. No. 355,193
6 Claims. (Cl. 180—82)



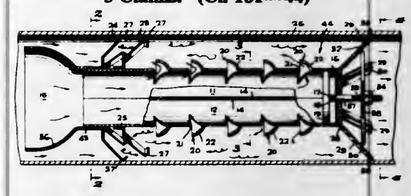
1. A door operator comprising a motor and means for rotating said motor in forward and reverse directions, gearing connected to a door and the motor for moving said door in opening and closing directions, a clutch in said gearing, and manual means at a point remote from the door for operating the clutch to engage and disengage the motor drive from the door.

3,262,515
APPARATUS FOR LOCATING ARCS IN WAVEGUIDES
John J. Drum, Sudbury, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 12, 1963, Ser. No. 294,778
3 Claims. (Cl. 181—.5)



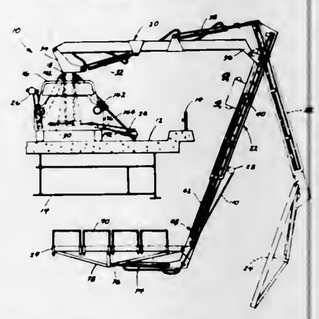
1. Apparatus for locating an arc occurring in a waveguide conduit comprising
(a) a plurality of sound detectors spaced along said conduit providing a monitoring zone between adjacent detectors,
(b) said detectors being operative to pick up sound vibrations caused by the arc and form electrical signal pulses,
(c) a plurality of display devices arranged in a bank and providing a display device for each detector,
(d) a plurality of pulse transmitting lines providing a separate line between a display device and a cooperating detector, and
(e) each display device being operative to indicate sound vibrations picked up by its cooperating detector whereby an operator can determine the location of the arc by observing the sequence of operation of adjacent display devices.

3,262,516
MULTI-PASSAGE MUFFLER INSERT FOR EXHAUST PIPE
Otto F. Borgeson, 604 Pasqual Ave., San Gabriel, Calif.
Filed Mar. 9, 1964, Ser. No. 350,171
3 Claims. (Cl. 181—44)



1. A muffler comprising: an elongated shell adapted to be positioned lengthwise within an exhaust pipe of an internal combustion engine, said shell flared outward at one end to form a funnel-like structure whose maximum diameter is greater than that of the main body of the shell but less than the internal diameter of said pipe; a plurality of louvers in the wall of said shell having their external diverging portions directed toward the exterior of said funnel-like structure; said shell closed at the end opposite from said structure; a plurality of first lugs carried by said shell and spaced therearound adjacent said opposite end; a plurality of second lugs carried by said shell and spaced therearound intermediate said louvers and said funnel-like structure; said first and second lugs acting to position said shell coaxially of said pipe; and said louvers acting to permit the gases received within said shell through said funnel-like structure to escape to the exterior of the shell against the gases moving through said pipe toward said first lugs from the region around said funnel-like structure, thereby creating turbulence in the gases around the shell to break up the sound waves in said gases.

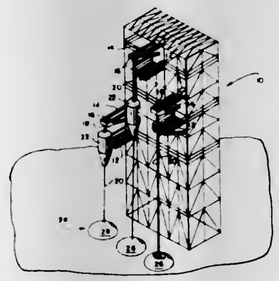
3,262,517
BRIDGE CRANE
Jerry P. Malec, 2930 N. 84th St., Omaha, Nebr.
Filed Nov. 18, 1964, Ser. No. 412,000
10 Claims. (Cl. 182—2)



9. In a bridgework scaffold device,
a supporting means adapted to move on the road surface of a bridge,

a boom structure movably mounted on said vehicle,
said boom structure being comprised of a plurality of movable boom sections,
an elongated platform means on the outer end of said boom structure,
said platform means having a walkway adapted to be disposed in a horizontal plane at times,
said platform means including a truss assembly to reinforce said walkway,
said truss assembly being secured to the under side of said walkway to provide maximum overhead clearance for said platform means when said walkway is disposed in a horizontal position,
said truss assembly being pivotally connected at a point intermediate the length of said walkway to one end of an extendable power means having its other end pivotally connected to the outer tip end of said boom structure,
said walkway having its end adjacent said boom structure pivotally connected thereto at a point inwardly of the tip end of said boom structure whereby said platform may be moved relative to said boom between positions substantially parallel to said boom to positions substantially perpendicular thereto.

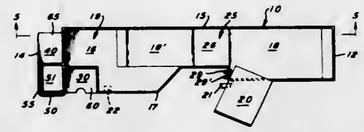
3,262,518
EMERGENCY ESCAPE SYSTEM
James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Wolfgang G. Offik
Filed Oct. 29, 1964, Ser. No. 407,603
12 Claims. (Cl. 182—191)



1. A rescue system for providing safe escape of personnel from tall structures comprising:
(a) a rescue cabin;
(b) a blast shelter having a dome shaped roof; and
(c) means for guiding said rescue cabin into said blast shelter;
(d) said rescue cabin has attached thereto means for crashing through said dome shaped shelter roof;
(e) whereby burning liquid and fragmentary solid material are prevented from flowing into said shelter prior to entry of said rescue cabin therein.

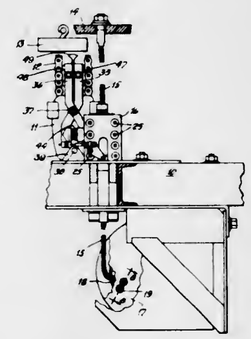
3,262,519
CHECKOUT COUNTER
Aaron H. Cohen, Jenkintown, Pa., assignor to Sel-Lect Fixtures Distributors, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed June 2, 1965, Ser. No. 460,770
6 Claims. (Cl. 186—1)

1. A checkout counter comprising an elongated counter having a customer side and a cashier side and including a conveyor means for carrying articles thereon to a rear station on said counter; a cash register stand projecting from said cashier side to provide free space therebehind enabling a cashier to move along said cashier side to said rear station without interference with customers or carts in an adjacent aisle; a first flat bagging platform below said rear station on said cashier side at a convenient level; a second flat bagging platform below said rear station on rear end of said counter at a convenient level for customer assistance in bagging; and an upright box affixed at a rear



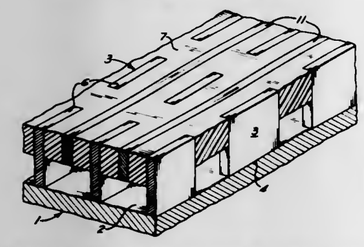
corner of said counter at said cashier side, said box separating said first and second platforms and being open at top for storage of a standard size bag therein, said box cooperating to stand bags on said first and second platforms and maintaining a separation between said customer and cashier sides which encourages said customer assistance.

3,262,520
TRACKLESS HOIST WITH SAFETY STOP
Frederick H. Bond, Brockton, and Laurence C. Pilvelis, Methuen, Mass., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 17, 1964, Ser. No. 397,344
12 Claims. (Cl. 187—88)



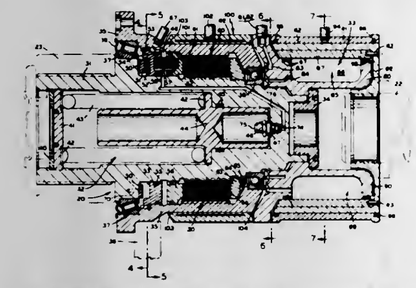
1. A safety device for a trackless hoist of the type in which a load carrier is suspended and selectively raised and lowered by a flexible cable hoist in which the cable depends from a support, passes around a pulley on said carrier, returns back toward said support, and is connected to a hoist by which it is selectively paid out and retracted to lower and raise said carrier, which comprises the combination therewith of:
(a) a flexible, rope-like arresting cable secured to and depending from said support and guided through a part of said carrier,
(b) tensioning means mounted on said carrier and to which arresting cable is connected after passing said guide part of said carrier, for keeping said arresting cable taut as said carrier is raised and lowered, and
(c) means on said carrier and having a controlling part disposed between the depending and rising stretches of said hoist cable normally held in inactive condition by the tautness of said cable stretches, but operable for automatically gripping said arresting cable and preventing descent of said carrier whenever either stretch of said hoist cable becomes slack and releases said controlling part.

3,262,521
STRUCTURAL DAMPING
Glenn E. Warnaka, Erie, Pa., assignor to Lord Corporation, a corporation of Pennsylvania
Filed Aug. 21, 1964, Ser. No. 391,263
25 Claims. (Cl. 188—1)



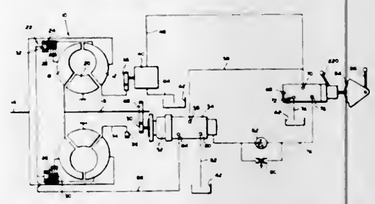
1. Damping for a base member having an extended surface subject to flexural vibrations, comprising viscoelastic damping means and a quantity of plate means embedded in the damping means, both of said means extending over a substantial portion of the surface of the base member, with one of said means being secured directly to that surface and supporting the other of said means in spaced relation to that surface, the plate means being arranged in spaced relation to each other and oriented substantially normal to said surface, and the damping means having a modulus of elasticity that is substantially less than that of the base member and of the plate means.

3,262,522
SUSPENSION MECHANISM
Roy B. Johnson, York, Pa., and Joseph E. Scerbo, Stamford, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
Filed Mar. 24, 1964, Ser. No. 354,376
12 Claims. (Cl. 188—130)



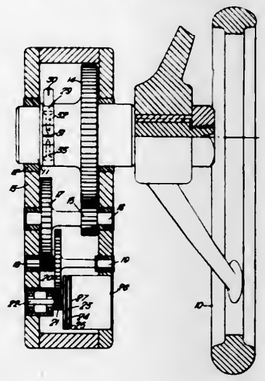
1. An actuator-coupling device for controlled transmission of rotational forces, comprising:
- housing means adapted for connection against rotation;
- rotor means rotatably supported by the housing means, and having connecting means at each of its two ends to form a rotatable couple thereby and motor means for rotating the connecting means relative to one another;
- the housing and rotor means each having an annular wall operatively cooperating with the wall of the other to provide a pair of adjacent surfaces concentric at least in part forming a rotor means lock-out;
- the rotor means lock-out being selectively responsive to pressure fluid for providing clearance at the interface between the adjacent surfaces to permit rotation of the rotor means and for providing an interference fit at the interface to interlock the rotor means against rotation to the housing means;
- the motor means having a pair of operatively cooperating annular walls to provide a pair of adjacent surfaces concentric at least in part forming a motor means lock-out; and
- the motor means lock-out being selectively responsive to pressure fluid for providing clearance at the interface between the adjacent surfaces to permit the motor means to rotate the connecting means relative to one another and for providing an interference fit to prevent the motor means from rotating the connecting means.

3,262,523
TRANSMISSION AND VALVE ACTUATED FLUID CLUTCH CONTROL MEANS
Richard O. Gordon, New Buffalo, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed June 23, 1964, Ser. No. 377,295
6 Claims. (Cl. 192—3.2)



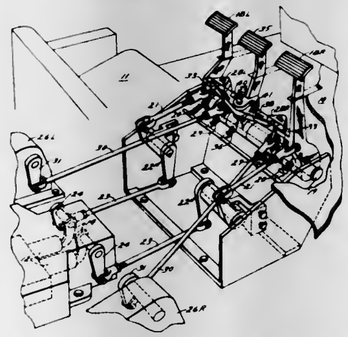
5. For use with a fluid power transmission having a driving member, a driven member and a fluid operated clutch for connecting the driving and driven members together for conjoint rotation, a source of pressurized fluid and a fluid reservoir, a control system comprising valve means connected to the source of pressurized fluid, the reservoir and the clutch and operative to place the clutch in fluid communication with either the source of pressurized fluid or the reservoir, a governor connected to the said valve means and operative to actuate the said valve means to place the clutch in fluid communication with the source of pressurized fluid when the relative speeds of the driving and driven members approach a predetermined ratio, and means for overriding the action of the said governor.

3,262,524
ONE WAY ELECTRIC TRANSMISSION BRAKE
Arthur Kinder Haslehurst, Derby, England, assignor to Paramatic Development Limited, Derby, England
Filed Dec. 4, 1963, Ser. No. 328,040
6 Claims. (Cl. 192—9)



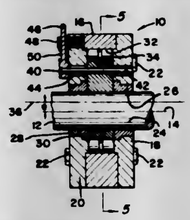
1. An electromagnetic brake comprising a relatively slowly rotatable driving member for turning in either of opposite directions, a high ratio gear train connected to the driving member, a rotor driven at a relatively high speed by the gear train and movable for a short distance along on its own axis, a stationary electromagnet adjacent said rotor for attracting and stopping said rotor, and direction sensing means associated with said rotatable driving member operable to energize said electromagnet upon cessation of rotation of the driving member in one direction and immediately upon start of rotation in the opposite direction, whereby said gear train is in driving engagement to effect an immediate and magnified braking effect on the driving member through friction of the gear train without back lash.

3,262,525
PEDAL ACTUATED STEERING CLUTCH AND BRAKE CONTROLS FOR TRACTORS
Charles C. Ehlke and Donald K. Strohschein, Naperville, and John W. Yancey, East Peoria, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed Apr. 28, 1964, Ser. No. 363,241
4 Claims. (Cl. 192—13)



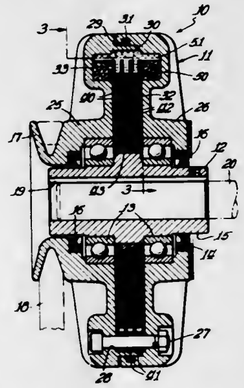
1. In a tractor which has steering clutches and steering brakes, the combination comprising: actuating members for said clutches and brakes, linkage to release one clutch upon actuation of one member and to apply the corresponding brake upon further actuation of said one member, and similar linkage between the other clutch and brake and the other member, a third member and means operable upon actuation of said third member to apply both brakes only.

3,262,526
DUODIRECTIONAL OVERRUNNING CLUTCH
Leo Kramer, Chester, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 19, 1964, Ser. No. 353,140
7 Claims. (Cl. 192—38)



1. A clutch comprising:
- (a) a shaft provided with a center of rotation;
- (b) housing means disposed about said shaft and provided with a pair of axially spaced shaft bores in which said shaft is free to rotate, said shaft bores being substantially concentric with said center of rotation;
- (c) clutch means rotatable within said housing means in substantially frictionless engagement with said housing means and provided with a locking bore located axially between said shaft bores;
- (d) said clutch means being rotatable in said housing about an axis which is eccentric with said center of rotation;
- (e) said locking bore being normally disposed substantially concentric with said center of rotation to permit rotation of one of said shaft and said housing means; and
- (f) said clutch means being movable in one direction to cause said locking bore to eccentrically engage said shaft thereby permitting relative rotative movement between said shaft and said housing means in the opposite direction and preventing relative rotative movement between said shaft and said housing means in said one direction.

3,262,527
FLUID SHEAR COUPLING
Charles M. Allaben, Jr., Ithaca, N.Y., assignor to Morse Chain Company, Ithaca, N.Y., a corporation of New York
Filed Feb. 3, 1964, Ser. No. 342,117
5 Claims. (Cl. 192—58)

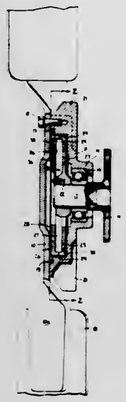


1. A fluid shear coupling comprising a drive member having a shear chamber formed therein, a drive shear plate secured to said drive member within the shear cavity, a driven member rotatably secured to said drive member, a driven shear plate secured to said driven member and positioned adjacent said drive plate in spaced relation thereto within the shear cavity, said drive member having angularly spaced reservoir chambers formed therein in communication with the shear cavity, resilient cell members positioned in the reservoir chambers of said drive member, and a fluid in the shear chamber in contact with the resilient members and said shear plates for providing a fluid shear connection between said drive and said driven plates.

3,262,528
VARIABLE FLUID TORQUE COUPLING
Thomas J. Weir, Indianapolis, Ind., assignor to Schwitzer Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Mar. 18, 1964, Ser. No. 352,845
2 Claims. (Cl. 192—58)

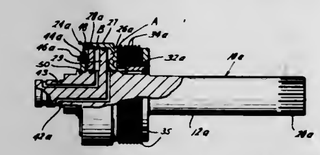
1. A fluid coupling device comprising a drive shaft, driven means comprising an outer casing rotatably mounted on said shaft, and defining a drive chamber therein, a drive disc mounted on said shaft within said outer casing, said drive disc having a central hub portion

locked to said shaft and a body portion extending radially outwardly from the hub portion, the peripheral area of said body portion being folded upon itself to provide a radially inwardly projecting flange portion spaced from said body portion thereby defining an annular fluid storage chamber within said drive disc, the outer surfaces of said flange and body portions being disposed in close face-to-face relation with interior surfaces of said casing,



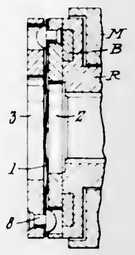
said flange portion of said rotor having a fluid transfer aperture therein adjacent the periphery of said rotor, fluid within said drive chamber and said storage chamber, and condition responsive means supported on said rotor for controlling the flow of fluid through said fluid transfer aperture and hence the distribution of fluid between said drive and storage chambers to thereby control the degree of coupling between said drive shaft and driven means.

3,262,529
FLUID PRESSURE AND MECHANICALLY OPERATED CLUTCH
Milton A. Kramer, Houston, Tex., assignor to Gulf Kramer Corporation, Houston, Tex., a corporation of Texas
Filed Jan. 24, 1964, Ser. No. 339,952
6 Claims. (Cl. 192—83)



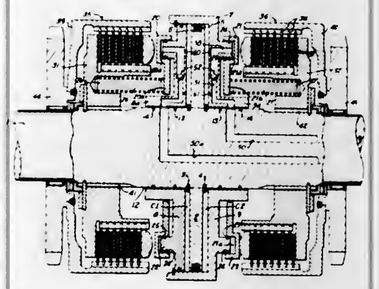
1. A hydraulic clutch assembly comprising,
a rotatable clutch shaft,
a fluid motor mounted on the clutch shaft,
the fluid motor including a piston and cylinder, one of which is movable axially on the shaft upon actuation of the fluid motor,
a plate in the fluid motor connected to and movable axially with said one of the piston and cylinder,
engageable clutch plates carried on the clutch shaft, actuation of the fluid motor moving said one of the piston and the cylinder axially and engaging the clutch plates,
a fixed abutment secured directly on the clutch shaft exteriorly of and adjacent to the plate, and
mechanical means secured to the abutment and engaging the plate, actuation of the mechanical means moving the plate and thus said one of the piston and cylinder axially of the shaft and engaging the clutch plates.

3,262,530
ELECTROMAGNETIC FRICTION CLUTCH
Heinz Maroldt, Hans-Joachim Egbers, and Walter Krome, Hameln, Germany, assignors to Hobbs Manufacturing Company, Worcester, Mass., a corporation of Massachusetts
Filed Apr. 9, 1964, Ser. No. 358,603
6 Claims. (Cl. 192—84)



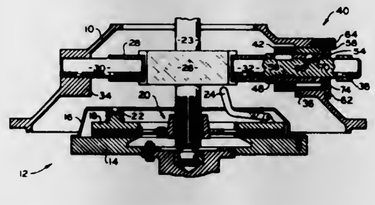
1. A magnetically actuated friction clutch comprising a magnetic clutch part and a second cooperative clutch part, the latter including a magnetic member and a supporting member therefor, the supporting member and the first-named clutch part being arranged on an axis and being relatively rotatable thereabout but fixed against movement in an axial direction, and means mounting the magnetic member on its supporting member, said means comprising a spring member of permanent sinusoidal form having certain vertices thereof fixed to the supporting member and other vertices fixed to the magnetic member, the latter being located between the magnetic clutch part and the supporting member, the spring member normally maintaining the supporting member and its magnetic member in close association but yielding to provide a friction coupling of the magnetic member and the magnetic clutch part upon the presence of magnetic flux.

3,262,531
CLUTCH WITH DUAL PISTONS FOR QUICK SLACK TAKE UP
James B. Black and Conrad R. Hilpert, Rockford, Ill., assignors to Twin Disc Clutch Company, Racine, Wis., a corporation of Wisconsin
Filed May 28, 1964, Ser. No. 370,786
14 Claims. (Cl. 192—87)



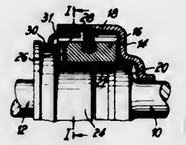
1. A hydraulically operated clutch mechanism comprising a pair of clutches having a common shaft, a main piston shiftable on the outside of and surrounding said shaft and located between said clutches, an annular reaction member within and enclosed by said main piston and fixed on said shaft to define a pair of large, variable volume, pressure fluid chambers, a pair of primary pistons mounted on the outside of said main piston and one on each side of said main piston and slidably engageable therewith to define a pair of small variable volume chambers, each of said primary pistons being engageable with its respective clutch, and passage means in said main piston for supplying fluid to both of said large and small chambers, and valve means to prevent return flow of said fluid.

3,262,532
SPRING DEVICE FOR ASSISTING CLUTCH OPERATORS
Orville E. Phelps, Fort Wayne, Ind., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Mar. 10, 1965, Ser. No. 438,635
7 Claims. (Cl. 192—89)



1. In cooperation with a clutch having a clutch cover and resilient means disposed within the clutch cover for normally biasing the clutch to an operative position the combination comprising
(a) a bell housing disposed about said clutch,
(b) a pair of aligned cross shafts journaled in said bell housing for rotation with respect thereto,
(c) manually operative means operatively connected to one of said cross shafts and selectively operative to cause rotation thereof,
(d) a yoke member connecting said cross shafts for unitary rotation,
(e) release means disposed adjacent said yoke member and operatively connected thereto whereby rotation of said cross shafts causes reciprocal movement of said release means,
(f) lever means pivotally mounted with respect to said clutch cover and operatively connected to said clutch and having the inner ends thereof operatively connected to said release means whereby movement of said release means in one direction causes said clutch to become inoperative against the bias of said resilient means,
(g) assist means including energy storing means disposed about one of said cross shafts and being operative to store energy of said resilient means upon release of said manually operable means and movement of said release means in the other direction,
(h) locking means including
(1) a sleeve disposed about one of said cross shafts,
(2) detent means carried by said bell housing and said one cross shaft,
(3) guide openings in said sleeve member, and
(4) locking members normally disposed in said guide openings and said detent means in said one cross shaft for securing said sleeve to said one cross shaft, and said locking members being disposed in said guide openings and the detent means carried by said bell housing upon limited rotary movement of said one cross shaft whereby said sleeve is connected to said bell housing and said energy storing means becomes operative to aid rotation of said one cross shaft and assist the operator in operating the clutch.

3,262,533
CENTRIFUGALLY CONTROLLED COIL CLUTCH
Josef Keller and Hans Joachim Schwerdhöfer, Schweinfurt (Main), Germany, assignors to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed Apr. 22, 1964, Ser. No. 361,698
Claims priority, application Germany, Apr. 23, 1963, F 39,554; Oct. 8, 1963, F 40,932
21 Claims. (Cl. 192—105)

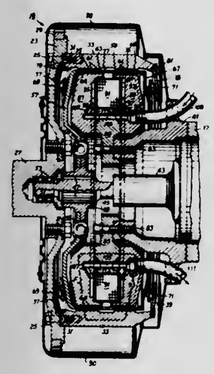


1. In a clutch, in combination:
(a) a rotatable input member;
(b) a rotatable output member;
(c) engageable coupling means operatively connected to each of said members, said coupling means being movable relative to each other toward and away from an engaged position in which said coupling means transmit torque to said output member when said input member rotates;
(d) centrifugal weight means operatively connected to said input member for rotary movement about an axis when said input member rotates, said centrifugal weight means being radially movable relative to said axis;
(e) yieldably resilient biasing means permanently urging said centrifugal weight means to move in a radially inward direction from an operative position remote from said axis toward an inoperative position adjacent said axis for holding said centrifugal weight means in said inoperative position at all rotary speeds of the weight means lower than a predetermined speed, and for permitting movement of the weight means from the inoperative to the operative position in response to centrifugal forces at said predetermined speed;
(1) said coupling means being connected to said centrifugal weight means for movement of said coupling means into said engaged position thereof in response to movement of said centrifugal weight means from said inoperative position toward said operative position; and
(f) locking means responsive to the transmission of torque by said coupling means from said input member to said output member for locking said centrifugal weight means in said operative position thereof at all said lower speeds thereof.

3,262,534
LIQUID-COOLED MAGNETIZABLE PARTICLE CLUTCH
William A. Monroe, Willoughby, and Homer C. Simons, South Euclid, Ohio, assignors to Eaton Yale & Towne Inc., a corporation of Ohio
Filed July 21, 1964, Ser. No. 384,119
4 Claims. (Cl. 192—113)

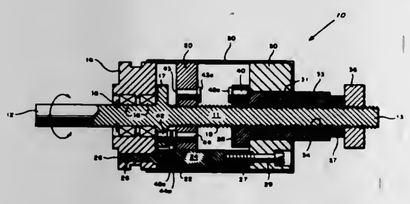
1. An electromagnetic coupling comprising rotary driving and driven members, a hollow magnetizable drum connected with the driving member, a magnetizable sleeve member connected to the driven member and located within the drum to form outer gaps therewith, magnetizable particles movable to and from the outer gaps, a fixed member, a first magnetizable ring attached to said fixed member, an annular field coil surrounding said first

ring, pole rings attached to said first ring, said pole rings flanking said field coil and having outer surfaces forming inner air gaps with said sleeve member, each pole ring having an annular recess adjacent the coil, a magnetizable heat-conductive ring between each side of the coil and the adjacent annular recess and sealed to its



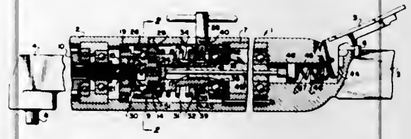
margins to enclose it, axially extending passages traversing the rings within the coil, the passages having oppositely disposed connections with said annular recesses, whereby liquid coolant may be circulated in close heat-exchange relationship with the coil to prevent excessive variations in temperature thereof.

3,262,535
ADJUSTABLE SCREW TYPE LIMIT STOP
Thomas D. De Pasqua, Levittown, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 25, 1964, Ser. No. 399,418
9 Claims. (Cl. 192—141)



1. A self-contained, externally adjustable limit stop mechanism comprising:
a pair of spaced supports;
a shaft threaded along a portion of the length thereof journaled for rotation within said supports and extending beyond the confines thereof, said shaft having a first stop member rotatable therewith;
a second stop member interposed between one of said supports and said threaded portion of said shaft and threadably engaging the latter, whereby said second stop member is rotatable with said shaft, said second stop member extending outwardly beyond the confines of said one support;
and traversing means threadably engaging said threaded portion of said shaft between said first stop member and said second stop member for longitudinal movement along said shaft in response to rotation of said shaft.

3,262,536
TORQUE RELEASING CLUTCH MECHANISM
Richard C. Frisbie, Sayre, and John P. Krouse, Athens, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed May 26, 1964, Ser. No. 370,205
9 Claims. (Cl. 192—150)

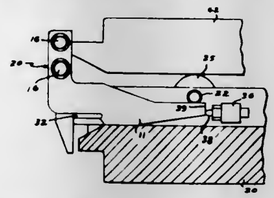


2. A rotary power wrench containing a torque responsive clutch adapted to release at a predetermined torque load, comprising:
(a) a tool motor;
(b) throttle means operable by an operator to energize said motor;
(c) a clutch driven by said motor and including a pair of clutch members adapted to be engaged for transmitting the torque of said motor and disengaged for releasing the motor;
(d) one of said clutch members including a hollow sleeve portion;
(e) the other clutch member including a cylindrical portion slidably mounted axially in said hollow sleeve portion;
(f) a key element mounted in an opening on said sleeve portion for radial movement;
(g) a key seat located on the circumference of said cylindrical portion for receiving said key element to interconnect said clutch members for torque transmission, said key seat being operative to force said key element radially outward as the torque load on said clutch increases;
(h) an internal cone slidable on the exterior of said hollow sleeve portion to urge said key element into said key seat;
(i) biasing means urging said internal cone axially against said key element;
(j) locking means operative at the will of the tool operator to urge said cylindrical portion axially relative to said sleeve portion for moving said key seat out of radial alignment with said key element upon the unseating of said key element from said key seat whereby said key element rides on the circumference of said cylindrical portion along an annular path which is axially spaced from said key seat when said clutch is locked open in its released position.

3,262,537
PALLET STOP FOR CONVEYOR
Robert Wright, Trumbull, Conn., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 20, 1965, Ser. No. 449,660
2 Claims. (Cl. 193—35)

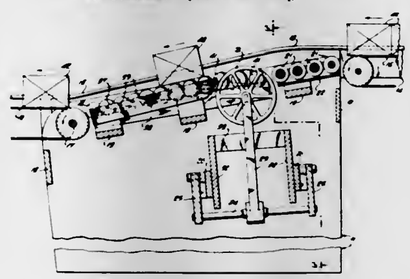
1. In combination with a conveyor for use on a conveyance vehicle wherein said conveyor has: a plurality of rollers supported between elongated channel support members, the rollers at each end of said conveyor having shafts extending beyond the channel support members at each side of said conveyor, a spring member attached to the external surface of the channel members at each side of said conveyor adjacent and below said roller shafts and shear blocks affixed to the external surface of the channel members at each side of said conveyor between said rollers and the ends of said conveyor, a pallet stop attachment, comprising: a tie member having a length substantially equal to the width of said conveyor; a locking member attached to each end of said tie member,

means on each of said locking members for engaging said shear blocks; means on each of said locking members for engaging the under side of said shafts; said last-named



means including means, for engaging said spring members for holding said shear block engaging means in engagement with said shear blocks.

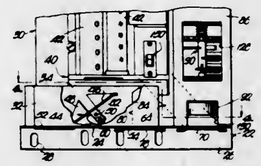
3,262,538
DIVERGING CONVEYOR
Robert A. Englander, Lynchburg, Va., assignor to Simplimatic Engineering Company, Lynchburg, Va., a partnership
Filed June 16, 1964, Ser. No. 375,488
6 Claims. (Cl. 193—36)



1. In a conveyor for receiving, at a receiving end, packages traveling in a single path and alternately diverging the packages for delivery, at a delivery end, to two separate paths, the combination comprising a frame, first means defining a left conveying surface, second means defining a right conveying surface, said conveying surfaces sloping downwardly from the receiving end to the delivery end and downwardly away from the longitudinal axis of the conveyor separating said left and right conveying surfaces, and diverging means for diverting packages onto one of said conveying surfaces, said diverging means being shiftably positionable to alternately divert the packages solely by movement of a diverged package directly coacting therewith, said diverged package applying a lateral thrust to said diverging means while advancing on one of said conveying surfaces to shift said diverging means from one position to an opposite position.

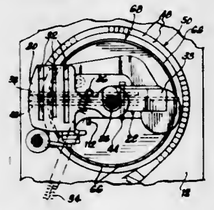
3,262,539
MECHANISM FOR COLLECTING PERCENTAGE OF VENDING MACHINE RECEIPTS FOR RENTAL OR PURCHASE PAYMENTS
Robert J. Neubacher, Overland Park, Kans., and Kit E. Pennell, Independence, Mo., assignors to The Vendo Company, Kansas City, Mo., a corporation of Missouri
Filed Apr. 28, 1965, Ser. No. 451,408
14 Claims. (Cl. 194—2)

14. In a vending machine having an electrical power source and an electrical coin changer provided with coin pay-out mechanism and a vend switch, apparatus in combination therewith for collecting a portion of the proceeds of the sales from said vending machine comprising:
a coin receiver;
diverter means adjacent said pay-out mechanism operable for diverting coins from said mechanism into the coin receiver;
a rotatable actuator;
switch means associated with said actuator for operating said diverter and energizing said pay-out mechanism; and



motor means operably coupled with the vend switch and said actuator for rotating the latter upon each operation of the vend switch, said actuator including cam means for operating said switch means to activate the pay-out mechanism and diverter means only after a preselected number of operations of said vend switch.

3,262,540
SLUG DETECTOR FOR PARKING METERS
Lester D. Sollenberger, Oak Park, and Edward C. Arzig, Mundelein, Ill., assignors to Duncan Parking Meter Corporation, Chicago, Ill., a corporation of New York
Filed Nov. 3, 1964, Ser. No. 408,639
7 Claims. (Cl. 194—72)



1. In a parking meter device wherein the setting of time is effected through engagement of pawl means with a rotary setting wheel and wherein a coin inserted in the meter assists in locating the pawl means in position for engaging the setting wheel, the improvement comprising a slug detector mechanism associated with a coin slot adapted to receive and hold said coin, said mechanism comprising finger means associated at the side of said coin slot, a protrusion formed at the end of said finger means and extending toward said coin slot, and means normally urging said finger means toward said coin slot whereby said protrusion is adapted to engage the side of a coin inserted into the coin slot to hold said finger means in place, and whereby said protrusion is adapted to extend into said coin slot when a slug is positioned therein, and including means associated with said finger means adapted to engage said pawl means when a slug is inserted in said slot to prevent engagement of said pawl means with said setting wheel.

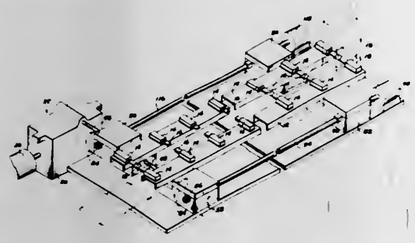
3,262,541
DRIVE MEANS FOR A TRANSFER MECHANISM
William J. De Gain, Detroit, Mich., assignor to Koppy Tool & Die Company, Ferndale, Mich., a corporation of Michigan
Filed Jan. 17, 1964, Ser. No. 338,337
5 Claims. (Cl. 198—19)

1. A drive mechanism for a transfer system employing a pair of elongated transfer bars disposed parallel to one another and supported for axial movement and lateral

movement toward and away from one another, and used in connection with an operating machine having a rotary power drive, comprising:

a cam powered by said rotary drive, said cam being formed in two parts, said two parts being adjustable relative to one another so as to adjust the distance between the ends thereof;

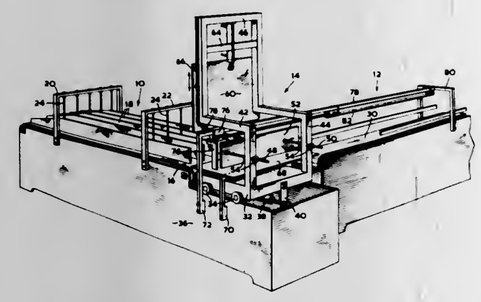
a cam follower associated with said cam so as to undergo a reciprocating motion with dwells at each extreme of its travel as the cam rotates;



gear means connecting said cam follower to said transfer bars so as to reciprocate said transfer bars axially with dwells at each extreme of their motion as the cam rotates;

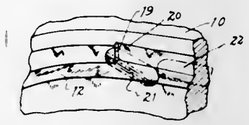
and means driven by said operating machine causing said transfer bars to reciprocate in a direction perpendicular to their length, toward and away from one another, during the dwells of said axial motion, in timed relation to the motion of said operating machine.

3,262,542
BOTTLE UNSCRAMBLER
Roy Warren McClelland, Meadowvale, Ontario, Canada
Filed Sept. 25, 1964, Ser. No. 399,267
6 Claims. (Cl. 198—32)



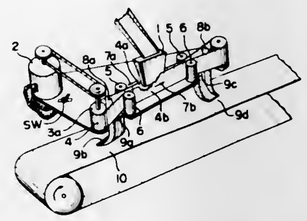
1. A bottle unscrambling machine comprising a first horizontal conveyor belt, a second horizontal conveyor belt, the longitudinal axes of said belts extending substantially at right angles to one another, and a transfer mechanism position between the delivery end of said first belt and the pick-up end of said second belt, said transfer mechanism including a fixed horizontal base plate arranged so that its top surface is at substantially the same level of the top surfaces of said conveyor belts, a stop plate positioned above said base plate in a plane which is substantially vertical, transverse to the longitudinal axis of said first conveyor belt and parallel with the longitudinal axis of said second conveyor belt, a guillotine plate adapted for vertical reciprocation above said base plate in a plane substantially parallel with the plane of said stop plate, and a hoe mechanism adapted for reciprocation above said base plate and between the planes of said guillotine and stop plates in a direction substantially transverse to the longitudinal axis of said first conveyor belt and parallel with the longitudinal axis of said second conveyor belt.

3,262,543
PIN ORIENTING MEANS FOR VIBRATORY BOWL FEEDERS
William H. Atkinson, San Mateo, Calif., assignor to Maromatic Company, Inc., Burlingame, Calif., a corporation of of California
Filed Sept. 14, 1964, Ser. No. 396,177
3 Claims. (Cl. 198—33)



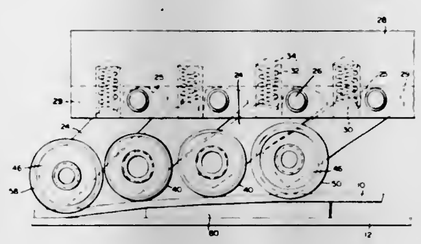
1. In a vibratory bowl feeder having a spiral pin guiding track for delivering properly oriented tumbler pins to a lock plug assembly station having an outer wall with an obstruction by which improperly oriented pins will be stopped in their movement along said track, and characterized by the fact that said obstruction of the outer wall of the pin guiding track is formed by an increasing recession travelwise in the outer wall of the track.

3,262,544
DEVICE FOR AUTOMATIC FRONT-BACK DISCRIMINATION AND UNIFORM ORIENTATION OF WORK PARTS
Takashi Kumagai, 231 Kinuta-cho, Setagaya-ku, Tokyo-to, Japan
Filed Mar. 22, 1965, Ser. No. 441,590
Claims priority, application Japan, Apr. 4, 1964, 39/18,910
3 Claims. (Cl. 198—33)



1. A device for automatic front-back discrimination and uniform orientation of work parts, comprising at least one pliable member having at least two surfaces capable of undergoing movement in mutually rubbing contact in opposite directions, means to cause said two surfaces to undergo said movement, the normal pressure force of said rubbing contact being suitably controlled, means to feed work parts into a position between said two surfaces undergoing said movement, said pliable member being made of a uniform, pliable material capable of detecting the difference between the surface states of two sides of each work part so fed in accordance with the difference between the degrees to which said two sides bite into said pliable material, whereby said work part so fed is discriminately carried in the direction of that one of said two surfaces into which the side of said work part bites to a greater degree, means to collect all work parts, means to remove said work parts from said pliable member, and means for receiving, orienting, and feeding said work parts from said pliable member onto said collecting means.

3,262,545
CAGE ROLL STRUCTURE
Richard H. Worsencroft, Beverly, Mass., assignor to Post Machinery Company, Beverly, Mass., a corporation of Massachusetts
Filed May 4, 1965, Ser. No. 453,111
7 Claims. (Cl. 198—165)



1. An improved cage roll structure for blank conveying machinery, comprising a frame, a plurality of arms pivotally suspended from said frame, stop surfaces on said frame and arms cooperating to limit rotation of said arms in one direction beyond a predetermined angle of inclination, spring means urging said arms to the stopped position, a pair of rollers rotatably mounted upon the lower end of each of said arms, one roller on each side of the arm, the rollers and arms being so dimensioned that upon rotation of any arm against its spring the arm meets the adjacent arm without bringing any of the rollers in contact.

3,262,546
CONVEYOR CHAIN WITH OPPOSITELY DIRECTED PUSHERS
James H. McAuley, Bremen, and Thomas G. Rauch, Lancaster, Ohio, assignors to McAuley Manufacturing, Inc., Bremen, Ohio, a corporation of Ohio
Filed Jan. 27, 1965, Ser. No. 428,301
12 Claims. (Cl. 198—172)



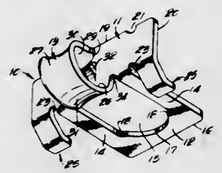
1. A chain composed of interlocking links, each of said links comprising a body having a pintle portion at one end and a hook-shaped barrel portion at its other end, the pintle of one link fitting within the barrel of an adjacent link, said body having material pusher-blades extending outwardly therefrom at longitudinally-spaced intervals and in opposite directions relative to the longitudinal plane of the body of the link.

3,262,547
FLEXIBLE CHAIN WITH A SHELF PORTION
James H. McAuley, Bremen, and Thomas G. Rauch, Lancaster, Ohio, assignors to McAuley Manufacturing, Inc., Bremen, Ohio, a corporation of Ohio
Filed Jan. 27, 1965, Ser. No. 428,300
9 Claims. (Cl. 198—173)



1. A chain composed of interlocking links, each of said links comprising a substantially flat body having a pintle portion at its rear end, a transversely-extending material-carrying flight at its forward end, said flight having a transverse shelf portion which extends completely across the body and extends in opposite directions laterally outwardly beyond the extent of the body to provide lateral projections, said laterally-extending flight having a forwardly-directed flat shelf with a forward exposed edge but having a rearwardly and upwardly angled laterally coextensive material-engaging and supporting wall spaced rearwardly from said edge and upstanding material-engaging blades projecting upwardly from said angled wall at each side of said body and tilted forwardly and downwardly toward said flat shelf, and a hook-shaped pintle-receiving barrel portion located transversely midway between said blades and projecting forwardly and downwardly over said shelf.

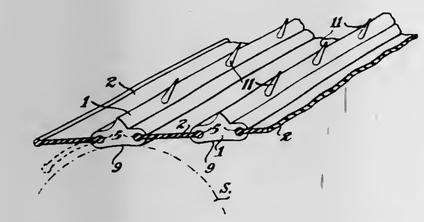
3,262,548
FLEXIBLE CHAIN WITH BEARING SURFACES
James H. McAuley, Bremen, and Thomas G. Rauch, Lancaster, Ohio, assignors to McAuley Manufacturing, Inc., Bremen, Ohio, a corporation of Ohio
Filed July 19, 1965, Ser. No. 473,022
5 Claims. (Cl. 198—173)



1. In a chain composed of interlocking links where each of said links comprises a substantially flat body having a transversely extending pintle portion at its one end, and an outwardly extending hook-shaped pintle-receiving barrel portion at its opposite end; the improvement which comprises a transversely extending, upright material-engaging blade on said body which carries downwardly extending bearing feet for engaging a support surface over which the chain is to be advanced and in which the blades of all of said interlocking links extend upwardly in the same direction from the bodies of the respective interlocking links, said blade of each link being continuous and extending transversely completely across the body and projecting laterally beyond the lateral extent of the body to provide lateral projections, said lateral projections having downwardly extending lugs from said projections to provide said bearing feet which have surfaces to engage said support surface over which the chain is to be moved, said lugs extending downwardly beyond the level of the lowermost extent of said body and said barrel and pintle portions carried thereby to prevent wearing contact thereof with said support surface as the chain advances

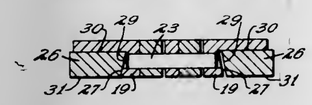
therealong, said lugs being laterally spaced to provide a transverse space centrally therebetween and beneath said body to permit the rearward passage therethrough of any material beneath said body and on said support surface as the chain advances therealong, and said continuous blade extending upwardly beyond the level of the uppermost extent of said body and said barrel and pintle portions so as to engage and move material along with said body as the chain advances.

3,262,549
LATTICE CONVEYOR
William Rennie Stewart and David Bruce Stewart, Dundee, Scotland, assignors to William R. Stewart & Sons (Hacklemakers) Limited, Dundee, Scotland, a corporation of the United Kingdom
Filed Aug. 27, 1964, Ser. No. 392,493
Claims priority, application Great Britain, Aug. 30, 1963, 34,395/63
9 Claims. (Cl. 198—178)



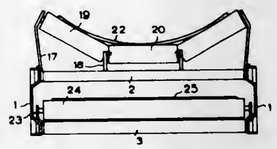
1. In a lattice conveyor for handling fibre, the combination of a series of conveyor staves, each stave being of metal and having on its surface fibre locating pins, said stave having connector slots along its opposite edges; and connecting links formed of spring material, by which the staves are flexibly connected to one another, said links having an edge section for sliding and resilient locking engagement with the slots in the staves.

3,262,550
CONVEYOR CHAIN
Richard H. Kampfer, St. Paul, Minn., assignor to Conveyor Specialties Company, Ramsey, Minn., a corporation of Minnesota
Filed May 11, 1964, Ser. No. 366,444
6 Claims. (Cl. 198—189)



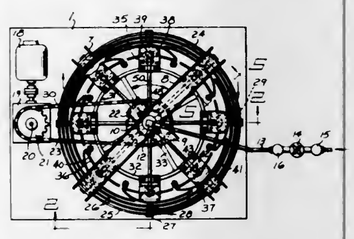
1. A conveyor chain in combination with a supporting rail structure, the chain including
- a series of one piece plastic links,
- a plate on each of said links adapted to ride over the surface of said rail structure for support thereby,
- lugs projecting downwardly from said plates and into overlapping relation with the lugs of the adjoining links,
- pivots pivotally connecting said overlapping lugs and having their axes parallel to the surfaces of said plates and at substantially right angles to the direction of travel of said links,
- said lugs at one end of each link including apertures which are elongated in the direction of travel of the links to permit relative angularity between said links in a direction substantially normal to the surfaces of said links,
- said lugs having inclined outer surfaces and being wider at the surfaces thereof most remote from said plates than at their junctures with said plates in a direction transverse to the direction of travel of said links,
- said rail structure having an inner edge inclined to substantially fit the inclination of said outer surfaces of said lugs.

3,262,551
FRAME FOR A CONVEYOR BELT
Willy F. M. de Waal, Heerlen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed July 30, 1964, Ser. No. 386,130
Claims priority, application Netherlands, Aug. 5, 1963, 296,280
6 Claims. (Cl. 198—204)



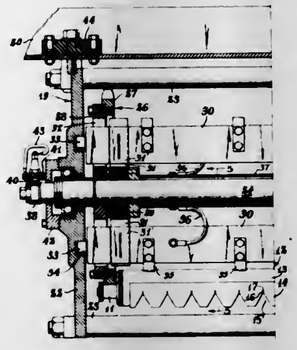
1. Frame for a conveyor belt, consisting of two stringers, upper and lower traverses and upper and lower idler brackets, each stringer comprising a plurality of stringer sections disposed in end-to-end relationship, and means for connecting said stringer sections in end-to-end relationship, said two stringers being connected in parallel relationship by means of the upper and lower traverses which carry, respectively, the upper and lower idler brackets for the upper and lower strands of the conveyor belt, each stringer having central portions that are trough-shaped in cross section, said trough-shaped portion having a flat bottom disposed opposite the lower strand of the conveyor belt, and the side walls, which project inwards, being bent over and under to form trough-shaped parts which are open towards the outside of the frame and in which the fastening elements for the traverses are accommodated.

3,262,552
HELICAL STORAGE UNIT
Alfred L. Osinski, Warren, Mich., assignor to F. Jos. Lamb Co., Warren, Mich., a corporation of Michigan
Filed May 5, 1964, Ser. No. 365,074
14 Claims. (Cl. 198—210)



1. A unit comprising a frame, a stationary runway secured thereto, a carrier mounted on the frame for movement in uniformly spaced relation to the runway, and inflatable means mounted on the carrier for movement therewith, said inflatable means being adapted to frictionally engage workpieces on the runway and advance them therealong and means for maintaining a predetermined fluid pressure in the inflatable means.

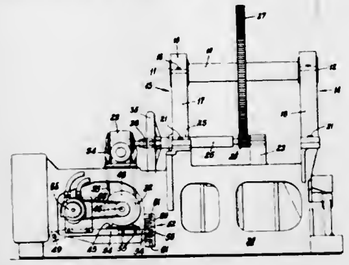
3,262,553
SAFETY APPARATUS FOR A CONVEYOR
Charles H. Johnson, Madison, Wis., assignor to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 23, 1964, Ser. No. 405,943
10 Claims. (Cl. 198—232)



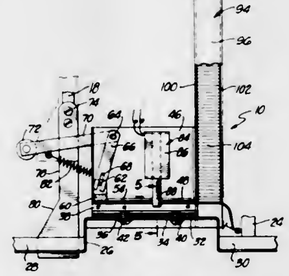
1. Apparatus for checking the condition of cross bar members carried on a traveling conveyor which conveyor is characterized by laterally spaced chains having cross bar members of plate-like form extending in transverse planes and equally spaced in the lengthwise direction on the chains, said checking aparatus comprising a pair of sprockets mounted in axially spaced relation on a supporting shaft and positioned in the path of the conveyor so that the chains engage the sprockets and travel therewith along a portion of the peripheral path of the sprockets, contact members mounted in spaced relation on an insulated bar which is supported for movement in a generally radial direction relative to the axis of rotation on said supporting shaft, said contact members being spaced apart a predetermined distance which is slightly greater than the effective thickness of the conveyor cross bar members and being mounted on said shaft for movement toward said path of said conveyor so that in the normal condition of the cross bar members the contact members are adapted to travel with said cross bar members and to straddle the inner edges of the cross bar members without contacting the same while a cross bar member which is bent out of normal position will be contacted by at least one of the contact members, means for moving said insulated bar toward and from the path of said cross bar members, and an electrical circuit means operated by engagement of said contact members with a cross bar member to interrupt the advance of said conveyor.

3,262,554
MAIN DRIVE MECHANISM FOR LINE-CASTING MACHINES
William B. Abbott, Pleasantville, and Herbert Klepper, Brooklyn, N.Y., assignors to Eltra Corporation, a corporation of New York
Filed Oct. 29, 1963, Ser. No. 319,811
2 Claims. (Cl. 199—11)

1. A linecasting machine having a main cam shaft that is rotated in one revolution cycles and a plurality of cams mounted thereon to control the sequential operation of said machine to produce a typographical slug during each revolution of the cam shaft, said machine comprising a speed reducer having an input shaft and an output shaft, means connecting said output shaft to the main cam shaft, a variable speed drive for said input shaft including a motor, an electrically controlled clutch for connecting said drive to said speed reducer input shaft, an electrically controlled brake for applying a braking force to said input shaft, line delivery means for energizing said clutch to connect said drive to said speed reducer input shaft and for deenergizing said brake to thereby release the braking force from said speed reducer input shaft, said line delivery means being actuated when a composed line of matrices and spacebands is transferred to the first elevator of the machine, and electrical switch means which are momentarily actuated at the completion of one revolution of the main cam shaft to deenergize said clutch and energize said brake.



3,262,555
SLUG INSERTER FOR LINE-CASTING MACHINES
Stuart L. Roberts, Cypress, Calif., assignor of one-half to J. Richard Huffman, Anaheim, Calif.
Filed June 7, 1965, Ser. No. 461,691
8 Claims. (Cl. 199—61)



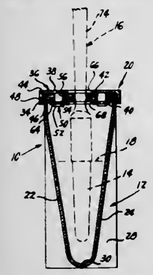
1. A slug inserter for a line casting machine having alternatively operating line casting molds, an elevator, a slug guide and a galley, said slug inserter comprising:
- a slug chute adapted to carry a plurality of slugs adapted to be placed between lines cast by the line casting machine, said slug chute having a top and a bottom and being arranged so that slugs positioned therein are gravitationally moved toward the bottom of said slug chute, a slug inserter blade positioned in said slug inserter, said slug inserter blade being adapted to engage the bottom slug in the slug chute and eject the bottom slug therefrom into the slug guide of the line casting machine and thence into the galley thereof, said slug inserter blade having first and second control means associated therewith;
- said first control means comprising a cam follower mechanically connected to said slug inserter blade, said cam follower being spring urged in a direction to eject the bottom slug from the slug chute of said slug inserter, a cam adapted to be secured to the elevator on the line casting machine, said cam having cam surfaces engageable with said cam follower so as to move said cam follower in such a direction as to move the inserter blade away from its insertion

direction when the elevator is raised and so as to permit said inserter blade to move in its insertion direction when the elevator is in its casting position;

said second slug inserter blade control means comprising locking means arranged to lock said blade in a position away from its slug insertion position;

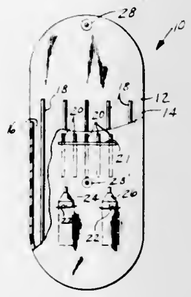
electrical control means connected to said second slug inserter blade control means, said electrical control means comprising signal means adapted to be actuated to signal the insertion of a slug after the casting of the line just signaled to be cast to the line casting machine and electrical delay means connected between said slug insertion signaling means and said second blade control means so that second control means is inoperative until after the line casting machine emits the appropriate cast line down the slug guide of said line casting machine into its galley and then permits the actuation of said second control means so that said spring urged first control means ejects a slug from the slug chute of said slug inserter into the slug guide of the line casting machine and thence into the galley to follow the appropriate cast line from the line casting machine.

3,262,556
STORAGE DEVICE FOR PAINT BRUSHES OR THE LIKE
David Jon Morrison, Beaumont, Tex., assignor of fifty percent to Earnest H. Hurst
Filed May 5, 1964, Ser. No. 365,122
1 Claim. (Cl. 206—15.1)



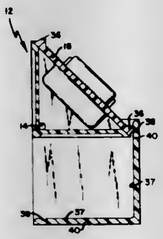
A storage device for a paint brush including a handle portion and a bristles portion comprising a container means dimensioned to receive the bristles portion of the paint brush and a quantity of a selected solvent, said container means having an open top defining a closed peripheral edge, and a cap means, portions of said cap means sealably engaging said peripheral edge of said container means and other portions of said cap means removably carrying the handle portion of the paint brush in sealed relationship, said container means being substantially rectangular in horizontal cross-section and including oppositely disposed sides, oppositely disposed ends, and a closed bottom, said sides slanting downwardly and inwardly toward each other from adjacent said peripheral edge to adjacent said closed bottom, said open top defining a plurality of closed peripheral edges, and individual cap means having portions sealably engaging each of said peripheral edges, other portions of each cap means removably carrying the handle portion of a paint brush in sealed relationship whereby one container means may accommodate a plurality of paint brushes, said other portions of said cap means being adjustable removably to carry handle portions of paint brushes of different dimensions, said cap means including a removable resilient element formed of neoprene having an opening smaller in size than the smallest handle portion to be removably carried thereby, said cap means further including a backing means, said resilient element being carried by said backing means, said resilient element having a peripheral edge portion defining said portions of said cap means sealably engaging said peripheral edge of said container means, and an opening, the portions of said resilient element forming said opening defining said other portions of said cap means removably carrying the handle portion of the paint brush in sealed relationship, said backing means comprising a first substantially rigid member juxtaposed to one side of said resilient element, said first substantially rigid member having peripheral edge portions extending beyond said peripheral edge portions of said resilient element and seating on said peripheral edge of said container means, said first substantially rigid member including a right-angular peripheral flange received over said peripheral edge of said container means, said backing means having a second substantially rigid member juxtaposed to the other side of said resilient element and having peripheral edge portions, said resilient element being sandwiched and compressed between said first and second substantially rigid members, and said peripheral edge portions of said resilient element extending beyond said peripheral edge portions of said second substantially rigid member, said first substantially rigid member carrying a plurality of spaced rivet elements each having a portion of maximum dimension and a portion of minimum dimension, said resilient element having portions defining apertures for receiving therethrough each of said rivet elements, and said second substantially rigid member having portions defining keyhole slots for receiving therethrough each of said rivet elements, each of said keyhole slots having an enlarged portion corresponding to the portion of said rivet elements of maximum dimension and a smaller portion corresponding to the portion of said rivet elements of minimum dimension, whereby said first and second rigid members may be disengaged to permit removal and placement of said resilient element therebetween.

3,262,557
DISPOSABLE GUN CLEANING KIT
Pacifico G. Pucci, Rose St., Florida, N.Y.
Filed Dec. 28, 1964, Ser. No. 421,215
6 Claims. (Cl. 206—16)



1. A disposable gun cleaning kit comprising, in combination, an elongated, oval-shaped back panel, a short front panel carried by said back panel providing pocket means for a plurality of disposable plastic cleaning rod extensions, a plurality of cotton and steel wool cleaning tips carried within said kit providing a means for cleaning the barrel of a firearm, a clear plastic tube of gun oil and a clear plastic tube of gun solvent carried by said kit providing means for removing lead and other metal particles from the barrel of said gun, a pair of snap fasteners carried by said kit providing means for closing said kit and enabling said kit to be suspended from the belt of the wearer.

3,262,558
DISPLAY CONTAINER
Chester J. Abend, Camillus, and William A. Morrison, Solvay, N.Y., assignors to SCM Corporation, a corporation of New York
Filed May 17, 1965, Ser. No. 456,359
1 Claim. (Cl. 206—45.15)



A combination article display and container comprising:

(a) a base having two yieldable walls and two end walls forming a partial container;

(b) an article supporting member pivotally mounted on said base, said member having two sides positionable for cooperating with said base to form an enclosed container and having a third side for supporting articles thereon, said member being pivotable in one direction from said closed container position to locate said third side in a first article display position and being pivotable in the opposite direction from said closed container position to locate said third side in a second article display position;

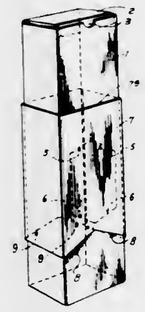
(c) detent means for holding said member in said closed container position including a recess in each of said yieldable walls and a first projection for seating in one of said recesses and a second projection for seating in the opposite of said recesses;

(d) said first projection for camming a respective said yieldable wall outwardly from a respective recess and for camming the other said yieldable wall outwardly for seating in its recess in response to pivoting said member from said closed container position in said one direction to said first article display position thereby holding said member in engagement with said base in said first article display position; and

(e) said second projection for camming a respective said yieldable wall outwardly from a respective recess and for camming the other said yieldable wall outwardly for seating in its recess in response to pivoting said member from said closed container position in said opposite direction to said second article display position thereby holding said member in engagement with said base in said second article display position.

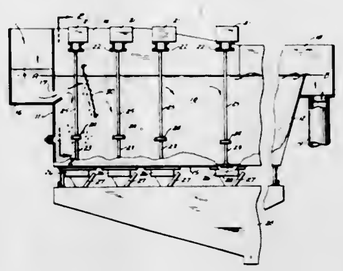
3,262,559
PACKAGE WITH SLIDING SLEEVE
Clement Gregg Geiger, Dallas, Tex., assignor to Monkey Grip Sales Company, Dallas, Tex., a corporation of Texas
Filed Aug. 18, 1964, Ser. No. 390,380
2 Claims. (Cl. 206—45.31)

1. A combination package and display device comprising, a rectangular box; a sleeve slidably disposed about the box; an opening in the side of the box; the length of the sleeve with relation to the position of the opening in the box being such that the opening may be covered and uncovered by sliding the sleeve longitudinally of the box without extending the sleeve beyond the end of the box when the opening is either covered or uncovered; guide surfaces on opposite sides of the one end of the sleeve, said guide surfaces being diagonally disposed with



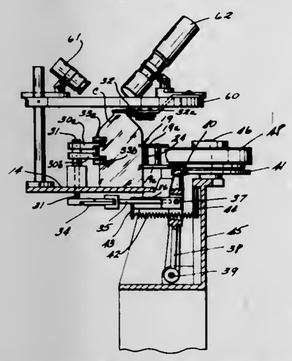
relation to the longitudinal axis of the sleeve; and guide surfaces in the ends of the opening diagonally disposed with relation to the longitudinal axis of the box.

3,262,560
SCREEN BAFFLE FOR HYDRAULIC SAND CLASSIFIERS
Floyd A. Lillig and Andrew Dergo, Cedar Rapids, Iowa, assignors to Iowa Manufacturing Company, Cedar Rapids, Iowa
Filed Sept. 6, 1962, Ser. No. 221,730
4 Claims. (Cl. 209—17)



3. In a sand classifier including an elongated water scalping tank having side and bottom walls and inlet and outlet end walls, an inlet in the upper portion of said inlet end wall for water and sand to be classified, said sand and water passing from said inlet toward said outlet end wall at a rate and level effective to cause the *coarsest classification* of the sand to be deposited on said bottom wall adjacent said inlet end wall and the less coarse classifications of the sand to be deposited on said bottom wall at locations progressively further from said inlet end wall toward said outlet end wall, and a plurality of means in said bottom wall spaced between said end walls and from each other longitudinally of said tank for withdrawing each coarse classification of the sand therefrom, the combination therewith of a stationary screen baffle extending transversely of said tank between its side walls and positioned *just downstream of said with drawing means for one of said coarse classifications*, said baffle being of such screen size and extending above the operating water level in said tank and below the level of said inlet thereto effective to prevent passage through said baffle of said one of said coarse classifications *while permitting passage therethrough of the less coarse classifications*.

3,262,561
INSPECTING AND ASSORTING GLASS CONTAINERS
Thomas B. Sorble, Toledo, Ohio, assignor to Owen-Illinois Inc., a corporation of Ohio
Filed June 15, 1964, Ser. No. 375,103
37 Claims. (Cl. 209—75)



10. An apparatus for inspecting the finish of a hollow glass container for horizontal checks comprising

means for supporting and rotating a container about its axis,

means for directing a beam of radiant energy to which the article is transparent against the finish of the container at an angle to the axis of the container and along a radial plane and focusing said light beam in a spot in the finish of the container,

first light sensitive means having its line of vision intersecting the beam at the finish of the container and forming an obtuse angle with the beam in both a horizontal plane and a vertical plane,

second light sensitive means positioned on the opposite side of the radial plane containing the light beam with its line of vision intersecting the beam at the finish of the container and forming an angle with the light beam in a horizontal plane and a vertical plane,

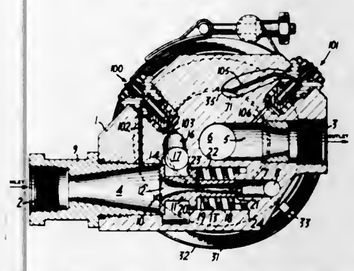
and means responsive to the energization of one of said light sensitive means for rejecting the container.

3,262,562
FILTRATION-DESICCATION METHOD AND APPARATUS
Georges Marchand, Clamart, and Pierre Sarrat, Grenoble, France, assignors to Commissariat à l'Energie Atomique, Paris, France
Filed Dec. 4, 1962, Ser. No. 257,805
Claims priority, application France, Dec. 8, 1961, 881,457
4 Claims. (Cl. 210—67)



1. In a process of filtering and drying solids in a liquid solids mixture in a flat filtration container having a vertical filtration wall, the steps of feeding the mixture into the container on one side of said filtration wall, separating the liquid by filtration through said filtration wall, withdrawing the liquid from the other side of said filtration wall, collecting the solids along said filtration wall until a predetermined amount of the solids is obtained, rotating the container so that said filtration wall is disposed in a horizontal position with the solids beneath said filtration wall, drying and calcining the solids and then recovering the dried and calcined solids separated from said filtration wall.

3,262,563
DUAL ELEMENT, DUAL VALVE FILTER ASSEMBLY HAVING A FLOW CONTROL VALVE
David B. Pall, Roslyn Estates, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Mar. 11, 1963, Ser. No. 264,160
15 Claims. (Cl. 210—90)

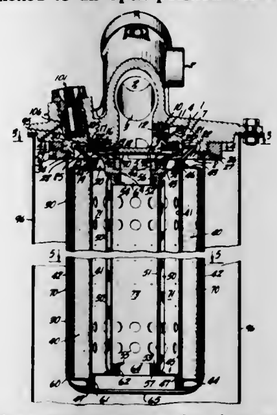


1. A full flow filter assembly comprising, in combination, a housing having inlet and outlet passages; a primary filter element disposed in the housing; a primary passage leading from the inlet only to the primary filter element; a secondary filter element disposed in the housing; a secondary passage communicating with the inlet and leading to the secondary filter element; and a flow-responsive valve assembly including a valve and a flow control passage disposed in the housing in the primary passage and arranged to direct all normal flow continuously to and through the flow control passage and to and through the primary passage to and through the primary filter element, and closing off flow to the secondary filter element through the secondary passage, but responsive to a predetermined excess volume of flow through the flow control passage to open and allow such excess flow to enter the secondary passage and pass directly through the secondary filter element, while continuing normal flow to and through the primary filter element via the flow control passage, so that both normal and excess flow through the filter assembly is filtered, and normally no unfiltered flow passes directly to the secondary element.

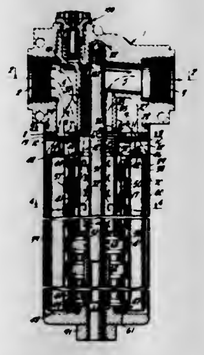
3,262,564
DUAL VALVE, DUAL FILTER ELEMENT, CONSTANT FLOW FILTER ASSEMBLY
David B. Pall, Roslyn Estates, and Bernard F. Silverwater, Plainview, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed May 24, 1963, Ser. No. 283,005
17 Claims. (Cl. 210—90)

1. A flow control valve assembly for mounting in a housing having a first line and a second line to control flow in both responsive to changes in flow volume comprising, in combination, a spring disc valve and associated sealing means and a venturi, the spring disc being reciprocable, and biased against a valve seat, the venturi permitting fluid flow in the first line through the venturi at all times, and the spring disc valve being adapted to flex between open and closed positions to open and close off flow to the second line, a pressure chamber closed off by the disc and said sealing means and communicating only with the venturi, the venturi being dimensioned to increase

the velocity of flow therethrough from the one side to the other side thereof, and thereby reduce the static pressure at the venturi and in the pressure chamber, and the spring disc being flexed to an open position whenever upon increase in flow and corresponding increase in velocity through the venturi the static pressure in the pressure chamber is reduced to below a predetermined minimum, and thereby open the second line.

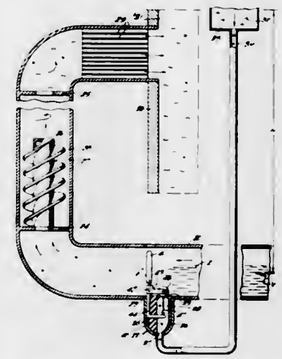


3,262,565
DUAL-VALVE, DUAL-ELEMENT, CONSTANT FLOW, FILTER ASSEMBLY
Bernard F. Silverwater, Plainview, N.Y., assignor to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Aug. 5, 1963, Ser. No. 299,775
12 Claims. (Cl. 210—90)



1. A filter assembly comprising a housing having inlet and outlet passages; a primary filter element disposed in the housing; a primary passage leading from the inlet only to the primary filter element; a secondary filter element disposed in the housing and located adjacent to and downstream of the downstream portion of said primary filter element; a secondary passage leading from the inlet to the secondary filter element, and a flow control valve assembly comprising an orifice disposed in the primary passage to direct all normal flow to and through the primary filter element, the primary filter element receiving fluid in a predetermined quantity for filtration at all times via the orifice, and delivering filtered fluid for delivery at the outlet passage of the housing, and a pressure-sensitive spring disk valve, disposed in the housing across the secondary passage and normally closing off flow to the secondary filter element through the secondary passage, but responsive to a predetermined fluid pressure differential between the primary passage and the secondary passage caused by an excessive volume of flow through the orifice, to open and allow such excess flow to pass directly to and through the secondary filter element, while continuing normal flow to and through the primary filter element via the orifice, so that both normal and excess flow through the filter assembly are filtered, and normally no unfiltered flow passes directly to the secondary filter element.

3,262,566
DETERGENT, FAT, OIL AND GREASE REMOVING APPARATUS
Melville F. Peters, 29 N. Ridge Road, Livingston, N.J.
Filed Sept. 3, 1963, Ser. No. 306,232
3 Claims. (Cl. 210—101)

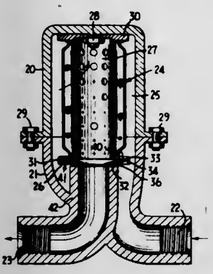


1. A device for removing grease, oil, fats, detergents and the like from waste water comprising a pipe for the conduction of waste water, an electrolyte dispenser in communication with the waste water, comprising a source of electrolyte, valve means disposed between the source of electrolyte and the waste water conduction pipe comprising a housing in communication with the interior of the pipe, a chamber in the housing to receive the electrolyte, a valve portion at the top of the housing between the chamber and the pipe, and a vane extending into the pipe and responsive to the flow of waste water therethrough operatively secured to the valve portion to control the amount of electrolyte passing through the valve and into the waste water, whereby a quantity of an electrolyte is added to the waste water, means to mix the electrolyte and waste water, means to reduce the agitation of the waste water and electrolyte caused by said mixing, and a separator to receive the intermixed electrolyte and waste water.

3,262,567
FILTER ASSEMBLIES HAVING PRESSURE-RESPONSIVE VALVES
David B. Pall, Roslyn Estates, and Harry Cordes, Cortland, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Filed Aug. 20, 1964, Ser. No. 390,798
11 Claims. (Cl. 210—130)

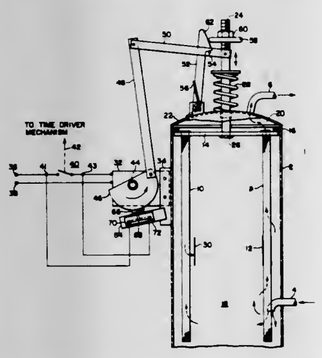
1. A filter assembly comprising a housing, intercommunicating inlet and outlet passages therein, a filter disposed across the line of flow between the inlet and outlet passages so that the flow therebetween passes through the filter, a relief passage for fluid flow between the inlet and outlet passages in parallel to the filter, and a fluid-pressure-responsive relief valve positioned across the relief passage, and comprising a valve seat and a substantially non-distensible annular frustoconical spring disk, a portion of whose surface seals against the valve seat and is biased thereagainst to close off the relief passage, one face of the disk being exposed to inlet fluid

pressure and the other face of the disk being exposed to fluid pressure in the relief passage and an edge portion of the disk arranged to move away from the valve seat at a predetermined fluid pressure differential across the



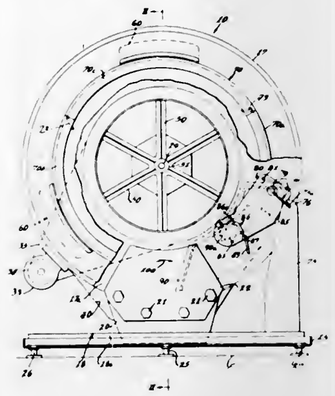
faces of the disk, to expose a passage between the disk and the valve seat, whereby fluid is permitted to flow through the relief passage from the inlet to the outlet passage, thus bypassing the filter.

3,262,568
AUTOMATIC FILTER MECHANISM FOR DRYCLEANER
Edgar L. Zehrbach, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 23, 1963, Ser. No. 332,533
6 Claims. (Cl. 210—138)



1. In drycleaning automatic filter mechanism, the combination of: a filter vessel for passing a cleaning fluid therethrough to be filtered; a plurality of fine mesh tubes disposed within said vessel, each of said tubes having disposed on the surface thereof a filtering mixture; a tube support sheet fixed to said plurality of tubes to support said plurality of tubes; a sealing ring disposed within said vessel contiguous to said tube support sheet to seal around said plurality of tubes so that the only openings normally through said vessel is through said plurality of tubes; a driving assembly including a gear-motor; said driving assembly being operative to cause said tube support sheet to be forced away from said sealing ring due to the action of said gear-motor, with said tube support sheet after being moved a predetermined distance being returned vigorously to its normal position contiguous to said sealing ring so that said plurality of tubes will be cleared of any clogging matter disposed thereon during the drycleaning operation; and a safety switch to prohibit said gear-motor from stopping while said tube support sheet is away from said sealing ring.

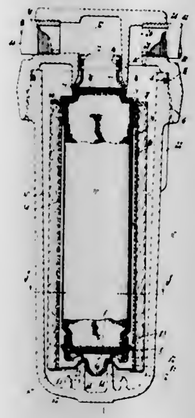
3,262,569
CENTRIFUGING APPARATUS AND MOUNTING MEANS THEREFOR
Charles H. Wade, Benton Harbor, and Alvin E. Burkall, St. Joseph, Mich., assignors to Whirlpool Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Aug. 17, 1961, Ser. No. 132,171
6 Claims. (Cl. 210—144)



1. Laundry extractor apparatus comprising, a casing including a lower front portion and a lower rear portion, a rotatable clothes receiving drum, means mounting said drum for rotation within said casing on a horizontal axis and provided with fluid receiving pockets for counterbalancing said drum during the rotation of unbalanced clothes loads in said drum, rigid base means including a support member extending transversely of said casing below said lower front portion, an upstanding plate member rigidly attached to said support member, a second plate member rigidly attached to said lower front portion of said casing and overlapping said upstanding plate member, connection means rigidly interconnecting said plates, a single dependent leg attached to said lower rear portion of said casing and to said base means to facilitate limited arcuate movement of said casing relative to said base means about an axis positioned parallel to and located below the rotational axis of said drum where such arcuate movement is produced by rotation of unbalanced clothes loads within said drum, and means for adding fluid to said pockets for counterbalancing said drum in response to said arcuate movement of said casing.

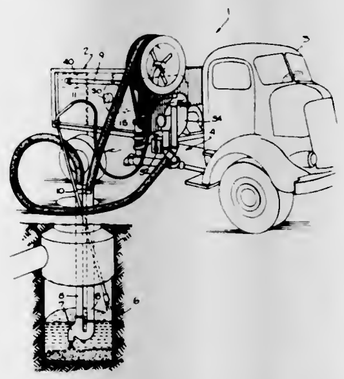
3,262,570
FILTRATION ASSEMBLIES AND REPLACEABLE ELEMENTS OF SUCH ASSEMBLIES
Adolph R. Gailitis, Winchester, Jiulio C. Borsetti, Beverly, and Franz Rosenbaum, Malden, Mass., assignors to Commercial Filter Corporation, Melrose, Mass., a corporation of Massachusetts
Filed Feb. 5, 1963, Ser. No. 256,390
1 Claim. (Cl. 210—266)

A filter comprising four separable units including top and bottom separable units forming a hollow container, opposed aligned central sockets on the inside of said container top and bottom units, a filtering assembly supported within said container between said sockets in spaced relation to the inside vertical wall of said container, said filtering assembly including a separable outer filter sleeve and an inner tubular filter unit, said sleeve having an open top end, a pervious cylindrical wall covered on the outside by a filter medium, and an impervious bottom wall, said inner unit having a bottle-like shape and having a fluid purification medium packed therein between two screens and having an imperforate longitudinally extending wall telescoped with a sealing friction fit within said sleeve and having a top wall extending above said sleeve and terminating in a sealing friction fit with the top of said top unit central socket, said top wall having upper and lower spaced annular external beads, said lower bead being in contact with the upper portion of said sleeve and said upper bead being in contact with the bottom part of



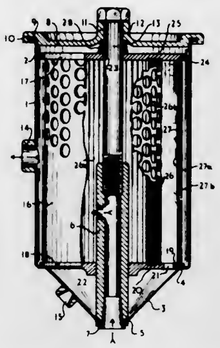
said top unit central socket, and having a separable bottom wall containing a series of apertures surrounding its center, a major portion of said pervious wall and the longitudinally extending wall of said inner unit being radially spaced to form an intermediate annular channel for axial flow of fluid, said bottom walls of said telescoped units being axially spaced from one another by means of nested domes seated in said bottom socket.

3,262,571
EDUCTION UNIT
Raymond H. Petretti, Flushing, N.Y., assignor to Ortem Manufacturing Corporation, Flushing, N.Y., a corporation of New York
Filed May 9, 1963, Ser. No. 279,190
12 Claims. (Cl. 210—297)



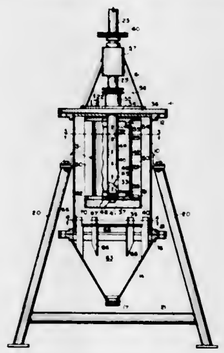
1. An eduction unit comprising a settling tank, means for removing a mixture of debris and fluid from catch basins, and for depositing said mixture in said settling tank, rotatable filtering means for filtering said mixture, said filtering means having openings therein, and means for rotating said filtering means alternately in opposite directions to clear said openings.

3,262,572
SEPARATOR-FILTER
Clayton A. Cook, Islington, Ontario, Canada, assignor to Purolator Products, Inc., Rahway, N.J., a corporation of Delaware
Filed May 27, 1963, Ser. No. 283,209
3 Claims. (Cl. 210—307)



1. A separator-filter for liquids comprising a one-chamber casing having an interior projection near its lower end, a drain opening therebelow, an inlet and an outlet; and a replaceable filter cartridge housed therein that makes liquid tight engagement with said interior projection and seals off the lower part of the casing chamber as a sump and divides the main portion of the chamber into three compartments that communicate respectively with said inlet, sealed off sump and outlet, said cartridge having spaced annular upper and lower end caps and a pair of annular filters in spaced concentric relation secured therebetween in leak-proof relation that serve to divide the compartments, one of which lies within the inner annulus, a second between the two annuli and the other between the outer annulus and the casing.

3,262,573
FILTER APPARATUS
August H. Schutte, Lexington, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 11, 1963, Ser. No. 257,697
3 Claims. (Cl. 210—380)



1. An apparatus for removing solid particles from a fluid, comprising in combination
(a) a pressure-tight stationary cylindrical housing having a stationary inner wall;
(b) a rotatable cylindrical filter assembly mounted on a vertical axis within said housing and defining with the inner wall of said housing an annulus adapt-

ed through its configuration to control the flow and motion of said solid particles in said fluid in said annulus, said filter assembly comprising an outer foraminous cylindrical filter member mounted on and spaced from an inner hollow perforate shaft in fluid communication with a discharge conduit for filtered fluid passing through said filter member;

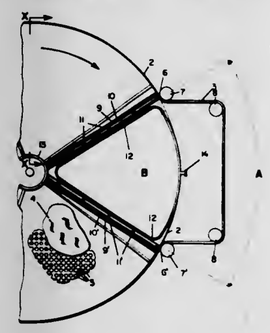
(c) at least two vertically-positioned baffle plates mounted on said filter assembly, rotatable therewith and uniformly spaced around and away from said filter member, said baffle plates being also spaced from said inner wall of said housing and located in said annulus, whereby said baffle plates cause said fluid in said annulus to rotate and diminish the slip between said liquid in said annulus and said rotating filter assembly, thereby maintaining the radial separation forces;

(d) fluid inlet means in fluid communication with said annulus;

(e) means external of said housing for rotating said shaft, said filter assembly and said baffle plates thereby to impart to said fluid in said annulus in the vicinity of said rotating filter assembly a predetermined angular velocity; and

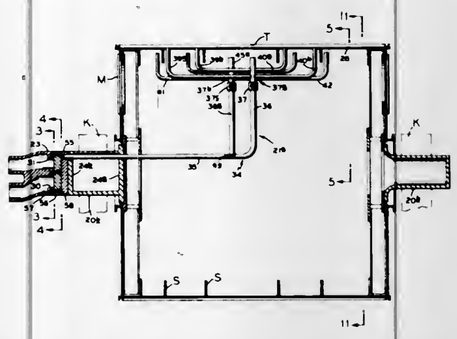
(f) means for removing accumulated solids from said housing.

3,262,574
FILTER WITH A HORIZONTAL ROTATING TABLE
Alfred Henri Parmentier, Lillois-W. Herzée, Belgium, assignor to UCB (Union Chimique-Chemische Bedrijven), S.A., Brussels, Belgium, a corporation of Belgium, and Produits Chimiques Pechiney-Saint-Gobain, Paris, France, a corporation of France
Filed July 17, 1962, Ser. No. 210,430
Claims priority, application Belgium, July 24, 1961, 606,424
4 Claims. (Cl. 210—393)



1. A filter for filtering the pulp obtained in the manufacture of phosphoric acid by the wet process comprising a rotating horizontal table, a filtering cloth on said table, an endless band of flexible material engaging a portion of the periphery of said table in a fluid tight manner and projecting above the plane of said table, two radial dams defining upon the upper side of said table a sector for the continuous clearing and cleaning of said filtering cloth, each of said radial dams comprising a scraper blade of flexible material in contact with said filtering cloth, said band at the table periphery at said sector being spaced outwardly from the periphery of said table, water washing means for said filtering cloth mounted above said table in said sector and injection means for compressed air mounted below said sector injecting compressed air upwardly across said cloth whereby said cloth is continuously cleaned and cleared of gypsum film and encrustations of fluosilicates thereby eliminating the usual stoppages for such purposes.

3,262,575
ROTARY DRUM FILTERS
Leonard Aconsky, New York, N.Y., and Walter J. Riker, Westport, Conn., assignors to Dorr-Oliver Incorporated, Stamford, Conn., a corporation of Delaware
Filed Aug. 8, 1963, Ser. No. 301,939
4 Claims. (Cl. 210—395)

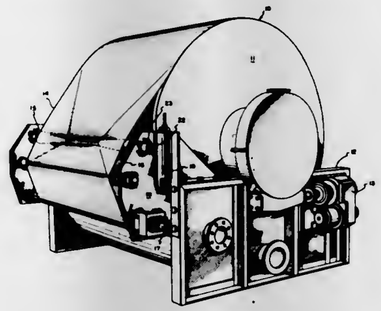


1. In a rotary vacuum drum filter having a trunnion valve, the combination which comprises a cylindrical shell supported by trunnions for rotation about a horizontal axis; external filtrate compartments co-extensive with said axis and arranged side by side about the periphery of said shell and having drainage opening in said shell, and adapted by said rotation to move through a bath of pulp in a filter operating cycle controlled by said trunnion valve, which cycle comprises sequentially a vacuum cake formation phase defined by the submergence of said compartments in the pulp, a subsequent vacuum filtration phase for removing liquid from the cake after emergence from said bath of pulp, and a flow-back cake removal phase at the descending side of the drum, followed by resubmergence of the respective compartments in said pulp; a filtrate pipe construction for each compartment comprising a main conduit having an axially extending portion operatively connected to said trunnion valve at one end, the other end portion of said main conduit extending radially outwardly and formed with an externally closed collecting pocket at the terminal end,

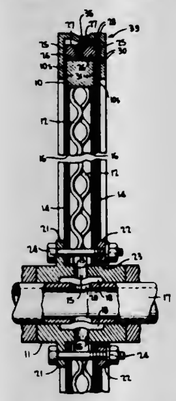
a plurality of lateral branch pipes each having one end thereof connected to said radial conduit portion at a point spaced radially inwardly a substantial distance from the end of said closed collecting pocket, and the other end connected to a respective drainage opening in said shell to communicate with said compartment, a respective externally closed collecting pocket constructed and arranged to receive liquid residual in said main conduit substantially during the cake removal phase, and to hold the thus intercepted liquid during the subsequent cake formation phase until after emergence of the cake from said bath, and thereafter to allow the trapped liquid to drain back from said externally closed pocket into said main conduit during said liquid removal phase.

3,262,576
FILTER APPARATUS
Steven S. Davis, Bountiful, Utah, assignor to The Eimco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed May 1, 1963, Ser. No. 277,294
5 Claims. (Cl. 210—401)

1. In a filter of the type having an endless web filter medium trained to pass successively over a filtration section, an intervening space and a discharge section, the improvement enabling compensation for the lag occurring in the transversely central portions of the medium during its travel across the intervening space between said filtration section and said discharge section, said improvement comprising an elongated rigid roll rotatably mounted in said intervening space transversely to the path of said medium in a location to supportingly engage the filter medium passing thereover, and said roll being formed with a concave surface extending substantially from end to end thereof.

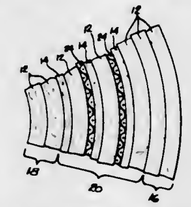


3,262,577
LEAF FILTER MEDIA CLAMPING MEANS
John Tult, Oakland, N.J., assignor to Komline-Sanderson Engineering Corp., Peapack, N.J., a corporation of New Jersey
Filed May 14, 1964, Ser. No. 367,415
10 Claims. (Cl. 210—487)



1. In a filter leaf wherein a pair of flexible fabric filter media are maintained in spaced relation on opposite sides of a rigid leaf frame having a rigid marginal leaf rim with the outer marginal portions of said media secured to the rigid marginal leaf rim of said leaf frame, the improvement in accordance with which said rim is provided with substantially flat side faces and an outer peripheral surface extending between said faces, a pair of parallel clamp rims encircling said leaf rim, the outer marginal edge portions of said filter media extending outwardly across the respective said side faces of the leaf rim, thence inwardly between the said outer peripheral surface of the leaf rim and the inner peripheries of the respective clamp rims, then outwardly between said clamp rims, said clamp rims being proportioned to clamp said media firmly against said leaf rim, and means for maintaining said clamp rims in clamping engagement with the filter media portions extending outwardly between them, said last-mentioned means comprising a channeled outer rim encircling said clamp rims and having an inwardly-directed channel snugly receiving said clamp rims and said leaf rim and maintaining all of said rims in their assembled relation.

3,262,578
GLASS FIBER FILTER TUBES
James A. Dennis, Perrysburg, Ohio, assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Feb. 7, 1964, Ser. No. 343,277
2 Claims. (Cl. 210—489)



1. A filtering and coalescing tube consisting of convolutely wound continuous mats of haphazardly arranged glass fibers comprising in the liquid flow direction:

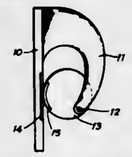
(a) a filtering section between ¼ and 1½ inches thick and having a mat density between about 3 and about 9 lbs./cu. ft. and an average fiber diameter between about 2 and about 9 microns;

(b) a coalescing section comprising between 1 and 5 convolutions of a glass fiber mat of a density between about 6 and about 9 lbs./cu. ft. and having an average fiber diameter between about 0.05 and about 5 microns, but finer than the fibers of said filtering section, each of said convolutions being between 4 mils and ⅛ inch thick; and

(c) a droplet growth section up to ½ inch thick, consisting of a mat characterized by mat density and fiber diameter within the ranges prescribed for the filtering section;

said tube further characterized by the fibers being bonded at their intersections by thermosetting resin in an amount between about 5 and about 30% by weight, and said tube also containing a convolutely wound reinforcing screen.

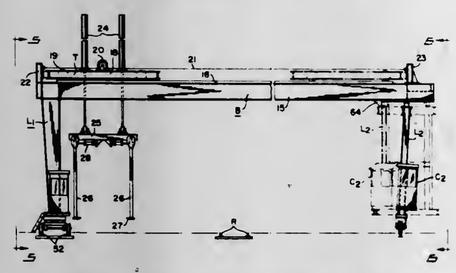
3,262,579
HOLDER OF PLASTIC FOR ALL KINDS OF CLOTHS AND TOILET ARTICLES
Walter Robert Reich, Merzhauserstr. 143, Freiburg im Breisgau, Germany
Filed Feb. 14, 1964, Ser. No. 344,975
Claims priority, application Germany, Feb. 15, 1963, R 34,470
5 Claims. (Cl. 211—45)



1. A supporting device comprising; a base plate adapted for mounting on a vertical surface and having a vertical outer face, a supporting arm having one end fixed to said outer face and extending outwardly and downwardly therefrom and having a second end in spaced relation to said base plate, at least one roller means pivotally and eccentrically mounted on said second end on a horizontal axis which is parallel to said outer face and having an arcuate surface parallel to said outer face which engages the said outer face of said base plate solely by gravity due to the eccentric mounting of said

roller means, the axis of pivotal connection of said roller to said second end of said arm being located on the roller on a diameter thereof at such a point therealong that the greatest length of the diameter on one side of said point is greater than the distance from said axis to said outer face.

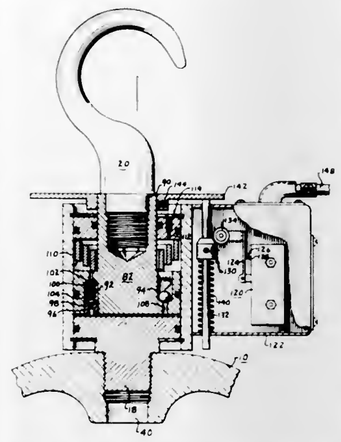
3,262,580
SLEWABLE GANTRY CRANE
Morton L. Markowitz, University Heights, Ohio, assignor to McDowell-Wellman Engineering Co., Cleveland, Ohio, a corporation of Ohio
Filed June 23, 1964, Ser. No. 377,182
11 Claims. (Cl. 212—6)



1. A gantry crane comprising first and second spaced legs and an interconnecting bridge member, the first of said legs being connected at its upper end to said bridge member, said first leg having first pivot means thereon permitting rotation of said bridge member about a longitudinal axis of said first leg, the second of said legs being pivotally connected at its upper end to said bridge member for relative rotation about a longitudinal axis of the second leg, said pivotal connection between said bridge and said second leg including second pivot means and stabilizing means, said stabilizing means comprising a pair of upwardly facing anti-friction members secured to the upper end of said second leg on opposite sides of said second pivot means, and cooperating bearing members secured to said bridge member and being of sufficient lateral extent to engage said anti-friction members during relative rotation of said bridge member and said second leg through an arc of at least 10° in either direction from a normal position, the lower end of at least one of said legs being mounted for linear movement relative to the other of said legs.

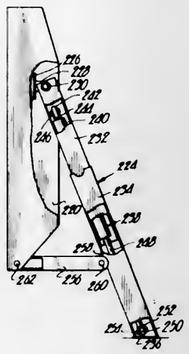
3,262,581
OVERLOAD DEVICE
Anthony G. Linowiecki, Michigan City, Ind., assignor to John H. Brickley, South Bend, Ind.
Filed May 11, 1964, Ser. No. 366,370
8 Claims. (Cl. 212—132)

1. An overload device for hoists and the like, comprising a housing with a fluid chamber therein, means connected to said housing for supporting a load, upper and lower end walls in said housing, an axial hole in said upper end wall, a stem for connecting said lower end wall to a hoist, a piston in said chamber having two passages therethrough communicating with said chamber on opposite sides of said piston, valve means in one of said passages permitting the flow of fluid in only one direction, a yieldable means urging said valve toward closed position with a predetermined force, valve means in the other of said passages permitting the flow of fluid only in the opposite direction, a rod on said piston extending through the hole in the end wall, a spring means in said chamber urging said piston in the direction to move said rod into said chamber, a restriction in the passage through which the fluid flows as the piston moves in opposition to said spring means, a hoist control means having a lever, a reciprocating member adjacent to said lever, a cam on said member for engaging said lever when the hoist is in overloaded



condition, and a means connected to said rod communicating with said member for holding said cam away from said lever when said hoist is in its no-overload condition.

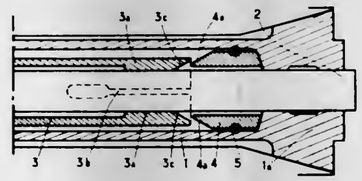
3,262,582
OUTRIGGER STRUCTURE FOR HOLE DIGGER AND DERRICK APPARATUS
Raymond F. Pitman, Prairie Village, Kans., and Dean E. Broderson and Herbert W. Gronemeyer, Jr., Kansas City, Mo., assignors to Pitman Manufacturing Company, Grandview, Mo., a corporation of Missouri
Original application Nov. 28, 1960, Ser. No. 72,027. Divided and this application May 4, 1964, Ser. No. 364,736
6 Claims. (Cl. 212—145)



1. For use on a vehicle having a frame and body structure carried by at least a pair of spaced wheel and axle units, the combination with said structure of an outrigger having:
an elongated, tubular, extensible leg having an upper leg section and a lower leg section disposed in relatively reciprocable, telescoped relationship;
a piston and cylinder assembly within the leg with the piston thereof being joined to one of the leg sections and the cylinder being coupled to the other leg section whereby extension and retraction of the piston causes corresponding relative reciprocation between the leg sections;

first pivot means pivotally joining the upper extremity of the upper leg section to the structure at an elevation substantially above the level of the vehicle axles;
non-extensible link means pivotally connected to the lower leg section intermediate the ends of the piston and cylinder assembly within said leg; and
second pivot means pivotally mounting the link means on the structure in disposition below the level of said first pivot means but not substantially below said level of the axles of the vehicle, the effective length of said link means being not significantly greater than the stroke of the piston of said assembly and said link means being pivotally joined to said lower leg section at a location causing the leg to be in substantially upright disposition adjacent the structure with the pivot axis of the connection of the link means to the leg being located outwardly of the structure with respect to a line between said first and second pivot means when the piston is retracted whereby upon extension of the piston, the lower extremity of said lower leg is moved outwardly and downwardly into engagement with the ground under the control of said link means.

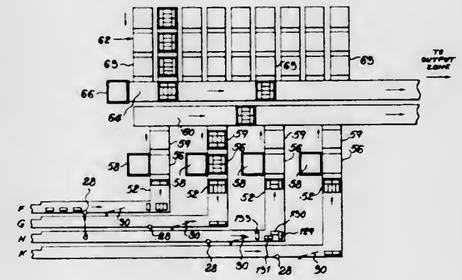
3,262,583
DEVICES FOR FIXING AND INTRODUCING BARS INTO THE SPINDLES OF MACHINE TOOLS
Albert Thevenet, Mulhouse, Haut-Rhin, France, assignor to Manufacture de Machines du Haut-Rhin, a company of France
Filed Dec. 17, 1963, Ser. No. 331,171
Claims priority, application France, Dec. 21, 1962, 919,530
2 Claims. (Cl. 214—1.1)



1. A device for fixing and introducing bars into spindles of machine tools comprising a holding clamp provided with jaws capable of clamping a bar; a reciprocating advancing feed clamp located within the holding clamp and provided with jaws which cooperate with the holding clamp to advance the bars and an auxiliary element having an outwardly inclined surface inside the holding clamp close to the jaws thereof, said auxiliary element cooperating with said advancing clamp to open the jaws thereof by oblique sliding movement of said jaws on said auxiliary element when said advancing clamp has been moved forward beyond its normal advance position after the bar has been used up.

3,262,584
ARTICLE DISTRIBUTION AND STORAGE SYSTEM
William H. Hayford, Jr., Nutley, John T. Hayford, Midland Park, and John F. Green, West Milford, N.J., assignors to Unarco Industries, Inc., Chicago, Ill.
Filed May 25, 1964, Ser. No. 369,697
36 Claims. (Cl. 214—6)

1. An article distribution and storage system for handling articles of more than one type supplied to it from an input zone and, in accordance with a predetermined plan, distributing, storing and delivering desired quantities of the articles to storage areas and to an output zone comprising:
means for delivering a plurality of types of articles from the input zone to the system;
means for controlling the routing of the plurality of types of articles delivered to the system from the input zone in a plurality of alternative ways;
a dense storage area;
a pallet storage area;
at least one palletizing station;
at least one tier forming station;
at least one unscrambling station for unscrambling tier lots of the articles into case lots;
means actuated by the controlling means for forming tiers of articles of a predetermined constitution at the tier forming station;
means for moving the formed tiers of articles to a pallet to form a pallet load;
means for delivering the pallet loads to the pallet storage area;
means actuated by the controlling means for delivering predetermined types and numbers of articles from the input zone through the system to the output zone;

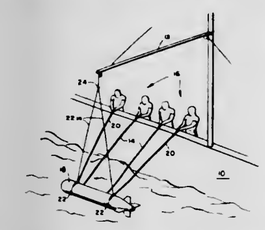


at least one pallet conveyor adapted to deliver pallet loads to the output zone;
means actuated by the controlling means for forming pallet loads on the pallet conveyor of a predetermined type and number for delivery to the output zone;
means actuated by the controlling means for delivering tier lots of a given type and number to particular stations in the dense storage area;
means actuated by the controlling means for delivering tier lots of a given type and number from particular stations in the dense storage area to the unscrambling station;
means for delivering the case lots unscrambled at the unscrambling station to the output zone; and
means actuated by the controlling means for delivering a plurality of a given number of pallet loads, each containing product from a single product line, to the output zone.

3,262,585
APPARATUS AND METHOD FOR RECOVERING FLOATING OBJECTS
Le Roy O. Olson, Kirkland, Wash., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 29, 1964, Ser. No. 400,292
2 Claims. (Cl. 214—15)

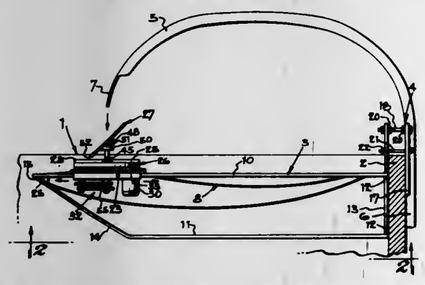
1. Apparatus for transferring a floating object, such as a circular elongated torpedo or like test vehicle, from the surface of the sea to the deck of a recovery vessel, comprising:
(a) a pair of capturing poles, each having a vacuum cup on one end of same adapted to be temporarily secured to the object by operators on the deck of the vessel to thereby maintain the object at a desired spacing from the vessel,

(b) a pair of securing poles, each having a snare loop on one end of the same, adapted to be manipulated by other operators on the deck of the vessel,
(c) a cord or the like extending from a snare loop to the remote end of a securing pole adapted to be tensioned by an operator to close and initially tighten a snare loop, and
(d) a cable or the like connected to the snare loop having one end connected to a crane adapted to further tighten the snare loop and lift the object from the water and onto the deck of the vessel.



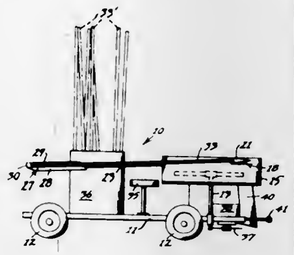
2. A method of transferring a floating object, such as a circular elongated torpedo or like test vehicle, from the surface of the sea to the deck of a recovery vessel, which comprises the steps of:
(a) maneuvering the vessel to a position spaced from the object,
(b) temporarily securing an end of a pole to the object by an operator on the deck of the vessel to thereby maintain the object at a desired spacing from the vessel,
(c) placing a snare loop, disposed on the end of a pole, around the object, by an operator on the deck of the vessel,
(d) tightening the snare loop by the operator, aforesaid to initially capture the object,
(e) and lifting the snare loop and object by a crane and transferring same to the deck of the vessel.

3,262,586
POWER-OPERATED DISTRIBUTOR FOR GRANULATED MATERIALS
George W. Smiley and Paul I. Corya, both of Rte. 4, Greensburg, Ind., and William Harlos, Rossville, Ind.; said Harlos assignor to said Smiley and said Corya
Filed Mar. 8, 1962, Ser. No. 178,344
10 Claims. (Cl. 214—17)



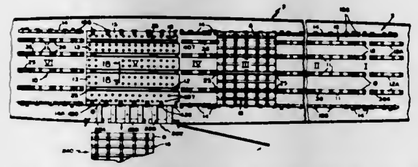
1. A distributor for a silo or the like having means for delivering silage, grain, or similar material, said distributor adapted to be mounted beneath the delivery means to distribute the material relative to the silo, said distributor comprising a base member adapted to be mounted beneath said material delivery means, a throwing element mounted relative to said base member for rotation about a generally vertical axis, a deflector element mounted above the throwing element for rotary motion about a generally vertical axis relative to the base, said deflector element having a deflector surface leading downwardly toward the upper surface of the throwing element, a plurality of vane elements rising from the upper surface of the throwing element, and power means adapted to rotate said throwing element at a velocity sufficient to propel the material outwardly therefrom and to rotate the deflector element at a slower rate, said deflector element adapted to intercept and direct a flow stream of material downwardly and outwardly to the surface of the throwing element to be accelerated and propelled outwardly by the vane elements beyond the periphery of the throwing element, the rotating deflector element causing the flow stream of material to be projected outwardly from the throwing element in a path which moves continuously in a circle about the throwing element.

3,262,587
DEVICE FOR SPIKING TOBACCO
Alexander S. Anderson, Hendersonville, Tenn.
Filed Mar. 9, 1965, Ser. No. 438,262
3 Claims. (Cl. 214—5.5)



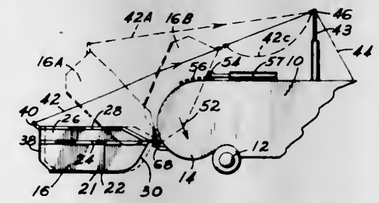
1. A device for spiking a tobacco stalk comprising:
(a) a platform having an exposed top surface of nonmagnetic material, unobstructed working space above said top surface, a rear edge and a longitudinal axis,
(b) the length of said top surface being sufficient to support said stalk longitudinally thereof,
(c) an operator's station adjacent said rear edge,
(d) a magnet,
(e) means for mounting said magnet in said platform to project upwardly from said top surface, and spaced forwardly of said operator's station within arm's reach of the operator,
(f) an elongated spike having a pointed end and a rear opening in its opposite end,
(g) said spike being of magnetic material and positioned substantially transversely of said platform in magnetic engagement upon said magnet,
(h) the force of said magnet being continuous and sufficient normally to retain said spike upon said magnet against displacement, but to permit separation of said spike from said magnet when a tobacco stalk is manually and positively thrust over said spike,
(i) a stick rack having a rear wall, opposed side walls, and a forward opening,
(j) a tobacco stick having a front end and a rear end, said front end being adapted to be received in the rear opening of said spike and said rear end being adapted to be received in said stick rack through said forward opening,
(k) means for fixedly mounting said stick rack behind and in alignment with said spike to permit said stick to be received within said spike and abutting said rear wall, said stick forming one side of said operator's station.

3,262,588
CARGO HANDLING APPARATUS
Robert W. Davidson, Greenwich, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed July 19, 1963, Ser. No. 296,177
29 Claims. (Cl. 214—84)



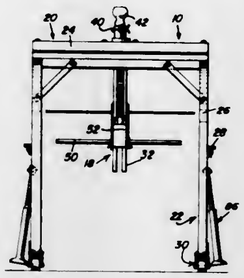
1. A cargo handling and restraining system for use in the transportation of cargo units in a carrier having a cargo supporting floor and an entrance through which said cargo units may be loaded and unloaded, comprising a plurality of tracks extending along said floor and longitudinally thereof, each of said tracks including mounting supports provided at longitudinally spaced intervals along said tracks, a plurality of cargo unit supporting low friction conveying surfaces carried by each of said tracks and providing a substantially continuous support for each cargo unit for movement to a position for transportation in said carrier, a plurality of sets of movable locking members mounted for movement from inoperative positions below the supporting plane of said tracks into operative positions thereabove securing each of said cargo units against substantial longitudinal and vertical movement on said tracks relative to said floor of said carrier, and means detachably securing said sets of locking members to said mounting supports in transverse alignment in selected operative positions on said tracks.

3,262,589
REFUSE DISPOSAL
Byron M. Kolling, 23W026 Geneva Road, Glen Ellyn, Ill.
Filed Mar. 20, 1964, Ser. No. 353,492
11 Claims. (Cl. 214—302)



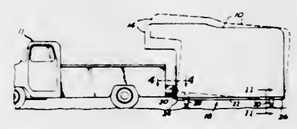
1. Refuse disposal equipment comprising, in combination: a mobile vehicle having a storage body, said body having an open rear end adapted to receive the load; said opening having a substantially straight substantially horizontal lower side; a supporting structure defining said lower side; said structure having its upper edge shaped to define an upstanding supporting lip, and a relatively horizontal supporting portion extending forward from the lower limit of said lip; a power loading container comprising an upwardly opening receptacle having one front side shaped to engage said lower side of said body opening; said front container side wall having along its upper edge an overhanging lip portion offset forwardly from the general plane of said wall and adapted to take over the top of said supporting lip and move down onto the said horizontal supporting lip portion during rotation of said container about a transverse axis close to the axis of said supporting lip; power means for rotating said container, from an initial position below and behind said supporting lip opening upwardly, up around said supporting lip into an inverted position above and in front of said supporting lip opening downwardly; whereby the entire gravity load of the container during rotation is distributed along the length of said container lip and said supporting lip throughout the emptying and return movement of said container; and abutment means on said body and container for limiting forward sliding movement of said inverted container lip on said supporting lip portion, to retain said inverted container lip on said supporting portion.

3,262,590
LIFTING DEVICE FOR PLUMBING FIXTURES
William E. Lynn, Washington, D.C., assignor of fifty percent to Harry A. Downard, Alexandria, Va.
Filed July 28, 1964, Ser. No. 385,581
6 Claims. (Cl. 214—394)



1. A device for handling a plumbing fixture or the like having a peripheral rim, comprising a wheeled supporting frame adapted to straddle said fixture, an elevating mechanism supported by the frame above the rim of the fixture including a movable load engaging member, a rim engaging element mounted by the load engaging member displaceable by the elevating mechanism and the frame into engagement with the rim, extensible brace means pivotally mounted by the load engaging member for engagement with the rim in horizontally spaced relation to the rim engaging element, and lock means adjustably mounted by the load engaging member for engagement with the rim in vertically spaced relation to the rim engaging element to stabilize the fixture during elevation and lowering by the elevating mechanism relative to the supporting frame.

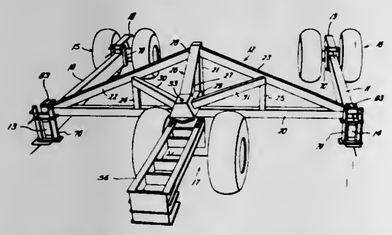
3,262,591
WINCH-TYPE CAMPER COACH LOADER AND UNLOADER
Art Aldropp, Langlois, Oreg.
Filed Mar. 27, 1964, Ser. No. 355,226
7 Claims. (Cl. 214—517)



1. In combination with a camper coach or like body and a truck bed, wherein the bottom of the body is below the truck bed when in unloaded position, apparatus for loading and unloading the body onto and from the truck bed, comprising:
(a) a double acting winch,
(b) mounting means for mounting the winch on the back of the truck bed,

(c) first and second cables wound about the winch in opposite directions, thereby arranging the cables for selective transmission of pulling force through one of them, while contemporaneously paying out the other,
(d) securing means for securing the running end of the first cable to the back of the coach body,
(e) securing means for securing the running end of the second cable to the front of the coach body,
(f) and cable guide means arranged for guiding the cables to and from the winch, the cable guide means comprising a roller, a pair of guide roller arms rotatably mounting the roller on the winch means, parallel to the winch means and a spaced distance therefrom; and lock means for releasably locking the roller in an operative position wherein it extends outwardly and rearwardly from the winch means adjacent the front of the coach body, and a rest position wherein it extends downwardly substantially beneath the winch means.

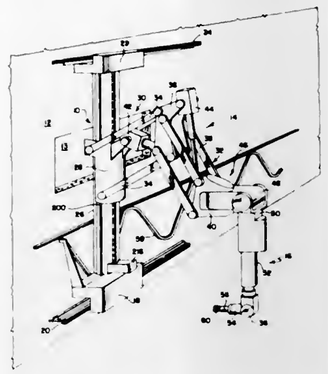
3,262,592
APPARATUS AND METHOD FOR MOVING DRILLING EQUIPMENT
William H. Mannon, Santa Monica, Calif., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation
Filed Nov. 26, 1963, Ser. No. 325,886
8 Claims. (Cl. 214—515)



1. Apparatus for moving a drilling rig including a substructure with a derrick mounted thereon, comprising, two parallel support beams for extension through openings provided therefor in the substructure with their longitudinal axis parallel to the direction of travel of the substructure; first load transmitting means including a truss having a horizontal member, extending between the front ends of the support beams, a vertical king post attached to the horizontal member and located about midway between the ends of the support beams, and inclined chord members connecting the upper end king post with the horizontal member; two trailing bogies located under each trailing end of the beams; a front bogie and a drawbar having one end supported by the front bogie and one end adapted to be connected to a prime mover; and second means for transmitting the first load supported by the load transmitting means to the drawbar at a point between the front bogie and the connection between the drawbar and the prime mover.

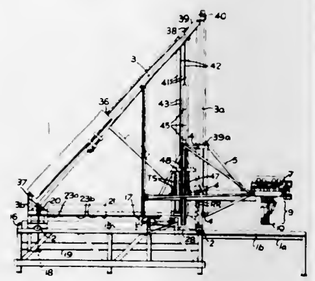
3,262,593
WALL-MOUNTED SUPPORT STRUCTURE
William H. Hainer, St. Paul, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed July 10, 1963, Ser. No. 294,040
9 Claims. (Cl. 214—651)

1. A wall-mounted support structure comprising an upper and a lower horizontal rail, means for attaching each rail to the wall, each rail having a gear rack thereon, a vertical bridge member, a lower truck assembly mounted for relative movement along the lower rail, an upper truck assembly mounted for relative movement along the upper rail, means for rotatably attaching one end of the bridge member to the lower truck, means for rotatably attaching the other end of the bridge member to the upper truck, a carriage mounted for vertical movement relative to the bridge member, an elongate shaft rotatably mounted within the bridge member and coaxial therewith, gearing means attached to each end of the shaft, means including said gearing means for operatively



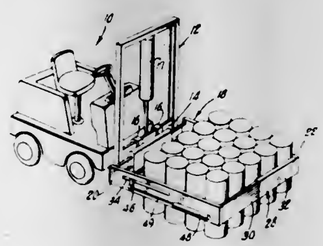
connecting said shaft to the gear racks on each rail, said means and said shaft adapted to transmit moments placed on the bridge member into the gear racks so that an axial load is placed along the rails, said moments having at least a component which acts in a direction substantially parallel to the wall, and means for rotating said shaft thereby moving the bridge member and the trucks relative to the rails.

3,262,594
MECHANICAL HANDLING APPARATUS
Antony Charles Teago, Ifield, Crawley, Sussex, England, assignor to Woodfield Bennett Ltd., Frindsbury Works, Rochester, Kent, England, a British company
Filed Apr. 18, 1961, Ser. No. 103,862
Claims priority, application Great Britain, June 8, 1960, 20,220/60; Feb. 1, 1961, 3,846/61
3 Claims. (Cl. 214—652)



1. Apparatus for mechanically handling bricks including the acquisition, conveyance and release of a predetermined number thereof, comprising vacuum head means including a plate support for effecting acquisition of a selective number of bricks, carrier means carrying said plate support for effecting control over the disposition of said vacuum head means, structural means supporting said carrier means for displacement in at least three diverse mutually perpendicular directions to limited extents, means including operations control means for selectively effecting said displacement of said structural means under control of said operations control means including changes of disposition at times between the acquisition and release of the bricks, said carrier means including support means mounted on said structural means for rotation about a vertical axis of said carrier means and a frame member hinged at one end thereof to said support means for pivoting about a first horizontal axis of said carrier means, said plate support being hinged to the other end of said frame member for pivoting about a second horizontal axis parallel to said first horizontal axis, first actuating means interconnecting said support means and said frame member for effecting tilting of said frame member about said first horizontal axis, second actuating means interconnecting said frame member and said head plate means for effecting tilting of said head plate means about said second horizontal axis, and drive means interconnecting said carrier means and said structural means for effecting rotation of said carrier means about said vertical axis.

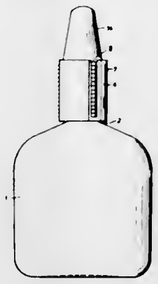
3,262,595
LIFT TRUCK CLAMP ATTACHMENT
Donald P. Selp, Jr., Somerville, and Donald M. MacKay, Plainfield, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Sept. 27, 1963, Ser. No. 312,173
12 Claims. (Cl. 214—653)



1. A clamping device for handling a load and for use with a lift truck comprising,
(a) a pair of substantially parallel spaced arms mounted for movement toward and away from each other,
(b) motor means for moving the arms,
(c) a clamping surface extending transversely of the arms,
(d) a third arm connecting the pair of arms and being mounted for reciprocal movement toward and away from the clamping surface in a direction substantially parallel to the pair of arms,
(e) the pair of arms, the third arm, and the clamping surface forming the sole support for a load,
(f) motor means for moving the third arm,
(g) the third arm being comprised of a plurality of telescoping sections, and
(h) means on the device for connecting the device adjacent one end of the pair of arms to a lift truck.

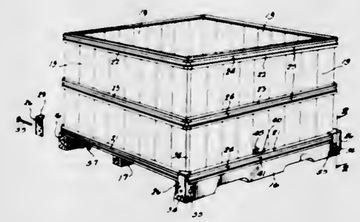
3,262,596
ARRANGEMENT FOR RECEPTACLE
Adolf Zillmann, Egg, Zurich, Switzerland, assignor to Laboratories Sauter S.A., Geneva, Switzerland
Filed Aug. 28, 1964, Ser. No. 392,788
Claims priority, application Switzerland, Sept. 4, 1963, 10,930/63
4 Claims. (Cl. 215—100)

1. In combination with a receptacle, particularly a bottle, a holder element for housing a stack of beakers, said holder element including means for seating said holder element upon the receptacle and incorporating a plate member for receiving a stack of beakers, which plate member form an inwardly turned screw closure means for said opening of the receptacle, said holder element having wall means surrounding said plate member and spaced from said threaded portion to provide a hollow



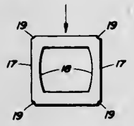
compartment for receiving said stack of beakers, said holder element being provided with axially directed slot means open at their upper end, each of said beakers being provided with shoulder means extending outwardly from the periphery thereof and engaging with said slot means.

3,262,597
DEMOUNTABLE AND RETURNABLE BULK BIN
Daniel F. Coffey, Jr., Marinette, Wis., assignor to Marinette and Menominee Box Company, Marinette, Wis., a corporation of Wisconsin
Filed July 6, 1964, Ser. No. 380,293
8 Claims. (Cl. 217—12)



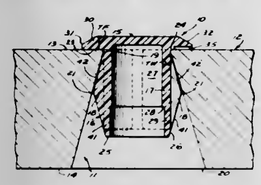
1. A bulk bin comprising a bottom and demountable sides, said sides being connected with both the bottom and with each other when mounted on the bottom and being free of connection with the bottom and each other when demounted therefrom, said sides having cleats at their lower margins with portions which project laterally therefrom at the corners of the bin, said bottom being provided with fixed corner brackets having flange portions disposed in a slightly spaced overhanging relation to the projecting portions of the cleats at the bin corners to interlock mechanically therewith to preclude vertical separation of the sides from the bottom, said brackets being relieved at corresponding sides thereof in lateral alignment with the projecting portions of the cleats, and severable bands which encircle the sides of the bin to preclude lateral separation of the sides and maintain said interlock when the sides are mounted on the bottom, said sides being free to move laterally when the bands are severed to move the said projecting cleat portions laterally through the relieved portions of the brackets and out of interlocked relation to the bracket flanges for demounting the sides with respect to the bottom.

3,262,598
BUCKLING SNUBBER
Victor H. Carder, Salinas, and Shiro Aisawa, Sunnyvale, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 29, 1964, Ser. No. 363,656
3 Claims. (Cl. 217—53)



1. A buckling snubber comprising:
a hollow box section formed of integral top and bottom sections and side walls;
the exterior corners of said section being cut away to insure buckling of the side walls outwardly when said section is subject to a predetermined load.

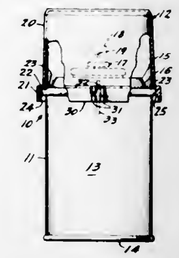
3,262,599
PLUGS FOR PLUGGING HOLES IN MANHOLE COVERS
Robert J. Muller, Port Chester, N.Y., assignor to Russell, Burdsall & Ward Bolt and Nut Company, Port Chester, N.Y., a corporation of New York
Filed July 26, 1965, Ser. No. 474,858
6 Claims. (Cl. 220—24.5)



1. A one piece plug for closing a hole in a manhole cover having top and bottom surfaces, which hole has a smaller opening at the top surface of the cover than at its bottom surface, said hole having a shape of a truncated cone and providing a circular lip at the top surface of said cover; which plug comprises a substantially flat cap member having an annular flange portion at its periphery, which flange portion has a bottom surface engageable with the top surface of said cover around said lip; a post having a lower end and an upper end depending from the underside of said cap member, said post being of a size permitting its passage downwardly through said circular lip; a plurality of circumferentially spaced, vertically disposed buttress fins extending radially outward from said post, said fins having radially extending portions, the extremities of which lie in a circle having a diameter greater than the diameter of said lip; said post at its upper end having a periphery which provides a gripping action between said post and the lip of said hole when said plug is placed in said hole with the bottom surface of said flange in engagement with the upper surface of said cover.

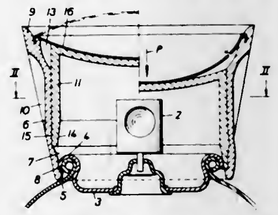
3,262,600
TAMPER-PROOF REPLACEABLE CAP
Peter P. Gach, Evansville, Ind., assignor to Sunbeam Plastics Corporation, Evansville, Ind., a corporation of Indiana
Filed Aug. 19, 1964, Ser. No. 390,650
4 Claims. (Cl. 220—27)

1. A tamper-proof replaceable cap for use on a dispensing container having an upright body and a dispensing opening located at an upper end of said body and a horizontally protruding bead around said body near the upper end thereof, said tamper-proof replaceable cap comprising, an inverted cup-shaped body adapted to enclose said dispensing opening, an annular radial web at the lower edge of said body and a continuous, circumferentially depending skirt on said web, means integral with said skirt for releasably retaining said cap on said bead of said container, said skirt having a frangible portion



comprising a section of a reduced thickness, said web defining a circumferentially extending opening adjacent said frangible portion, and a pair of opposed shoulders integral with and extending outwardly from said skirt, said shoulders being located adjacent said frangible portion, said shoulders defining a tool receiving gap therebetween.

3,262,601
CONTAINER CLOSURE
Ivar Odd Formo, Oslo, Norway, assignor to Firma Weinert & Co., Hamburg, Germany
Filed May 13, 1964, Ser. No. 366,983
Claims priority, application Norway, May 25, 1963, 148,793; Oct. 14, 1963, 150,428
13 Claims. (Cl. 220—60)



1. A cap for enclosing an opening of a container, adapted to be held in position thereon by the engagement of an internal circumferential riblike projection on the cap with an annular surface of a bead around the container opening, wherein the cap comprises a skirt made of a flexible material and having the internal circumferential riblike projection formed at its lower edge, and an inverted cup-shaped member located within the skirt in axial slidable engagement with the same, the skirt and cup-shaped member being of such relative formation as to cause expansion of the lower end of the skirt by a movement of the cup-shaped member towards the said lower end of the skirt, means being provided adapted to produce a visible change in the condition of the cap by such movement of the cup-shaped member.

3,262,602
PLASTIC CONTAINER AND LID
Albert L. McConnell, Chester, and Gordon E. Wade, Glen Riddle, Pa., assignors to Scott Paper Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed June 17, 1964, Ser. No. 375,828
6 Claims. (Cl. 220—60)

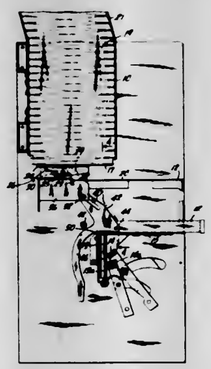
1. A thin wall, one piece sheet plastic container having an opening at one end thereof, the wall of said container having upper and lower continuous annular shoulders

formed therein adjacent the open end of the container and providing an annular groove therebetween, said groove being adapted for receiving the sealing bead of a flexible lid in sealing relationship with the container wall, said container wall having an outwardly tapering region extending from said upper shoulder toward the open end of the container, said wall region tapering to a diameter greater than the outside diameter of the sealing bead on the lid which the container is adapted to receive, said wall region having vent means formed therein and terminating



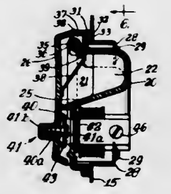
at the junction of said wall region and said upper shoulder, said vent means being effective to permit air to escape from the interior of the container as a lid is being applied to the container, but only while the sealing bead on the lid is in contact with said tapering wall region. said container providing a reliable lid seal upon insertion of the sealing bead of a flexible lid within said groove due to pressure applied from substantially diametrically opposed directions to said bead about the entire periphery of said lid by said upper and lower continuous annular shoulders.

3,262,603
VENDING MACHINE EJECTOR
John Schendorf, Metuchen, and Irving Goldbert, Mountainside, N.J. (231 North Ave., Garwood, N.J.); said Schendorf assignor to said Goldbert
Filed Sept. 24, 1964, Ser. No. 398,871
1 Claim. (Cl. 221—273)



An article dispensing machine having a short stroke dispensing plunger, a guide for said plunger, a storage bin for the articles positioned above said guide having at the bottom thereof a supporting rack, a support positioned between the rack and the guide, a pusher movably mounted on said support for a travel longer than said plunger stroke, a lever pivoted on said plunger having an upper arm connected to said pusher by means of a pin and slot connection and a lower arcuate arm extending rearwardly therefrom, upper and lower camming members, said upper camming surface pushing said arcuate arm downwardly about its pivot as said plunger moves forward, said lower camming member for camming said arcuate arm upwardly during the return stroke of the plunger.

3,262,604
DISPENSING APPARATUS
Walter C. Barnard, St. Paul, and Ival Gene Dutcher, White Bear Lake, Minn., assignors to Whirlpool Corporation, a corporation of Delaware
Filed Nov. 16, 1964, Ser. No. 411,339
10 Claims. (Cl. 222—76)



1. Apparatus for dispensing material to a receiving space, comprising:
means defining a chamber having a front opening;
a door;
means hingedly mounting said door on said chamber means opening to extend selectively across said opening;
means biasing said door away from said opening and to a fully opened position;
means on said door and said chamber means defining a magnetic circuit for holding said door across said opening against the force of said biasing means; and
means for selectively providing a magnetic flux in said magnetic circuit in opposition to the flux thereof and having a preselected magnitude for overcoming said magnetic means to allow said biasing means to move said door from said opening and expose the chamber to said receiving space.

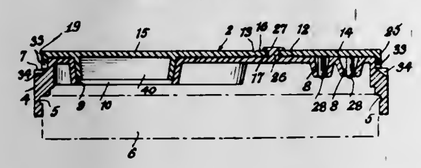
3,262,605
DISPENSING HOLDER FOR COLLAPSIBLE TUBE
Thomas H. Madden, 254 E. 208 St., Euclid, Ohio, and Donald R. Day, 13104 Thraves Road, Garfield Heights 25, Ohio
Filed July 2, 1964, Ser. No. 379,935
8 Claims. (Cl. 222—103)



7. A dispensing holder for a collapsible tube comprising:
(a) a tube locating end wall including an aperture for receiving a neck of a tube;
(b) first and second elongated, flexible, opposed tube compressors;
(c) said compressors and end wall being an integral plastic piece;
(d) first and second double hinges connecting said tube compressors with said end wall and being formed by transverse slits in the integral plastic piece and,

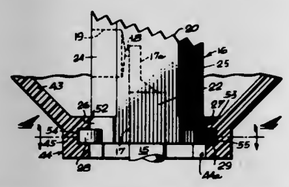
(e) a dispensing slide including a slit adapted to receive said tube compressors and walls of a tube in a collapsed state whereby the contents of said tube are caused to be discharged from said tube.

3,262,606
CONTAINER CLOSURE
Neil S. Waterman, 60 Bonner St., Stamford, Conn.
Filed July 29, 1963, Ser. No. 298,216
2 Claims. (Cl. 222—153)



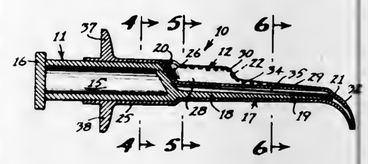
2. A dispensing closure for a container comprising, a base member having a top wall surrounded by a peripheral skirt, the top wall having a plurality of sifter holes and a dispensing opening, a cover member mounted on top of the base member, said cover member having integral pivoted flaps for respectively covering the sifter holes and the dispenser opening, an integral bridge piece on the cover member between the flaps, an upstanding element formed integrally with the base member and projecting through the bridge piece and headed over the upper surface of the same to thereby attach the cover member to the base member, the base member having a shoulder extending around it, the flaps on the cover member each having a skirt resting against the shoulder when the flaps are in closed position, each of the skirts on the flaps having inwardly-directed detents, the detents on each flap being directed toward one another, the base member having notches above the shoulder and into which said detents extend when the flaps are in their closed position, said detents engaging over the top of the base member when the flap on which they are formed is raised to uncover the opening or openings in the base member.

3,262,607
SAFETY CLOSURE CAP FOR AEROSOL DISPENSER CANS
Walter F. Hirsch, 6721 SW. 26th St., Miami, Fla.
Filed Nov. 23, 1964, Ser. No. 413,277
9 Claims. (Cl. 222—182)



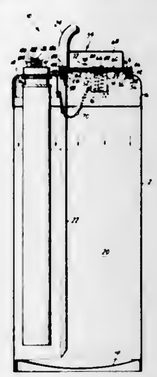
1. In a safety closure cap for cylindrical aerosol dispenser cans of the type having a pressure actuated central valve mechanism at one end for receiving in coaxially interfitting frictional engagement a valve head having a sidewardly-directed atomizing orifice, the combination comprising, a valve head member having a sidewardly-directed atomizing orifice receivable on said central valve mechanism and secured thereto by frictionally interfitting engagement, a cover member providing enclosing means for said valve head, said cover member having means for engagement with said valve bead when in certain first rotary positions with respect thereto and for disengagement with said valve head when in a certain second rotary position with respect thereto.

3,262,608
SYRINGE WITH BARREL AND CHARGE RECEIVING PLUNGER
John Witherspoon Macey, 4018 Copeland Drive, Nashville, Tenn.
Filed July 8, 1964, Ser. No. 381,189
7 Claims. (Cl. 222—386)



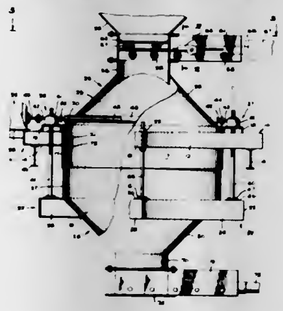
6. A syringe comprising:
(a) an elongated plunger comprising a ram member and a scoop member extending longitudinally from said ram member,
(b) said scoop member having a U-shaped cross-section symmetrical about the longitudinal axis of said plunger,
(c) a barrel having a enlarged opening at one end for receiving said plunger,
(d) a nozzle forming the other end of said barrel,
(e) an enlorged chamber in said barrel adjacent said enlarged opening for snugly and slidably receiving said ram member, and
(f) a hollow U-shaped portion in said barrel communicating with said chamber for snugly receiving said U-shaped scoop member.

3,262,609
PRESSURIZED SPRAYER
Edward J. Poitras, 198 Highland St., Holliston, Mass.
Continuation of application Ser. No. 258,389, Feb. 14, 1963. This application Mar. 2, 1965, Ser. No. 440,668
12 Claims. (Cl. 222—399)



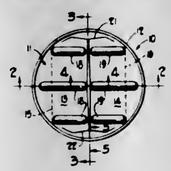
1. A dispenser comprising in combination: a tank for a liquid substance to be expelled, said tank having a bottom and a valve controlled outlet through which the liquid substance is expelled under the influence of a propellant at a predetermined pressure; a separate power capsule having a lower part and being mounted interiorly of said tank such that the lower part thereof is adapted to be immersed in said liquid substance at the bottom of the tank and having a discharge end communicating with the interior of the tank, said capsule having walls of good thermal conductivity, said capsule adapted to contain said propellant at a pressure above said predetermined pressure and in a liquid-vapor phase; a regulator valve at the discharge end of said capsule for controlling the introduction of the propellant in said capsule into the tank interior when the propellant pressure in the tank falls below a predetermined value; heat transfer means between the capsule and the liquid substance for maintaining the temperature of the propellant during the operation of said valve at substantially the temperature of said liquid substance; and further heat transfer means for maintaining the temperature of said valve at substantially the temperature of the propellant.

3,262,610
VOLUMETRIC METERING DEVICE
James O. Jordan, La Habra, Calif., assignor to Temcor, Torrance, Calif., a corporation of California
Filed Oct. 26, 1964, Ser. No. 406,422
4 Claims. (Cl. 222—440)



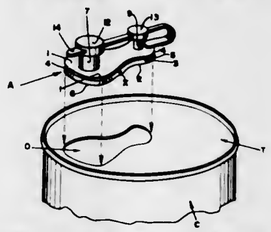
1. A volumetric metering device comprising a receiver having a normally generally vertical axis and relatively axially movable normally upper and lower chamber walls disposed in sealing relation so as to define a closed metering chamber, there being a material inlet in the upper end of said receiver and a material outlet in the lower end of the said receiver, a material supply gate mounted on the upper end of said receiver for selectively opening and closing said inlet, a material discharge gate mounted on the lower end of said receiver for selectively opening and closing said outlet, a pair of rotary jacks mounted on one of said chamber walls at diametrically opposite sides thereof and operatively connected to the other chamber wall for relatively axially moving said chamber walls, a rotary drive shaft extending diametrically through said one chamber wall, means drivably coupling said shaft to said jacks, whereby rotation of said shaft is effective to drive said jacks in unison, thereby to vary the effective volume of said metering chamber, and a motor drivably coupled to said shaft.

3,262,611
HAND OPENING LID FOR CYLINDRICAL METAL BEVERAGE CAN
Robert E. Palmer, Bay Village, Ohio, assignor to Palmer, Incorporated, Bay Village, Ohio, a corporation of Ohio
Filed Dec. 7, 1964, Ser. No. 416,525
2 Claims. (Cl. 222—478)



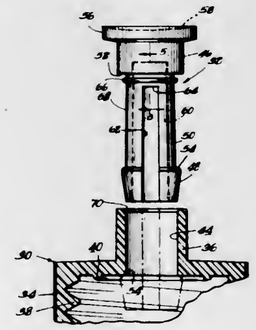
1. A hand opening lid for cylindrical metal beverage cans, comprising, a closure disc adapted to be permanently secured to the rim of the can, the disc having two, spaced and parallel, chord lines scored on the underside thereof, and two, opposed, upwardly inclined, panels extending from the chord lines to the center of the disc and articulated at their peak edges through a hinge line; the disc also having two spaced rupture lines, coined to a substantially lesser thickness than the balance of the disc, extending thereacross, at 90° to the hinge line, outwardly of the termini thereof, and adapted to rupture along their entire lengths to define diametrically opposed pouring apertures, when compressive force applied to the can rim causes the panels to pivot inwardly, toward each other, to raise the hinge line vertically, away from the rupture lines.

3,262,612
RECEPTACLE CLOSURES
Carl J. Tabor, 9845 Reavis Road, Affton, Mo.
Filed Aug. 20, 1964, Ser. No. 390,966
10 Claims. (Cl. 222—484)



1. A manually insertable closure adapted for cooperation with an aperture in a receptacle wall; said closure comprising a base lips integrally formed on said base and projecting outwardly to form the margin thereof, said lips having inwardly inclined substantially planar intersecting surfaces defining an inwardly indented lateral groove which is sized and shaped to snugly engage the marginal edge of the aperture whereby to form a tight seal therewith, a portion of one of said lips being rounded in the provision of an arcuate camming surface, and an upstanding tubular pouring spout formed integrally with the base.

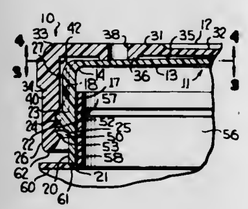
3,262,613
DISPENSING CAP FOR SQUEEZE BOTTLE CONTAINING LIQUID PRODUCTS
Christian F. Miller, Palos Park, Ill., assignor to Formold Plastics, Inc., Blue Island, Ill., a corporation of Illinois
Filed Apr. 28, 1965, Ser. No. 451,401
4 Claims. (Cl. 222—522)



1. A dispensing cap arrangement comprising: a cap element, including a body portion having mounting means for securing the cap element to a container and including a sleeve portion having a bore opening into said body portion; and a valve element adapted for assembly with said cap element, including upper and lower abutment

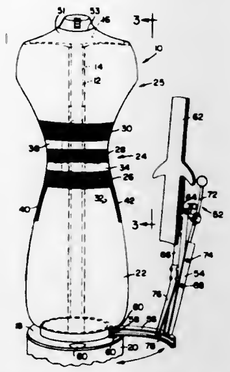
portions having stop surfaces engageable respectively with the opposite ends of said sleeve portion to establish a closed and a dispensing condition of said valve element, said valve element further including a stem portion of greater length than said sleeve portion connectably disposed between said abutment portions and slidably received in said sleeve portion, said lower abutment portion and said stem portion having a common channel opening laterally through said stem portion to define a dispensing orifice and opening through a wall of said lower abutment portion to pass material to be dispensed to said orifice, said channel having an upper end surface spaced from said upper abutment portion, said stem portion having a radially outwardly projecting rib disposed in encompassing relationship between said end surface and said upper abutment portion and said stem portion further having an outer wall tapered from a larger dimension at said lower abutment portion to a smaller dimension at said upper abutment portion, so constructed and arranged as to bias the stop surface of said lower abutment portion radially outwardly to preserve the assembled condition of said cap and valve elements and to cooperate with said rib in defining upper and lower seals operative respectively in the closed and dispensing conditions of said valve element.

3,262,614
ROTATABLE DISPENSING CONTAINER CLOSURE
Richard C. Allen, Glen Ellyn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 2, 1964, Ser. No. 348,420
14 Claims. (Cl. 222—545)



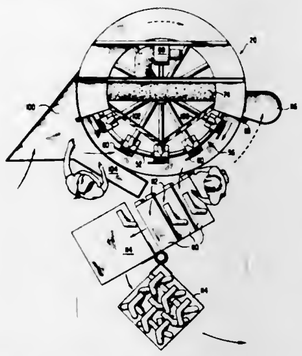
11. A dispenser-container comprising a container including a container body terminating in a neck portion, an inner cap having a top wall dispenser portion extending convexly outwardly and a downwardly extending peripheral skirt in telescopic relationship to said neck portion, retaining means for preventing axial displacement of said inner cap off said container neck portion, an outer cap coaxially disposed with respect to said inner cap, said outer cap having a top wall dispenser portion and a downwardly extending peripheral skirt in external telescopic relationship to the peripheral skirt of said inner cap, said top wall dispenser portion presenting a centrally disposed top wall section of given thickness spaced from the underlying top wall portion of the inner cap and an outer marginal portion of greater thickness having a bottom surface disposed in contact with a corresponding outwardly convex surface portion on the top wall portion of the inner cap so as to form sealing means therewith, at least one dispensing opening in the thicker marginal portion of the outer top wall dispenser portion and in the inner top wall dispenser portion, said dispensing openings being adapted to be moved into and out of registration upon relative rotation of said inner and outer caps between first and second positions, and means for maintaining said sealing means of said outer and inner caps resiliently against axial movement out of sealing contact in at least one of said first and second positions.

3,262,615
APPARATUS FOR FINISHING DRY CLEANING
Lloyd W. Killey, 421 N. Main St., Monmouth, Ill.
Filed Oct. 12, 1964, Ser. No. 403,186
3 Claims. (Cl. 223—67)



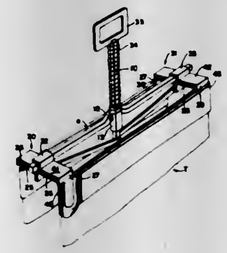
1. In a garment finisher, a support, a frame mounted on said support, said frame including an adjustable shoulder and neck portion, a flexible bag carried by said adjustable shoulder and neck portion, said bag being provided with an open fluid inlet at the lower end thereof, said inlet being connected to said support in fluid tight relationship, said bag having a relatively non-porous skirt portion, a waist portion having a plurality of relatively non-porous portions disposed between a plurality of relatively porous portions, and a chest and shoulder portion consisting essentially of non-porous portions having a plurality of relatively porous portions extending across the back, and means to introduce steam into said bag whereby said steam initially expands said bag and subsequently said steam and entrained moisture therein passes through the relatively porous portions of said bag causing said garment to become distended and finished.

3,262,616
METHOD AND APPARATUS FOR BOARDING, INSPECTING, AND CLASSIFYING STOCKINGS
George Grayson Harralson, Jr., Princeton, Ky., assignor, by mesne assignments, to Pair-X, Inc., Paducah, Ky., a corporation of Kentucky
Filed Mar. 31, 1964, Ser. No. 356,154
7 Claims. (Cl. 223—76)



1. For use in combination with a stocking boarding, inspection and classifying apparatus including a heat chamber, conveyer means for moving boarded stockings from a boarding and inspection station through the heat chamber to an inspection and removing station, a boarding form comprising an elongated leg portion and a foot portion at one end of said leg portion, said form being substantially flat and having the general shape of the profile of a human leg and foot, means for supporting said form on the conveyer means, positioning indicia on said leg portion for indicating the point to which the welt end of a stocking should be drawn during the boarding operation, and a series of classification indicia spaced along said leg portion from said positioning indica for accurately indicating the length of the stocking after it has been shaped on said form by passing through the heat chamber, said classification indicia including a series of circular discs contained in openings extending through said leg portion.

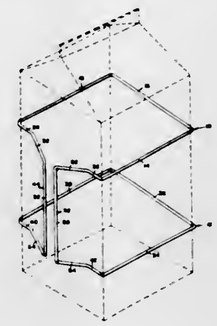
3,262,617
COMBINED HANGER AND STRETCHER FOR TROUSERS AND SLACKS
Harry S. McDonald, 229 Seminole Drive; Fred A. Malik, 218 Seminole Drive; Joseph M. Malik, 818 S. Big A Road; and Wilburn N. Smith, Box 509, all of Toccoa, Ga.
Filed Mar. 9, 1965, Ser. No. 438,227
3 Claims. (Cl. 223—95)



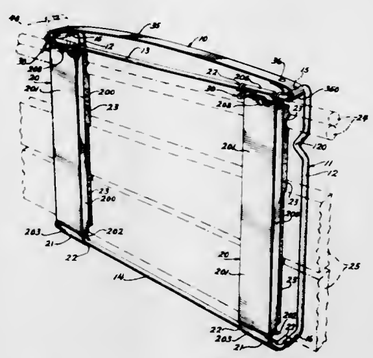
1. A combined trouser hanger and stretcher comprising; an upright bar formed with a handle; a cross bar transverse the upright bar having an arcuate intermediate portion; a guide sleeve secured to the center of the said arcuate portion; said upright bar slidably extending through said guide sleeve and having the end opposite from the handle projecting from the sleeve; yoke members slidably mounted on each end portion of the cross bar, said yoke members being formed with bar embracing guide means, each of said yoke members having spaced depending legs adjacent each side of the cross bar; spacer means secured to each yoke member between each of said spaced yoke legs thereof, link means having one end pivotally connected to said means and the opposite end pivotally connected to said projecting end of said upright bar below said sleeve; and spring means coiled around said upright bar between said handle and said cross bar, said spring being compressible by the movement of said upright bar in the sleeve, said spring normally causing spreading movement in opposite directions to said respective yoke members.

3,262,618
ARTICLE HOLDERS
Charlie D. Miller, 603 Dakin St., Syracuse, N.Y.
Filed Oct. 7, 1963, Ser. No. 314,243
1 Claim. (Cl. 224—45)

A holder for supporting a container having a constant cross section throughout substantially the entire height thereof, comprising a resilient wire like member including an upper loop portion for engaging the sides of the container, a lower loop portion for engaging the side of the container at a location spaced from the region of engagement between the upper loop portion and the sides of the container, and a pair of vertically disposed handles connecting the upper and lower loop portions, the said loop portions are of a size such that upon slidable introduction of the holder over the container the loop portions are slightly stressed to maintain the holder against vertical movement relative to the surface of the container, the upper and lower loop portions including three sides coextensive with and engaging the surface of the container and a fourth side consisting of two short sections engaging relatively short portions of the side of the container in engagement therewith, each upper and lower short section terminating in one of said vertically disposed handles, the pair of handles being normally horizontally spaced from each other whereby the gripping of both handles by the hand applies a gripping force on the container through the loops, said loops engaging the constant cross sectional area of the container.



3,262,619
SKI PACKS
Norman W. Selnes, 3725 W. Outer Drive, Detroit, Mich.
Filed Apr. 13, 1965, Ser. No. 447,746
5 Claims. (Cl. 224—50)



4. A ski pack for packing and carrying skis and ski poles comprising
a rigid wire frame consisting of
a pair of vertically disposed longitudinally spaced back frame members,
an upper and a lower arm extending forwardly from the upper and lower end respectively of each said vertical back frame member,

an upper and a lower vertically spaced longitudinal frame member extending respectively between upper forward ends and the lower forward ends of said forwardly extending arms of said vertical back frame members,

each vertical back member having a forwardly extending offset spacer means for spacing ski poles from skis when packed in said ski pack,

a relatively thick somewhat resilient plastic coating disposed over said longitudinally spaced vertical back frame members and the upper and lower arms extending forwardly therefrom,

a pair of longitudinally spaced ski and ski pole engaging and anchorage gates each hinged at its lower end to said lower longitudinal frame member and engageable with said upper longitudinal frame member when closed,

a resilient pad on the rear face of each said anchorage gate compressible against skis and ski poles resting against said vertically disposed back frame members when said anchorage gates are closed,

at least one of said ski and ski pole anchorage gates having an aperture therethrough to accommodate locking means therethrough encompassing said upper longitudinal frame member,

a manually operable over-center type spring latch means carried by said upper longitudinal frame member engaging each said hinged ski and ski pole engaging and anchorage gate and releasably holding said gates in their closed position, and

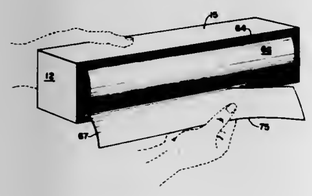
a hand grip means for manually carrying said ski pack connected to and extending between said upper arms extending forwardly from said vertical back frame members.

3,262,620

COMBINATION DISPLAY AND DISPENSING PACKAGE FOR A ROLL OF CONTINUOUS SHEETING MATERIAL

Robert V. Burt, Cincinnati, Charles L. Gunn, Springfield Township, Hamilton County, and Albert G. Sturdevant, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 1, 1965, Ser. No. 429,556
7 Claims. (Cl. 225—41)



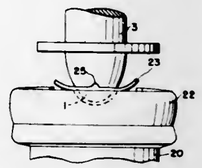
1. A combination display and dispensing package for a supply roll of continuous sheeting material, said package comprising a frame, said frame being formed from a frame blank generally configured in the form of an elongated strip of paperboard material, said frame blank having two spaced parallel score lines running longitudinally from one end of said elongated strip to the other end thereof, a plurality of transverse scores at intervals along the said frame blank, said transverse scores being substantially perpendicular to said parallel longitudinal scores thereby dividing the central portion of the frame blank into four panels including two side panels and two end panels, said side and end panels being alternately spaced along said frame blank, a flap articulated to and extending beyond the panel at one end of said frame blank, an extending beyond the panel at one end of said frame blank, an extending portion projecting laterally outwardly from each of the longitudinal scores which define the edge portions of the said panels, each of said extending portions being at least partially separated by angular relief cut-outs located outwardly of each of said transverse scores, each of said extending portions being folded into a tubular support, said tubular supports being adhered to their adjoining panels so that each of said side and end panles has a pair of spaced, substantially rigid tubular supports in parallel relationship alongside the longitudinal scores forming the upper and lower extremities of said side and end panels, a supply roll of continuous sheeting material wound on a core, the length of said core being greater than the width of said sheet material so that the ends of the core project from each end of said supply roll, an aperture cut in both tubular supports located at each end panel for receiving the projecting ends of said core, said side and end panels being folded into a substantially rectangular frame by folding the said frame blank on said transverse scores so that the said tubular supports face inwardly and the ends of the core of said supply roll are supported in said apertures, a cutting device on the outer surface of the tubular support along one of said side panels, said flap at one end of said frame blank being secured to the panel at the other end of said frame blank to form a frame structure supporting said supply roll of sheet material.

3,262,621

DEVICE FOR REMOVING THE FRANGIBLE SEAL OF PHARMACEUTICAL VIAL CLOSURES

John M. Bassabe, New York, N.Y., assignor of fifty percent to William L. White, New York, N.Y.

Filed Oct. 19, 1964, Ser. No. 404,748
6 Claims. (Cl. 225—103)



1. A device adapted to removing the frangible seal of a pharmaceutical vial which seal overlies a penetrable rubber closure, said device comprising a round punch having a diameter approximately equal to the diameter of the seal to be removed, a blunt end incapable of penetrating the rubber closure, and a length not greater than its diameter, and a flat circular supporting plate means perpendicular to the axis of the punch to which the punch is fixedly attached said plate means being effective to prevent excess depression of the punch whereby the rubber closure would be unduly distorted, the punch being free-standing on the plate and permitting unobstructed access of a vial to the punch without contact with the sides of the vial closure.

3,262,622

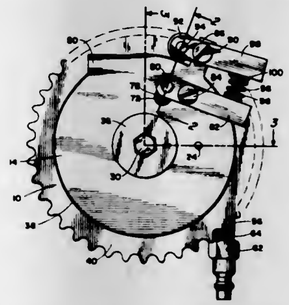
WIRE FEED DEVICE

George M. Conover, 725 Shawnee Ave., Bartlesville, Okla.

Filed Sept. 3, 1964, Ser. No. 394,232
13 Claims. (Cl. 226—127)

1. A wire feed device for directing a wire to a welding gun and comprising a stationary member, a rotatable member journalled around the stationary member, guide means provided on the stationary member for receiving

the wire therein, and roller means cooperating with the rotatable member whereby the wire is engaged therebe-



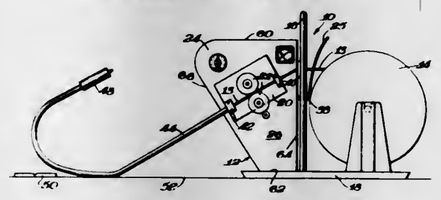
tween for moving the wire through the guide means in a constant and even movement for directing the wire to the welding gun.

3,262,623

CONTROL COMPONENT FOR WIRE-FEEDING WELDING ASSEMBLY

Henri Marie Louis Bosteels, Lausanne, Switzerland, assignor to Central Welding Research Lab. Ltd., a corporation of Bermuda

Filed Jan. 11, 1965, Ser. No. 424,686
4 Claims. (Cl. 226—174)



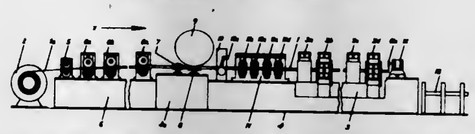
1. A control component for a wire-feeding welding assembly having a torch and a flexible cable connected thereto comprising a casing, a vertically disposable straight side on said casing, means for mounting said casing in an upright position with said straight side disposed substantially perpendicular with respect to the horizontal, a control unit in said casing, an inclined feeding head on said casing for feeding wire into said flexible cable to a floor, and said feeding head being inclined downwardly at an angle between approximately 20° and 50° with respect to the horizontal whereby said wire merges smoothly with the floor after it is fed from said feeding head.

3,262,624

APPARATUS FOR CONTINUOUSLY PRODUCING WELDED TUBING

Helmut Benteler, Bielefeld, and Wilfried Vogel, Paderborn, Germany, assignors to Benteler-Werke AG. Werk Neuhaus, Paderborn, Germany

Filed Oct. 2, 1963, Ser. No. 313,248
Claims priority, application Germany, Oct. 4, 1962, B 69,082
13 Claims. (Cl. 228—17)



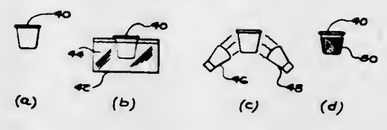
1. In an apparatus for continuously producing small section welded tubing of relatively considerable wall thickness, in combination, a cold rolling reducing mill including a series of sets of rolls for reducing the diameter of a welded tube advancing continuously through said reducing mill, the latter tensioning and stretching said tube while longitudinally advancing the same; welding means located along the path of movement of said tube in advance of said reducing mill for welding together the edges of a slotted tube, said welding means including rolls for advancing said edges toward each other and for forming from said slotted tube a tube of substantially circular cross-section, said rolls being freely rotatable and said reducing mill pulling said tube through and beyond said welding means; and a bending or roll-forming mill located along the path of movement of said tube in advance of said welding means for continuously converting a flat metal strip moving into said bending mill into said slotted tube, said bending mill including a plurality of sets of forming rolls in serial arrangement, and means for causing at least one pair of said forming rolls to apply a drag to said strip being formed, said drag being produced by said means causing the speed of said strip passing between said forming rolls to be smaller than that of said welded tube passing between the first set of said series of sets of rolls of said reducing mill.

3,262,625

INSULATING SURFACES

David A. Russell, Springfield, and Edgar E. Hardy, Longmeadow, Mass., assignors to Monsanto Company, a corporation of Delaware

Filed Apr. 12, 1963, Ser. No. 272,540
15 Claims. (Cl. 229—1.5)



1. A plastic article of manufacture having an improved combination of insulating and structural characteristics, said plastic article having at least one wall with substantially parallel opposing surfaces, said wall being composed throughout of a substantially thermoplastic material which comprises a foamed polymer portion extending from within the body of said thermoplastic material to one of said opposing surfaces and a non-expandable polymer portion integrally connected to said foamed polymer portion.

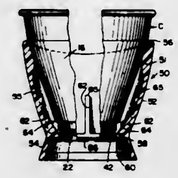
3. The structure of claim 1 wherein the article of manufacture is a container.

3,262,626

CUP

Paul Davis, Beverly, Mass., assignor to Sweetheart Plastics, Inc., Wilmington, Mass., a corporation of Maryland

Filed Sept. 25, 1963, Ser. No. 311,509
9 Claims. (Cl. 229—1.5)

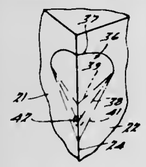


1. A thin wall, integral, thermoplastic insert drinking cup for use with a cup holder, comprising

a side wall having upper and lower sections,

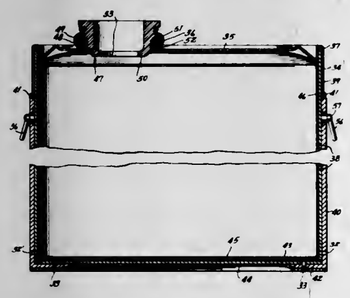
the upper of said sections being upwardly flared at an angle substantially less than the upward flare of the lower section,
a rolled rim provided at the top of the upper side wall section,
a generally cylindrical wall connected to the bottom of the side wall,
an inwardly extending flange provided at the bottom of the cylindrical wall,
a second generally cylindrical wall connected to the inner edge of the inwardly extending flange and with the inner diameter of the upper end of one of said cylindrical walls being smaller than the outer diameter of the bottom of said one wall,
and a bottom wall joined to the bottom of the second cylindrical wall.

3,262,627
POURING SPOUT
David A. Kersh and Irving Kersh, both of 18411 Greenlawn, Detroit, Mich. 48221
Continuation of application Ser. No. 169,373, Jan. 29, 1962. This application Aug. 12, 1964, Ser. No. 390,263
2 Claims. (Cl. 229—7)



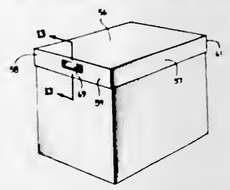
1. In a container having two adjacent sides forming a corner edge, said container having at least two sets of score lines extending from a point on each side downwardly across the corner edge in spaced relation to each other, the container material being cut through said corner edge to said points forming a cut edge, said cut edge and the topmost of said score lines comprising a pouring spout portion, the topmost of said score lines forming the bottom of the pouring spout portion, and one or more additional sets of score lines, extending downwardly from said points, between said first two sets of score lines for producing a greater flexibility and hinge effect to permit the inward movement of the bottom of the pouring spout portion.

3,262,628
SHIPPING CONTAINER
Jerome S. Heisler, Eric Glenn, and Anthony J. Starr, Wilmington, Del., assignors to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Filed Jan. 9, 1963, Ser. No. 250,360
5 Claims. (Cl. 229—14)



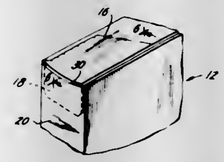
1. A shipping container that is highly resistive to rupture when subjected to severe drop tests and rough handling, and yet is constituted of light, relatively inexpensive materials, said container comprising an outer casing, and an inner container separate from said casing except at the outlet for the liquid contained therein, the body of said outer casing being composed of a plurality of convolutely wound layers of kraft paper bonded together to form a rigid multi-ply, annular tube, a rigid disc-shaped top wall and a rigid disc-shaped bottom wall closing the ends of said casing body, said bottom wall at least having its peripheral edge portion disposed at right angles to the annular wall of said casing body to form a right angled juncture therebetween, an annular member permanently secured to each end of said casing body and permanently connecting the periphery of an associated end wall to said casing body, said top wall being provided with at least one outlet opening, said inner container consisting of a seamless, molded, single piece of plastic material formed to provide an annular body portion, and top and bottom walls integrally joined to the ends of said body portion by top and bottom rounded end portions, of which the bottom one at least is curved in cross-section through 90°, and the plastic material of said container being of a thickness such that the inner container cannot per se be used to transport liquid in interstate commerce, the body of said closed inner container conforming in shape to the interior of said casing with the bottom rounded end portion at least of said inner container spanning the right angled juncture of said casing bottom wall and body, and providing a cushion against shock impact on the bottom edge of said outer casing of sufficient effectiveness to protect the product holding ability of said inner container even when such bottom edge of the outer casing is ruptured by such shock impact, and said inner container having at least one outlet integral therewith and extending up through the outlet opening in said top wall, and means on said outlet for locking the latter to the rigid material forming the edge of the outlet opening.

3,262,629
CONTAINER FOR BULK GOODS
Bernard A. Murphy and Edward A. Kocsis, Erie, Pa., assignors to Inland Container Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Dec. 4, 1964, Ser. No. 416,048
4 Claims. (Cl. 229—14)



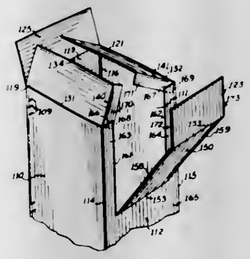
1. A container assembly adapted for receiving bulk materials comprising a flexible bag, a rigid tube encircling said bag intermediate its ends, said tube being formed by two U-shaped panels of corrugated board overlapping at their end areas and fastened to each other at the areas of overlap, the outer surfaces of said bag being fastened to the adjacent encircling surfaces of said tube, said tube panels being transversely scored to permit flattening of the tube and its erection into a polygonal configuration, an outer sheath formed of a panel of corrugated board joined together at its end margins and encircling said tube, said sheath panel being transversely scored to permit flattening of said sheath and its erection into a polygonal configuration corresponding to the polygonal configuration of said tube, said tube having the outer faces of two of its adjacent side surfaces fastened to the adjacent inner faces of two of the corresponding side surfaces of said sheath, the tube being oriented with respect to said sheath so that the said transverse scoring of said tube is inboard of and out of register with the said transverse scoring of said sheath, whereby the entire assembly may be shipped or stored in a relatively flattened condition and erected as a unit to a multiple walled, polygonal configurated container with said flexible bag constituting a liner for the container.

3,262,630
BOX WITH POUR OPENING
Stanley R. Koolnis, Sparta, N.J., assignor to Kapak, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,434
16 Claims. (Cl. 229—17)



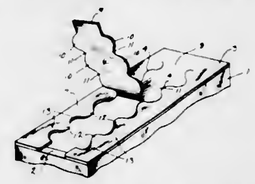
1. A box having a reclosable pour opening, said box being formed of a single piece blank cut and creased and folded to provide main and side panels, a bottom, and overlying top flaps, the upper top flap being perforated and ceased to provide the upper layer of a closure which has a hinge crease, the subjacent flap being perforated to provide the lower layer of said closure, the free end of said lower layer projecting well beyond the upper layer to provide a hinged tuck tab which is initially outside the box but on reclosing is received inside the box, said upper layer projecting slightly beyond the hinge of the tuck tab to provide a top stop when reclosing and which serves also as a finger catch when opening the closure.

3,262,631
CONTAINER PROVIDED WITH AN ACCESS DOOR
Samuel P. Belsinger, 2637 Peachtree Road NE., Apt. 101, Atlanta, Ga.
Filed Oct. 23, 1962, Ser. No. 232,463
9 Claims. (Cl. 229—37)



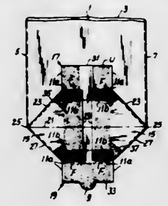
1. A substantially rigid, generally rectangular, fiber board shipping container provided with a substantially rigid, generally rectangular, pivotally movable access door including, pairs of opposed side panels at least one of said side panels including spaced longitudinally extending cuts, inwardly spaced from the sides of said panel, extending from parallel points intermediate the top and bottom of said panel to the top of said panel and a transverse score line joining the lower ends of said cuts, said cuts and score line defining an integral access door pivotally movable, on said score line within the confines of said panel to and from the plane of said panel.

3,262,632
RECLOSEABLE FASTENER
Frederick W. Brady and Edmund A. Ferris, Chippewa Falls, Wis., assignors of twenty-four one-hundredths to Lester S. Clemons, Milwaukee, Wis., twenty-four one-hundredths to Richard R. Teschner, Mequon, Wis., and four one-hundredths to Arthur H. Seidel, Milwaukee, Wis.
Filed Sept. 17, 1964, Ser. No. 397,223
12 Claims. (Cl. 229—51)



1. In a closure for a container the combination of: a border member with spaced opposing edges that define an opening for the container, each edge having an undulating geometry that provides projections and recessions about said opening, and said border member also having a ledge beneath the edges which juts into said opening a short distance beyond the edges; a replaceable cover member of pliable sheet material that mates snugly with the edges of said border member and having undulating edges which have projections and recessions matching those of said border member; the projections of one member having inward and downward bevels and the projections of the other member having outward and downward bevels; and the recessions of each member having bevels that match those of the projections of the other member with which they mate, whereby outward and downward beveled edges on said cover member can be snapped past the mating edges of the border member and held between said ledge and the beveled edging of the border member.

3,262,633
BAG
Jerome G. Leer, Minneapolis, Minn., assignor to Bemis Company, Inc., a corporation of Missouri
Filed June 8, 1964, Ser. No. 373,247
1 Claim. (Cl. 229—59)



A paper bag formed from a flat bag tube provided at one end thereof with a first group of slits through both walls of the tube adjacent a corner of the tube at said one end of the tube and a second group of slits through both walls of the tube adjacent the other corner of the tube at said one end of the tube, the slits in each group extending inward from said one end of the tube, a portion of one wall of the tube at said one end of the tube being folded back on a transverse fold line spaced inward from the inner ends of the slits and also folded on lines extending at an angle of 45° from points on the side edges of the tube to the inner ends of the innermost slits in said one wall, and a portion of the other wall of the tube at said one end of the tube being folded on lines extending at an angle of 45° from said points to the inner ends of the innermost slits in said other wall so

that the bag has inwardly directed end flaps each having a triangular section and a rectangular extension at the inner end of the triangular section, and first and second side flaps, the rectangular extension of one of said end flaps having the slits of the first group at opposite side margins thereof and the rectangular extension of the other end flap having the slits of the second group at opposite side margins thereof whereby the opposite side margins of each rectangular extension are fringed, one side flap and the respective fringed side margins of the rectangular end flap extensions being folded over on a transverse fold line spaced inward from the respective side edges of said rectangular extensions to overlie the end flaps and being adhered thereto, the other side flap and the respective fringed side margins of the rectangular end flap extensions being folded over on a transverse fold line spaced inward from the respective side edges of said rectangular extensions to overlie said one side flap and being adhered thereto and to the end flaps, the fringed side margins of said rectangular extensions providing for bleeding of adhesive therethrough to the portions of the side flaps overlying said fringed side margins, the side flaps being folded over on transverse lines generally coincident with the outermost slits of the groups of slits.

3,262,634
BAG
Ralph C. Goodwin, Wayzata, Minn., assignor, by mesne assignments, to Bemis Company, Inc., a corporation of Missouri
Filed Sept. 22, 1964, Ser. No. 398,315
10 Claims. (Cl. 229—62.5)



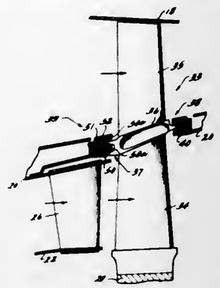
1. A valve bag made of heat-sealable sheet plastic material closed all around its edges except for a relatively narrow slit cut through both walls of the bag extending inward from one edge of the bag generally at right angles to said edge with its outer end open at said edge, and a closure for said slit comprising a piece of heat-sealable sheet plastic material having a fold at said edge and covering said slit with one side of said closure lying against one wall of the bag and the other side of said closure lying against the other wall of the bag, each side of said closure being secured to the respective wall of the bag by a heat seal extending generally parallel to said edge and spaced inward from the inner end of said slit and also by a heat seal on one side of said slit.

3,262,635
TURBOMACHINE SEALING MEANS
Robert J. Smuland, Reading, Mass., assignor to General Electric Company, a corporation of New York
Filed Nov. 6, 1964, Ser. No. 409,405
11 Claims. (Cl. 230—116)

1. In a turbomachine rotor assembly having a rotor member mounted for rotation about an axis and a stator member adjacent said rotor member, sealing means comprising:

(a) an annular honeycomb member mounted on one of said rotor and stator members,

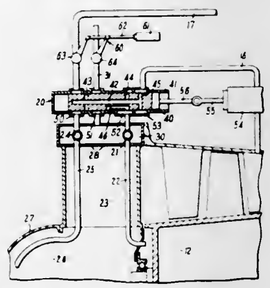
(b) said annular honeycomb member having at least one continuous groove therein, the depth of said groove being perpendicular to the axes of the individual cells comprising said honeycomb member,



(c) and at least one continuous seal tooth on the other of said rotor and stator members projecting therefrom into said continuous groove in said honeycomb member in proximity to the walls thereof,

(d) whereby a double laybrinth seal is formed to effectively seal between said rotor member and said stator member.

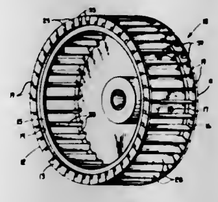
3,262,636
GAS TURBINE ENGINE
Jack Palfreyman, Tansley, near Matlock, England, assignor to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed Aug. 24, 1964, Ser. No. 391,634
Claims priority, application Great Britain, Aug. 30, 1963, 34,485/63
8 Claims. (Cl. 230—132)



1. A gas turbine engine having a de-icing duct, engine components disposed adjacent the de-icing duct, means for passing relatively warm air through said de-icing duct to remove ice from said components, a cooling duct, further engine components adapted to be cooled by air from said cooling duct, means for passing relatively cool air through said cooling duct, and valve means for directing the cooling air through part of the de-icing duct, whereby the cooling air may be cooled.

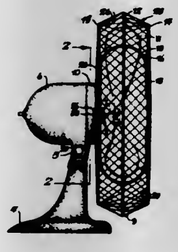
3,262,637
INDIVIDUAL BLADE MOUNTINGS IN A BLOWER WHEEL
Lowell E. Sprouse, Newport, Tenn., and Vernon H. Williams, Columbus, Ind., assignors to Vernco Corporation, Columbus, Ind., a corporation of Indiana
Filed Nov. 4, 1964, Ser. No. 408,865
6 Claims. (Cl. 230—134)

1. A blower wheel comprising a pair of axially-spaced, concentric circular members, each formed to provide an outer region disposed in a transaxial plane and an inner region disposed in a transaxial plane offset toward the other circular member, each circular member further being formed with a series of correspondingly peripherally spaced slots traversing its outer region, and a series of blades, each blade being formed at each end with a tab, said tabs being received respectively in corresponding slots in said respective circular members and bearing against the remote surfaces of the outer regions of said



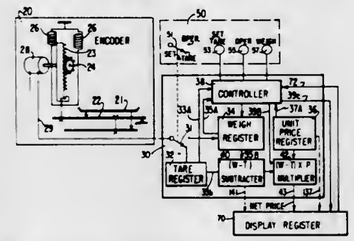
respective circular members, each blade further being formed to provide at each end two distally facing shoulders flanking said tab, said shoulders bearing against the adjacent surfaces of said respective circular members, one shoulder at each blade end engaging the outer region of its associated circular member and the other shoulder at each blade end engaging the inner region of its associated circular member.

3,262,638
OPEN MESH FABRIC FAN GUARD
James V. Militello, Buffalo, N.Y., assignor to American Allsafe Co., Buffalo, N.Y., a corporation of New York
Filed Jan. 20, 1964, Ser. No. 338,811
1 Claim. (Cl. 230—275)



A guard for an electric fan having a base, a motor housing supported by said base and a rigid fan cage including axially spaced outer rings and spoke members securing said rings together and to said motor housing, said fan guard comprising a tube of stretchable flexible open mesh fabric with its central part snugly embracing said outer rings of said fan cage, means holding the annular end edge of said tube remote from said motor housing in a contracted condition to form a radially extending circular wall at the side of said fan cage remote from said motor housing, two convolutions of a single length of string threaded successively through the openings of said open mesh fabric along the annular edge of said tube adjacent said motor housing, said convolutions being in side-by-side contacting relation with each other substantially their entire length, and a loop at the end of one of said convolutions and through which the free end of the other convolution extends to maintain both convolutions in such contacting relation with each other and in; close concentric relation to said motor housing and thereby form a radially extending circular wall at the motor side of said fan guard, the friction between said two convolutions of said string so held by said loop serving to prevent them from enlarging to relax their force holding the fan guard in position.

3,262,639
AUTOMATIC WEIGHING AND COMPUTING AND REGISTERING SYSTEM
Edward C. Karp, 1001 E. Lincoln, Belvidere, Ill.
Filed Feb. 8, 1965, Ser. No. 434,169
8 Claims. (Cl. 235—58)



1. An automatic weighing and computing and registering system for preparing price labels for random weight pre-packaged commodities including, a weighing scale providing a weight signal corresponding to the weight of a package placed thereon, a pricing switch selectively operable for providing a rate signal corresponding to a unit weight price for the commodity to be labelled, a computer responsive to said weight signals and rate signals for providing corresponding price signals, and a register responsive to said price signals for displaying the price of a pre-packaged commodity to be labelled; said computer comprising means for storing the first weight signal from said scale as a reference weight and for sensing each of the subsequent weight signals from said scale as gross weights, and further means for determining the difference between said first weight signal and each of said subsequent weight signals, whereby each price signal furnished to said register corresponds to the net price for the commodity as determined from the gross weight of the pre-packaged commodity and said reference weight.

3,262,640
VARIABLE COURSE APPROACH COMPUTER
Robert Q. Jameson, 3446 Meadow Road, Hapeville, Ga.
Filed Oct. 12, 1964, Ser. No. 403,415
5 Claims. (Cl. 235—78)

1. An approach computer for use by pilots in making a carrier landing comprising:

a back plate,

a transparent front plate attached to said back plate at the top and bottom edges thereof and at two intermediate positions thereby forming a center pocket and first and second end pockets for removably holding data cards,

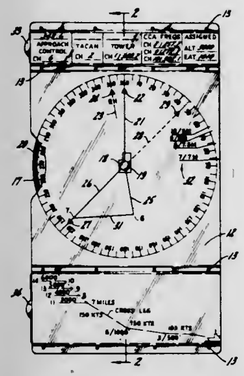
first and second data cards slidably mounted one each in each said end pocket,

a first circular disk rotatably mounted in said center pocket, said disk having a first scale adjacent the outer edge thereof of equal divisions representing compass heading marks from 0 to 360 degrees,

first and second index marks of said transparent front plate adaptable to be aligned with said compass heading marks, said first index mark indicating direction of travel of a carrier and said second index mark indicating runway heading of the canted runway on said carrier,

a third index mark adaptable to be aligned with said compass heading marks for indicating an assigned holding position prior to making a landing, and

a second scale indicating the approximate distance of travel from said holding position to said canted runway by first traveling in a cross-leg direction from

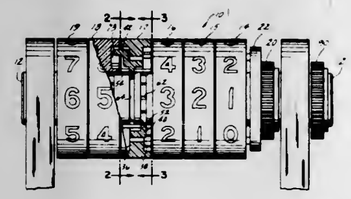


said holding position to a point on said runway heading and then traveling from said point to said canted runway.

3,262,641
COUNTER WITH RESILIENTLY MOUNTED DETENT AND TRANSFER MEANS

Robert Hermann, Hartford, and Joseph J. Ficaro, Wethersfield, Conn., assignors to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut

Filed June 22, 1964, Ser. No. 376,934
2 Claims. (Cl. 235—143)

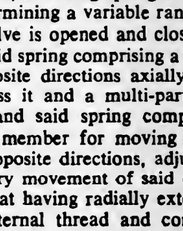


1. A counter comprising a generally cylindrical counter shaft with a plurality of axially spaced circumferentially extending grooves forming a plurality of axially spaced detent cams of reduced diameter and a plurality of axially spaced transfer cams of reduced diameter, a plurality of coaxial counter wheels of unitary construction rotatably mounted on the counter shaft in side-by-side contiguous relationship, the counter wheels having integrally formed transversely resilient detent pawls received in the grooves forming the detent cams respectively to assist in axially retaining the counter wheels against axial displacement on the counter shaft, the detent pawls being in resilient engagement with the detent cams respectively to provide detents for restraining the counter wheels against angular displacement on the counter shaft, and transfer means between adjacent higher and lower order counter wheels including ratchet means with angularly spaced teeth integrally formed on the higher order counter wheels and transversely resilient ratchet pawls integrally formed on the lower order counter wheels and received within the grooves forming the transfer cams of reduced diameter to assist in axially retaining the counter wheels against axial displacement on the counter shaft, the ratchet pawls being in resilient engagement with the transfer cams respectively for generating transfers to higher order counter wheels respectively, and the detent and ratchet pawls being substantially diametrically opposed to provide for preventing the counter wheels from cocking on the counter shaft.

3,262,642
THERMOSTATICALLY CONTROLLED VALVE AND REGULATOR

Helmar Trøst Nielsen, Nordborg, and Knud Aage Hansen, Sonderborg, Denmark, assignors to Danfoss Ved ing. M. Clausen, Nordborg, Denmark, a company of Denmark

Filed Dec. 17, 1963, Ser. No. 330,899
Claims priority, application Germany, Dec. 20, 1962, D 40,561
1 Claim. (Cl. 236—99)

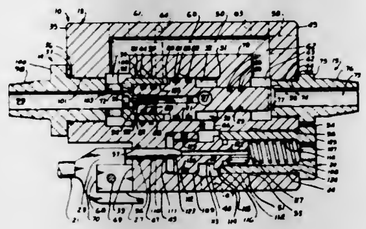


A valve regulator for a thermostatically-controlled valve having a valve member operable to a first position closing said valve and to a second position opening the valve, the valve regulator comprising means for connection in operation to said valve member for opening and closing said valve over a range of temperatures and comprising temperature-responsive valve actuator means comprising an extensible and contractible element operably connected in operation to said valve member to actuate it to said positions, a loading spring cooperative with said element for determining a variable range of temperatures at which said valve is opened and closed, means to variably compress said spring comprising a seat for said spring movable in opposite directions axially of said spring to variably compress it and a multi-part housing for said valve actuator and said spring comprising a rotatable housing control member for moving said seat for said spring in said opposite directions, adjustable stop means for limiting rotary movement of said control member to one turn, said seat having radially extending means having a coarse external thread and comprising a central portion having surfaces for displacing said stem means in a direction for actuating said valve member to said first position, said housing member having an internal thread complementary to the first mentioned thread for variably positioning said spring seat, and said radially extending means and thread being dimensioned to cause upon rotation of said housing control member an angular distance no greater than one turn travel of said spring seat through a range of positions corresponding to the range of temperatures at which said valve is opened and closed, said actuator comprising means comprising a cup-like member defining a chamber for container a temperature-responsive fluid therein, said extensible and contractible element being disposed internally of said chamber for contraction and extension in response to pressure variations developd in said chamber in dependence upon temperature variations, and said housing control member having a portion thereof bearing on said cup-like member for holding it in axial position, said stop means comprising a band mounted on said control member and positionable angularly selectively to different fixed angular positions relative to said control member, and said band having indicia for visually indicating, temperatures in which said operator operates, whereby said operator is calibratable after assembly thereof on a valve to be controlled.

3,262,643
HAND HELD TWO-WAY VALVE FOR DIVERTING FLUID WHILE MAINTAINING CONSTANT LINE PRESSURE

Clement B. Kluppel, Houston, Tex., assignor to Ka-Cy Manufacturing Co., Inc., Houston, Tex., a corporation of Texas

Filed Mar. 31, 1964, Ser. No. 356,206
5 Claims. (Cl. 239—11)



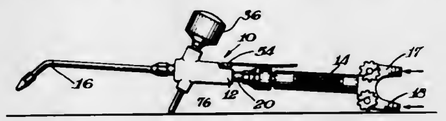
1. A two-way valve comprising a body providing a main axial cavity extending from inlet into outlet from said cavity, a plunger having successively sealably slidable in said main axial cavity a forward shank, a plunger flange of larger diameter than said forward shank, and a rear shank of lesser diameter than said forward shank, terminating in a plunger valve element, whereby said main axis cavity is divided into a forward chamber and an after chamber, a vent from said forward chamber outwardly through said body, a high pressure fluid by-pass flow passage in said body from said main axial cavity upstream, to said main axial cavity downstream of said plunger and providing a plunger valve seat in said outlet, a passage in said plunger from forward end to communicate with said rear chamber and providing an inlet orifice thereinto, a relief axial cavity extending through said body and providing a spool valve seat therein, a spool valve in said relief cavity having an axial passage therethrough providing forwardly a control pin valve seat, said spool valve including successively a spool head forwardly sealably slidable in said relief axial cavity, a reduced diameter portion to provide a fluid space thereabout, and a flanged spool valve element of lesser diameter than said spool head, said spool head having a bleed passage from said space forwardly therethrough, a connection port between said rear chamber and said space, a control pin sealably slidable forwardly in said relief axial cavity with inner end comprising a valve element, and a handle held manually to hold said pin seated rearwardly thereby to seat said spool valve whereby fluid pressure differential maintains said plunger unseated for high pressure fluid delivery through said main axial cavity outlet, upon handle release fluid pressure unseating said pin and fluid pressure differential seating said plunger and unseating said spool valve so that high pressure fluid is urged through said orifice to pass as pressure relieved fluid out of said relief axial passage.

3,262,644
FLAME SPRAYING TORCH

Donald C. Schilling, Fairview Park, Ohio, and Frank G. Lohnes, Glen Cove, and John P. Broderick, Queens, N.Y., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

Filed Dec. 21, 1964, Ser. No. 420,025
6 Claims. (Cl. 239—85)

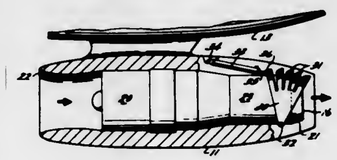
1. A flame spraying torch comprising a gas injecting assembly having connecting means for attachment of a source of combustible gas, a tip section disposed at the front of said torch, a powder injecting section connected between said tip section and said gas injecting assembly for entraining powder within the burning gases discharged from said torch, mounting means on the top of said powder injecting section for mounting a powder container at a backawardly inclined angle from the vertical, and support retaining means at the bottom of said powder injecting section for disposing a support substantially parallel to and adjacent said container whereby said container and said support are in a vertical position when said torch and said tip section are directed downwardly upon a surface being coated to dispose the center of gravity of said torch above said support.



3,262,645
THRUST VECTORING AND MODULATING APPARATUS

Lester Bernard Veno, Jr., East Weymouth, Mass., assignor to General Electric Company, a corporation of New York

Filed Dec. 30, 1963, Ser. No. 334,479
4 Claims. (Cl. 239—265.19)



1. Thrust vectoring and modulating apparatus for aircraft having gas generating means, said apparatus comprising:

(a) a duct for supplying exhaust gases from the gas generating means to an outlet for producing axial thrust,

(b) a cascade of spaced louvers mounted for movement through a range of positions, said range of positions having as end positions a retracted position in which said cascade is fully retracted from and out of communication with the steam of exhaust gases issuing from said outlet and an immersed position in which said cascade extends entirely across the stream of exhaust gases issuing from said outlet,

(c) and actuating means connected to said cascade for positioning said cascade within said range of positions,

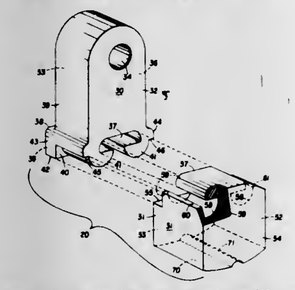
(d) each of said louvers contoured for deflecting the exhaust gases and thereby reducing the axial thrust,

(e) the total amount of thrust reduction being determined by the position of said cascade within said range of positions, the amount of thrust reduction increasing with movement of said cascade toward said immersed position and decreasing with movement toward said retracted positions,

(f) said louvers disposed at all times such that the net force exerted on said cascade by the stream of exhaust gases is sufficient to and is in a direction to move said cascade to said retracted position in the event of failure of said actuating means,

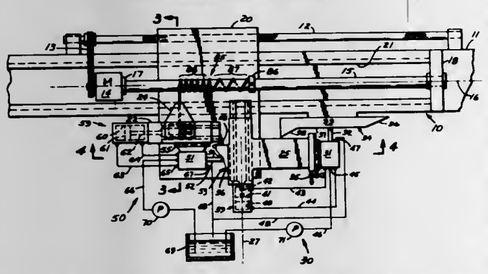
(g) whereby the net axial thrust produced is modulated by varying the position of the cascade within said range and whereby maximum axial thrust is restored in the event of failure of said actuating means.

3,262,646
HAMMER FOR HAMMERMILL
Harold C. Pollitz, Cedar Rapids, Iowa, assignor to Iowa Manufacturing Company of Cedar Rapids, Iowa, Cedar Rapids, Iowa, a corporation of Iowa
Filed Dec. 26, 1962, Ser. No. 247,232
9 Claims. (Cl. 241—197)



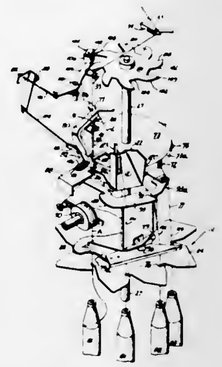
1. A hammer for use in a hammer mill comprising a hammer arm mountable adjacent one end for swinging movement in a first plane and a replaceable hammer tip removably secured radially outwards from the other end of said arm by means preventing detachment of said tip from said arm in a direction radially of the latter, said means including a slideably interlocking joint between the respective adjacent radially disposed ends of said arm and tip, said joint being formed by a contoured arm portion and a complementarily contoured tip portion, each of said portions being formed integrally with respectively said arm and tip so that said joint extends substantially across said arm and tip in a direction transversely of said first plane and being slideable with respect to each other in said last named direction in order to detach said tip from said arm, one pair of the respective opposite transverse ends of said portions being open to permit slideable disengagement of said portions and each of the other pair of the respective opposite transverse ends of said portions being closed by an end wall formed integrally therewith, said end walls forming the maximum transverse dimensions of said hammer relative to said first plane.

3,262,647
VARIABLE PITCH COIL WINDING DEVICE
Daniel E. Harrison, Arcadia, Calif., assignor to True-Trace Corporation, El Monte, Calif., a corporation of Connecticut
Filed July 25, 1963, Ser. No. 297,504
5 Claims. (Cl. 242—9)



1. In a coil winding machine having a bed, and a mandrel having an axis, said mandrel being mounted to the bed for rotation around its axis, the improvement comprising: a first carriage movably mounted to the bed; a second carriage movably mounted to the first carriage, the said first and second carriages being mounted for motion parallel to the axis of the mandrel; a wire-paying means mounted to said second carriage, whereby constant relative motion between the mandrel and the first carriage, without relative motion between the first and second carriages, results in winding of a coil of constant pitch on the mandrel; and control means interposed between the bed and the second carriage adapted to move the second carriage relative to the first carriage to vary the pitch of the coil wound on the mandrel, said control means comprising a third carriage mounted to the first carriage, said third carriage being adapted to move laterally relative to the axis of the mandrel, contour-responsive means for moving the third carriage relative to the first carriage, and contour-responsive means for moving the second carriage relative to the first carriage.

3,262,648
HIGH SPEED WINDER
Richard D. Livingston, Rockford, Ill., assignor to Barber-Colman Company, Rockford, Ill., a corporation of Illinois
Filed Apr. 13, 1964, Ser. No. 359,070
22 Claims. (Cl. 242—35.6)

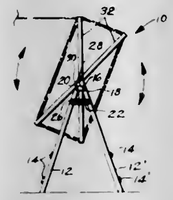


1. In a winding machine, the combination of, a magazine mounted for indexing about an upright axis and supporting an active bobbin in an unwinding position and adjacent first and second reserve bobbins in spaced relation, means guiding the thread of the active bobbin upwardly along a predetermined path, means holding the thread of the first reserve bobbin in the form of an inverted loop having a short leg lying alongside said path, means hanging up a short unwound length of the second reserve bobbin thread on the magazine with the thread extending upwardly from its bobbin, means for indexing said magazine step by step to carry the reserve bobbins successively to the active winding position, a knotter disposed adjacent said path below the closed upper end of said loop and above the level of said hung-up first reserve thread and operable when actuated to tie the running thread and said short leg together for continuing the winding off from the first reserve bobbin, means responsive to breaking of said running thread to actuate the knotter and initiate indexing of said magazine, and mechanism operable automatically during such indexing to convert said second reserve thread into an inverted loop similar to said first loop and dispose the leading short leg of such second loop along said path in the position formerly occupied by the short leg of said first loop.

3,262,649
YARN REEL AND STAND
Arvel C. Beam, 106 W. 2nd St., Cherryville, N.C.
Filed July 13, 1964, Ser. No. 382,107
1 Claim. (Cl. 242—54)

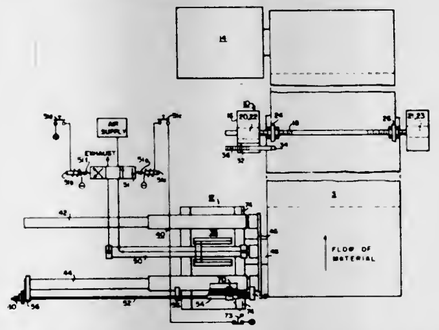
A yarn reel and stand device comprising, a pair of A-shaped collapsible leg members, an X-shaped collapsible reel supported on said leg members, a pair of rectangular

plate members carried by said leg members for providing hinge means for folding said leg members, an elongated latch member carried by said leg members for providing rigid stability for said leg members when said stand is in an expanded position, cross members secured to said leg members for imparting rigidity to said members, the upper extremities of said leg members being provided with U-shaped openings, a shaft member secured to each side of said reel, each of said U-shaped openings adapted to receive the outer portion of said shaft member, at least one plate for providing hinge means for said leg members, a plurality of bolts for securing said leg members to one end of said plate, a pivot pin on the other end of said plate adapted to be received by the opposite side of said



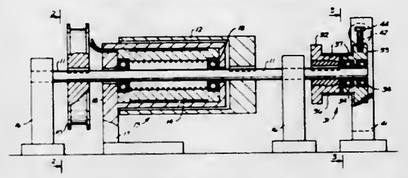
leg member thereby allowing the upper extremities of said leg members to pivot in such a manner that said members may be folded together for storage or transport, a latch member having an elongated U-shaped slot, pin members extending at right angles from said leg members, said pin members being adapted to be received within said slot thereby providing slideabie and pivotable means for locking said legs at one side of said stand, a central cross member positioned within said reel and the upper extremities of said leg members, and a shaft secured at each end of said central cross member protruding through the frame members of said reel and being rotatably supported by said U-shaped openings at the upper extremity of each of said leg members.

3,262,650
MEANS FOR LATERALLY POSITIONING ROLL OF WEB MATERIAL RELATIVE TO SLITTER BLADES
Erasmus A. Randich, McCandless Township, Allegheny County, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed Nov. 12, 1964, Ser. No. 410,652
11 Claims. (Cl. 242—56.2)



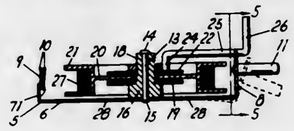
1. Apparatus for cutting a strip of material comprising a shearing device having at least one selectively positionable set of cutting knives, a mounting device for supporting the strip of material for entrance to the shearing device, said mounting device including edge positioning means to locate one edge of the strip, means to move at least one of said devices laterally to change the entry position of said strip material with respect to a given position of each cutting knife set, first indicia means disposed to indicate the position of said edge positioning means and second indicia means disposed to indicate the position of at least one of said sets of cutting knives and to correlate the position thereof with the position of said positioning means.

3,262,651
DEVICE FOR TENSIONING TAPE AND REDUCING SLACK
Clifford W. Henderson, Princeton Township, Mercer County, and Frederick J. Jannett, West Millington, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 12, 1964, Ser. No. 388,992
6 Claims. (Cl. 242—75.5)



1. A device for dispensing material of indefinite length under tension and for taking up slack in the material upon release of such tension, comprising:
a shaft,
a material supply reel mounted for rotation with the shaft in a forward direction when material is pulled therefrom,
means for urging the shaft to rotate in the reverse direction to tension the material pulled from the reel,
a clutch for permitting the shaft to rotate with the reel in the forward direction while prohibiting the shaft from rotating in a reverse direction relative to the clutch, and
means for permitting a predetermined amount of rotation of the clutch in the reverse direction when tension on the material is released to permit the shaft and the reel to rotate a predetermined amount in the reverse direction to take up slack in the material,

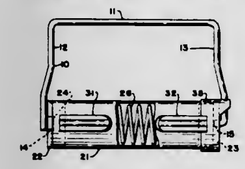
3,262,652
FISHING REEL
Thomas E. Way, 415 Idaho, Kalamazoo, Mich.
Filed Oct. 4, 1963, Ser. No. 314,015
6 Claims. (Cl. 242—84.5)



3. A reel mount for a fishing pole comprising a base of elongated flexible material attachable to a pole and having an upturned rear end,
a release finger piece secured to and projecting behind said rear end,
a journal secured to said base and projecting thereabove,
a reel having a hub rotatably mounted on said journal and having an upwardly facing shoulder above said base,
a reel retaining nut removably threaded on the upper part of said hub,
and a crank secured to said nut and extending radially therefrom beyond said rear end,

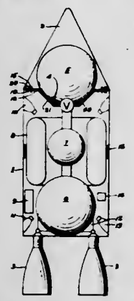
said rear end of said base having a notch in its upper edge adapted to receive said crank in one rotated position of the crank and hub.

3,262,653
LOCK FOR SAFETY BELT TAKE UP REEL
Richard Laupot, New York, N.Y., assignor to Retract-A-Belt Corp., a corporation of New York
Filed Aug. 21, 1964, Ser. No. 391,199
2 Claims. (Cl. 242—107.11)



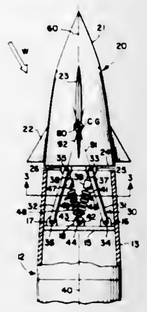
1. A lock for a safety belt take up reel, said take up reel comprising a yoke having a top portion and side portions extending downward from said top portion, a cylindrical reel body having two ends, means rotatively securing said reel body between said side portions of said yoke, spring means rotating said reel body within said yoke, and arms extending radially outward, and inward from the ends of said reel body to secure a safety belt to said reel body; said lock comprising a ring slipped over one end of said reel body, said ring containing an opening through which a side portion of said yoke may pass, said ring having inner and outer edges, said inner edge of said ring being formed to extend past one of said arms of said reel body to engage the arms, said ring having a projection extending from said outer edge a distance from said opening, said outer edge of said ring between said projection and said opening being adjacent to one of said side portions of said yoke, said projection being forced against the side portion of said yoke.

3,262,654
SPACE RENDEZVOUS APPARATUS AND METHOD
Charles E. Kaempen, 3202 Larkstone Drive, Orange, Calif.
Filed Aug. 30, 1963, Ser. No. 305,630
11 Claims. (Cl. 244—1)



1. An apparatus for effecting an in-transit space rendezvous comprising first and second connected units arranged in axial alignment, separation means for selectively disconnecting said second unit from a docking face arranged at a forward end of said first unit, said docking face constructed and arranged to form a dish-shaped configuration comprising conically-shaped ramp portions terminating in a base portion, said ramp and base portions adapted to automatically center and positively seat a unit which is coupled thereto in lieu of said second unit, thrust means operatively connected on an aft end of said first unit for selectively propelling said units, a first tank arranged in said second unit adapted to retain a first liquid fuel therein, second and third tanks arranged in said first unit adapted to retain a liquid oxidizer and second liquid fuel therein, respectively, and means arranged for initially communicating said first and second tanks and said thrust means when said first and second units are maintained in connected relationship and further arranged for automatically cutting off communication between said first and second tanks and communicating said second and third tanks and said thrust means in response to disconnecting said first and second units from each other.

3,262,655
ALLEVIATION OF DIVERGENCE DURING ROCKET LAUNCH
Warren Gillespie, Jr., Houston, Tex., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Dec. 26, 1963, Ser. No. 333,766
14 Claims. (Cl. 244—1)



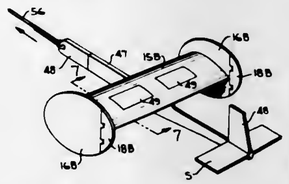
2. A connection for a booster and payload of a space vehicle comprised of:

link means pivotally secured to a payload and a booster;

the extended longitudinal centerlines of said links crossing at the center of gravity of said payloads; and

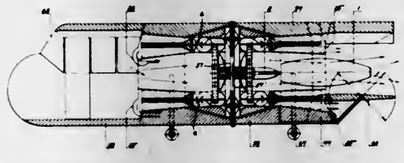
stabilizing means attached to said link means and to said booster, whereby the moment caused by transverse aerodynamic forces that is applied to said booster is reduced.

3,262,656
WING ROTORS
Gabriel Dominique Boehler and William Frederick Foshag, Washington, D.C., assignors to Aerophysics Company, Washington, D.C., a corporation of the District of Columbia
Filed Oct. 21, 1964, Ser. No. 405,420
23 Claims. (Cl. 244—10)



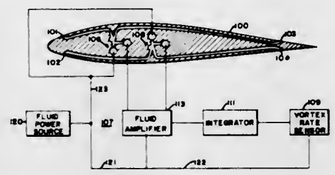
1. A convertible-in-flight aircraft, comprising a wing conformed for autorotation about a span-wise axis transverse to its line of flight and having its center of gravity located to induce autorotation of said wing by aerodynamic action incident to its motion through the air along said line of flight; stabilizing means carried by said wing for causing same to fly as a fixed wing, and means for selectively rendering said stabilizing means inoperative to initiate autorotation of the wing.

3,262,657
VTOL SHORT HOP AIRCRAFT
Leif Anker-Holth, Oslo, Norway (% Sonya and Geo. Goforth, 15943 Londelius St., Sepulveda, Calif.)
Filed Apr. 29, 1965, Ser. No. 452,462
Claims priority, application Norway, Jan. 25, 1965, 150,234, Patent 157,489
9 Claims. (Cl. 244—23)



1. An aircraft having a fuselage, two somewhat identical fans, two somewhat identical rotors, a power source, a gear box, a transmission, a rudder, an elevator, a fuel tank, controls, in a combination with one or more units consisting of a horizontally disposed duct, extending medially through a larger vertical duct, thereby dividing the latter in two, forming a half-moon downwash on each side of said horizontal duct, all three ducts having free and open inlets and outlets for directing three independent airstreams, one rearwardly and two downwardly, respectively, said ducts having a common center of gravity, located substantially in the center relative to said inlets and outlets, with two somewhat identical counter-rotating fans located equidistant forward and aft of said center, directing the air rearwardly in said horizontal duct, with two somewhat identical counter-rotating rotors equidistant from said center vertically, directing the air downwardly in said half-moon ducts, said rotors and fans being activated by an adequate power source, said rotors having each a large diameter hub supporting a plurality of hollow lightweight blades, tangentially and rotatively secured to a horizontal circular, flat-rim platform, which is a part of said hollow hub, permitting said fans to extend up inside said hubs to deliver ram-air through the hub-annular openings into the hollow blades, where, meeting with resistance offered by air already in the trailing edge of the blade, having entered along the underside aerodynamic-line channel, the latter slower-moving air activated by the weight of the aircraft and the centrifugal force of rotation, while the hub air entering the blade, follows along the leading edge, speeding up the trailing edge air to exit together at the tip trailing edge on a slant downwardly as a combined downwash directed by the curved walls of said half-moon ducts, to form a pillow of air beneath the aircraft, existing with a slower-moving inner downwash from the outside of said rotor blades, the total downwash tending to steady the aircraft laterally, while producing lift, said horizontal duct having curved sides, diverging outwardly past said fans from centerline to inlet and outlet, with sides of said duct having a some-what fan-shaped channel, leading in a somewhat horizontal line to the foremost fan, and a somewhat similar channel leading from the rear fan in a somewhat horizontal line of said duct, whereby air is drawn through said fan being directed between said fans, to exit aft of said duct, after passing over and under passing rotor blades in front under the hub medially, and over and under said passing blades of said rotor, whereby the horizontal airstream from said fans meets with the greatest resistance when the rotor blades are at maximum pitch, thereby greatly augmenting the lift, said horizontal duct having a longitudinal beam extending medially across top and bottom with room for rotors between duct and beam, top and bottom, with supporting uprights forward and aft of inlet and outlet, respectively, with said vertical stator supporting tube medially disposed to make a rigid framework supporting said medially located gear box in said duct, and said transmission between said gear box and beams above and below, said elevator acting as a single unit for nose up or down attitude change in conjunction with said vertical rudder, hinged to said stator tube and extending under said duct rearwardly, immediately above said lower beam, or dispensing with said rudder and using a double or split-fan shaped elevator, which combines lateral attitude control with directional, using standard means of control.

3,262,658
CONTROL APPARATUS FOR AIRCRAFT
Richard J. Reilly, St. Paul, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Feb. 6, 1964, Ser. No. 343,088
12 Claims. (Cl. 244—42)



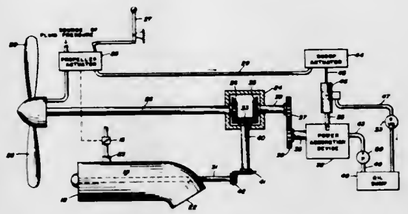
1. In an aircraft, of the class described comprising,

an airfoil having a surface, the surface having a boundary layer associated with a negative pressure gradient area and a normal velocity separation point; and

a source of fluid;

means responsive to a flight condition of said aircraft and connected both to said source of fluid and to said airfoil so as to cause fluid to flow through ports directed upstream of said surface into the boundary layer toward the front of the airfoil in the negative pressure gradient area to induce turbulence to move the velocity separation point forward and to alter the pressure on the surface generally perpendicular to the area.

3,262,659
THRUST CONTROL APPARATUS
John E. Copeland, Dunwoody, Ga., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Apr. 29, 1964, Ser. No. 364,067
23 Claims. (Cl. 244—42)



1. In combination with an aircraft having a turbo-jet engine, said engine having a compressor and turbine operatively connected together, a turbine output shaft extending from said turbine, the improvement comprising, reduction gear means having at least an output shaft, air bleed means connected to said compressor,

boundary layer forming means receiving air from said bleed means and supplying said bleed air to the wing surfaces,
said engine output shaft being coupled to reduction gear means,
said reduction gear means output shaft having a variable pitch propeller mounted thereon,
power absorbing means operatively connected to said reduction gear means,
control means for varying the amount of power absorbed by said power absorbing means,
whereby the r.p.m. of said engine may be increased thus providing a greater amount of bleed air which may be used to increase the lift coefficient while the r.p.m. of said propellers may be maintained at a constant r.p.m. by means of said power absorption means.

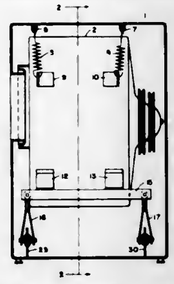
3,262,660
ONE PIN BACK STYLE PERSONNEL PARACHUTE
John H. Morrell, Leominster, and Oliver D. Letourneau, Westford, Mass.
Filed Sept. 4, 1964, Ser. No. 394,637
3 Claims. (Cl. 244—148)



1. A parachute pack, harness and vest assembly comprising a generally cloverleaf shaped pack, the assembled shape of which is dictated by any contents thereof, single pin release means for said pack, a vest, means for joining said vest to said pack at the shoulder blade area of said vest, a pair of intersecting channels having walls formed by a portion of said pack and vest, said walls being defined by said means for joining said vest to said pack, harness means secured to said vest and having a portion extending through said channels, and means on said harness for releasing said single pin release means to cause said cloverleaf pack to expose any contents therein to the airstream at the shoulder blade level of said vest.

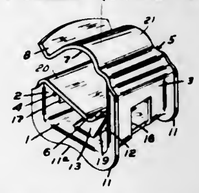
3,262,661
DAMPING SYSTEM FOR WASHING MACHINES
Leslie A. Johnson and William A. Wasemann, both of Mansfield, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 30, 1964, Ser. No. 363,828
7 Claims. (Cl. 248—18)

1. In a device wherein a shell containing moving means is mounted within a housing and wherein said moving means is subject to various modes of vibration due to fortuitous imbalance thereof, means for mounting said shell within said housing comprising a plurality of springs for suspending said shell and a plurality of links connected between said shell and said housing, a fin for each said link fixed to said housing, a pair of friction shoes on each said link astraddle each said fin, each said link including spring means associated therewith for holding said friction shoes firmly against said fin, a pivot pin for each said link channel bar means attached to said shell for mounting said pivot pins, a resilient material gasket about



each said pivot pin and a bracket encompassing each said gasket and attached to the end of each said link to connect said link to said bar.

3,262,662
CABLE FASTENER
André Gastaldi, Fontaine, France, assignor to A. Raymond, Grenoble, France, a firm
Filed Nov. 3, 1964, Ser. No. 408,527
Claims priority, application France, Dec. 9, 1963, 956,941
6 Claims. (Cl. 248—68)

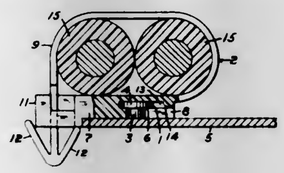


1. A one-piece clamp for securing cables, tubes and like elongated articles to a support comprising a generally U-shaped frame having a substantially flat base portion, a pair of side portions extending upwardly from opposite sides of the base, the external edges of said base portion and said side portions being folded outwardly of the frame to provide increased rigidity to the clamp. fastening means disposed on said base portion between said side portions, said fastening means being adapted to releasably engage a pin projecting from the support, and a plurality of resilient article-engaging legs integrally connected to said side portions, each of said legs extending towards the side portion opposite that to which it is connected and at least two of said legs being in spaced overlapping relationship and having a depression formed therein defining an elongated article-receiving area therebetween.

3,262,663
WIRING FASTENERS
Arnold O. Jansson, Arlington, Mass., assignor to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Nov. 2, 1965, Ser. No. 506,036
3 Claims. (Cl. 248—74)

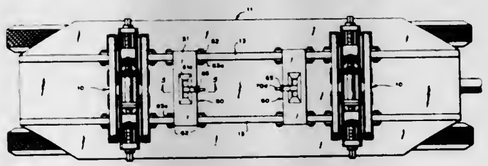
1. A fastener combination for securing wires, tubes, cables and the like articles to a supporting sheet metal panel comprising a stud having a head and a shank adapted to be secured to a surface of the supporting panel at the end of the shank remote from the head without perforation of the panel whereby the head of the stud will be spaced from but lie in close proximity to the surface of the panel with the undersurface of the head facing inwardly toward the surface of the panel, and a clip adapted to engage the head of the stud after the shank has been

affixed to the panel such that the stud will be fully concealed from view, said clip comprising a base structure having an elongated slot formed in the underportion thereof and an undercut formed adjacent said slot, said slot and said undercut opening at one longitudinal end of the base structure to permit insertion of the stud head into the undercut and the stud shank into said slot after the stud has been affixed to the panel, stud retaining means depending from the upper portion of said base structure into said slot, said stud-retaining means being resiliently displaceable by the



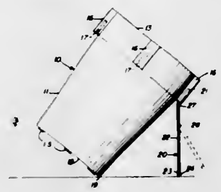
stud as the latter is inserted into the base structure and thereafter resiliently expansible to return to its original position whereby the stud is prevented from becoming accidentally disengaged from the base structure, a flexible band extending upwardly from said base structure adjacent said slot, said band being adapted to be passed over an article to be secured to the supporting panel, and cooperating locking means disposed at the end of the band remote from the base structure and the end of the base structure remote from the slot for anchoring said band to the base structure.

3,262,664
UNIVERSAL MISSILE ADAPTER
William Paraskewik, Lansdale, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 30, 1964, Ser. No. 407,933
5 Claims. (Cl. 248—119)



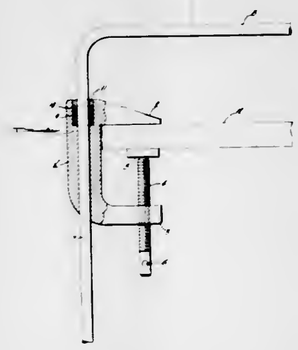
1. A device for supporting, positioning and transporting a cylindrical ordnance missile having securing means associated therewith comprising:
a wheeled supporting structure;
fastening means adjustably positioned on said supporting structure for engaging the securing means;
a cradle including a frame adjustably positioned on said supporting structure for supporting and positioning the missile;
belt means mounted on said frame, said belt means providing the sole support for the missile and having continuous movement transverse of the length of the missile, whereby the missile can be rotated about the longitudinal axis thereof without incurring any substantial resistance thereto for positioning the securing means with respect to said fastening means; and
means mounted on said frame for moving said belt means between an unslackened and a slackened condition to thereby raise and lower the position of the securing means on the missile with respect to said fastening means.

3,262,665
EXHIBITION FLOWER POT AND STAND
Richard D. Black, 59 S. Oakland Ave., Sharon, Pa.
Filed May 3, 1965, Ser. No. 452,537
3 Claims. (Cl. 248—153)



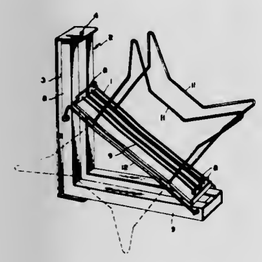
1. Bracing means for supporting a flower pot or the like in tilted position in combination with said pot or the like having a rim around its top and a lower edge around its bottom, said brace means comprising a wire member of inverted T-shaped configuration with a vertically disposed main portion having its upper end attached to said pot or the like proximate said rim and having a lower horizontally disposed base portion, said pot or the like having a recess in said rim for receiving the upper end of said brace main portion, and said base portion providing at least two horizontally spaced support points which, together with a point on said lower edge of said pot or the like, provide a stable three-point support for said pot or the like in said tilted position.

3,262,666
SUPPORTING MEANS FOR A COPY HOLDER
Odd Walter Solum, 47 Haakonsgt., Larvik, Norway
Filed Mar. 24, 1964, Ser. No. 354,307
Claims priority, application Norway, Apr. 2, 1963, 148,166
4 Claims. (Cl. 248—226)



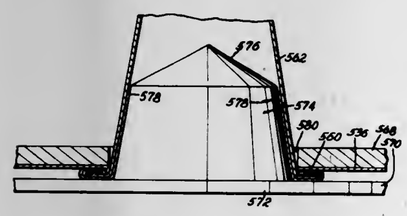
1. Support means for a copy holder or the like including an arm member of generally circular cross section comprising a clamp adapted to be fastened to the edge of a table top or the like, means defining an elongated bore of circular cross section through the clamp of a size to receive the arm of the copy holder, means defining an enlarged bore section defining a pocket adjacent one end of the elongated bore in the clamp, a hallow tubular member of resilient material mounted in said pocket having an internal diameter to snugly embrace the arm of the copy holder and a disc member mounted in the pocket in pressure applying relation with said tubular member.

3,262,667
BOOK HOLDER
Eduardo Fleischner Perez-Seoane, 578 bis Avenida Generalisimo Franco, Barcelona, Spain
Filed Sept. 18, 1964, Ser. No. 397,428
Claims priority, application Spain, Mar. 31, 1964, 298,226; Mar. 31, 1964 (utility model), 105,217
7 Claims. (Cl. 248—447)



1. A structure for swingably supporting books comprising (1) an L shaped guide member rotatable around its vertical axis, said guide member forming a track, (2) a book supporting member comprising a book rest for receiving the back of a book, at least one longitudinal rod spaced in parallel relationship to said book rest for insertion between the pages of a book and for holding such book against said rest, roller means at the back of said book rest rolling in said track and transferring said book supporting member from a substantially vertical inoperative position into an inclined use position, and wings articulated to said book supporting member to swing outwardly and supporting a book in said use position, and (3) means holding said wings in book closing position when the book rest is in its vertical inoperative position.

3,262,668
FOIL BAKE PAN
Jackson M. Luker, 207 E. Oregon St., Urbana, Ill.
Filed Sept. 1, 1965, Ser. No. 489,785
10 Claims. (Cl. 249—117)



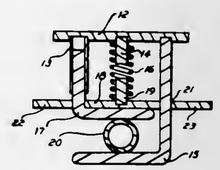
7. A throw away imperforate metal foil pan comprising a bottom and an upstanding side wall and a preformed separate heat tube having an open end and a peripheral bead of known outside diameter bounding said open end, said pan bottom having a centrally located aperture, said tube peripheral bead resting on said bottom and surrounding said aperture, said pan bottom extending from said side wall to a portion of said tube above said bead and extending therefrom downwardly and around said bead and thence upwardly against the inner wall of said tube, those portions of said bottom wall extending above, around and below said bead being in compressed engagement therewith securing the tube in the pan.

3,262,669
ADJUSTABLE SURFACE CONDITIONER FOR INGOT MOLDS
Robert S. Hosmer, 1241 Shades Crest Road, Birmingham, Ala.
Filed Mar. 26, 1964, Ser. No. 354,979
4 Claims. (Cl. 249—197)



1. A self-adjustable surface conditioner for ingot molds comprising:
(a) a generally rectangular, floating sleeve-like member having upstanding side walls and disposed to telescope inwardly of a mold in position to receive molten metal and float upwardly therein in response to introduction of molten metal into said sleeve-like member, and
(b) said sleeve-like member being composed of two sections, said sections being of U-shaped form in horizontal cross-section and being open at the top and bottom, the legs of one U-shaped section embracing the legs of the other U-shaped section in sliding relationship to permit expansion of said sleeve-like member in response to variation in the inside dimensions of the mold as the sleeve-like member floats upwardly.

3,262,670
SPRING ACTUATED PINCHCOCK
Russell Marlett, 1020 Redondo Drive, Tempe, Ariz. 85281
Filed Nov. 9, 1964, Ser. No. 409,846
3 Claims. (Cl. 251—7)

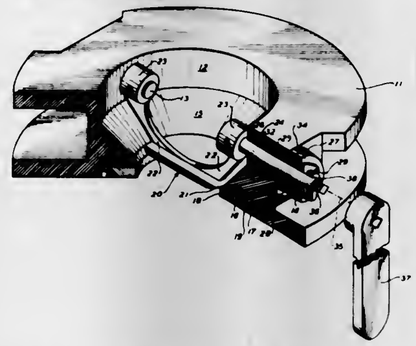


1. A spring actuated pinchcock comprising: a framework having a top plate with a short tubular guide element and a longer guide rod element attached to said top plate to form a rigid U-shaped member and a clamping jaw secured to the free end of the longer guide element, a second clamping jaw containing a rod member for insertion in the short tubular guide element and a hole through which the longer guide rod element is inserted thus allowing said second jaw to slide restrictively between said shorter guide element and said first jaw, and spring means disposed between said top plate and second clamping jaw to force said jaws into engagement for collapsing a flexible tube received between the jaws.

3,262,671
ADJUSTABLE SUPPORT FOR ROTATING EQUIPMENT
John L. Muench, 95 Fairchild Drive, Short Hills, N.J.
Filed Nov. 18, 1964, Ser. No. 412,041
2 Claims. (Cl. 251—163)

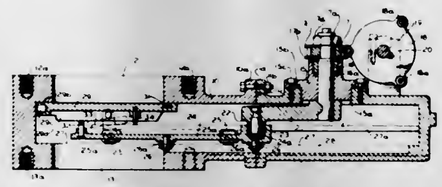
2. An adjustable support for rotating equipment comprising:
(a) a rotatable shaft;
(b) an inner bushing mounted on the shaft and having an inner concentric diameter and an outer eccentric diameter;

(c) an outer bushing having an inner eccentric diameter and an outer concentric diameter mounted on the inner bushing;



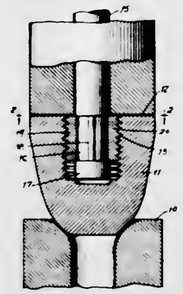
(d) a spring connecting the bushings together;
(e) a rotatable arm affixed to the shaft and movable therewith into deforming engagement with the spring whereby the bushings are rotated.

3,262,672
LARGE PORT GATE VALVE
Hugh L. Perazone, Hayward, Calif., assignor to Vacuum Research Company, San Leandro, Calif., a corporation of California
Filed Nov. 13, 1963, Ser. No. 323,422
3 Claims. (Cl. 251—204)



1. A gate valve adapted for sealing high vacuum lines, comprising a valve housing made in two parts, one of said parts having a pair of openings communicating with a passage therethrough that is adapted to be sealed, said one part also having means for connecting it to a high vacuum line, each of said parts having means for connecting said parts together and holding said parts assembled, said housing having a chamber therein extending through both of said parts, said chamber in said one part having a width greater than the diameter of said passage so that a shoulder is provided in said chamber on one side thereof around one of said openings and a sealing surface is provided in said chamber on the opposite side thereof around the other of said openings, a movable plate positioned in said chamber, said plate having a width greater than the diameter of said openings, roller means rotatably attached to the forward part of said plate engaging said shoulder, a valve disc having sealing means engaging said sealing surface when the valve is closed, a pair of links, means for pivotally connecting one end of one of said links to one side of said valve disc and pivotally connecting one end of the other of said links to a substantially diametrically opposed part of said valve disc, means separately pivotally connecting the other ends of said links to said movable plate adjacent to said roller means, resilient means connected between said movable plate and said valve disc for pulling said valve disc against said plate, bumper means on the forward end of said valve disc for engaging an inner wall of said chamber when said valve disc is carried by said movable plate into valve closing position, means for moving said movable plate and said valve disc forward until said bumper means engage said inner wall at which time further forward movement of said movable plate causes said valve disc to be swung on said links into sealing engagement with said sealing surface, said housing having a recess in an inner surface extending from said shoulder substantially to the rear end wall through the mid-portion thereof, additional rollers pivotally attached to the mid-portion of said movable plate positioned in said recess for guiding said movable plate, and means for supporting said moving means on said other housing part so that said moving means may be detached from said plate when said other housing part is removed from said one housing part without removing said one housing part from the high vacuum line.

3,262,673
STOPPER ROD ASSEMBLY
Sherwood B. Seeley, Staten Island, N.Y., assignor to The Joseph Dixon Crucible Company, Jersey City, N.J., a corporation of New Jersey
Filed Mar. 24, 1964, Ser. No. 354,339
2 Claims. (Cl. 251—357)

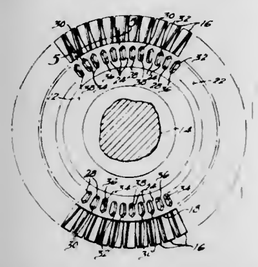


1. A stopper rod assembly comprising a solid nosed stopper having a threaded bore extending downwardly thereinto from the upper end thereof and a stopper rod having an end portion reduced in section and a flange at the lower end thereof and an annular abutment shoulder spaced upwardly of said lower end flange defining said reduced portion, and a split sleeve arranged to fit into said reduced portion between said flange and shoulder, said sleeve sections having external threads arranged to fit into the threaded bore in the stopper and means on the rod between the flange and shoulder and engaged by said sleeve sections for holding the sleeve sections against turning when the rod and split sleeve sections are threaded into the stopper bore.

3,262,674
TURBINE WHEEL
George J. Huebner, Jr., Bloomfield Hills, Amedee Roy, Birmingham, and John M. Corwin, Royal Oak, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 27, 1964, Ser. No. 370,476
8 Claims. (Cl. 253—77)

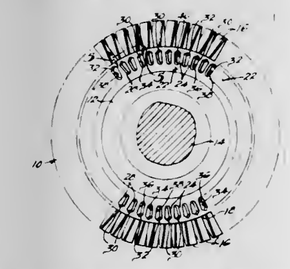
1. In a turbine wheel having a disc-like body and a plurality of circumferentially spaced radially directed turbine blades, a circumferentially continuous annular pedestal portion formed integrally with and carried by said body and in turn peripherally carrying said turbine blades, said annular pedestal portion comprising a plurality of radially directed struts extending generally axially of said wheel, an annular axially extending rim, said struts being formed so as to be integrally joined with said disc body at their respective radially innermost ends and to be integrally joined to said annular axially extend-

ing rim at their respective radially outermost ends, radially directed walls formed integrally with and joining successive spaced struts, at least selected ones of said walls being provided with a portion for localizing thermally induced stresses to an area which is generally radially directed so as to cause radiating areas of stress concentration in such selected walls thereby enhancing the opportunity for radially directed controlled thermal



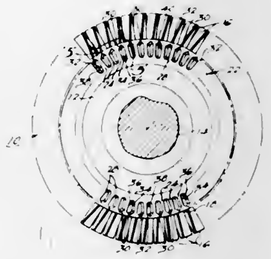
stress dissipating cracks to be formed through said areas of stress concentration whenever said turbine wheel is first caused to experience a radial temperature gradient and subsequently permitted to experience a reduction in said temperature gradient, means for preventing the propagation of said cracks beyond a predetermined point, said means comprising a generally U-shaped aperture formed through said wall generally axially of said wheel.

3,262,675
TURBINE WHEEL
George J. Huebner, Jr., Bloomfield Hills, and Amedee Roy, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 27, 1964, Ser. No. 370,577
9 Claims. (Cl. 253—77)



1. In a turbine wheel having a disc-like body and a plurality of circumferentially spaced radially directed turbine blades, a circumferentially continuous annular pedestal portion carried by said body and in turn peripherally carrying said turbine blades, said annular pedestal portion comprising a plurality of radially directed ribs extending generally axially of said wheel, an annular axially extending rim, said ribs being formed so as to be joined to said disc body at their respective radially innermost ends and to be joined to said annular axially extending rim at their respective radially outermost ends, a radially directed wall formed between and joining successive spaced ribs, each of said walls having formed therein a generally radially directed structurally weakened area so as to define a generally radially directed area for localizing thermally induced stress thereby enhancing the opportunity for radially directed controlled thermal stress dissipating cracks to be formed through said areas of localized stress whenever said turbine wheel is first caused to experience a radial temperature gradient and subsequently permitted to experience a reduction in said temperature gradient, and means generally between the radially innermost ends of said ribs for limiting the radially inward propagation of said cracks, said last mentioned means comprising a generally circular aperture formed through each of said walls so as to intersect said structurally weakened area, and means inserted through each of said circular apertures and mechanically retained therein for forming a substantial barrier to the free passage of fluids through said circular apertures.

3,262,676
TURBINE WHEEL
George J. Huebner, Jr., Bloomfield Hills, and Amedee Roy, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed May 27, 1964, Ser. No. 370,611
5 Claims. (Cl. 253—77)

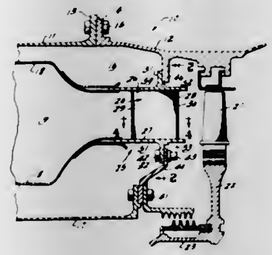


2. A turbine wheel comprising a disc-lke body and a plurality of circumferentially spaced radially directed turbine blades, a circumferentially continuous annular pedestal portion formed integrally with and carried by said body and in turn peripherally carrying said turbine blades, said annular pedestal portion comprising a plurality of radially directed struts extending generally axially of said wheel, an annular axially extending rim, said struts being formed so as to be integrally joined with said disc body at their respective radially innermost ends and to be integrally joined to said annular axially extending rim at their respective radially outermost ends, radially directed walls formed integrally with and joining successive spaced struts, at least selected ones of said walls being provided with a portion for localized thermally induced stresses to an area which is generally radially directed so as to cause radiating areas of stress concentration in such selected walls thereby enhancing the opportunity for radially directed controlled thermal stress dissipating cracks to be formed through said areas of stress concentration whenever said turbine wheel is first caused to experience a radial temperature gradient, and subsequently permitted to experience a reduction in said temperature gradient, and a plurality of generally axially directed slits formed in said rim, each of said slits being formed so as to extend from an axial end of said rim and terminating in close proximity to said wall, said slits forming an additional area for stress concentration in order to enhance the opportunity for said controlled cracks to occur.

3,262,677
STATOR ASSEMBLY
Melvin Bobo, Topsfield, Robert John Smuland, Reading, and Jack Reid Martin, Bedford, Mass., assignors to General Electric Company, a corporation of New York
Filed Nov. 27, 1963, Ser. No. 326,491
3 Claims. (Cl. 253—78)

1. Annular stator structure for use in a fluid flow machine comprising:
an outer annular shroud member,

an inner concentric shroud member within said outer shroud member,
a plurality of radially extending vanes positioned between said shroud members and secured thereto,
adjacent ones of said vanes defining therebetween flow passagesways of varying cross sectional area,
a single circumferentially extending mounting flange projecting radially outward from said outer shroud member,
and a single circumferentially extending mounting flange projecting radially inward from said inner shroud member,
at least one of said shroud members and the flange associated therewith comprised of at least two arcuate



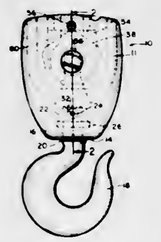
segments, the circumferential spacing between said arcuate segments being such that said segments expand into abutting relationship at the normal operating temperature of the fluid flow machine,
the axial position of the segmented flange being substantially midway between the leading and trailing edges of said vanes such that the flange is in alignment with the minimum cross sectional areas of said passageways between adjacent ones of said vanes,
whereby radial leakage between the segmented shroud member is substantially prevented and substantially unrestrained expansion and contraction of said leading and trailing edges is permitted.

3,262,678
FREIGHT TRANSPORTING SYSTEM WITH AN INTERLOCK MECHANISM ON THE MOTOR CONTROLLER
Albert M. Hand, Etobicoke, Ontario, Canada, assignor, by mesne assignments, to Steadman Industries Limited, Cooksville, Ontario, Canada
Filed Jan. 27, 1965, Ser. No. 428,352
10 Claims. (Cl. 254—2)



1. A road vehicle comprising an elongated longitudinally extending chassis, an elongated longitudinally extending platform mounted on said chassis for vertical movements between respective low and high positions with respect to the top of said chassis, motor means interconnecting said chassis and said platform and operative selectively to move said platform between its low and high positions, a manually operable controller having low and high positions, means controlled by operation of said controller into its low position for governing said motor means to move said platform into its corresponding low position and controlled by operation of said controller into its high position for governing said motor means to move said platform into its corresponding high position, latch mechanism cooperating between said chassis and said platform and having a latch position latching said platform in its low position to said chassis and having an unlatch position unlatching said platform in its low position from said chassis, a manually operable handle having a latch position operating said latch mechanism into its corresponding latch position and having an unlatch position operating said latch mechanism into its corresponding unlatch position, interlock mechanism cooperating between said controller and said handle and having a lock position locking said controller in its low position and an unlock position unlocking said controller in its low position, and means controlled by operation of said handle into its latch position for actuating said interlock mechanism into its lock position and controlled by operation of said handle into its unlatch position for actuating said interlock mechanism into its unlock position, whereby said interlock mechanism prevents operation of said controller out of its low position and into its high position when said latch mechanism occupies its latch position latching said platform in its low position to said chassis.

3,262,679
LOWER BLOCK
Cecil H. Eggleton, Jr., Fruitport, and Howard C. Stevens, Jr., Muskegon, Mich., assignors, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed June 2, 1964, Ser. No. 382,428
5 Claims. (Cl. 254—192)

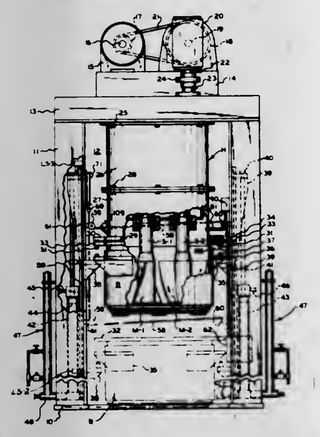


1. In a lower block for a hoist and the like, a body having an internal cavity opening outwardly of the top of the body, a shaft supported on the body and disposed in part in said cavity, a rotatable guide member disposed in said cavity and rotatably mounted on said shaft and adapted to be supported by a flexible lifting member extending into the top of the cavity and around said guide member and out of the top of the cavity, a fixed guide member disposed in said cavity at the top of said body, said fixed guide member in cooperation with the top of the body forming entrance and exit openings for a flexible lifting member, a locking member having means engaged with said shaft to prevent axial and rotational movement of the shaft and means engaged with said fixed guide member to retain it in predetermined position, said locking member further having means providing a thrust bearing between said rotatably guide member and body, and means retaining and supporting said fixed guide and locking members on said body.

3,262,680
MIXER FOR MIXING POTENTIALLY EXPLOSIVE MATERIALS

Richard J. Balazer, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York

Filed Sept. 24, 1963, Ser. No. 311,193
13 Claims. (Cl. 259—104)

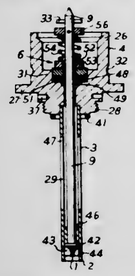


13. In a mixer for combustible materials; mixer housing means including mixer element means and a closure for said housing means movable from a remote position to a closed position; means holding said closure in closed position; and means, sensing that the material being mixed is burning, reactive to disable said holding means and permit said closure to return to remote position.

3,262,681
MIXER DEVICES

Nathan Rothman, London, England, assignor to Silverson Machines Limited, London, England, a British company

Filed Mar. 17, 1964, Ser. No. 353,661
Claims priority, application Great Britain, Mar. 21, 1963, 11,343/63
15 Claims. (Cl. 259—115)

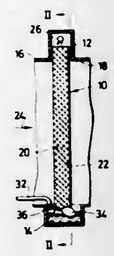


1. A mixer device suitable for mixing or disintegrating materials which, when subject to mixing or disintegration, give off noxious gases or infectious bacteria, comprising a supporting head adapted to secure a mixing vessel relative to the frame of a driving motor in a manner which allows release of the head from the frame whilst the vessel remains secured to the head, a shaft which extends through the head and is so arranged that, when the vessel is secured relative to the frame by the head, one end of the shaft is coupled to an output shaft of the motor and the other end is disposed within the vessel, rotor means secured to the said other end of the shaft and adapted, upon rotation of the shaft to effect mixing or disintegration of material within the vessel, and sealing means which serve to ensure that the head and the vessel cooperate to form a gas-tight enclosure when the head is secured relative to the frame during mixing or disintegration and also after release of the head from the frame at the conclusion of mixing or disintegration.

3,262,682
CONTACT BODIES FOR LIQUID AND GAS

Sven J. H. Bredberg, Trollbacken, Sweden, assignor to Carl Munters & Co., Stocksund, Sweden

Filed June 25, 1963, Ser. No. 290,422
Claims priority, application Sweden, June 27, 1962, 7,156/62
4 Claims. (Cl. 261—29)



1. A gas-liquid contact device comprising: means mounting a plurality of facially-opposed corrugated sheets of material disposed in a substantially vertical, parallel relationship, said material having a surface over which said liquid is readily spreadable, all of the corrugations in each of the sheets being disposed at an angle to the horizontal, and each of the corrugations extending continuously on substantially straight lines from one edge of the sheets to another edge thereof, with the corrugations in alternate sheets crossing the corrugations in the sheets disposed between the alternate sheets, the corrugations adjacent the upper ends of said sheets being open at such upper ends, means to supply liquid into such corrugations at said upper ends, and means to pass a current of gas into the corrugations at one edge of said sheets.

3,262,683
AUTOMATIC CHOKE

Thomas M. Ball, Bloomfield Hills, and Ronald T. Denton, Birmingham, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Aug. 2, 1963, Ser. No. 299,510
12 Claims. (Cl. 261—39)

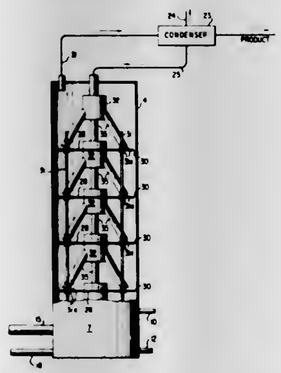


1. In a carburetor for an internal combustion engine, an air induction passage, a choke valve and a throttle valve in said passage, temperature responsive means for yieldingly urging said choke valve to a closed position with progressively increasing force in response to progressively decreasing temperature, pressure responsive means in communication with the pressure in said passage downstream of said throttle valve and being shiftable to an actuated position in response to said pressure during predetermined operation of said engine, means for opening said choke valve to a predetermined position in opposition to said temperature responsive means upon shifting of said pressure responsive means to said actuated position including connecting means operatively connecting said pressure responsive means and choke valve, and means for yieldingly urging additional opening of said choke valve in opposition to said temperature responsive means upon shifting of said pressure responsive means to said actuated position including resilient means operatively connecting said pressure responsive means and connecting means.

3,262,684
DISTILLATION COLUMN

Reading B. Smith, Flossmoor, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 166,068, Jan. 15, 1962. This application Mar. 19, 1965, Ser. No. 441,287
4 Claims. (Cl. 261—114)



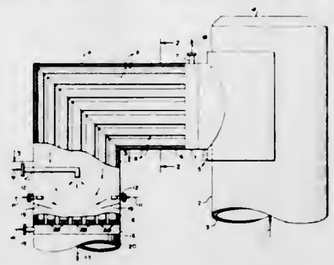
1. A distillation column comprising a closed, vertical, generally-cylindrical shell forming a wall, said wall having a feed inlet and product outlet and a plurality of spaced apart, generally-circular trays vertically spaced in the shell, said plurality of trays being free of attachment to the wall of the cylindrical shell and vertically removable from said shell, each of said plurality of trays having a smaller diameter than the internal diameter of the shell so that a continuous small peripheral vapor passage means is provided extending uninterruptably past said plurality of trays between the edge of said plurality of trays and the internal shell wall, said plurality of tray edges and small peripheral vapor passage means between said tray edges and said internal shell wall constituting bubbling zones in which vapor ascends through liquid held on the respective trays, supporting means for said trays, said small peripheral vapor means being sufficiently small to hold liquid on said plurality of trays when said vapor ascends, said trays being provided with an opening in its mid-section and a wear extending above its respective tray surrounding said opening and a receiver for transporting descending liquid to the next lowermost tray.

3,262,685
GAS QUENCHER

Daniel E. Pike, Emerson, and Frank C. Braemer, Jr., Teaneck, N.J., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 8, 1963, Ser. No. 322,351
3 Claims. (Cl. 261—157)

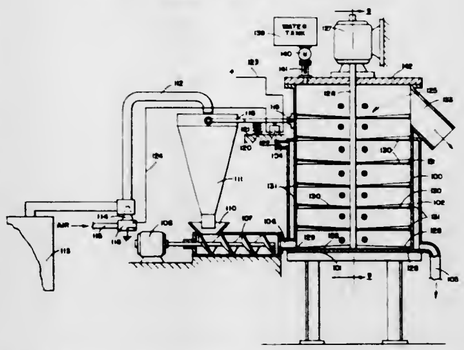
1. An apparatus for transferring and quench-scrubbing a hot gas stream containing entrained solid particles which comprises a duct extending from hot gas supply means and terminating with a vertically downward section, said duct being provided with a plurality of parallel spaced apart external channels on its outer surface, said channels being oriented parallel to the central axis of said duct, means to pass cooling water through said channels whereby overheating of said duct is prevented, each of said channels being provided with an individual valve for control of water flow rate, whereby said duct is maintained at a substantially uniform temperature, a baffle extending inwards and downwards from the wall of said duct in said downward section and terminating at a central opening, a plurality of nozzles extending into said duct adjacent to the base of said baffle, said nozzles being substantially tangential to the wall of said duct, means to pass quench liquid through said nozzles whereby a film of quench liquid is discharged onto the upper surface of said baffle and whirls downward in a spiral path upon the upper surface of said baffle and is projected into said gas stream, and a centrally positioned liquid quench spray in said downward section of said duct, said quench spray being above said baffle and serving to disperse quench liquid downwards and outwards into said hot gas stream, whereby entrained solid particles are removed from said hot gas stream into quench liquid and said hot gas stream is cooled.



3,262,686
ARRANGEMENT FOR EXPANDING PLASTIC MATERIAL

Robert A. Kraus and Edmund J. Kraus, both of 1117 Mayflower, Monrovia, Calif.

Filed Aug. 9, 1963, Ser. No. 301,942
5 Claims. (Cl. 263—21)



1. A device for expanding a plurality of heat-expansible foam plastic pellets comprising
a chamber,
said chamber having a substantially flat horizontal bottom wall,
and a wall portion adjacent said bottom wall,
inlet means for said chamber for substantially continuously introducing unexpanded pellets into said chamber,

an agitator in said chamber for mixing pellets so introduced,

said agitator including an elongated member having an edge closely spaced from said bottom wall and rotatable about said bottom wall,

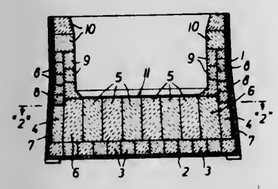
an outlet from said chamber for removing expanded pellets therefrom,

and a source of dry heat for raising the temperature of said pellets in said chamber to cause expansion thereof,

said source of dry heat including means for heating said wall portion of said chamber adjacent said bottom wall,

and for maintaining said wall portion at a temperature above the temperature of said bottom wall.

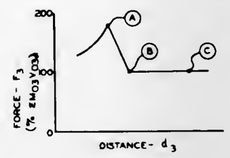
3,262,687
SHAFT FURNACES
Manfred Freygang, Moers, Germany, assignor to Phoenix-Rheinrohr Aktiengesellschaft Vereinigte Hutten- und Rohrenwerke, Dusseldorf, Germany
Filed Feb. 21, 1964, Ser. No. 346,554
Claims priority, application Germany, Feb. 23, 1963, P 31,199
4 Claims. (Cl. 263—29)



1. Shaft furnace comprising an outer steel jacket and an inner refractory lining forming a hearth for the furnace, said lining including a bottom and a side portion, said bottom portion comprising a relatively narrow foundation layer of bricks and a main base layer formed by a plurality of elongated bricks horizontally aligned in substantially parallel rows and superimposed on said foundation layer, said elongated bricks having a length in the vertical direction many times greater than the thickness of said foundation layer, the elongated bricks at the ends of asid rows being shorter in the vertical direction than the elongated bricks elongated intermediate thereto, and said intermediate bricks being tapered upwardly in the vertical direction and being in engagement with one another so that said intermediate elongated bricks are wedged in position against upward displacement thereof.

3,262,688
JET CONVECTION HEAT TRANSFER
Donald Beggs, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio
Continuation of application Ser. No. 148,522, Oct. 30, 1961. This application June 3, 1965, Ser. No. 466,504
2 Claims. (Cl. 266—2)

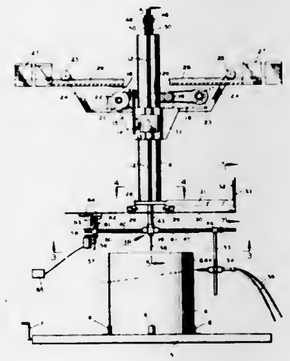
1. Apparatus for treating work in strip form comprising in combination: means for passing said strip along a predetermined path; a pair of nozzle means spaced apart a distance h and disposed adjacent but spaced from said predetermined path a distance d each of said nozzle means being arranged to direct flow of compressible fluid against one of the generally flat surfaces of said strip substantially transversely over the entire width of said strip; circulating means for circulating compressible fluid to the nozzle means; port means associated with each nozzle means positioned for directing substantially all of the compressible fluid circulated thereto toward the flat surface in a direction which deviates from the normal thereto by an angle X inclined toward the other nozzle means of the pair; and wherein the spacing between said pair of



nozzle means and said predetermined path, d, and the distance between each of said nozzle means of said pair, h, are related as follows:

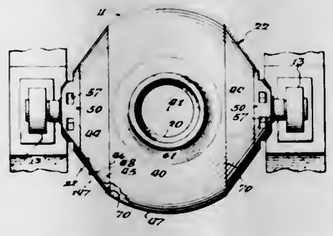
$$d=h\div 2 \tan X$$

3,262,689
PIPE CUTTING MACHINE
Marlin Eller, 292 N. Dixie Highway, Deerfield Beach, Fla.
Filed Oct. 23, 1963, Ser. No. 318,417
5 Claims. (Cl. 266—23)



1. A pipe cutting machine for cutting segments from a cylindrical pipe section for forming a multiple segment elbow to form a connection between elongated pipe sections having an identical diameter to the elbow, the machine embodying a fixed base for supporting a pipe section in a vertical manner and with the base being provided with a chuck for rigidly supporting the pipe section to be cut, a cutting mechanism that includes a vertically arranged standard of tubular form, means for adjusting the standard toward and from the pipe section and whereby the standard is axially disposed to the pipe, a circular gauge plate that is hingedly connected to the lower end of the standard to be swung in a vertical plane, a protractor whereby the plate is adjusted to a particular angle, a carriage for movably supporting the standard, cutting means disposed below the gauge plate, counterbalanced means adapted to traverse the standard and to project below the plate, the said cutting means comprising a pair of rods, one rod at its outer end carrying an acetylene cutting torch and the other rod having propulsion means at its outer end, the counterbalanced means biasing the rods and the torch and the propulsion means toward the bottom of the gauge plate throughout all degrees of angularity of the plate and whereby the rods with the torch and under the influence of the propulsion is caused to rotate in a horizontal plane and to rise and fall and to follow the angularity of the plate.

3,262,690
MOLTEN METAL REFINING APPARATUS
Donald C. Stafford, Homewood, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed June 28, 1963, Ser. No. 291,568
17 Claims. (Cl. 266—35)



1. Molten metal refining apparatus comprising:

a crucible portion having an outer shell;

a pair of substantially coaxially aligned end pins each located on an opposite side of said crucible portion;

means mounting said pins for rotation about a common axis;

said crucible portion shell being defined by a first surface of revolution having a linear directrix extending transversely to the axis of said pins and by a pair of planes each extending transversely to the axis of the pins and each intersecting said surface of revolution on an opposite side of said directrix;

a pair of means each fixedly connecting the axially inner portion of a respective pin to a respective opposite side of said crucible portion;

each of said connecting means including a shell defined by a surface of revolution having the axis of a respective pin as a linear directrix and having a generatrix whose radial spacing from the pin axis decreases in an outward direction relative to said pin;

the shell of each of said connecting means being a smooth, uninterrupted continuation of the shell of said crucible portion;

said crucible portion shell terminating, in an outward direction along the axis of said pins, and on each side of said crucible directrix, at a side peripheral edge lying in a respective one of said planes intersecting said first surface of revolution;

the shell of each connecting means terminating, in an inward direction along the axis of the pins, at an inner peripheral edge lying in the same plane as that in which an adjacent side peripheral edge of said crucible shell lies;

the inner peripheral edge of each connecting means shell being in abutting relation with the adjacent side peripheral edge of said crucible shell around the entirety of each peripheral edge;

an oxygen lance;

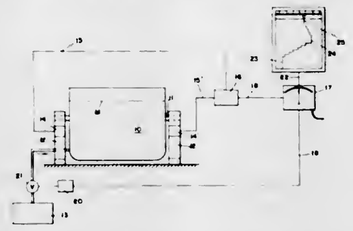
an opening in said crucible portion for receiving said oxygen lance;

means mounting said oxygen lance for reciprocal movement into and out of said opening in the crucible portion;

and a refractory lining located within said shells.

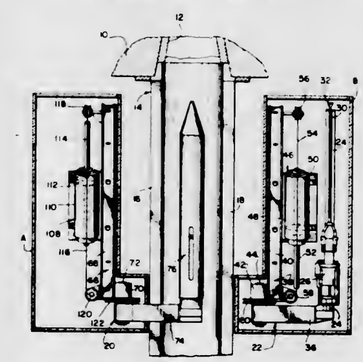
3,262,691
METHOD AND APPARATUS FOR STEEL PRODUCTION
Alfred G. Vanderbeck, 730 Laurel Lane, Colonial Village, Pa.
Filed Sept. 9, 1963, Ser. No. 307,698
4 Claims. (Cl. 266—35)

1. Apparatus for preparing a metal charge for the production of steel which comprises converter equipment for containing a metal charge, scale means responsive to the weight of the converter equipment, weight indicating means operative by said scale means, a conduit having a valve therein for supplying an oxidizing medium from a source to the converter equipment and means operative



by said weight indicating means to close the valve when the weight of the converter equipment and metal charge therein is reduced to a predetermined value by the oxidizing medium.

3,262,692
FURNACE BOTTING AND TAPPING APPARATUS
John W. Adams, Phillipsburg, and Samuel J. Nardone, Alpha, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 8, 1963, Ser. No. 322,475
5 Claims. (Cl. 266—42)



1. In combination with a furnace having a tapping conduit for conductance of the discharge of said furnace comprising,

(a) a botting device movable into an operative position relative to said tapping conduit,

(b) a drilling device movable into an operative position relative to said tapping conduit,

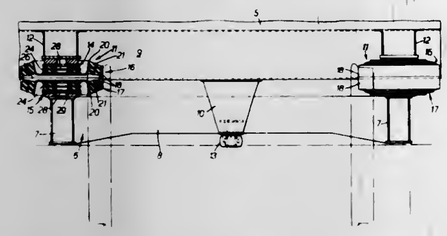
(c) a mounting for each of said devices, each mounting including means to actuate the associated device from said operative position relative to said tapping conduit into a retracted and inoperative position relative to said tapping conduit, and

(d) enclosure means to conceal said devices when said devices are in a retracted and inoperative position.

3,262,693
RAILWAY VEHICLES
Archie John Hirst, Leicester, England, assignor to Metalastik Limited, Leicester, England, a British company
Filed Sept. 1, 1964, Ser. No. 393,577
Claims priority, application Great Britain, Sept. 2, 1963, 34,525/63
7 Claims. (Cl. 267—3)

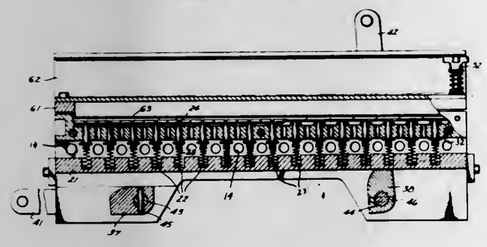
1. A side bearer assembly for a railway vehicle for supporting the body of the vehicle from a wheel-carrying frame thereof, the assembly comprising a rubber block

which, in use of the assembly, acts mainly in compression to support the body from the wheel-carrying frame and which accommodates horizontal movements of the body relatively to the wheel-carrying frame mainly by shear deformation, so that such movements are readily permitted, and a frusto-conical rubber ring which, in use of the assembly, acts in combined shear and compression



to support the body from the wheel carrying frame and which permits vertical movement of the body relatively to the wheel carrying frame, said rubber block being formed in two parts and the frusto-conical rubber ring being disposed between the two parts of the block with one part supporting the ring and the ring supporting the other part, one of the parts of the rubber block lying at least in part within the frusto-conical rubber ring.

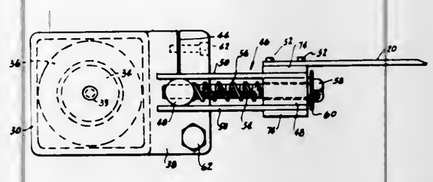
3,262,694
SOLAR CELL MODULE ASSEMBLY JIG
Herbert W. O'Farrell, Torrance, Calif., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio
Filed June 10, 1963, Ser. No. 286,824
9 Claims. (Cl. 269—153)



2. A solar cell module assembly jig comprising:
(A) a frame;
(B) a spring bolster moveably mounted in said frame;
(C) a carrier mounted in said frame in spaced relation to said bolster;
(D) a plurality of pressure feet mounted for limited movement in said carrier;
(E) resilient means mounted between each of said pressure feet and said spring bolster;
(F) cam means mounted on said frame and engaging said bolster for resiliently urging said pressure feet in one direction;
(G) a pressure plate removeably mounted on said frame in spaced relation to said carrier.

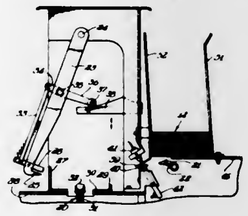
3,262,695
GAUGING DEVICE FOR POWER PRESS
Alexander Fowler and Evelyn R. Fowler, both of 334 Westover Road, Stamford, Conn.
Filed May 3, 1960, Ser. No. 26,456
22 Claims. (Cl. 269—317)

1. A gauge for use with a power press having a flat ferrous plate to support the gauge, said gauge being adapted to arrest the movement of sheet material through the press in order to properly position the same for an operation thereon by the press, said gauge comprising a body housing an electromagnet powerful enough to hold the gauge against movement on the plate when electrically energized, a vertically adjustable post carried by said body, a horizontally adjustable yoke carried by said



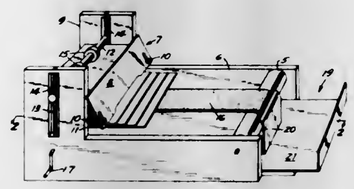
post, and a stop finger secured to said yoke to be disposed in the path of the sheet material being operated on in the press, said yoke having a block and side guides straddling the post, and a horizontal adjusting screw passing through said block and post for horizontal adjustment of the yoke and finger relative to the post.

3,262,696
SEQUENCE CHECKING SYSTEM
Anthony J. Zuercher, Lansdale, Pa., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 18, 1963, Ser. No. 259,087
2 Claims. (Cl. 270—58)



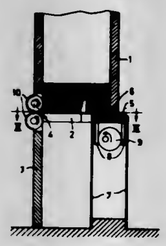
1. Apparatus for checking the sequence of assembly in an assembling apparatus having plural stacks of documentary items to be assembled together, comprising:
guide means for holding separate stacks of said items each having control items with specific indicia interposed at intervals throughout each separate stack;
a common transport conveyor adjacent said guide means;
each of said stack guide means having feeding means for feeding a single item in sequential order from the corresponding stack onto said conveyor;
each feeding means having a sensing means positioned to sense the presence of a specific indicia of a control item as it passes from the stack to said conveyor;
and control means for operating the apparatus through phase cycles wherein items from the successive stacks are deposited on the conveyor sequentially and moved by the conveyor in timed relation to said feeding means for collation with the successively deposited items from the succeeding stacks, and including means responsive to signals transmitted by said sensing means to stop operation of the apparatus following indication by said sensing means that items have been mismatched but allowing the machine to continue operation when a properly matched relation is sensed.

3,262,697
CARD SHINGLING MACHINE AND METHOD
Harlan L. Krinke, Minneapolis, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Aug. 12, 1964, Ser. No. 389,114
9 Claims. (Cl. 271—33)



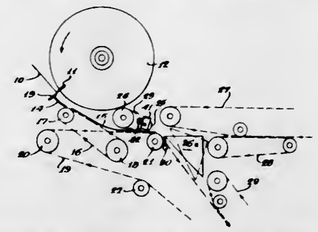
1. A device for shingling cards comprising a movable belt, means for supporting and advancing said belt along a pathway defining in part a substantially straight reach, means for positioning a stack of cards on the belt at the outstart of said reach and including a freely movable gate means to resist movement of the stack along the reach, and card-retaining means extending along at least the central portion of the face of said belt for releasably retaining each successive bottom card of said stack of cards in moving said bottom card along the reach of said pathway against the resistance of said gate means and against the friction between said bottom card and the next succeeding bottom card.

3,262,698
CARD STORAGE AND FEED DEVICE
Bernardus Antonius Carolus van der Wijngaart and Albertus Anthonius Jozef van Dooremolen, both of Apeldoorn, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 3, 1964, Ser. No. 372,167
Claims priority, application Netherlands, June 13, 1963, 294,041
5 Claims. (Cl. 271—44)



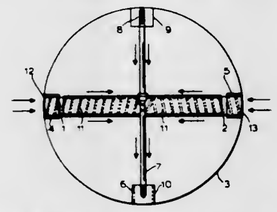
1. A card storage and feed device comprising, a card hopper having front and rear openings at the bottom for retaining cards in a flat stacked relationship, a card shuttle means including a resilient mount positioned below said card hopper such that as the shuttle reciprocates between the back and front of the hopper by means of the resilient mount it engages the lowermost card in the stack through the rear opening and discharges the card through the front opening as it moves forward, and means for cyclically driving said shuttle and resilient mount from back to front and vice versa.

3,262,699
SHEET CONTROL DEVICE
William E. Aschenbrenner, Wisconsin Rapids, Wis., assignor to Consolidated Papers, Inc., Wisconsin Rapids, Wis., a corporation of Wisconsin
Filed Aug. 13, 1964, Ser. No. 389,262
8 Claims. (Cl. 271—45)



1. Apparatus for conveying sheets of material from a rotary cutter comprising a first endless belt conveyor disposed about a plurality of rollers, a second juxtaposed endless belt conveyor disposed about a pair of rollers and means for moving one of said pair of rollers in a direction normal to a plane passing through the axes of said pair of rollers for adjustably controlling the proximity of said conveyor belts.

3,262,700
COMIC BOWLING BALL
Albert F. Miller, 363 S. Pleasant Ave., Ridgewood, N.J.
Filed Apr. 7, 1964, Ser. No. 358,048
2 Claims. (Cl. 272—27)

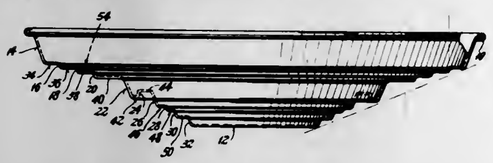


1. A comic bowling ball comprising in combination
a hollow spherical housing;
a pair of hollow telescoping tubes nested in said housing across the diameter thereof including retaining portions thereon to retain said tubes in the nested position;
spring means in said tubes biased so as to outwardly telescope said nested tubs;
retaining means designed to engage said retaining portions holding said tubes in the nested position including spring means biasing said retaining means in the engaging position, and,
release means coupled to said spring means to remove said retaining means from said engaging position so as to outwardly telescope said tubes.

3,262,701
SAUCER-SHAPED CHILDREN'S AMBULATORY PLAY DEVICE
Egbert Howland, 29½ Locust Ave., Danbury, Conn.
Filed Sept. 4, 1964, Ser. No. 394,493
2 Claims. (Cl. 272—60)

1. A saucer-shaped children's play device adapted to support a child standing on it astraddle fashion, said device comprising an upright substantially internally concave and externally convex rigid dished formation, said formation having a generally annular peripheral flange having a rounded edge portion substantially in excess of a foot in diameter and having a generally circular and

externally flat central portion of diameter less than said edge diameter, there being intermediate the said portions a plurality of substantially annular concentrically arranged stiffening mutually offset wall portions forming a generally conical connector means between said central portion and peripheral flange, those wall portions of the device adjacent the said peripheral flange constituting means affording an annular foot rest surface, and said flange constituting means to prevent slipping of the user's feet outward past the edge portion.



3,262,702
BALL GRIP IMPROVING PAD FOR APPLICATION TO BOWLER'S HAND
Louis Kovacs, 839 St. Agnes Ave., Dayton, Ohio
Filed June 4, 1963, Ser. No. 285,506
11 Claims. (Cl. 273—54)



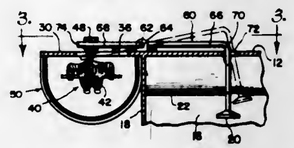
2. A bowling accessory for application to a bowler's hand comprising a flexible pad structure arranged to seat on the palm of the hand and depend about the side portion thereof remote from the thumb and forefinger and means on the outermost surface of said pad formed to provide for a bowling ball, as grasped by the fingers of the hand, a peripheral abutment disposed along and outwardly of marginal portions of the hand on the side thereof remote from said thumb and forefinger.

3,262,703
FOLDABLE CAPTIVE BALL GAME APPARATUS
Irving C. Hodlick, 3422 W. Belden Ave., Chicago 47, Ill.
Filed July 23, 1963, Ser. No. 296,958
9 Claims. (Cl. 273—95)



9. In a captive ball game, a base member, a pair of spaced apart flanges secured on said base member to upstand therefrom, a standard having a width substantially equal to the distance between said flanges, a hinge secured between one side of said standard at the lower end thereof and said base member at a position between said flanges, whereby said standard is alternatively positionable in a substantially upright position between said flanges and with said base member folded against said standard, an arm, a second hinge secured between said one side of said standard at the upper end thereof and the underside of said arm at a position spaced from one end thereof, whereby said arm is alternatively positionable in a raised generally horizontal position with the underside of said arm engaging the top of said standard and in a folded position with said arm against said one side of said standard, a ball and a line, means securing one end of said line to said ball, means securing the other end of said line to the other end of said arm, means for securing said standard in an upright position between said flanges, and means for securing said arm in a generally horizontal position with said arm engaging the top of said standard.

3,262,704
ANIMATED TARGET DEVICE
Paul P. Abraham, 1345 W. Thorndale, and Romain Metzger, 1310 W. Roscoe, both of Chicago, Ill.
Filed Aug. 7, 1963, Ser. No. 300,460
15 Claims. (Cl. 273—102.1)



15. A mechanical, animated target apparatus, comprising:

(a) a housing including a box-like structure open at the front;

(b) said housing including a vertical wall projecting from said structure and having a vertically disposed slot extending therethrough;

(c) a movable element positioned in front of said wall adjacent said slot;

(d) a retaining element positioned behind said wall adjacent said slot;

(e) a connecting element extending through said slot and interconnecting said movable and retaining elements;

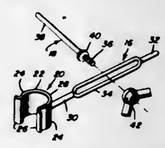
(f) a target disc positioned within said box-like structure;

(g) an actuating lever pivotally mounted on the rear of said housing;

(h) said lever having one portion extending through an opening in the rear of said box-like structure and secured to said target disc;

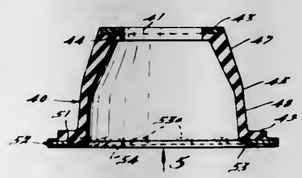
(i) said lever having another portion removably engageable with said retaining element, so that upon rotation of said lever, as a result of the disc being struck, said other portion of the lever is moved out of engagement with said retaining element to permit said movable element to fall by force of gravity to its lowermost position.

3,262,705
GOLF CLUB WITH HORIZONTALLY ADJUSTABLE POINTER
Charles Nunziato, 711 North St., Daytona Beach, Fla.
Filed Sept. 19, 1963, Ser. No. 310,024
2 Claims. (Cl. 273—163)



1. In combination, a conventional-type golf ball putter embodying a shaft provided with means functionally designed and structurally adapted to aid the user of said club to accurately position the head of the club relative to the ball and thus orient and line up said head preparatory to putting said ball, said means embodying a direction indicating pointer disposed at right angles to the lengthwise axis of said head and putting face, said pointer projecting forwardly of and to a terminal position well beyond the plane of said face and being disposed in a horizontal plane well above the said head and ball, and means mounting said pointer on said shaft, said means comprising an adapter having a clip removably mounted on a predetermined portion of the aforementioned shaft, said adapter also embodying a rigid arm, said arm being connected rigidly to said clip and having an elongated loop, and said pointer having an attachable rearward end portion detachably connected with said loop and slidable along said loop, whereby adjustments in a horizontal plane are permitted.

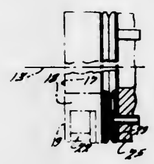
3,262,706
BALL JOINT SEAL
Morris Hassan, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed July 30, 1962, Ser. No. 213,451
7 Claims. (Cl. 277—29)



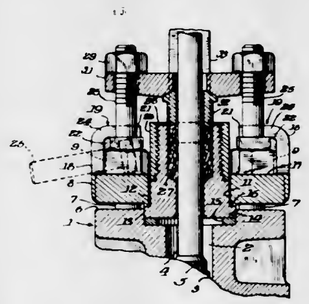
5. A ball joint seal comprising a resilient, thin-walled, cup-shaped element of rubber-like material including a bottom end wall portion having an opening therein to sealingly engage a ball joint stud shank and side wall portions to sealingly interconnect a ball joint housing and an associated member connected to the housing by the ball joint stud, said seal bottom end wall portion having a ring of bearing material bonded thereto and surrounding said opening with an outer face of said bearing ring arranged to have bearing contact with said associated member, an outwardly extending peripheral flange portion on the seal side wall portions adjacent the cup open end, a rigidifying washer bonded to the outer face of said flange portion having radially inwardly directed teeth along its inner periphery spaced by enlarged root openings, said washer teeth and root opening being covered by a flexible annular rim of rubber-like material with the material covering the root openings being deflectable to provide self-sealing lubricant bleed bores, said teeth being arranged to frictionally engage and to seal against the ball joint housing.

3,262,707
HIGH PRESSURE SEAL USED IN CONJUNCTION WITH REGENERATOR
Sam B. Williams, Walled Lake, Mich., assignor to Williams Research Corporation, Walled Lake, Mich., a corporation of Michigan
Filed Apr. 26, 1963, Ser. No. 275,926
7 Claims. (Cl. 277—34.3)

1. In a seal for disposition between a gas turbine housing and a movable regenerator matrix, a tube fabricated of rubber material capable of retaining its physical characteristics at elevated temperatures, a flexible reinforcing strip embedded in the wall of said tube, means for pressurizing the tube interior, and a matrix-engageable shoe bonded to one side of said tube and having a smooth outwardly facing surface, said shoe being fabricated of a material selected from the group consisting of glass-ceramic, aluminum oxide and zirconium oxide and having high hardness characteristics, low thermal conductivity and the ability to retain its physical properties at elevated temperatures, the cross-sectional shape of said shoe being sufficiently thin as to be capable of deflection in response to the warping of a matrix surface engaged by said shoe, whereby full and complete contact with the matrix surface will be maintained.



3,262,708
GLAND T-BOLT ARRANGEMENT WITH BONNET INTEGRAL LUG CONSTRUCTION
George E. Hansen, Elmwood Park, and Anton Korzenowski, Brookfield, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois
Filed June 28, 1963, Ser. No. 291,449
4 Claims. (Cl. 277—105)



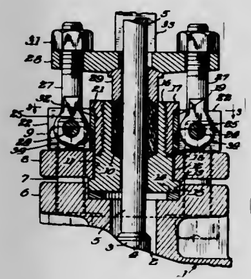
1. In a valve construction or the like, the combination of a valve casing and a bonnet therefor having a substantially central apertured portion, a stuffing box mounted within said apertured portion to project therethrough, a stem projecting through said stuffing box, a valve yoke on said stuffing box for journalling said stem having oppositely disposed yoke arms on a hub portion of said yoke spaced on each side of said stuffing box, said bonnet having on an outer surface portion thereof oppositely disposed hollow lugs substantially at right angles to the said yoke arms, the said lugs being open on upper and side portions thereof and also on inner side portions thereof opposite said stuffing box and yoke, T-head bolts of square head configuration cooperating with said lugs and with their square head portions receivable within said hollow lugs, the width of the said open portions of said lugs and the height of the hollow portions of the said lugs permitting said bolts to be swung outwardly within said upper and side open portions in a direction away from the said stuffing box when packing the latter member, the said height of the hollow portions of the said lugs being substantially greater than the width of a square head portion of the T-bolt, the inner limits of said lugs and the outer peripheral limits of the hub portion of said yoke providing a space therebetween of such proportions as to be less than the thickness of the said bolt heads where-

by to inhibit passage of the latter through said space past said yoke hub, the said stuffing box and yoke being predeterminately rotatable as an assembly relative to said bonnet, the said yoke at said hub portion being threadedly attached to the said stuffing box to prevent said bolts from dropping out of said lugs.

3,262,709
GLAND EYE-BOLT COLLAR ARRANGEMENT FOR STUFFING BOX CONSTRUCTION

George E. Hansen, Elmwood Park, and Anton Korzenowski, Brookfield, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois

Filed July 3, 1963, Ser. No. 292,636
3 Claims. (Cl. 277—105)



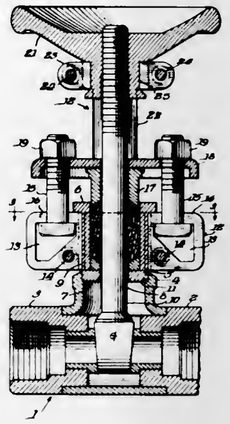
1. In a stuffing box construction for a valve or the like, the combination of a valve casing and a bonnet therefor having a substantially central apertured portion, a stuffing box mounted within said apertured portion, a stem projecting through said stuffing box, a gland and pivotally mounted gland eye-bolts for said stuffing box, retainer means for said eye-bolts, a valve yoke threadedly mounted on said stuffing box for journalling said stem having oppositely disposed yoke arms on each side of said stuffing box, said yoke having a lower shank portion for carrying said retainer means, the retainer means being of bifurcated form when viewed in plan and having a pair of oppositely disposed apertured lug like extensions in spaced-apart relation, the said gland eye-bolts being transversely received in apertures within the spaced-apart portions of said apertured lug-like extensions to permit pivotal movement of said eye-bolts, said bonnet having lugs on an upper face thereof normally positioned and closely fitted between said spaced apart apertured lug-like extensions whereby to position and to prevent relative rotation between said bonnet and said yoke and retainer means.

3,262,710
FABRICATED STUFFING BOX WITH GLAND BOLT ARRANGEMENT

George E. Hansen, Elmwood Park, and Anton Korzenowski, Brookfield, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois

Filed July 26, 1963, Ser. No. 297,804
4 Claims. (Cl. 277—105)

1. In a valve construction or the like for supporting an actuating mechanism and providing a stuffing box therefor, the combination including a combined stuffing box member and bonnet, gland means for the actuating mechanism, gland bolts of T-head configuration for the stuffing box, split gland bolt retainer means for the said gland bolts, the said retainer means comprising a bracket consisting of a pair of apertured clamp member oppositely disposed in substantially abutting arrangement when assembled for engagement with an outer reduced peripheral portion of said stuffing box adjacent to the packing space in said stuffing box, means for drawing said clamp members together, each of the said clamp members having a yoke arm substantially axially therewith to form a yoke when assembled, extending around said stuffing box for

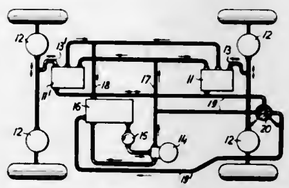


journalling said actuating mechanism, said clamp members upon said assembly providing transverse aligned apertures for engagement of the T-heads of the gland bolts whereby to permit only limited axial movement of the gland bolts relative to the clamp members.

3,262,711
AUTOMATIC CONTROL MECHANISM FOR MAINTAINING THE BODY OF AN AUTOMOBILE AT A CONSTANT LEVEL

Franz G. F. Behles, Ingolstadt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Untertürkheim, Germany

Filed Apr. 2, 1964, Ser. No. 356,780
Claims priority, application Germany, Apr. 4, 1963, D 41,281
7 Claims. (Cl. 280—6.1)



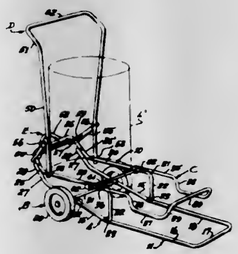
1. In an automobile having a car body, front and rear axles having wheels thereon, oleo-pneumatic spring elements intermediate said car body and said axles, a hydraulic system having a pressure reservoir, an oil tank, a pump connected to said oil tank and said pressure reservoir for filling the latter, a first feed line connecting said control unit with the associated spring elements, a second feed line connecting said pressure reservoir with said control unit, and a return line connecting said control unit with said oil tank, the improvement essentially consisting of a pair of control units each associated with the spring elements on each of said axles, each of said control units comprising a housing secured to said car body, a tubular slide member slidable longitudinally within said housing, a control element slidable longitudinally within said slide member between two end positions including a connecting rod and a control rod, said connecting rod extending to

the outside of said housing and connected to the associated axle and movable relative to said slide member and said housing in response to changes in the distance between said car body and said axle from one to the other of said end positions, stop means in said housing for limiting the movements of said slide member in opposite directions between upper and lower limits, a supply check valve and a return check valve within said slide member alternately actuated by said control element, spring means tending to maintain said valves in the closed position, said control element in one of said end positions having said control rod in contact with said supply check valve opening said supply check valve to connect said second feed line to said first feed line so as to supply pressure oil from said pressure reservoir to said spring elements on said associated axle while said return check valve is closed, said control element in the other of said end positions being in contact with said return check valve to open said return check valve connecting said first feed line to said return line so as to discharge pressure oil from said spring elements and to return said oil to said oil tank while said supply check valve is closed.

3,262,712
UTILITY HAND TRUCK

Benjamin J. McDonald, 15410 Wyandotte St., Van Nuys, Calif.

Filed Apr. 6, 1964, Ser. No. 357,719
6 Claims. (Cl. 280—47.19)

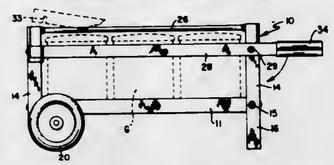


1. In a hand truck, in combination: a chassis including a forward platform adapted to assume a horizontal position resting against a supporting surface, a wheel frame inclined upwardly and rearwardly from the rear end of said forward platform as an integral extension thereof when said platform is in said horizontal position, and a rear platform disposed above said wheel frame in upwardly and rearwardly stepped relation to said forward platform; a wheel unit attached to said wheel frame in the space defined between the plane of said rear platform and the rearwardly extended plane of said forward platform; a handle attached to said chassis near the rear end of said rear platform and having an operative position extending upwardly, said chassis including a rear end portion projecting rearwardly beyond said wheel unit, inclined upwardly and rearwardly as an extension of said wheel frame, and engageable against said supporting surface to support the truck in a rearwardly tilted position; said forward platform projecting forwardly from the area covered by said rear platform, so that a load object supported by said forward platform can extend upwardly in front of and past the forward extremities of said rear platform and of a load supported on the latter; and a platform extension hinged to the forward end of said rear platform on a transverse horizontal axis for swinging movement between a horizontal position extended forwardly over said forward platform and providing a forward extension of the supporting surface of said rear platform, and a retracted position swung rearwardly from said forwardly projecting position.

3,262,713
GARBAGE CAN CART

Jay Crawford, Sr., 340½ Willard St., Toledo, Ohio

Filed Mar. 25, 1964, Ser. No. 354,739
4 Claims. (Cl. 280—47.26)

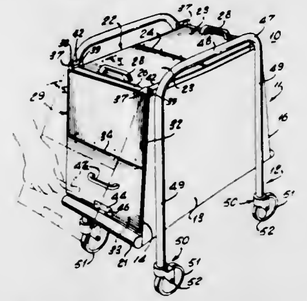


1. A utility cart of the character described comprising a body structure, including spaced upright members, a pair of wheels at the front end portion of the body, a pair of rearwardly extending handle bars spaced laterally from each other for use in trundling the cart, said handle bars extending the full length of said body structure as well as rearwardly thereof, means for rigidly securing one handle bar to certain upright members of said body structure, a tie member adjacent said rigidly secured handle bar and secured to other upright members, a pivotal mounting for the rear end portion of the other handle bar, and a releasable latching connection between the front end portion of said pivoted handle bar and said body structure for enabling the respective handle bar to be rocked out of the way for loading and unloading the cart and, when in latching engagement, the same is firmly in position for trundling the cart.

3,262,714
DISHWARE CARRIER

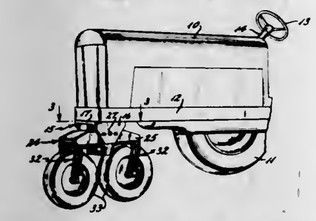
Nicholas A. Langone, 624 Pines Lake Drive W., Wayne, Passaic County, N.J.

Filed July 27, 1962, Ser. No. 212,927
1 Claim. (Cl. 280—79.2)



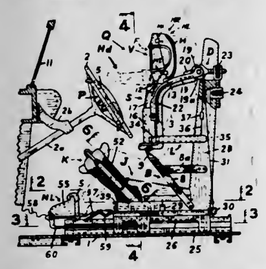
A transport device comprising a body member including a base and side walls delineating a compartment having communicating top and front openings affording access to said compartment, a first lid registering with said top opening and hinged along an edge remote from said front opening to and between said side walls, a second lid registering with said front opening and including top and bottom end-to-end panels hinged to each other along adjacent edges, and each being of a height not exceeding the length of the top of said body member, a pair of transversely spaced links having their outer ends hinged to the upper corners of said top panel and their inner ends hinged to the upper borders of said side walls at distances from said front opening not exceeding the lengths of said links, a handle member affixed to the top face of said first lid at a point spaced from the forward edge thereof a distance less than twice the length of said links whereby said handle is cleared by said second lid when in open position overlying said body member, and wheels depending from said body member.

3,262,715
VEHICLE HAVING SELECTIVELY FIXED OR FLOATING STEERABLE WHEELS
Paul D. Abbott, P.O. Box 187, Blytheville, Ark.
Filed Aug. 21, 1964, Ser. No. 391,252
5 Claims. (Cl. 280—95)



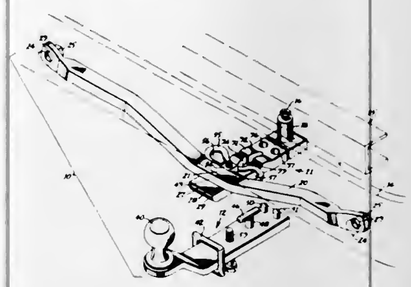
1. An adjustable floating or fixed steering mechanism for a tractor comprising a frame, means for removably mounting said frame on said tractor, an elongated carriage pivotally mounted on said frame, means for selectively fixing said carriage to said frame, at least one steerable wheel pivotally attached to each end of said carriage, a post connectable to the steering wheel of said tractor and extending downwardly through said frame, a universal joint connected to one end of said post, a lever fixed to said universal joint, and links connecting each of said wheels to said lever, whereby said frame is removably mounted in either of two positions which are approximately ninety degrees apart and said carriage can be either floating or fixed relative to said frame.

3,262,716
VEHICLE OCCUPANT SAFETY BARRIER
Phillip Graham, 2825 Glenmore Ave., Pittsburgh, Pa.
Filed June 10, 1965, Ser. No. 462,993
6 Claims. (Cl. 280—150)



1. In a vehicle having a seat for an occupant, in combination, a shield means confronting at least a portion of the front of the occupant, support means mounted in said vehicle, said support means including means for supporting said shield means in a substantially vertical position, a lower portion of said shield means confronting at least the chest of said occupant, an upper portion of said shield means confronting at least a portion of the head of said occupant, said upper portion including a bearing surface means confronting the forehead of said occupant, at least said upper portion being pivotally mounted to allow it to be retracted downwardly, said pivotally mounted upper portion including locking means for locking it in the said vertical position confronting the head of said occupant, said shield means being of a construction to allow said occupant to see therethrough, said upper portion including a pair of pivotally mounted side flap portions extending backwardly adjacent to at least portions of the sides of said occupant's head, said locking means including means to lock said pair of flaps into protective positions, said upper portion including means to lower said flap portions that extend upwardly when said upper portion is retracted downwardly, to allow clear space for viewing, said support means being yieldable in a forward direction of said vehicle for allowing yieldable movement of said shield means in a forward direction of said vehicle in response to the momentum thrust of said occupant against said shield means due to a high degree of deceleration of said vehicle, thereby restraining said occupant from being injured, and yieldable force absorbing and rebound-preventing means to gradually absorb said momentum thrust and thereby cushion said occupant during the deceleration of said vehicle and prevent rebound of said occupant.

3,262,717
TRAILER HITCH
William M. Neece, Columbus, Ohio
(501 W. Lytle St., Murfreesboro, Tenn. 37130)
Filed Oct. 21, 1964, Ser. No. 405,442
1 Claim. (Cl. 280—501)



A trailer hitch for a motor vehicle having a rear bumper comprising:

(a) an elongated shoe member having a rear edge,

(b) means for fixing said shoe member beneath said vehicle, said rear edge being spaced forward of said rear bumper,

(c) an abutment surface projecting vertically from said shoe member and spaced adjacent to and forward of said rear edge to form an exposed, rearwardly projecting toe portion between said abutment surface and said rear edge,

(d) an elongated hitch member having a front end and a rear end,

(e) a hitching element mounted adjacent the rear end of said hitch member,

(f) a recessed member on said hitch member spaced forwardly of said hitching element and having an opening for receiving said toe portion and for guiding said hitch member into longitudinal overlapping engagement with said shoe member in operative position,

(g) said abutment surface engaging said recessed member in operative position to limit the forward movement of said hitch member relative to said shoe member in order to locate said hitching element rearwardly of said rear bumper,

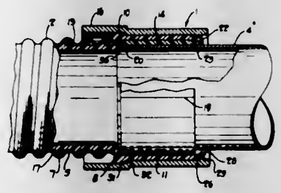
(h) means spaced forwardly of said abutment surface to rigidly and detachably clamp said shoe member and said hitch member in operative position,

(i) at least one draw pin fixed on said hitch member, spaced forwardly of said clamp means and projecting toward said shoe member in operative position,

(j) a registering opening formed in said shoe member for snugly receiving each draw pin in operative position,

(k) said toe portion having a convex surface opposing said hitch member for rocking engagement into operative position as said toe portion is received in said recessed member, to permit the introduction of each draw pin into said corresponding registering opening.

3,262,718
SWIVEL COUPLING FOR COUPLING FLEXIBLE AND RIGID TUBULAR MEMBERS IN END TO END RELATIONSHIP
Herbert T. Draudt, North Olmsted, Ohio, assignor of one-half to Donald A. Draudt, North Olmsted, Ohio
Application Oct. 21, 1964, Ser. No. 407,271, which is a continuation of application Ser. No. 48,091, Aug. 8, 1960. Divided and this application Apr. 14, 1965, Ser. No. 448,047
12 Claims. (Cl. 285—7)



1. In combination a flexible tubular member having an end, a rigid tubular member and means for coupling said members in end to end relationship, said flexible tubular member comprising a hollow flexible tube and a wire helix of greater mean diameter than the mean diameter of said tube disposed therein, said flexible tubular member having a corrugated surface, said rigid tubular member comprising a hollow rigid tube having a flanged end, said coupling means comprising a unitary elongated, hollow, flexible sleeve of greater rigidity than said flexible tubular member and a bearing member, said bearing member comprising a hollow, longitudinally split bushing and being disposed about said rigid tubular member in snug rotatable engagement therewith and adjacent said flange and having a relatively low co-efficient of friction with said rigid tubular member, said sleeve having two end portions, one said end portion of said sleeve extending longitudinally and concentrically with a portion of said flexible tubular member adjacent said end thereof and having a surface engaging said corrugated surface of said flexible tubular member, the other said end portion of said sleeve being disposed over and in engagement with said bearing member and extending longitudinally and concentrically with said rigid tubular member and bearing member for a portion of the length of said rigid tubular member and for the total length of said bearing member, said other end portion of said sleeve having an integral, inwardly extending circumferential lip at the end thereof remote from said one end portion of said sleeve, said lip having an internal diameter greater than the external diameter of said rigid tubular member and less than the external diameter of said bearing member, said bearing member engaging and extending between said flange of said rigid tubular member and said lip of said sleeve.

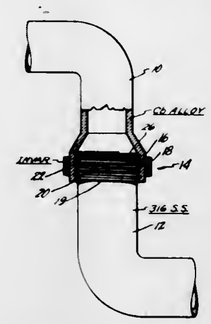
3,262,719
SELF-WELDED FLEXIBLE JOINTS
Anthony E. Gemma, Middletown, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 19, 1965, Ser. No. 505,126
7 Claims. (Cl. 285—41)

7. In a self-welding swivel joint for incorporation into a high-temperature fluid-conducting pipe line,

a first pipe section of columbium alloy having a terminal socket, said socket being threaded internally,

a second pipe section of stainless steel clad with columbium alloy having one end received within and closely fitting said socket and freely rotatable therewithin into various angular positions relative to stid first pipe section, said second pipe section being threaded externally at one end, the threads engaging those on said first pipe section, the threaded portions of said first and second pipe sections consisting of materials capable of being joined by solid state welding,

and a rigid collar formed of Invar metal surrounding said terminal socket and in an interference fit therewith, said collar restraining the radial expansion of said socket whereby the threaded portions of the two pipe sections will be forced into contact under pressure due to differential thermal expansion to form a solid state diffusion weld therebetween upon initial passage of a high-temperature fluid through said joint.



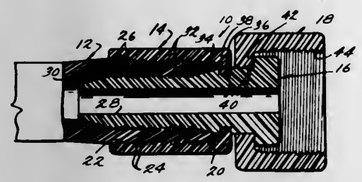
3,262,720
CONNECTOR
Theodore W. Briegel, Jr., Galva, Ill., assignor to Roach-Appleton Manufacturing Company, South Bend, Ind., a corporation of Delaware
Filed May 15, 1963, Ser. No. 280,680
2 Claims. (Cl. 285—161)



1. An electrical conduit and connector therefor, said connector consisting of a tubular insert having an outwardly flared inner end, a sleeve having a smooth conically tapered inner surface on its inner end portion and a smaller cylindrical inner surface on its outer end portion and an annular flange at the terminal end of the inner end overlying said flared end and in locking engagement therewith, said outer end portion snugly receiving said conduit, a resilient ring of incompressible material within said sleeve having a tapered outer surface conforming to the inner surface of the tapered portion of the sleeve and having an inner end abutting said insert, the outer end of said ring being spaced slightly inwardly from the outer end of said tapered portion to leave an expansion space, the inner diameter of the ring fitting snugly over the outer surface of said conduit so that the ring is radially expanded and is forced slightly outwardly against the sleeve and is under slight compressive stress to expand into said expansion space, and an annular radially inwardly projecting flange of resilient material on the inner end of said ring, said flange having a radial dimension substantially equal to the wall thickness of said conduit, said conduit being inserted in said sleeve and ring and abutting said ring flange, said sleeve and conduit having interfitting inwardly indented portions whereby the con-

duit is locked to the outer end portion of the sleeve with the end of said conduit sealingly abutting the inwardly projecting flange of resilient material.

3,262,721
SNAP ACTION HOSE FITTING
James O. Knight, Peoria, Ill., assignor to L. R. Nelson Mfg. Co., Inc., Peoria, Ill., a corporation of Illinois
Filed May 1, 1964, Ser. No. 364,182
8 Claims. (Cl. 285—174)



1. A hose fitting for securement to the end of a hose comprising

(a) an outer sleeve of a synthetic resin material having an interrupted interior peripheral surface of a size substantially the same as the exterior periphery of the hose end to which the fitting is to be secured so as to permit said sleeve to be received over said hose end,

(b) an inwardly extending resilient annular flange capable of substantial deflection within its elastic limit on one end of said sleeve having an interior size less than the exterior size and greater than the interior size of the hose for engaging the extremity of the hose end, and

(c) a rigid tubular inner member including

(d) a first exterior peripheral portion defining a tapered annular surface at one end of said member having a size at the extremity thereof outwardly of said member less than the interior size of the hose and diverging inwardly of said member to a size greater than the interior size of the hose and less than the interior size of said flange so that said tapered surface will engage within a hose engaged within said sleeve and progressively expand said hose radially outwardly when said one end of said member is inserted in the hose end,

(e) a second exterior peripheral portion adjacent said first portion defining an interrupted surface having a size to retain the hose in expanded condition in pressure tight engagement with the interrupted interior surface of said sleeve,

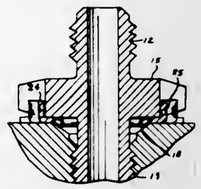
(f) a third exterior peripheral portion adjacent said second portion defining a gradually tapered annular surface having a size at the extremity thereof adjacent said second portion less than the interior size of said flange and diverging in a direction away from said second portion to a size greater than the interior size of said flange but less than the exterior size of the hose end so as to expand said flange radially outwardly within the elastic limit thereof when said member is moved farther inwardly of a hose within said sleeve, and

(g) a fourth peripheral portion adjacent said third peripheral portion defining a peripheral surface of a size to receive the flange so as to permit the latter to contract adjacent thereto when said member is moved farther inwardly of a hose within said sleeve.

(h) said fourth peripheral portion also defining a transverse abutment surface between said peripheral surface and said third portion tapering surface for engaging said flange and preventing outward movement of said member when said flange is disposed adjacent said peripheral surface, and

(i) means defining a fitting at the opposite end of said member adjacent said fourth portion.

3,262,722
COUPLING HAVING AN O-RING RETAINER
Robert L. Gastineau, Dayton, Ohio, and Julian N. Andrews, Los Angeles, Calif., assignors to United Aircraft Products, Inc., Dayton, Ohio, a corporation of Ohio
Filed Nov. 19, 1964, Ser. No. 412,399
4 Claims. (Cl. 285—212)



1. The combination in a boss and fitting assembly; of a fitting having a radially disposed flange and projecting centrally thereof a mounting extension member, a boss having an opening receiving such extension member, said flange and said boss having opposing approximately parallel surfaces and said boss having a taper surface interconnecting the said opposing surface thereon and the said opening therein, and a metallic O-ring retainer comprising a flat annular body intermediate said boss and fitting, the outer periphery of the body being formed to interengage the outer periphery of the flange on said fitting and the inner periphery being located thereby approximately at the joint of said opposing surface on said boss and said taper surface, said outer periphery of said body being formed with a plurality of portions having detent means yieldingly to grip the outer periphery of said flange, and a hollow metallic O-ring contained by and within the inner periphery of the body to be aligned with said taper surface, said O-ring exceeding in diameter the thickness of said body whereby relative advance of said fitting and said boss until limited by said body compresses said O-ring on to said taper surface establishing a seal between said taper surface and the said opposing surface on the flange.

3,262,723
FINGER JOINTING OF LUMBER
Melvin D. Strickler, Pullman, Wash., assignor to Washington State University Research Foundation, Pullman, Wash.
Filed May 29, 1961, Ser. No. 113,528
14 Claims. (Cl. 287—20.92)

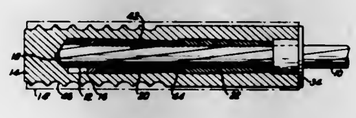


1. A joint formed between the ends of two aligned fibrous wooden boards of longitudinally grained lumber having longitudinal sides comprising:

a plurality of laterally compressed fibrous fingers formed across opposing ends of the boards at complementary staggered positions, said fingers including sides oriented at acute angles relative to the longitudinal sides of the boards, said fingers having laterally compressed fibers disposed at an angle to the longitudinal sides of the boards and extending substantially parallel to the sides of the fingers, the fingers of the two boards being located in intermeshing side by side positions across the respective opposing ends thereof;

and bonding means applied to the surfaces of said fingers adapted to permanently secure the adjacent fingers of the two boards in said intermeshing side by side positions.

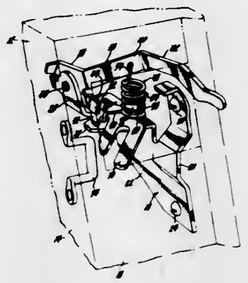
3,262,724
CABLE CONNECTOR
Robert MacRobbie, Brooklyn, N.Y., assignor to Richmond Screw Anchor Co., Inc., Brooklyn, N.Y.
Filed Aug. 2, 1963, Ser. No. 299,608
2 Claims. (Cl. 287—83)



1. An article of manufacture comprising a stress-free cable of intertwined strands; and on at least one end of said cable, a connector assembly comprising a sleeve provided with a blind bore, first and second generally cylindrical inserts of a material harder than that of said sleeve and cable, said inserts being provided with passages extending axially therethrough and with diametrally opposed axial slots dividing each insert into a base ring with two legs extending axially therefrom, said inserts being coaxially aligned one behind the other within said bore with the ring of one sleeve abutting against the legs of the other sleeve, said inserts including internal teeth lining said passages, said cable extending through said passages within said bore, said sleeve crushing the legs of said inserts and thereby said teeth against said cable and causing the inserts to assume tapered wedge-like shape, and wherein a step is established between the inserts, said sleeve by virtue of its relative softness as compared to the inserts being internally deformed at said bore to intimately engage the tapered inserts, and a retainer ring encircling the said cable and extending into the bore of said sleeve into axially abutting relation with one of said inserts, and means on said sleeve whereby said cable is adapted for having a connection made therewith.

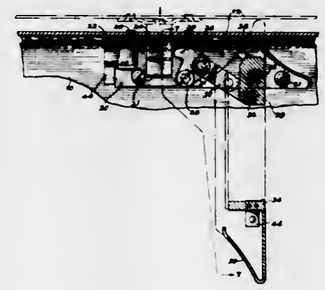
3,262,725
VEHICLE BODY LATCH DEVICE
David B. Ballantyne, Southfield, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 19, 1963, Ser. No. 302,799
3 Claims. (Cl. 287—189.35)

1. In a vehicle body latch device, the combination comprising, a latch frame, a latch bolt member mounted on said frame for movement between latched and unlatched positions, a bolt-holding member mounted on said frame for movement between holding and released positions, elongate longitudinally flexible resilient means connected between said members, and means anchoring an intermediate portion of said elongate means on said frame to provide said elongate means with a first longitudinally resilient portion and a second torsionally resilient portion, means operatively connecting said first portion to one of said members to urge said one member to one of



said positions thereof, and means operatively connecting said second portion to the other of said members to urge said other member to one of said positions thereof.

3,262,726
LATCH MECHANISM
Malcolm T. Phelps, Jamestown, N.N.Y., assignor to Weber-Knapp Company, Jamestown, N.Y.
Filed Jan. 22, 1964, Ser. No. 339,448
3 Claims. (Cl. 292—196)



3. In combination with a container having a front wall and a lid having a flange portion overhanging said front wall,

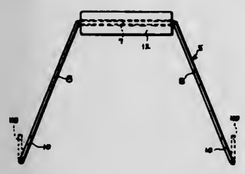
a base plate fixed to said front wall below said flange portion of the lid,

a cam pivotally mounted on said base plate about an axis normal to said front wall and having an eccentric nose portion, a keeper fixed to and depending from said flange portion of the lid, said keeper having a horizontal bottom land engaged by said nose portion of the cam and urging said lid downwardly toward said front wall,

a cover plate pivotally connected to said base plate about an axis normal to said front wall and disposed adjacent one end of said base plate in spaced relation to the axis of said cam, said cover plate being disposed in outwardly spaced face-to-face opposition to said said base plate in obscuring relation thereto and having its end, opposite to that end pivotally connected to the base plate, spaced below said flange portion of the lid to provide a finger grip clearance space,

and a link pivotally connected at its opposite ends respectively to said cam and said cover plate for rotating the nose portion of the cam away from and clearing said bottom land of the keeper when said cover plate is swung downwardly away from said flange portion of the lid.

3,262,727
BAILED CAN CARRIERS
Robert J. Blackaby, 23147 Tawas, Hazel Park, Mich.
Filed Dec. 14, 1964, Ser. No. 418,093
1 Claim. (Cl. 294—15)



A bailed can carrier constructed to carry at least a pair of bailed cans by their bails when the latter are disposed in a common plane

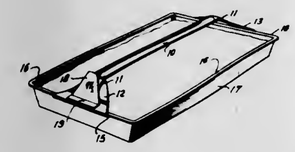
said carrier comprising

a one-piece wire member having a horizontal crosspiece, a pair of legs depending from opposite ends of the crosspiece, and a substantially vertical reverse bend on the free end of each leg to form a hook for hooking one of said bails

the pair of legs disposed in the same plane as the crosspiece and each at an obtuse angle thereto so that their free ends are spread apart at least equal to twice the crosspiece length so that said hooks engage the can bails substantially at the centers thereof, each leg made up of a straight section longer than the crosspiece

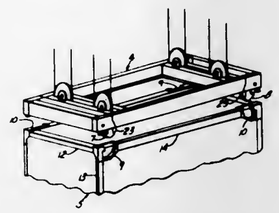
said hooks made up of straight sections projecting upwardly from the respective reverse bends and disposed in a different plane than that in which the legs are disposed, each such hook straight section about one-third the length of the crosspiece and disposed at an obtuse angle in respect thereto which is not greater than that formed by the corresponding leg.

3,262,728
HANDLING DEVICE FOR FOOD PANS
Jesse V. Atterbury, 3628 Northhaven Road, Dallas, Tex.
Filed Apr. 10, 1964, Ser. No. 358,686
2 Claims. (Cl. 294—16)



1. A handling device for food pans having a peripheral flange, comprising, an elongated rigid handle element having an obtuse angularly inclined portion at each end, a substantially triangular resilient pan engaging member integrally secured to each inclined end portion of said handle element, each having an inwardly directed flange formed along its longer lower edge engageable with the peripheral flange of a pan on opposite sides thereof, and a rigid plate integrally attached along one of its edges to one of said engaging members and extending outwardly and upwardly therefrom for flexing the same to release said pan.

3,262,729
CARGO CONTAINER AND LIFTING EQUIPMENT THEREFOR
Donald Willison, Lyndhurst, and Joseph Brown, Cleveland, Ohio, assignors, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 20, 1963, Ser. No. 332,182
6 Claims. (Cl. 294—81)



1. Cargo handling equipment comprising:

(A) a hoisting implement comprising:

(1) a frame member;

(2) a flat lifting latch pivotally mounted on the frame for movement about a horizontal axis, said latch extending downwardly from the member; and

(3) a guide arm extending downwardly from said member in proximity to the latch;

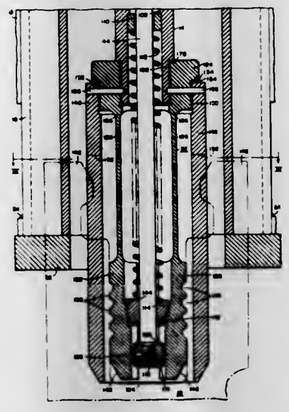
(B) a cargo container comprising a socket integrally contained in an upper corner portion of the container and defining a pocket which opens along the normally top and outer side surfaces of the container to an extent enabling the horizontal and vertical passage of the latch and the guide arm into the pocket when the latch and the arm are back-to-back;

(C) said latch and said pocket having oppositely facing S-shaped surfaces providing a downwardly-extending socket convexity on the pocket wall and a downwardly-extending concavity on the latch rendering the socket and latch interlockable;

(D) said guide being disposed in spaced relation with the latch when the latch is interlocked with said convexity, said latch being pivotable against the arm to function as a back stop therefor and to facilitate entry into the pocket; said arm and said latch, when engaged, constituting a guiding means enabling the implement to effect horizontal self-aligning movements with a container when coupling therewith.

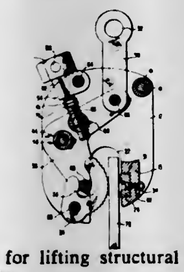
3,262,730
COUPLING DEVICE
Thomas F. Widmer, Monroeville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 18, 1961, Ser. No. 132,440
9 Claims. (Cl. 294—86.25)

1. A coupling assembly comprising a driven member having a plurality of longitudinally extending arms at one end thereof; a plurality of parallel arcuately disposed teeth formed on the inner periphery of said arms; an elongated hollow driving shaft for said driven member; a pair of opposed arcuate latching members longitudinally extending adjacent one end of said driving shaft, each of said latching members having a plurality of parallel arcuate teeth formed on the outer periphery of said latching member in a complementary relationship with said teeth on said arms and a longitudinally tapered portion on the inner surface of each of said latching members; a pair of flexing members longitudinally extending at one end of said driving shaft and joining said latching members to said one end of the driving shaft; a disconnect rod extending coaxially through said driving shaft, said disconnect rod having an operating handle protruding from the other end of said driving shaft; means for biasing said disconnect rod toward said driven member; an annular locking button slidably disposed on a portion of said rod adjacent said the latching members and having an outer surface engageable with said tapered portions on said



latching members; means for biasing said button against said latching members; and an annular release member secured coaxially to said one end of said disconnect rod and within the most inwardly extending portions of said latching members, said release member being movable away from said driven member and also engageable with said button.

3,262,731
LOCKING CLAMP
Raymond L. Renfroe, 1926 Spearing St., Jacksonville, Fla.
Filed Dec. 10, 1964, Ser. No. 417,374
8 Claims. (Cl. 294—101)



1. A clamp for lifting structural articles comprising:

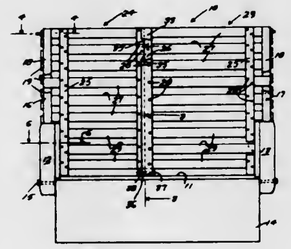
a clamp body;

a pair of opposed jaws mounted on said clamp body and defining a slot to receive the article to be lifted, one of said jaws being movable with respect to said other jaw;

linkage means connected to said clamp body to bring said jaws to a gripping relation relative to the article as a lifting force is applied to the clamp, said linkage means including a shackle to which the lifting force may be applied; and

adjustable lock means to prevent the retraction of said jaws outwardly away from the gripping relation, said adjustable lock means including a first member attached to said clamp body, a second member attached to said linkage means, a threaded rod extending through said members, said rod being threadably connected to one of said members and freely slidable relative to the other member, and stop means affixed to said rod and movable axially therewith into engagement with said other member as said rod is rotated to move said rod in a locking direction so that further rotation of said rod applies a positive locking force to said movable jaws, said rod being free of any bias opposing said movement of said stop means into engagement with said other member.

3,262,732
STOCK RACK TAIL GATE
Ferdinand H. Burkett, Kutch, Colo.
Filed Apr. 10, 1964, Ser. No. 358,881
5 Claims. (Cl. 296—52)

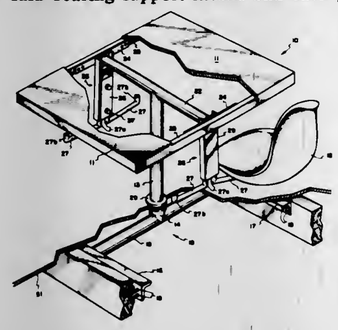


1. A stock rack tail gate for a pick-up truck adapted to fit into the rear end of a truck body and between rear end portions of stock rack sides which are mounted on and rise from sides of the truck body, said stock rack tail gate being composed of sections each extending from top to bottom thereof and each including a plurality of horizontally extending vertically spaced slats and a pair of spaced upright members to each of which each of the slats is secured, means adapted to be secured to the stock rack sides and combining with uprights thereof to form inwardly opening channels, certain of the slats of each of the tail gate sections having end portions engaging in said channels, one of said sections having a channel formed in a vertical inner edge thereof and in which an inner edge of the other section is slidably received, means detachably anchoring said first mentioned section to the truck bed, said last mentioned section being slidably movable in one of said first mentioned channels and said last mentioned channel relative to the first mentioned tail gate section for raising said other tail gate section to a partially open position or for completely removing said other tail gate section, and means connected to said first mentioned tail gate section and adapted to be adjustably connected to one of said stock rack sides for releasably clamping said other tail gate section immovably to said stock rack side and the first mentioned tail gate section in either a fully closed or partially open position.

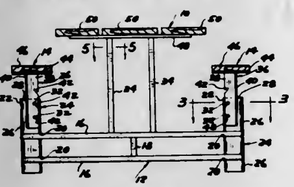
3,262,733
TABLE AND SUSPENDED CHAIR UNIT
Herman Wendell Black and Kae Derham Black, both of Blackfoot, Idaho, assignors of thirty-five percent to Richard R. Wright, Idaho Falls, Idaho
Filed July 6, 1965, Ser. No. 469,425
9 Claims. (Cl. 297—142)

9. A table and suspended seating construction including in combination; a table top; means fixedly disposed with respect to and depending from said table top for supporting said table top; plural, spaced suspension arms each having an upwardly directed vertical portion, and

an outwardly directed horizontal portion; bearing support means fixed beneath said table top; spaced bearing means carried by said bearing support means and each journaling an upwardly directed vertical portion of one of said suspension arms; and a seat rotatably mounted on the free end of each suspension arm.



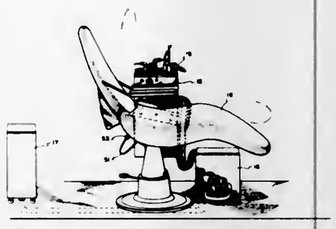
3,262,734
TABLE AND SEAT COMBINATION
Martin M. Kuks, 1336 Columbia Ave., Grand Rapids, Mich.
Filed Apr. 30, 1965, Ser. No. 452,201
8 Claims. (Cl. 297—157)



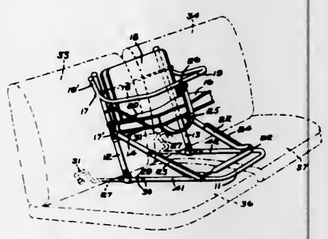
1. A combination seat and table comprising
(a) a pair of spaced support members,
(b) a table top member and means removably securing said table top member to said support members,
(c) a pair of seat members and means removably securing said seat members to said support members one on each side of said table top member,
(d) said last mentioned means comprising means for adjusting the position of each of said seat members from a lowermost position with respect to said table top member to an uppermost position,
(e) said means removably securing said table top member to said support members comprising,
said support members each comprising a pair of horizontally spaced substantially vertically extending tubular members, and
said tubular members being secured to said table top member and being received by said support member tubular members, and
(f) each of said support member tubular members being bent outwardly with respect to the other of said support member tubular members.

3,262,735
DENTAL APPARATUS
Elbert O. Thompson, 3535 Hillside Lane, Salt Lake City, Utah
Filed Apr. 23, 1963, Ser. No. 275,001
6 Claims. (Cl. 297—188)

1. Dental operatory apparatus comprising in combination a dental chair, an elevating ram, means mounting said chair on said ram for up and down movement with said ram and for tilting movement about an axis transverse thereto, an instrument housing for holding instruments and associated lengths of instrument power lines, a source of power located remotely from said housing and chair, flexible connecting means interconnecting said housing and said remotely located power source, and mounting means mounting said instrument housing for up and down and rotational movement with said chair as well as substantially horizontal movement relative thereto, said mounting means comprising generally horizontally extending elongated first guide means attached to said chair, and second guide means attached to said housing, said second guide means being complemental to said first guide means and slidingly fitted thereto.

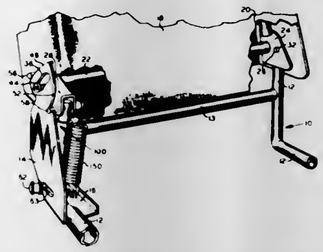


3,262,736
INFANT'S CAR SEAT
Morris C. Merelis, Brookline, Mass., assignor to Rose-Derry Company, Newton, Mass., a corporation of Massachusetts
Filed Oct. 1, 1964, Ser. No. 400,849
3 Claims. (Cl. 297—253)



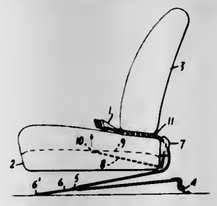
1. A portable infant's car seat adapted for installation on and across the space between the divided seats of an automobile, and comprising a base member having spaced parallel side sections and ear members projecting rearwardly from said respective sections, the ear members being spaced substantially from each other and being inclined upwardly with respect to the axis of the side sections of the base member, said base member consisting of a U-shaped tube, and said ear members being removably received in the ends of tubular side sections thereof, and means for securing the ear members in adjusted lengthwise position relative to said side sections, said ear members comprising shank portions received in the ends of the respective tubular side sections, and outer end portions offset laterally from the axes of said respective shank portions, and said means being adapted to secure said shank portions with said offset end portions extending laterally either inwardly or outwardly relative to said axes.

3,262,737
MOVABLE SEAT BACK
Jack E. Martens, Gary, Ind., assignor to The Anderson Company, a corporation of Indiana
Original application Jan. 25, 1962, Ser. No. 168,785, now Patent No. 3,104,130, dated Sept. 17, 1963. Divided and this application May 9, 1963, Ser. No. 279,288
3 Claims. (Cl. 297—379)



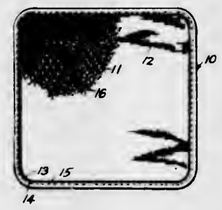
1. Structure for supporting a positionable back on a base for tilting movement rearwardly from a normal position about one axis and forwardly from a normal position about another axis,
said base pivotally supporting one side of said positionable back at a single pivot,
said base pivotally supporting the opposite side of said positionable back at first and second selective pivots thereby defining dual pivot axes each being common to said single pivot at said one side,
said first pivot and said single pivot defining the axis about which said back is tilted rearwardly and said second pivot and said single pivot defining the axis about which said back is tilted forwardly,
said first and second pivots being disposed on a side member of said base and cooperatively receiving first and second pin means respectively of said back,
a first arcuate guide surface disposed adjacent said first pivot and a second arcuate guide surface disposed adjacent said second pivot,
said first pin means pivoting in said first pivot and said second pin means traveling along said second arcuate guide for stabilizing said back as it is moved rearwardly from a normal position,
said second pin means pivoting in said second pivot and said first pin means traveling along said first arcuate guide for stabilizing said back as it is moved forwardly from a normal position.

3,262,738
RETRACTABLE SEAT BELTS
George Jantzen, New York, N.Y., assignor to M. Steinthal & Co., Inc., New York, N.Y., a corporation of New York
Filed Mar. 26, 1964, Ser. No. 354,990
2 Claims. (Cl. 297—388)



1. In a vehicle, a seat, a seat belt element anchored at one end to the floor of said vehicle and extending at its free end over said seat, retractor means engaging said seat belt element for retracting said seat belt element from said seat, first and second gripping members attached to said seat and disposed near opposite faces of said seat belt element respectively and at a point forward of said retractor means in the direction of said free end of said seat belt element, said first gripping member being actuatable towards said second gripping member to grip said seat belt element between them, said second gripping member being pivotable and having a cam gripping surface thereon adapted to tighten the grip on said seat belt element when pivotally urged in the retraction direction and to release the grip on said seat belt element when pivotally urged in the opposite direction, means cooperating with said first gripping member to control the movement thereof, and means responsive to the occupancy of said seat operably connected to said means to move said first gripping member into gripping engagement with said seat belt element upon occupancy of said seat.

3,262,739
VENTILATING CUSHION
Samuel P. Crane, 1 Warwick Road, Great Neck, N.Y.
Filed May 15, 1964, Ser. No. 367,683
9 Claims. (Cl. 297—453)

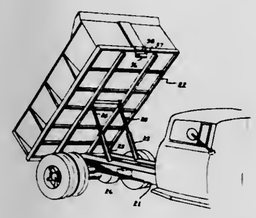


1. A ventilating cushion comprising a dimensionally stable sheet of flexible slitted and expanded plastic material having rows of perforations, each perforation tapering to a point at the opposite ends thereof, the perforations being separated by continuous undulating strips of rectangular cross section having uniform width and thickness and sharp corner edges, the crests of each strip being integral with the respective adjacent troughs of an adjacent strip to form imperforate areas each of twice the width of the remaining parts of the strip, the tops of the crests and the bottoms of the troughs being adapted directly to contact the load on the cushion and the supporting surface for the cushion respectively and to maintain the remaining parts of the strips out of contact with said load and said supporting surface when the cushion is in use, an edge finishing tape folded in half around and in contact with both faces of the sheet at the marginal portion of the sheet, stitching passing through and securing the inner edge portions of the tape together and to the sheet, and margin-stiffening means for the sheet consisting of a border wire arranged within the tape outwardly of the stitching and held in position on a face of the sheet solely by said tape and stitching.

3,262,740
TWISTING CONTROL SYSTEM FOR A TILTING DUMP VEHICLE BODY
Elmer L. Stockwell, Greybull, Wyo.
Filed Apr. 11, 1962, Ser. No. 186,668
12 Claims. (Cl. 298—22)

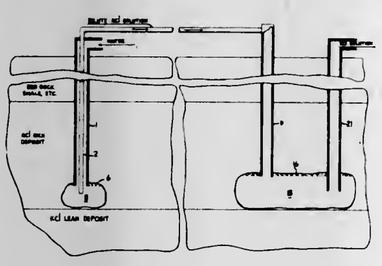
1. In a dump truck combination,
(a) a truck chassis,
(b) a tilting body pivotally secured on said chassis,
(c) at least two hydraulic jacks connected between the chassis and truck body to raise or lower the latter about said pivot in a dumping action,
(d) a fluid distribution and control unit,
(e) a source of fluid under pressure,

(f) valve means controlling flow of fluid from said source to said fluid and distribution unit and for returning said fluid to said source,
(g) hydraulic lines connected to deliver fluid from said unit to each of said jacks,
(h) a single passageway within the unit receiving fluid from said source when said valve means is opened,
(i) connecting feed passageways in said unit for delivering the same to said hydraulic lines,
(j) a sensing device mounted on said tilting body responsive to unequal longitudinal travel of said hydraulic jacks,



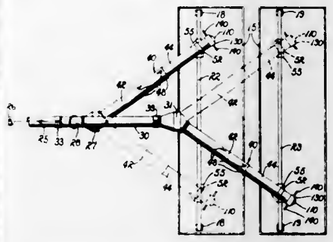
(k) means within the unit and responsive to said sensing device for delivering such amounts of fluid to said connecting passageways and to the said jacks as to cause equal longitudinal travel of the jacks during the raising or lowering of the tilting body,
(l) means responsive to flow of hydraulic fluid through said fluid distribution and control unit for reversing said controlling action, said last-mentioned means continuing to be responsive to said sensing device as said fluid flow is reversed.

3,262,741
SOLUTION MINING OF POTASSIUM CHLORIDE
Byron Priestly Edmonds, Regina, Saskatchewan, Canada, and James Bowen Dahms, New Martinsville, W. Va., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 1, 1965, Ser. No. 444,661
15 Claims. (Cl. 299—4)



1. A method of mining potassium chloride which comprises feeding water into a subterranean potassium chloride-rich deposit, dissolving potassium chloride from the deposit to form a cavity therein, withdrawing an aqueous solution of potassium chloride from the cavity before it becomes saturated, forwarding the partially saturated solution to an existing developed cavity in a potassium chloride-rich deposit and therein dissolving further potassium chloride thereby forming a more concentrated solution.

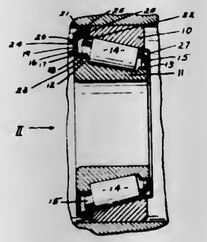
3,262,742
PNEUMATIC CONVEYING APPARATUS
Gary L. Sipe and Karl M. Smith, Fresno, and George B. Bruce and Harold R. Smalstig, Jr., Bakersfield, Calif., assignors to Mission Sheet Metal Co., Inc., a corporation of California
Filed Mar. 27, 1964, Ser. No. 355,316
4 Claims. (Cl. 302—34)



1. In a pneumatic conveying apparatus having an elongated support track; a power driven carriage having a pair of wheels supporting the carriage on said track for movement therealong; a substantially rigid air conducting conduit; means connected to said rigid conduit for reducing the air pressure therein below the surrounding atmosphere; an elongated telescopic support conduit having a pivot end section mounted on said rigid conduit and a sliding end section retractable within the pivot end section, said sliding end section having an arcuately curved extended elbow end; a saddle member rigidly mounted on the sliding end section adjacent to its extended elbow end pivotally supporting the support conduit on the carriage; an elongated telescopic manipulatable conduit having a lower section and an upper section longitudinally slidable therein; means mounting said upper section of the manipulatable conduit on the extended elbow end of the sliding end section of the support conduit in depending relation therefrom for universal angular relative movement; a control circuit for the power driven carriage; the improvement comprising a pair of switch members connected in the circuit mounted on the extended end of the sliding end section of the support conduit in substantially diametrically opposed relation in a plane normal to the longitudinal axis of said support conduit, said switches individually including depending probes extended adjacent to the upper section of the manipulatable conduit; and a control ring rigidly mounted in radially spaced relation on said upper section of the manipulatable conduit in circumscribing relation to said probes providing a passage freely to receive the probes and being alternately engageable therewith to complete said circuit and motivate the motor driven carriage incident to angular positioning of the manipulatable conduit in a plane aligned with the plane of the switches, the carriage motivation being in the direction of said angular positioning of the manipulatable conduit, and said control ring being movable relative to the probes during angular positioning of the manipulatable conduit generally in a plane aligned with the longitudinal axis of the support conduit.

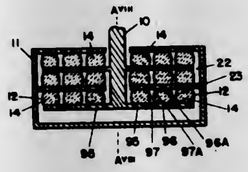
3,262,743
SEALING DEVICE FOR A ROLLER BEARING
David McNicoll, Solihull, England, assignor to The Timken Roller Bearing Company, Canton, Ohio, a corporation of Ohio
Filed Apr. 10, 1964, Ser. No. 359,820
Claims priority, application Great Britain, Dec. 24, 1963, 50,903/63
7 Claims. (Cl. 308—187.1)

1. A roller bearing comprising relatively rotatable inner and outer race rings, large and small diameter ribs on said inner race ring defining a tapered race therebetween, said outer race ring having a tapered race thereon and an axially exposed face at one side of said tapered race opposite said large diameter rib on said inner race ring, tapered roller elements between said race rings and in said tapered races, and a device for closing the end of the bearing between said large diameter rib and said exposed face, said device including a closure member having an inner flange removably mounted on said large diameter rib, a body portion extending radially outwardly from said large diameter rib, an outer flange on said



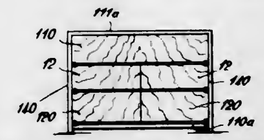
body portion directed angularly inwardly and axially toward said roller elements and terminating in a lip in close running clearance axially of said roller elements and radially of said exposed face on said tapered race in said outer race ring, and a seal ring secured on said outer flange by a flinger formed with an angularly flared outer margin overlying and angularly diverging from said outer flange on said closure member to provide a triangular space adjacent said exposed face on said outer race ring for said seal ring.

3,262,744
BEARINGS
John F. Thomas, 804 Cedarcroft Road, Baltimore, Md.
Filed Oct. 5, 1962, Ser. No. 229,287
4 Claims. (Cl. 308—240)



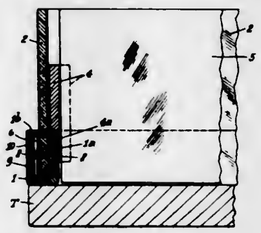
1. A bearing comprising a rotatable shaft having a bearing surface, a fixed surface facing said bearing surface, a first fluid within the space defined by said fixed surface and said bearing surface and wetting both surfaces, said fixed surface being bounded by a material which is not wetted by said first fluid, said bearing surface likewise being bounded by a material not wetted by said first fluid whereby said first fluid is confined to the space between said wetted fixed surface and said wetted bearing surface to form a first fluid annulus, load from said shaft to said fixed surface being transmitted through said first annulus and a second annulus of first fluid surrounding said first annulus and being bounded by said fixed and bearing surfaces having additional bounding surfaces non-wetted by said second annulus of fluid, load from said shaft to said fixed bearing surface also being transmitted through said second annulus.

3,262,745
HINGES FOR COLLAPSIBLE CABINETS AND THE LIKE
Siegbert Gölzer, Ebhausen, Wurttemberg, and Reimund Rutschmann, Stuttgart, Germany, assignors to Christian Holzäpfel K.G., Ebhausen, Wurttemberg, Germany
Filed Aug. 5, 1963, Ser. No. 299,894
Claims priority, application Germany, Sept. 1, 1962 H 42,512
9 Claims. (Cl. 312—108)



5. In a piece of furniture, such as a cabinet or the like, in combination, a pair of vertically spaced horizontal walls having coplanar end faces; a first vertical panel having two spaced horizontal end faces, an inner face adjacent to said walls and an outer face; a pair of hinges each including a corner bracket fixed to one of said walls and having a plate-like horizontal lug extending beyond the end face of the respective wall and beyond the outer face of said panel, each hinge of said pair further including a second bracket fixed to said panel and having a horizontal portion extending along one end face thereof and forwardly beyond the outer face of said panel, each of said horizontal portions having an opening outwardly spaced from the outer face of said panel and said openings being vertically aligned with each other, and a pair of vertical pivot pins each fixed to one of said lugs and each received in one of said openings so that said panel is pivotable about the common axis of said pins while being prevented from movement in axial direction of said pins by the respective lugs; a third vertical pivot pin fixed to one of said lugs between one of said first mentioned pins and the end face of the respective wall; a second vertical panel having a horizontal end face adjacent to said one lug; and an additional bracket fixed to said second panel and having an apertured portion adjacent to the end face of said second panel and receiving a portion of said third pivot pin whereby, when said piece of furniture is assembled, said first and second panels are substantially coplanar with one another.

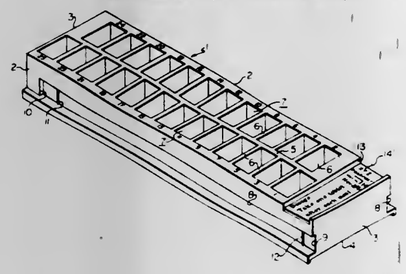
3,262,746
DISPLAY GLASS CONTAINERS
Albert Weber, Morgenstrasse, Wetzikon, Switzerland
Filed Sept. 13, 1963, Ser. No. 308,743
Claims priority, application Switzerland, Sept. 24, 1962, 11,301/62
6 Claims. (Cl. 312—140.3)



1. A display container having outer wall glass sheets and at least one glass partition, comprising in combination a plurality of endwise adjoining channel members, a plurality of corner pieces, each corner piece being operable to be inserted between two channel members and to be connected thereto, the interconnected channel members and corner pieces completing a frame, each channel

member defining an upright elongated chamber open on top adapted to receive and to hold uprightly a glass sheet and including an inner wall defining on the inner surface a series of upright internal grooves, each groove being entirely open on top and bottom and terminating above the chamber bottom, said inner wall having a smooth outer surface, and a holder including a lower end operable to clamp said inner wall of a channel member at a groove thereof and adapted to hold a glass partition in upright position.

3,262,747
DISPENSERS
Robert M. Kotzek, 51 Wright Crescent, Brockville, Ontario, Canada, and Lawrence B. Keith, Sarnia, Ontario, Canada; said Keith assignor to said Kotzek
Filed Mar. 19, 1965, Ser. No. 441,250
Claims priority, application Canada, Feb. 1, 1965, 922,141
10 Claims. (Cl. 312—234.5)



1. In a solid preformed medicament dispenser comprising a drawer having side walls, end walls and a bottom, a partition extending substantially along the central axis of said drawer, a plurality of transverse partitions extending from each side of said longitudinal partition to an adjacent said side wall, all of said partitions defining a plurality of solid preformed medicament receiving compartments arranged in a pair of parallel rows thereof, the compartments of one said row being in staggered relation to the compartments of the remaining row, and a slidable shell cooperating with said drawer, said shell including a pair of side wings, a top cover connecting the latter and having at least a transparent portion whereby the contents of said compartments may be viewed; the provisions of:

(a) a longitudinally extending keyway, having one open end, in the exterior surface of each side wall and spaced between the upper edge of the latter and said bottom;

(b) a stop surface closing the other end of each keyway;

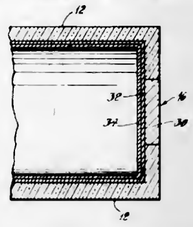
(c) a pair of lugs in each keyway spaced from the open and closed ends of the latter;

(d) a longitudinally extending key projecting from the interior surface of each wing and adapted to be in sliding cooperating relationship with an associated said keyway, at least a selected end of the latter being spaced from the adjacent end of its associated wing and being adapted to abut an associated said stop surface, when said drawer and shell are in closed condition; and

(e) a pair of ribs projecting from each said key, and spaced from the ends of the latter,

whereby, when the drawer and shell are in closed condition, one said rib, of each pair thereof, will be located between an associated said stop surface and its adjacent lug, and the remaining rib, of each pair thereof, will be located between both of said lugs, said pairs of lugs and ribs cooperating to inhibit accidental opening of said drawer and shell but having a yielding relationship to permit a required opening of said drawer and shell to obtain access to said compartments and to inhibit complete separation of the drawer and shell.

3,262,748
METHOD FOR MAKING U-V RESPONSIVE PHOTOEMISSIVE TUBES
Alfred H. Sommer, Princeton, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application Feb. 26, 1962, Ser. No. 175,854. Divided and this application Feb. 25, 1964, Ser. No. 347,319
4 Claims. (Cl. 316—10)



1. A method for making a U-V responsive, semi-transparent cathode in a photoemissive tube having a U-V transmitting section of material, at least one side of said section being internal to said tube, comprising the steps of:

evacuating said tube;

subjecting said tube to a degassing bake of approximately 350–400 degrees centigrade;

depositing a layer of conductive material on the internal side of said U-V transmitting section;

halting said deposition when the visible light transmitted through said layer of conductive material and said U-V transmitting section is approximately 85–90% of the visible light transmitted through said U-V transmitting section alone;

depositing a layer of tellurium upon said layer of conductive material by heating a compound consisting of tellurium and an element, such as indium, having a lower vapor pressure, the decomposition temperature of said compound being higher than that of said degassing bake;

halting deposition of said layer of tellurium when the visible light transmitted by said U-V transmitting section and said layers of conductive material and tellurium is approximately 3% lower than that of only said U-V transmitting section and said layer of conductive material;

evaporating an alkali metal so that its vapor combines with said tellurium layer to form an alkali telluride compound; and

halting said evaporation of said alkali metal when the emission current of said photoemissive tube, as generated by U-V light passed through said transmitting section and incident upon said alkali telluride layer, is approximately at its maximum value.

3,262,749
HIGH SPEED CAMERA
Francis H. Nadig, Philadelphia, and Jacob L. Bohn, Glenside, Pa., and Theodore Korneff, Burlington, N.J., assignors to Temple University, Philadelphia, Pa., a non-profit charitable corporation of Pennsylvania
Filed Oct. 22, 1963, Ser. No. 317,967
7 Claims. (Cl. 352—106)

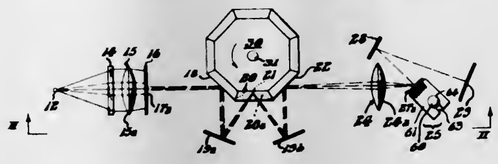
1. A high speed camera comprising

a prismatic image splitter

at least one objective lens arranged along the optical axis of each image resulting from the image splitter,

at least one aperture adjacent each objective lens in alignment with the optical axis of the image passing through the objective lens,

a rotating reflector system comprising a rotating reflector containing at least three adjacent reflecting surfaces and arranged with respect to the optical axes of the images to present a first reflecting surface incident to the images transmitted from the apertures, the rotating reflector is further provided with at least two complementary reflectors for transmitting images successively and simultaneously from the first reflecting surface to the successive adjacent reflecting surface in the direction of rotation, the first adjacent



surface being shaped for preserving the intensity of the images received by it, and the resultant images transmitted from the rotating reflector characterized by having an angular velocity due to the rotation of the reflector,

an image multiplier located in at least a portion of the path of the moving images, the multiplier comprising a plurality of mounting elements, each containing at least one mounting surface located incident to the path of the images and having attached edgewide thereon a plurality of adjacent reflectors such that each reflector will receive and reflect individual substantially stationary images, and

recording means for receiving and recording the stationary virtual images in order to preserve them in an observable state.

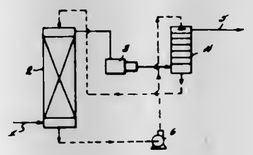
3,262,750
DEVICE FOR MOTION PICTURE PROJECTION BY MEANS OF A ROTATING PRISM PROVIDED WITH SHUTTER
Angelo Bottani, Milan, Italy, assignor to Societa Internazionale Fonovisione S.p.A., Milan, Italy, a corporation of Italy
Filed June 9, 1964, Ser. No. 373,615
Claims priority, application Italy, June 11, 1963, 12,242/63
8 Claims. (Cl. 352—119)



1. A motion picture projection apparatus for projecting along an optical axis and onto a screen film moving in a given direction, comprising a light source, a multi faceted prism mounted for rotation in timed relation with and in the same direction as said film, the axis of rotation of said prism being intersected by said optical axis, means for supporting the film in close confronting relation with said prism, a light-shutter disposed between said light source and said screen for interrupting the projection of light at least three equi-spaced times during the time it takes a frame of said film to pass by the optical axis of said apparatus.

CHEMICAL

3,262,751
REMOVAL OF NO FROM INDUSTRIAL GASES
Michael J. Dols, Beek, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed Nov. 15, 1963, Ser. No. 325,517
Claims priority, application Netherlands, Aug. 27, 1960, 255,320
5 Claims. (Cl. 23—2)



1. A process for removing nitric oxide from industrial gases in which nitrogen oxide in the industrial gas is reacted with a conjugated diolefin, said process comprising contacting said industrial gas with an oil containing said diolefin to desorb the diolefin from said oil until the diolefin content of said gas is at least 1.5 grams diolefin per cubic meter S.T.P., compressing the gas sufficiently to cause a reaction between the nitric oxide and the desorbed diolefin to form a gummy substance, contacting the compressed gas with said oil to absorb unreacted diolefin into the oil, and removing said gummy substance from said gas.

3,262,752
PROCESS FOR MAKING MANGANOUS CARBONATE
William G. Moore, Midland, Mich., and William E. Domning, Arvado, Colo., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed June 12, 1963, Ser. No. 287,192
6 Claims. (Cl. 23—61)

1. The method of making high density $MnCO_3$ of high purity which comprises admixing an aqueous solution of a water-soluble manganous salt with a water-soluble carbonate in amounts of each to provide and maintain a molar excess of the Mn fraction of the manganous salt over the CO_3 fraction of the carbonate at a pH value of between 5.7 and 7.2, under stirred conditions, at a temperature of between about 55° C. and the boiling temperature of the admixture to produce $MnCO_3$ in suspension to make a slurry; maintaining the $MnCO_3$ in suspension until the particle size and concentration of the suspended $MnCO_3$ in slurry are such as to insure a bulk density of the $MnCO_3$ of at least 15 grams per cubic inch; and separating the $MnCO_3$ so made.

3,262,753
UTILIZATION OF WASTE GAS AND WASTE SODA LIQUID IN OIL REFINERY
Yasuo Urano and Katsuo Watanabe, Okayama, Japan, assignors to Nagao Soda Co., Ltd., Okayama, Japan
No Drawing. Filed Nov. 8, 1961, Ser. No. 150,871
4 Claims. (Cl. 23—134)

4. A method of treating waste caustic solution and waste gas which are separately discharged from petroleum refining processes and which present disposal problems,

said waste caustic solution containing caustic soda together with harmful organic waste matter therein and said waste gas comprising hydrogen sulfide gas, which method comprises: (a) saturating the said waste caustic solution with the said waste gas, said saturation (1) converting all of the caustic soda solution to an aqueous solution of sodium hydrosulfide saturated with hydrogen sulfide and (2), causing the said waste organic matter to separate from and float on the surface of the aqueous solution, (b) separating the material in aqueous phase from the floating organic matter, and (c) recovering a concentrate comprising essentially sodium hydrosulfide from the aqueous phase.

3,262,754

METHOD OF MAKING LOW SODA ALUMINA OF SMALL CRYSTAL SIZE

James Gordon Lindsay and Hugh Joseph Gailey, Arvida, Quebec, Canada, assignors to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Dec. 7, 1964, Ser. No. 416,501
3 Claims. (Cl. 23—142)

1. A method of producing low soda content alumina, of substantially all alpha alumina content and having an average crystal size in the range of about 1–3 microns, which method comprises:

(a) calcining soda-contaminated alumina particles derived from the Bayer Process at an elevated temperature from about 1200° C. up to the melting point of alumina, in the presence of chlorine gas, as the sole reagent, in an amount of about 0.5–10% sufficient to obtain the desired soda removal during the calcination, for a time of about 0.3–3.5 hours to obtain alumina of substantially all alpha alumina content and of the desired crystal size; and

(b) withdrawing from said calcining zone an alumina of substantially all alpha alumina content, of an average crystal size in the range of about 1–3 microns, and a soda content substantially less than that of the soda contaminated alumina feed to said calcination.

3,262,755

IRON OXIDE PIGMENTS

Andre Steinmetz, Aubervilliers, Roger Botton, Paris, and Jean Paul Delgrange, Le Vesinet, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

No Drawing. Filed Nov. 13, 1962, Ser. No. 237,311
Claims priority, application France, Nov. 30, 1961, 880,445
3 Claims. (Cl. 23—200)

1. In the process for making red iron oxide pigments substantially free of combined water without calcination which includes a first step of reacting metallic iron and acid in the presence of an alkali metal salt and gaseous oxygen in aqueous medium, thereby forming red iron oxide in situ, the novel steps of maturing the newly formed red iron oxide by adding to the medium containing it a stronger oxidizing agent than oxygen, which is of the type of H_2O_2 and the hypochlorites, neutralizing the medium to a pH of about 5.5 to 6, and heating the medium to about 50 to 80° C. with the continued introduction of gaseous oxygen for about 8 to 48 hours.

2. In the process for making red iron oxide pigments substantially free of combined water without calcination which includes a first step of insufflating an aqueous solution of an iron salt of a strong mineral acid containing an alkali metal salt and metallic iron with gaseous oxygen, adding a ferrous salt while continuing the insufflation with gaseous oxygen until the pigment has the desired shade, and isolating and washing the pigment, the novel maturing steps which comprise adding a stronger oxidizing agent than oxygen, which is of the type of H_2O_2 and the hypochlorites, to the aqueous medium, neutralizing the medium to about pH 5.5 to 6 and raising the temperature of the medium to about 50 to 80° C. for about 8 hours.

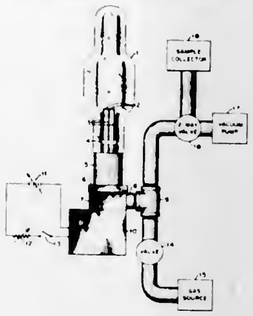
3. In the process for making red iron oxide pigments substantially free of combined water without calcination which includes a first step of preparing red iron oxide pigment seeds from an aqueous medium containing ferrous sulfate, introducing a ferrous salt to the aqueous medium containing the seeds, and continuing the introduction of gaseous oxygen and the heating until the desired shade and quality of pigment is produced, the novel steps of adding a stronger oxidizing agent than oxygen, which is of the type of H_2O_2 and the hypochlorites to the medium containing the seeds, neutralizing the medium to a pH of about 5.5 to 6 and maturing the seeds thus produced by heating the medium containing the seeds to about 50 to 80° C. with continued introduction of gaseous oxygen.

3,262,756

METHOD FOR ANALYZING INERT GAS FOR PRESENCE OF OXYGEN OR WATER VAPOR

Gerald W. Keilholtz, Knoxville, and Curtis C. Webster, Oak Ridge, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 18, 1962, Ser. No. 245,952
1 Claim. (Cl. 23—232)



A method of qualitatively analyzing an inert gas for the possible presence of oxygen or water vapor therein comprising the steps of evacuating a transparent glass bulb containing a tungsten filament therein, flowing an inert gas sample through said bulb, connecting a first selected voltage across said filament for a short time interval to heat said filament to a dull red color, said filament turning black to provide a first indication of the presence of any oxygen or water vapor that may be present in said inert gas sample, and connecting a second selected voltage across said filament for a second short time interval to heat said filament to near incandescence, said filament flashing off a white cloud to provide a second indication of the presence of any oxygen or water vapor that may be present in said inert gas sample.

3,262,757

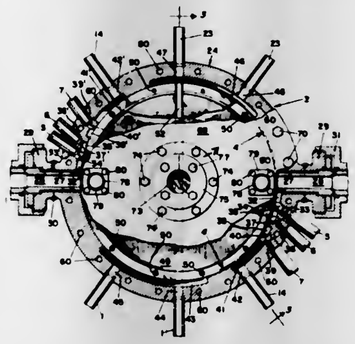
WAVE ENGINE

Jakob E. Bodmer, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Mar. 6, 1964, Ser. No. 349,884
10 Claims. (Cl. 23—284)

1. In a wave engine, a substantially solid cylindrical rotor mounted for rotation about its central longitudinal axis, the diameter of said rotor being large compared to its axial length, said rotor having therein a single straight open-ended channel which extends transversely to said axis and diametrically of said cylinder and whose ends

open into the cylindrical surface of said rotor; a stationary port ring closely surrounding the cylindrical surface of said rotor, and means providing a pair of diametrically-opposite driving gas inlets in said ring, said inlets being adapted to come into communication with said channel as the latter is rotated; said ring having therein, beyond the respective inlets in the direction of rotation of said rotor, at least one pair of diametrically-opposite driving gas outlets which are adapted to come into communication with said channel as the latter is rotated; said ring



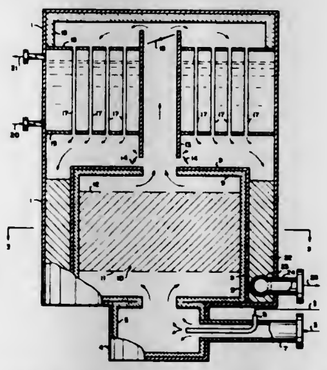
also having therein, beyond the respective outlets in the direction of rotation of said rotor, a pair of diametrically-opposite product gas outlets which are adapted to come into communication with said channel as the latter is rotated; said ring further having therein, beyond one of said product gas outlets in the direction of rotation of said rotor, a charge gas inlet which is adapted to come into communication with said channel as the latter is rotated.

3,262,758

APPARATUS FOR REFORMING SYNTHESIS GAS

George Russell James, Armonk, and Paul Korwin, Flushing, N.Y., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 19, 1963, Ser. No. 266,348
8 Claims. (Cl. 23—288)



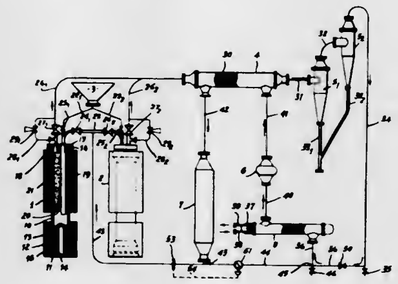
1. Synthesis gas furnace for combined secondary reform and carbon monoxide oxidation which comprises a vertically extending outer container, a refractory-lined inner container within said outer container and spaced away from said outer container to provide a fluid passage chamber between said containers, said inner container being filled with a bed of hydrocarbon reform catalyst, a bed of catalyst for carbon monoxide oxidation disposed in said fluid passage chamber between said inner container and said outer container, a refractory-lined combustion chamber extending adjacent to an inlet for gas entry into said inner container, means to pass primary reformed gas and an oxygen-containing gas into said combustion chamber whereby combustion of a portion of said primary reformed gas takes place and the resulting mixed gas stream passes through said gas entry inlet and into said inner container, means to pass reformed gas mixture from said inner container to heat removal means, means to pass cooled reformed gas mixture from said heat removal means to said bed of carbon monoxide oxidation catalyst in said fluid passage chamber, and means to remove the final gas stream from said bed of carbon monoxide oxidation catalyst.

3,262,759

APPARATUS FOR CARRYING OUT CHEMICAL REACTIONS UNDER PRESSURE

Jean Louis Emile Pomot, Neuilly, Seine, Emmanuel Jean Francois Luzarreta, Toulouse, Haute-Garonne, and Robert Leon Pierre Becanne, Pinsaguel, Haute-Garonne, France, assignors to Office National Industriel de l'Azote, Toulouse, Haute-Garonne, France, a French body corporate

Filed Feb. 8, 1963, Ser. No. 257,311
Claims priority, application France, June 1, 1959, 796,232, Patent 1,267,160; Apr. 20, 1960, 824,832, Patent 77,543
10 Claims. (Cl. 23—290)



1. An apparatus for the conversion of at least one substance under elevated temperature and pressure into a conversion product which is vaporized at said elevated temperature and pressure and condensable to solid at said elevated pressure under a lower elevated temperature, which comprises a closed vessel having a pressure-resisting wall, a valved gas inlet and a valved gas outlet through said wall in the upper part thereof, means for maintaining the lower part of said vessel at said first-named elevated temperature, means for maintaining the upper part of said vessel at said lower, elevated temperature, means located in the lower part of said vessel forming with said walls of said vessel a generally uniformly annular reaction zone, the last said means having a generally cylindrical configuration and being positioned in said lower part concentrically with respect to the walls of said vessel and also extending upwardly within the lower portion of said vessel to substantially the same height of the portion thereof which is maintained at said elevated temperature for conversion of reactants, obstructing means supported from said vessel wall within the upper part of said vessel for condensation thereon of the vapors of said conversion product to solid, and means for passing

a hot gas from said inlet to said outlet via said upper part of said vessel to vaporize and entrain said conversion product condensed on said obstructing means.

3,262,760

METHOD OF PREPARING HIGH-DENSITY COMPACTIBLE URANIUM DIOXIDE PARTICLES

Leon E. Morse, Oak Ridge, Kenneth H. McCorkle, Powell, and Charles E. Schilling, Knoxville, Tenn., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Dec. 24, 1963, Ser. No. 333,232
4 Claims. (Cl. 23—355)

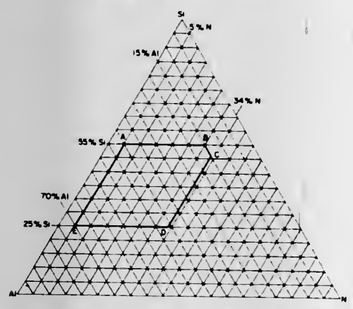
1. The method of preparing high-density millimeter-size UO_2 particles which comprises precipitating colloidal hydrous uranous oxide in aqueous solution under a non-oxidizing atmosphere, separating the resulting precipitate from the remaining solution, washing said precipitate under a non-oxidizing atmosphere, heating said precipitate to dryness under a non-oxidizing atmosphere at a temperature below about 130° C., said temperature being maintained below 100° C. until said precipitate has passed through a pasty stage, and firing the resulting fragments at a temperature of at least 1050° C. in a non-oxidizing atmosphere.

3,262,761

HIGH TEMPERATURE-RESISTANT MATERIALS OF ALUMINUM, NITROGEN, AND SILICON AND PREPARATION THEREOF

Max F. Bechtold, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 3, 1963, Ser. No. 313,481
9 Claims. (Cl. 29—182.5)



1. A composition consisting essentially of aluminum, nitrogen, silicon, and oxygen in the proportions, by weight based on total aluminum, nitrogen and silicon, of 15–17% Al, 5–34% N, 25–55% Si, and 0–30% O, wherein the elements Al, N and Si are present in at least one of the forms selected from the class consisting of elemental aluminum, elemental silicon, aluminum-silicon alloys, aluminum nitride, aluminum oxide, silicon nitride and silicon dioxide, and wherein the total of aluminum and silicon exceeds, by at least 5% by weight, the amount required to react completely with the nitrogen and oxygen present, and oxygen when present is in combined form.

3,262,762

HIGH TEMPERATURE-RESISTANT MATERIALS OF ALUMINUM, BORON, CARBON, NITROGEN AND SILICON, AND THEIR PREPARATION

Max F. Bechtold, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 27, 1963, Ser. No. 334,042
9 Claims. (Cl. 29—182.5)

1. A composition consisting essentially of aluminum, boron, carbon, nitrogen, silicon, and oxygen in the proportions by weight based on total aluminum, boron, carbon, nitrogen, and silicon of 15–73% Al, 3–45% B, 1.5–20% C, 3–26% N, 3–40% Si, and 0–30% O, the amount of aluminum present exceeding by at least 5% by weight the amount required to react completely with the nitrogen and oxygen present, the elements Al, B, C, N and Si being present in at least one of the forms selected from the class consisting of elemental aluminum, aluminum-boron alloys, aluminum-silicon alloys, aluminum-boron-silicon alloys, aluminum nitride, aluminum oxide, boron carbide, boron oxide, silicon carbide, silicon dioxide and silicon nitride.

3,262,763

HIGH TEMPERATURE-RESISTANT MATERIALS OF ALUMINUM, BORON, NITROGEN, AND SILICON AND PREPARATION THEREOF

Max F. Bechtold, Kennett Square, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 19, 1964, Ser. No. 345,857
9 Claims. (Cl. 29—182.5)

1. A high temperature-resistant converted composition consisting essentially of aluminum, boron, nitrogen, silicon and oxygen in the proportions by weight based on total aluminum, boron, nitrogen, and silicon of 15–70% Al, 1–45% B, 5–35% N, 10–55% Si, and 0–30% O, said composition containing (1) a solid continuous matrix structure comprising aluminum nitride and (2) 5–84.4% by weight, based on converted composition, of a metallic structure containing at least 5%, based on converted composition, of silicon in the form of elemental silicon, silicon-aluminum alloys, silicon-boron alloys, and silicon-aluminum-boron alloys.

3,262,764

COATINGS FOR COLUMBIUM BASE ALLOYS

Elihu F. Bradley, West Hartford, Conn., and Edwin S. Bartlett, Worthington, and Horace R. Ogden and Robert I. Jaffee, Columbus, Ohio, assignors, by direct and mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

No Drawing. Filed Aug. 19, 1963, Ser. No. 303,132
7 Claims. (Cl. 29—197)

1. An article of manufacture having good stress-rupture strength at high temperatures, high temperature oxidation resistance, and resistance to cyclic fatigue failure, which comprises a core of metal selected from the group consisting of columbium and columbium base alloys, and a surface layer, adherently bonded to the core, consisting essentially of CoAl.

3,262,765

SOLIDIFIED HYDROCARBON FUEL PACKAGE

Donn B. Wimmer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 31, 1962, Ser. No. 199,146
6 Claims. (Cl. 44—40)

1. A solidified solid-fuel package comprising

(a) a solidified fuel comprising a major portion of a normally liquid hydrocarbon and a minor portion of a normally solid high molecular weight polymer of 1-olefin having 2–8 carbon atoms per molecule,

(b) an enclosure encompassing said solidified fuel, said enclosure being composed of a metallic foil which melts above 500° C. said enclosure being so constructed so as to provide a frustro-conical chimney means at the top portion of said package when said enclosure is opened,

(c) means in one of said fuel and said enclosure communicating with said chimney means to supply air thereto to aid in the combustion of said fuel.

3,262,766

RARE-EARTH OXIDES FOR POLISHING GLASS

Frederick C. Nonamaker, Gloucester, N.J., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Nov. 21, 1963, Ser. No. 325,451
The portion of the term of the patent subsequent to Apr. 28, 1981, has been disclaimed
6 Claims. (Cl. 51—308)

1. A polishing material consisting essentially of a mixture of approximately 90% by weight rare-earth oxides, 0 to 5% by weight silica and 5 to 9% by weight fluorine, the particles of said material being in the 5 to 20 micron size range.

3,262,767

METHOD FOR PREPARING VITREOUS SILICA FIBERS

Eugene C. S. Wang, La Puente, Calif., assignor to H. I. Thompson Fiber Glass Company, Los Angeles, Calif.

No Drawing. Filed Aug. 22, 1960, Ser. No. 50,859
5 Claims. (Cl. 65—31)

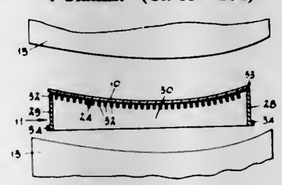
1. A method of preparing improved vitreous silica fibers having increased breaking strength, drapability, hand and resistance to abrasion and decreased brittleness, which method comprises uniformly dispersing silica particles having a particle size of up to 44 microns on fibers during conversion of said fibers from glass fibers to vitreous silica fibers, and thereafter firing said fibers to shrink the same.

3,262,768

METHOD FOR BENDING AND TEMPERING GLASS SHEETS

Frank J. Carson, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Jan. 24, 1961, Ser. No. 84,613
4 Claims. (Cl. 65—104)



1. In a method of bending and tempering glass sheets, the steps of, supporting a sheet to be bent on a shaping surface corresponding in outline and curvature to the sheet when bent, heating the sheet to a temperature corresponding to the softening point of the glass until said sheet sags into engagement with said shaping surface, and rapidly reducing the temperature of the opposite surfaces of the sheet at different rates thereby maintaining the uppermost surface at a lower temperature than the lowermost surface to cause warping of the sheet to move at least one edge of said sheet away from and out of contact with said shaping surface until said sheet is fully tempered.

3,262,769

METHOD OF FABRICATION OF A MICROWAVE DELAY LINE

Joseph B. Brauer, Rome, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force

Original application Apr. 24, 1961, Ser. No. 105,241, now Patent No. 3,098,204, dated July 16, 1963. Divided and this application Aug. 7, 1963, Ser. No. 300,710
2 Claims. (Cl. 65—105)

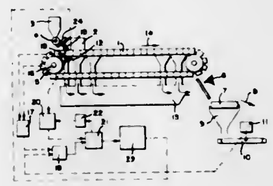
1. The method of fabricating a microwave delay circuit comprising the steps of cutting the ends of a quartz crystal perpendicular to the crystallographic *x*-axis thereof, thermal isolating the end sections of the crystal, locally heating the center section of said crystal to its working temperature and drawing said center section to provide a filamentary delaying therefrom.

3,262,770

METHOD OF CONTROLLING THE THICKNESS OF A CHARGED RAW MATERIAL LAYER IN DWIGHT-LLOYD SINTERING MACHINE

Keiji Tsujihata and Yasuhiro Sawada, Kitakyushu, Japan, assignors to Yawata Iron & Steel Company Limited, Tokyo, Japan, a corporation of Japan

Filed May 3, 1963, Ser. No. 277,737
Claims priority, application Japan, May 11, 1962, 37/19,082
3 Claims. (Cl. 75—5)



1. A method of keeping a layer of charged raw material in a Dwight-Lloyd sintering machine at an optimum thickness, comprising the steps of determining the pressure in the windbox of the sintering machine which is produced when the charged raw material is on the machine, determining the differences between the windbox pressure and a predetermined value of windbox pressure over a period of time, said predetermined value of windbox pressure being a pressure corresponding to a thickness of charged raw material thought to be an optimum on the basis of past experience, time-integrating said differences, and when the integrated value of the differences at the end of said period of time is negative with respect to said predetermined value, decreasing the thickness of the layer of the raw material, and when the integrated value of the differences at the end of said period of time is positive with respect to the said predetermined value, increasing the thickness of the layer of the raw material, comparing the amount of the raw material being charged per unit of time with the sintered material being produced per unit time for determining the amount of production of the machine, and when a change in layer thickness to bring the windbox pressure to within the predetermined value reduces the amount of production, changing the predetermined value to the windbox pressure prior to the said change.

3,262,771

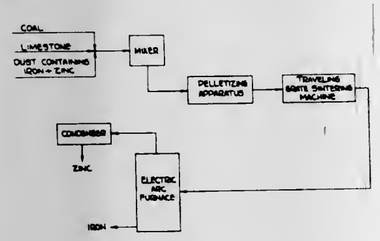
RECOVERY OF STEEL AND ZINC FROM WASTE MATERIALS

Thomas E. Ban, Cleveland, Ohio, assignor to McDowell-Wellman Engineering Company, Cleveland, Ohio, a corporation of Ohio

Filed June 20, 1963, Ser. No. 289,224
3 Claims. (Cl. 75—11)

3. A process for the recovery of iron and zinc values from waste material containing ferric oxide and zinc recovered in steel-making operations comprising the steps of mixing said waste material with coal and limestone, adjusting the water content of the resulting mixture within the range of 12% to 16% by weight, forming said wet mixture into green pellets, carbonizing said green pellets so as to bond the pellet while simultaneously calcining the limestone and partially reducing said ferric oxide, feeding said bonded pellets to an electric arc furnace and

subjecting them to iron-making conditions therein, removing zinc as an overhead vapor from said furnace,



and thereafter condensing same and recovering iron as a liquid from said furnace.

3,262,772
PROCESS FOR THE PRODUCTION OF ALLOY STEELS
Adolf Richter, Munich, Georg Cohnen and Hansgeorg Bauer, Witten (Ruhr), Germany, and Rudi Rinesch, Linz (Danube), Austria, assignors to Gussstahlwerk Witten Aktiengesellschaft, Witten (Ruhr), Germany
No Drawing. Filed July 1, 1963, Ser. No. 292,127
Claims priority, application Austria, July 6, 1962, A 5,474/62
8 Claims. (Cl. 75—52)

1. A process for the production of alloy steel from crude iron by the oxygen top blowing process which comprises the steps of:

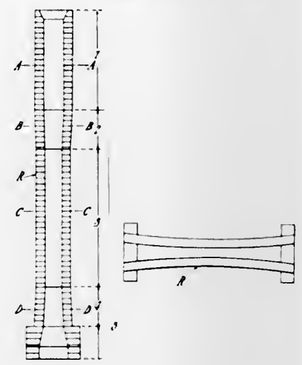
(1) blowing in a first phase to form an intermediate product with a phosphorus content of less than 0.025% under a highly basic first slag which is rich in iron oxide and has a basicity of more than 3,
(2) removing the slag,
(3) adding alloying elements,
(4) blowing in a second phase under a second slag in which the slag-forming constituents comprise from about 1 to about 4% and which has a basicity of about 2, and,
(5) after completion of said second blowing phase, partially removing the resultant slag and adding fresh slag-forming constituents, liquefying the slag by external heating and maintaining it in a reducing condition by the addition of reducing agents, so that a reducing slag similar to that in an electric arc refining slag results, whereby the quality of the steel is improved and the sulphur content of the steel is reduced to 0.005%.

3,262,773
PROCESS FOR THE REMOVAL OF ARSENIC, ANTIMONY, TIN AND OTHER ACID OXIDE PRODUCING IMPURITIES FROM COPPER
Hans Werner Fritze, Hamburg, Germany, assignor to Norddeutsche Affinerie, Hamburg, Germany
No Drawing. Filed Feb. 18, 1963, Ser. No. 259,385
Claims priority, application Germany, Feb. 22, 1962, N 21,243
7 Claims. (Cl. 75—76)

1. A process for the removal of arsenic, antimony and tin impurities from crude copper comprising:

(a) adding to molten crude copper 4 to 12% calcium oxide based on the weight of said crude copper and a substance which tends to become demixed from copper oxide in addition to its fluxing properties consisting essentially of fluorspar and forming a slag phase having an excess of calcium oxide;
(b) oxidizing said molten crude copper to at least 1% oxygen content and converting said impurities to the acid oxides thereof;
(c) contacting said slag phase with said molten crude copper for a sufficient time whereby said acid oxides migrate from said copper into said slag phase;
(d) separating said slag phase from said copper.

3,262,774
RETORT AND METHOD FOR THE EXTRACTION OF ZINC
Victor Ernest Clifton, Avonmouth, England, assignor to The National Smelting Company Limited, London, England
Filed July 5, 1963, Ser. No. 292,970
Claims priority, application Great Britain, July 30, 1962, 29,239/62
6 Claims. (Cl. 75—86)



1. In an externally heated retort for the pyrometallurgical reduction of zinciferous material having vertical end and side walls of a refractory material, the interior of said retort being generally rectangular in cross-sectional configuration, the improvement, in combination therewith, comprising an intermediate section of said retort having at least one side wall arched inwardly to form a constricted interior cross-sectional portion of the retort.

3,262,775
STRIPPING OF CHROMIUM PLATE USING A SOLUTION CONTAINING SULFAMIC ACID AND A WATER SOLUBLE CHLORIDE
Charles F. Griffin, Jr., 10 McGrady St., Holyoke, Mass.
No Drawing. Filed Feb. 26, 1964, Ser. No. 347,366
5 Claims. (Cl. 75—97)

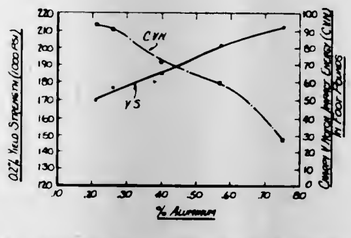
1. In a metal treating process, the steps of removing the chromium from a metal coated therewith which comprises, immersing the coated metal to treatment in an aqueous solution comprising essentially dissolved sulfamic acid and a water soluble chloride in water, at a temperature within the range of 130° F. to 160° F.

3,262,776
MEDIUM CARBON VANADIUM STEEL
John E. Loeffler and Obert L. Nordin, Houston, Tex., assignors to Thornhill-Craver Company, Houston, Tex., a corporation of Texas
No Drawing. Filed May 9, 1963, Ser. No. 279,302
13 Claims. (Cl. 75—123)

1. A steel containing essentially about 0.24% to 0.35% carbon; about 0.45% to 1.15% manganese; about 0.40% to 0.60% silicon; about 0.03% to 0.15% vanadium; not more than about 0.05% phosphorous, 0.06% sulphur, 0.50% copper, 0.50% nickel, 0.25% chromium, 0.25% molybdenum plus tungsten; and the balance essentially iron;

the composition hardenability index of all of said elements other than iron being between about 2050 and 2600;
said vanadium being in solid solution in the matrix.

3,262,777
ULTRA TOUGH MARAGING STEEL
Edward Peter Sadowski, Ringwood, N.J., assignor to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 13, 1964, Ser. No. 382,309
14 Claims. (Cl. 75—124)



1. A maraging steel manifesting a unique ability to absorb extremely high levels of impact energy of about (a) 75 foot-pounds and above while simultaneously affording a high level of yield strength of at least about 175,000 p.s.i., and (b) about 50 foot-pounds and above while affording a yield strength of about 200,000 p.s.i., and consisting essentially of a composition falling within the following ranges: about 11.5% to 12.5% nickel, about 4.5% to 5.5% chromium, about 2.75% to 3.25% molybdenum, about 0.3% to about 0.6% aluminum, about 0.15% to about 0.25% titanium, up to about 0.2%, columbium, about 0.001% to 0.03% carbon, up to not more than 0.001% boron and up to not more than 0.05% zirconium to thereby greatly minimize their influence in adversely affecting the toughness characteristics of said steel, up to 0.1% silicon, up to 0.1% manganese, and the balance essentially iron.

3,262,778
ALLOYS RESISTANT TO HIGH TEMPERATURES
William T. Kaarlela, Fort Worth, Tex., assignor to General Dynamics Corporation, Fort Worth, Tex., a corporation of Delaware
No Drawing. Original application Apr. 9, 1963, Ser. No. 271,577, now Patent No. 3,220,828, dated Nov. 30, 1965. Divided and this application Apr. 15, 1965, Ser. No. 448,250
3 Claims. (Cl. 75—134)

1. An alloy characterized by its ability to withstand high temperatures and consisting of from about 20% to about 65% titanium, from about 20% to about 65% chromium, from about 5% to about 35% columbium, and from about 5% to about 25% germanium.

3,262,779
IRIDIUM-TUNGSTEN ALLOY PRODUCTS
Edward George Price, Chiswick, London, and Laszlo Dezso Romhanyi, Kingston-upon-Thames, Surrey, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 5, 1963, Ser. No. 321,439
Claims priority, application Great Britain, Nov. 8, 1962, 42,273/62
3 Claims. (Cl. 75—172)

1. Wrought resilient iridium-tungsten alloy sheet, strip, wire, bar and like products especially adapted for manufacture into resilient articles consisting of 0.5% to 7% tungsten with the balance essentially iridium and characterized by a modulus of elasticity of at least 76 million pounds per square inch, an ultimate tensile strength of at least 300,000 pounds per square inch and a recrystallization temperature of at least 900° C.

3,262,780
PREPARATION OF PHOTOPOLYMERIZED PRINTING ELEMENTS
Glen A. Thommes, Red Bank, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 27, 1962, Ser. No. 190,779
9 Claims. (Cl. 96—48)

1. A process for improving the surface characteristics of a polymeric relief which comprises treating the surface of a printing relief comprising:

(a) a solid addition polymer of an ethylenically unsaturated monomer containing at least one terminal ethylenic group, and
(b) a preformed solid organic polymer binding agent having a molecular weight above 10,000 and containing recurring extralinear solubilizing groups selected from the class consisting of free carboxylic acid and sulfonic acid groups and their corresponding alkali metal, ammonium and amine salts,

with an aqueous solution containing at least one water-soluble salt of a polyvalent metal soluble to the extent of at least 10 grams per liter of water and capable of salt formation or complex formation with the solubilizing groups of said polymer binding agent and for a period of at least 15 seconds.

3,262,781
PHOTOGRAPHIC PRODUCTS
William H. Ryan, Carlisle, and Lloyd D. Taylor, Everett, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed July 5, 1962, Ser. No. 207,794
6 Claims. (Cl. 96—76)

4. A photographic product comprising a plurality of layers including a silver halide emulsion layer, at least one of said layers having disposed therein a cyclic ester of a boronic acid and an α,β-enediol silver halide developing agent.

3,262,782
MATTED ANTIHALATION LAYER FOR PHOTOGRAPHIC MATERIALS
Helfried Klockgether, Leverkusen, Walther Cohnen, Cologne-Mulheim, and Peter Kruck, Cologne-Stammheim, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Jan. 23, 1962, Ser. No. 168,272
Claims priority, application Germany, Feb. 8, 1961, A 36,682
8 Claims. (Cl. 96—84)

1. A light-sensitive photographic film comprising a transparent support coated on one side with at least one light-sensitive silver halide emulsion layer and on the other side with a matted antihalation layer consisting essentially of

(i) a film-forming binder that is soluble in aqueous photographic processing baths,
(ii) an antihalation dye, and
(iii) heterogeneously dispersed throughout the binder, as a matting agent, an ester of cellulose with (a) acetic acid and (b) a dicarboxylic acid, said ester containing free acid radicals, having an acid number (milliliters of 0.5-molar potassium hydroxide per gram) between 4 and 8, and being present in an amount between 1 and 10 parts by weight of the cellulose ester to each 12 parts by weight of the binder.

3,262,783
PRODUCTION OF A FOOD PRODUCT BY THE ENZYMATIC TREATMENT OF CEREAL GRAINS

Etienne Marie Joseph Blanchon, 85 Ave. de Villiers, Paris, France

No Drawing. Filed Feb. 8, 1963, Ser. No. 257,102
Claims priority, application France, Apr. 3, 1959, 791,108
7 Claims. (Cl. 99—1)

1. A process for the preparation of a food product which comprises in combination the following successive stages:

(a) obtaining an enzymatic preparation by subjecting cereal grains to germination conditions, then subjecting said cereal grains when their germination has just barely started to a physical treatment for the separation of the cellulosic constituent of the grain which is eliminated and a liquid constituent which constitutes said enzymatic preparation;

(b) then placing said liquid constituent which constitutes an enzymatic preparation rich in pectinases obtained from stage (a) in contact with the sharps of the grains of the same cereal species as the grains treated in stage (a), hydrolyzing the pectic cement of the cellulosic walls of the cells which form said sharps at a temperature from 10° to 70° C., then separating by physical means the nutritive and active elements freed by the action of the enzymatic preparation rich in pectinases obtained in stage (a) upon said sharps from the cellulose which was bound prior to said hydrolysis to form a desired product.

3,262,784
CHEWING GUM PRODUCT AND METHOD OF MAKING SAME

Robert C. Bucher, Harleysville, Pa., assignor to Frank H. Fleer Corporation, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 2, 1963, Ser. No. 327,508
18 Claims. (Cl. 99—135)

1. A chewing gum product consisting essentially of discrete dry sugar particles, having a particle size such that it passes through a 20 mesh screen, surrounded by dry chewing gum base, said chewing gum base being present in an amount between about 5 and about 40%, by weight, based on the combined weight of said chewing gum base and said sugar, and said product containing less than 1% of moisture.

3,262,785
PROCESS FOR INHIBITING THE COLOR CHANGE DUE TO RIPENING IN BANANAS

William N. Anastos, Belmont, Mass., assignor to William G. Markos, Ipswich, Mass.

No Drawing. Filed Aug. 28, 1964, Ser. No. 392,952
4 Claims. (Cl. 99—168)

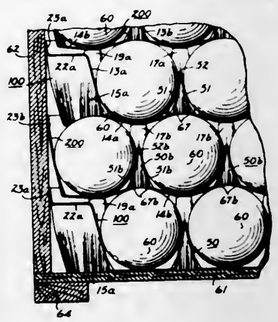
1. A process for inhibiting the normal color change which occurs in the skin of bananas during the ripening cycle which comprises enveloping the bananas with a coating consisting essentially of polyvinyl acetate, said coating having a thickness equivalent to that obtained by dipping the untreated bananas once in an emulsion consisting essentially of water as the continuous phase and above about 11% and below about 40% by weight polyvinyl acetate solids as the dispersed phase.

3,262,786
REVERSED STACKING TRAYS

Hugh R. Weiss, Montclair, N.J., assignor to The Pantasote Company, Passaic, N.J., a corporation of New Jersey

Filed Dec. 9, 1963, Ser. No. 329,202
2 Claims. (Cl. 99—171)

1. A fruit packing assembly for packing boxes comprising a series of multiple-compartment molded fruit packing trays filled with fruit and arranged in a stack with the fruit in each lower tray engaging and supporting the bottom portion of the overlying tray, each tray being formed in one piece from a thin sheet of thermoplastic material and having a generally rectangular perimeter, a continuous vertically disposed marginal reinforcing flange extending throughout the periphery of said tray and strengthening said tray, said flange having an upper cut edge, the bottom portion of said tray being provided with rows of downwardly extending cup-shaped pockets having thin lower side and bottom walls which conform with the fruit therein, each pocket containing an individual piece of fruit and fitting snugly the lower portion of said fruit, the pockets along the edges of the tray having portions of their outer walls contiguous to said marginal flange, the marginal flanges projecting upwardly above the bottom level of the cup-shaped pockets of overlying trays to limit



horizontal movement of the overlying trays in all directions and to hold the trays in vertical alignment, said pockets being arranged in parallel longitudinal, lateral and diagonal rows and facing upwardly for engagement with the fruit therein, each tray having generally the same size and shape as the next adjacent tray of the stack but being an inversion of said adjacent tray, the center of each pocket in one tray being out of alignment with the centers of the pockets in the next adjacent tray and being spaced from a vertical line through the center of the nearest pocket of the adjacent tray a horizontal distance equal to about 0.4 to 0.5 times the maximum diameter of the latter pocket, the lower peripheral portions of the pockets of each tray providing cushioning means for engaging the underlying fruit and holding the fruit in that pocket away from the underlying fruit to prevent damage to the fruit.

3,262,787
PROCESS OF PREPARING PACKAGED COOKED FOODS

Eugene D. Ellis, 3120 NW. 13th Ave., Miami, Fla.

Filed June 18, 1962, Ser. No. 203,049
11 Claims. (Cl. 99—174)

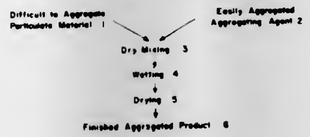
1. The process of preparing sterile, cooked, succulent, packaged, fleshy foods derived from animals, substantially free from associated unabsorbed liquids at room temperature, which comprises encasing the uncooked fleshy food in a plastic container which is heat stable at the cooking temperatures employed and is inert to the fleshy food being processed, said container having an elongated neck after encasing the fleshy food, applying a vacuum through an opening to exhaust at least a substantial amount of entrapped air, hermetically sealing the container while under vacuum at a point adjacent the point of vacuum application, subjecting the sealed container and its encased fleshy food to cooking temperatures for a sufficient length of time to at least partially cook the fleshy food, immediately chilling said encased food to a temperature of between about 33 and about 40° F., gravity draining liquids remaining unabsorbed in the cooked, chilled fleshy food into the elongated neck and

applying at least one seal hermetically to the elongated neck, while the drained liquids remain in the neck portion by gravity, intermediate said juncture and the level of the drained liquid.

3,262,788
PROCESS FOR AGGREGATING DIFFICULT TO AGGREGATE PARTICLES AND THE PRODUCT THEREOF

Arthur M. Swanson and Douglas J. Fenske, Madison, Wis., assignors to Dairy-Mour, Inc., a corporation of Wisconsin

Filed June 25, 1963, Ser. No. 290,902
11 Claims. (Cl. 99—199)



1. In a process for the aggregation of difficult to aggregate finely divided dried particles, the steps of:

(a) mixing a quantity of said difficult to aggregate particles with a quantity of dried particulate amorphous aggregating agent, selected from at least one of the group of materials consisting of anhydrous lactose, anhydrous whey, and modified anhydrous whey, said aggregating agent comprising between about 5% and 50% of the resulting mixture,

(b) subjecting said mixture to controlled wetting while in the presence of a heated high velocity air flow whereby to increase the total moisture content of said mixture by between about 2% and 6%,

(c) said controlled wetting causing said difficult to aggregate particles to adhere to said aggregating agent to form porous, open structured, divided aggregates, and

(d) quickly drying said aggregates to substantially prevent crystallization of said amorphous aggregating agent.

3,262,789
METHOD FOR RELEASING STOCKINETS FROM SMOKED MEAT PRODUCTS

Hormoz K. F. Broumand and Joseph J. Weber, Indianapolis, Ind., assignors to North American Laboratory Company, Inc., Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Aug. 24, 1964, Ser. No. 391,749
2 Claims. (Cl. 99—229)

1. A method for facilitating the release of stockinets from smoked meat products comprising soaking said stockinets prior to the smoking operation in an emulsion containing from about 10% to 50% by weight of a liquid edible oil, about 90% to 50% by weight of water and about 0.1% to 5% by weight of an edible emulsifying agent to thereby incorporate said emulsion into the capillary openings of the stockinet fibers whereby said fibers remain relatively soft and flexible throughout the smoking operation.

3,262,790
DECORATING COMPOSITIONS CONTAINING SILVER CARBOXYLATE-AMINE COORDINATION COMPOUNDS AND METHOD OF APPLYING SAME

Howard M. Fitch, Summit, N.J., assignor to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware

No Drawing. Filed Aug. 1, 1962, Ser. No. 213,865
9 Claims. (Cl. 106—1)

1. A decorating composition comprising a silver carboxylate-amine coordination compound and an organic decorating vehicle therefor, the coordination compound being obtained by reacting at a temperature below 100° C. an amine with a preformed silver carboxylate in the proportions of from about 0.05 mole to not in excess of one mole of the amine per mole of the silver carboxylate.

8. A decorating method which comprises applying to an article to be decorated the decorating composition of claim 1 and firing the applied decorating composition to a metallic silver film.

3,262,791
CORROSION PREVENTING METHOD AND COMPOSITION

Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 115,879, June 9, 1961, which is a division of application Ser. No. 47,387, Aug. 4, 1960. This application Oct. 24, 1965, Ser. No. 505,039
6 Claims. (Cl. 106—14)

1. A process for preventing the corrosion of ferrous metals in contact with a corrosive system characterized by subjecting the exposed surfaces of said ferrous metals to the action of an amount of a compound varying directly with the corrosiveness of said corrosive system, said compound being a compound selected from the group consisting of

(1) a linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit having 2 to 20 carbon atoms,

(2) an acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said linear polymer with an acylating agent selected from the group consisting of

(i) a carboxylic acid having 7–39 carbon atoms and

(ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(3) an oxyalkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polymer with an alkylene oxide having at least two carbon atoms,

(4) an alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 100° C to about 250° C., said polymer with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(5) an olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit having 2 to 20 carbon atoms, formed by reacting, at a temperature of from about 70° C. to about 100° C., said polymer with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers, and vinyl sulfones,

(6) a Schiff base reaction product of a linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit having 2 to 20 carbon atoms, formed by reacting said polymer with a compound selected from the group consisting of aldehydes and ketones,

(7) an acylated, then oxyalkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting at a

temperature of from about 125° C. to about 300° C., said linear polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(8) an oxyalkylated, then acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, said alkylene unit therein having 2–20 carbon atoms, formed by reacting at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polymer with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polymer, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(9) an alkylated, then acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polymer, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

(10) an acylated, then alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting at a temperature of from about 120° C. to about 300° C., said polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(11) an oxyalkylated, then alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting at a temperature of from about 80° C. to about 220° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polymer with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polymer, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1–30 carbon atoms,

(12) a Schiff base reaction product of an acylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer with a compound selected from the group consisting of aldehydes and ketones,

(13) a Schiff base reaction product of an alkylated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having 1–30 carbon atoms, and then reacting said alkylated polymer with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a linear polymer of a 1,2-alkyleneimine, said linear polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms formed by reacting said linear polymer with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(15) an acylated, then olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 120° C. to about 300° C., said linear polymer with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7–39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polymer, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated linear polymer of a 1,2-alkyleneimine, said polymer having a molecular weight of at least 800, each alkylene unit therein having 2–20 carbon atoms, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polymer with a hydrocarbon halide alkylating agent having from 1–30 carbon atoms, and then reacting said alkylated polymer, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,262,792
INVESTMENT MOLDING METHOD AND COMPOSITION

William H. Owen, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 14, 1962, Ser. No. 223,623
11 Claims. (Cl. 106—38.35)

1. An investment molding medium consisting essentially of a mixture of a binder solution, and a selected refractory material:

(a) the refractory material being a mixture of about 100 parts, by weight, of —200 mesh mullite flour, and a minor amount of a selected clay plasticizer in a quantity to obtain a viscosity in the range 10 to 20 seconds Zahn No. 4 Cup Viscometer;

(b) the binder solution being a mixture of the following four ingredients:

(i) a lower alkyl silicate selected from the group ethyl polysilicate and tetraethyl orthosilicate,

(ii) an organic solvent selected from the group 190 to 200 proof methanol, ethanol, and propanol,

(iii) water, and

(iv) an acid catalyzer selected from the group hydrochloric acid and sulfuric acid,

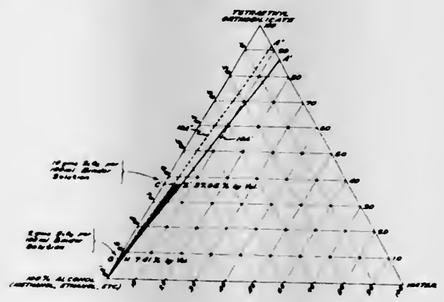
the proportions of the foregoing four binder solution constituents, based on 100 milliliters of binder solution, being substantially as follows:

(i) lower alkyl silicate providing 2 to 10 grams of available SiO_2,

(ii) water hydrolyzing 60 to 100% of the alkyl silicate,

(iii) acid to obtain a pH of less than 5,

(iv) the remainder of the 100 milliliters being the organic solvent;



(c) from 31 to 35 milliliters of binder solution per 100 grams of refractory and clay plasticizer mixture.

10. In a method of preparing investment molding medium from a mixture of a binder solution and refractory and in which the binder solution includes a lower alkyl silicate binder, a selected organic solvent and water, the improvement comprising using a lower alkyl silicate binder providing an SiO_2 content between 2 and 10 grams per 100 milliliters of binder solution, the alkyl radical of the silicate binder being between 60 and 100% hydrolyzed, whereby to provide an easily destructible mold when mixed with refractory and allowed to set.

3,262,793
REFRACTORY

Joseph E. Neely, Los Gatos, Jacques R. Martinet, San Jose, and Jan Bowman, Los Gatos, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Filed Nov. 12, 1963, Ser. No. 323,094
9 Claims. (Cl. 106—55)

2. A refractory gunning composition consisting essentially of from 1% to 5% by weight of a sodium silicate having at least two parts by weight of SiO_2 for each part by weight of Na_2O, from 0.2% to 1.2% of a water soluble alkali metal phosphate, from 1% to 5% bentonite, the balance being refractory grain.

3,262,794
BASIC FUSED REFRACTORIES

Ben Davies, Ernest P. Weaver, and Peter H. Havranek, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 2, 1964, Ser. No. 372,050
9 Claims. (Cl. 106—58)

4. Ceramically bonded basic refractory shapes suitable for use in metallurgical vessels, said shapes made from a size graded basic refractory batch which includes an about —3 +65 mesh coarser fraction and a finer —65 mesh to ball mill fines fraction, the finer fraction being substantially entirely of a fusion, said fusion, by weight and on the basis of an oxide analysis, consisting essentially of from about 96 to about 97% MgO, there being CaO and SiO_2 in a weight ratio between about 3 to 1 and about 4 to 1, and material of the group Cr_2O_3, Al_2O_3, and Fe_2O_3 in an amount not exceeding about 1%, the coarser fraction being substantially entirely of material selected from the group consisting essentially of said fusion, dead burned magnesite, dead burned dolomite and hard burned lime.

3,262,795
BASIC FUSED REFRACTORY

Ben Davies, Ernest P. Weaver, and Peter H. Havranek, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed June 24, 1964, Ser. No. 377,477
4 Claims. (Cl. 106—58)

1. A fired refractory shape to be exposed to very high temperatures, said shape made of basic refractory particles, said particles made from a melted, resolidified and crushed mixture of material selected from the group consisting essentially of dolomite, lime, and magnesia, and analyzing, by weight on an oxide basis, at least 96% MgO+CaO, the MgO ranging from about 95 to 50% and the CaO ranging from at least 5 to about 50%, the remainder consisting essentially of SiO_2, Al_2O_3, and Fe_2O_3, said particles being highly crystalline and characterized by substantial freedom from amorphous vitrified phases and spinels, said vitrified phases and spinels present only as discontinuous films and pockets distributed through the crystalline structure of the particles.

3,262,796
BURNED IMPREGNATED BRICK

Ernest Paul Weaver and Ben Davies, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 14, 1965, Ser. No. 425,999
6 Claims. (Cl. 106—58)

1. A burned, ceramically bonded, refractory shape impregnated throughout with a nonaqueous, carbonaceous material having the following characteristics:

Softening point	Cube in water—about 130 to 165° F.
Carbon disulfide insolubles	8 to 18.5%

3,262,797
REFRACTORY SHAPES

Ben Davies, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed May 18, 1965, Ser. No. 456,838
5 Claims. (Cl. 106—58)

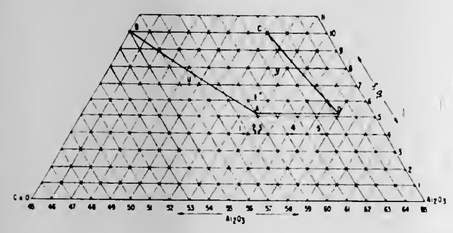
5. A burned basic refractory brick made from a refractory brickmaking batch consisting of a relatively coarse fraction substantially entirely consisting of fused grain of material (1) selected from the group consisting essentially of magnesia, chrome ore, and mixtures thereof, and (2) alumina, and a relatively fine fraction of material consisting essentially of dead burned magnesia, chrome ore and mixtures thereof, said relatively coarse fraction of fused grain substantially all passing a 4 mesh screen and resting on a 65 mesh screen but no more than about 10% of the fused grain passing a 28 mesh screen and resting on a 65 mesh screen, the remainder of the batch which constitutes the fine fraction all passing a 28 mesh screen, said coarse fraction constituting from about 40 to 70% by weight of the batch, said burned brick microscopically characterized by periclase crystals and chrome spinel in the fused grain in sintered bonded relation with particles of magnesia and chrome ore, respectively, in the fines.

3,262,798

ALUMINOUS CEMENT SLAG COMPOSITION AND METHOD OF INCREASING COMPRESSIVE STRENGTH OF SAME

Charles F. Booth and Brooks M. Whitehurst, Richmond, Va., assignors to Mobil Oil Corporation, a corporation of New York

Filed Oct. 22, 1964, Ser. No. 405,717
12 Claims. (Cl. 106—104)



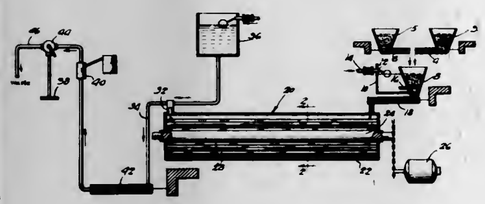
1. An aluminous cement slag composition consisting of a cement portion and a non-cement portion, said cement portion being at least 80% of said composition, said composition having a fluorine content of from more than 2.5% to about 4% by weight, said cement portion having a $CaO\text{-}Al_2O_3\text{-}SiO_2$ ratio, based upon 100% weight, coming within the area ABCD of FIG. 2 of the drawing, said composition containing an amount of an additive sufficient to increase the compressive strength of the aluminous cement formed from said slag composition by a factor of about 2 up to 15, said additive being selected from the group consisting of sugar, sodium metaphosphate, $MgSO_4 \cdot 7H_2O$, calcium lignin sulfonate and tetrasodium tetrine.

3,262,799

METHOD FOR MAKING ULTRAFINE CALCIUM SULFATE DIHYDRATE CRYSTALS

Robert E. McCleary, Geneva, Ill., and William A. Kinkade, El Paso, Tex., assignors to United States Gypsum Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 1, 1960, Ser. No. 50,816
3 Claims. (Cl. 106—110)



2. In a process for manufacture of a quick setting water slurry of calcined gypsum wherein an aqueous calcium sulfate hemihydrate slurry is mixed with accelerator, the improvement which comprises adding as accelerator from about 1/10 to about 3% solids basis of an aqueous suspension of ultrafine calcium sulfate dihydrate crystals prepared by the method comprising:

(a) continuously forming a suspension of calcium sulfate hemihydrate in about 20 to about 80 parts of water per part of hemihydrate;

(b) continuously feeding said suspension into a chamber substantially filled with movable elements, said suspension substantially filling the void spaces between said elements;

(c) effecting relative movement of said elements;

(d) progressively advancing said suspension through said chamber in a tortuous path while subdividing and impacting the same by means of said movement of said elements; and

(e) continuously withdrawing the thus formed aqueous suspension of ultrafine calcium sulfate dihydrate crystals.

3,262,800

ASPHALTIC PAINT COMPOSITION

Everett Baxter, deceased, late of Oklahoma City, Okla., by Nina W. Baxter, administratrix, 1612 N. Ellison, Oklahoma City 6, Okla.

No Drawing. Filed Sept. 1, 1961, Ser. No. 135,455
9 Claims. (Cl. 106—235)

1. A surface coating composition characterized by ease in application to surfaces including asphalt, coal-tar and concrete pavements, and having good wearing, water and grease repellent, adhesive and flexibility characteristics and being quick drying, consisting of an asphaltic mixture selected from the group consisting of blown asphaltum and gilsonite; blown asphaltum, gilsonite, rosin and naphtha; asphalt, asbestos fibers and naphtha; blown asphaltum and grahamite; and blown asphaltum, grahamite, rosin and naphtha, 1 to 5%; thinner for the asphaltic mixture 1 to 5%; silica powder 1 to 10%; white lead pigment 6 to 25%; shellac 3 to 10%; zinc oxide 0 to 5%; and at least 50% conventional paint of the class containing pigment and non-aqueous organic vehicle, said percentages being by weight.

3,262,801

PROCESS OF PREPARING FINELY DIVIDED SILICAS OF VARIED PROPERTIES

Robert E. Lally, Verona, and Frederick J. Ihde, Jr., Mountain Lakes, N.J., assignors to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 30, 1963, Ser. No. 255,091
5 Claims. (Cl. 106—288)

1. The process for preparing silica from a siliceous amino amide composition comprising igniting a siliceous amino amide composition containing from about 10% to 40% by weight of said composition of the reaction product in water of a salt which is at least water-dispersible, said salt being selected from the group consisting of partial amide salts, oxazoline salts, imidazoline salts, and mixtures thereof with a water soluble silicate salt and from about 60% to 90% by weight of said composition, of silica, at temperatures of from about 450° F. to 2,500° F.

3,262,802

STABILIZED NACREOUS PIGMENT

William G. Young, Lake Mohegan, and Charles A. Quinn, Mahopac, N.Y., assignors to The Mearl Corporation, Ossining, N.Y., a corporation of New York

No Drawing. Continuation of application Ser. No. 504, Jan. 5, 1960. This application Mar. 12, 1963, Ser. No. 264,714
16 Claims. (Cl. 106—297)

1. A nacreous pigment, having a nacre-producing substance therein, plate-like crystals of basic lead carbonate of less than 1 micron in thickness and from 5 to 50 microns in diameter, said crystals being stabilized against acid attack by having coated thereon a film of an organic compound of a divalent metal, said compound being selected from the group consisting of $M(OR)_2$, and



wherein M is a divalent metal, R is a monofunctional organic radical selected from the group consisting of monocarboxylic acid, alcohol, phenol, sulfate, sulfonate, and phosphonate radicals, and R′ is a difunctional organic radical selected from the group consisting of dicarboxylic acid, disulfate, disulfonate, diphosphonate and glycol radicals.

3,262,803

CATALYTIC LIQUID COMPOSITION FOR CURING POLYMERIZABLE VINYL COMPOUNDS

Erich Bäder, Hanau (Main), and Hubert Koert, Gross-Auheim, Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed June 20, 1962, Ser. No. 203,718
Claims priority, application Germany, July 7, 1961, D 36,503
12 Claims. (Cl. 106—316)

1. A hardening liquid for curing polymerizable compositions containing at least one ploymerizable monomer containing a $CH_2=C<$ group in the presence of a sulfur containing activator comprising a solution of at least one alkyl acyl peroxide selected from the group consisting of tertiary butyl perbenzoate and tertiary butyl peracetate and at least one organic compound containing a labile chlorine atom in a plasticizer liquid, the quantity of said alkyl acyl peroxide being about 0.1 to 50% by weight of said solution, said organic compound containing a labile chlorine atom being soluble in said monomer and said plasticizer and the quantity thereof in said solution being from at least a catalytically effective quantity to about 25% by weight.

8. A method of curing a polymerizable composition contaniing at least one polymerizable monomer containing a $CH_2=C<$ group which comprises incorporating a sulfur containing activator in said polymerizable composition and subsequently incorporating a catalytically effective amount of a hardening liquid comprising a solution of at least one alkyl acyl peroxide selected from the group consisting of tertiary butyl perbenzoate and tertiary butyl peracetate and at least one organic compound containing a labile chlorine atom in a plasticizer liquid in said polymerizable composition, the quantity of said alkyl acyl peroxide being about 0.1 to 50% by weight of said solution, said organic compound containing a labile chlorine atom being soluble in said monomer and said plasticizer and the quantity thereof in said solution being from at least a catalytically effective quantity to about 25% by weight.

3,262,804

METHOD OF PREPARING SOUND METAL COATINGS

Arthur T. Cape, Monterey, Calif., assignor to Coast Metals, Inc., Little Ferry, N.J., a corporation of Delaware

Filed Nov. 24, 1964, Ser. No. 413,419
3 Claims. (Cl. 117—8)



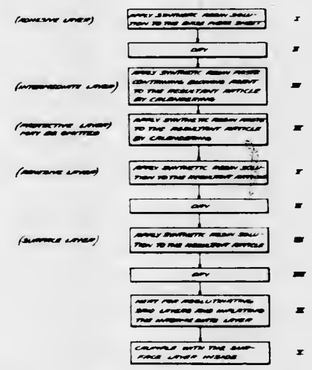
1. The method which comprises applying a metallic alloy to a metal article to be coated with such alloy, said alloy selected from the group consisting of nickel-base, cobalt-base, iron-base and manganese-base alloys, applying over such alloy a layer consisting of a material selected from the group consisting of silica powder, organic chemical compounds which decompose under heat to form silica, and organic compounds which, when heated, react with oxygen to form silica, thereafter heating the article to melt said alloy and said silica, the alloy becoming bonded to said article, and the silica remaining on the alloy coating, and then removing the silica.

3,262,805

PROCESS OF COATING TO MAKE LEATHER SUBSTITUTE AND RESULTING ARTICLE

Tomoo Aoki, Sennan-gun, Japan, assignor of one-half to Toyo Cloth Company, Limited, Osaka Prefecture, Japan, and one-half to Toyo Rayon Company, Tokyo, Japan

Filed Mar. 14, 1963, Ser. No. 265,050
17 Claims. (Cl. 117—11)



1. A leather substitute comprising a sheet shaped base selected from the group consisting of woven fabrics, unwoven fabrics, knitted fabrics and paper, an intermediate layer 0.05 to 10 mm. thick, bonded to said base, of at least one material selected from the group consisting of polyamides, polyvinyl chloride, polypropylene, polyethylene, polyurethanes, butadiene-acrylonitrile copolymers, butadiene-styrene copolymers, urethane rubber and natural rubber, said intermediate layer being inflated with pores of 1.2–4.0 times the original volume and requiring a compression load of 100–800 g./cm.² to have its thickness reduced by 25%, a surface layer bonded over said intermediate layer not more than 0.3 mm. thick of a material selected from the group consisting of solvent soluble copolymerized polyamides, N-alkoxy methylated polyamides, linear polyurethanes, polyesters, polyvinyl chloride and low pressure polyethylene, said surface layer having a tensile recovery for 20% elongation of less than 92% and a Young's coefficient of 3–30 kg./mm.², said surface layer having a crease pattern on its outer surface due to permanent strain produced by crumpling the sheet shaped base with the intermediate and surface layers bonded thereto with the surface layer folded inside, the elongation capacity of said sheet shaped base being such as to provide the required compression distortions to produce said permanent strain in the surface layer during said crumpling.

3,262,806

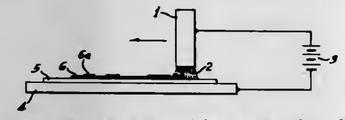
THREE COMPONENT MAGNETIC DEVELOPER FOR ELECTROPHOTOGRAPHIC PURPOSES AND METHOD FOR USING IT

Gerhard Gourgé, Wiesbaden, Germany, assignor to Azoplate Corporation, Murray Hill, N.J.

Filed Dec. 13, 1962, Ser. No. 244,251
Claims priority, application Germany, Dec. 16, 1961, K 45,462
34 Claims. (Cl. 117—17.5)

1. A method of developing an electrostatic latent image which comprises applying to the image a developer comprising a mixed toner the components of which are

powders having approximately equal particle sizes, one component being capable of acquiring a positive charge and consisting essentially of resin, and the other component being capable of acquiring a negative charge and consisting essentially of an inorganic substance, and an iron powder carrier, and fixing the deposited resin powder.



3,262,807

ARTICLES RESISTANT TO STATIC BUILDUP

Melvin D. Sterman and Louis M. Minsk, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application June 12, 1962, Ser. No. 201,808, now Patent No. 3,206,312, dated Sept. 14, 1965. Divided and this application Mar. 8, 1965, Ser. No. 442,848

16 Claims. (Cl. 117—34)

1. An article resistant to static build-up comprising a support having thereon a coating composed of 15–100% of a water-soluble salt of a carboxy ester-lactone of an interpolymer of an unsaturated alpha-beta-dicarboxylic acid and a vinyl ester of a carboxylic acid, which salt is 25–98% neutralized.

3,262,808

METHOD OF COATING ORIENTED POLYPROPYLENE FILMS WITH HEAT SEALABLE COATINGS

Charles Hampden Crooks, Welwyn, and Anthony Graham Marshall Last, Welwyn Garden City, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Oct. 4, 1961, Ser. No. 142,767
Claims priority, application Great Britain Oct. 6, 1960, 34,318/60

10 Claims. (Cl. 117—47)

1. A method for the preparation of coated films of crystallisable polypropylene which comprises treating a film of said polypropylene which has been stretched to orient it, but not heat set, to improve the bonding properties of its surface, by exposing the surface of the film to a high voltage electrical stress accompanied by corona discharge in the presence of oxygen,

coating the film with a polymeric heat seal coating which can be heat sealed at a temeprature below 170° C.,

and then heat setting the coated film at a temperature in the range 75° C. to the melting point while controlling the dimensions of the film so that it does not shrink more than 15% and under conditions of time and temperature sufficient to dry the coating and to reduce the linear shrinkage in any direction in the plane of the film to less than 6% when heated for 1 minute at 120° C.

3,262,809

SIZE COMPOSITION FOR GLASS, AND TREATED GLASS STRUCTURES AND METHOD FOR MANUFACTURING SAME

Jesse Irwin Aber, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 476,548, Dec. 20, 1954. This application June 29, 1962, Ser. No. 206,197

18 Claims. (Cl. 117—72)

11. Glass fibers and a coating on the glass fiber surfaces to protect the glass fibers and to render the glass fibers more easily wet out with polyester resins and to improve the bonding relation between the polyester resins and the glass fiber surfaces in which the coating consists essentially of the combination of the following materials in parts by weight:

0.25–5.0 parts saturated polyester resin formed essentially of a saturated dibasic acid and a dihydric alcohol
0.01–2.0 parts methacrylato chromic chloride
0.1–2.0 parts cationic amine lubricant
0.01–0.5 parts polyvinyl alcohol
0.01–1.0 parts of an organo silane and hydrolysis product thereof in which the silane has an organic group attached directly to the silicon atom containing less than 7 carbon atoms and a highly functional group
0.005–0.05 parts of a co-generic mixture of conjugated polyoxyethylene-polyoxypropylene compounds on a polybasic carboxylic acid having a molecular weight less than 200 in which the polyoxyethylene groups are present in amounts ranging from 20–90 percent by weight of the compound and in which the molecular weight of the compound is at least 900.

3,262,810

GLASS CLOTH

James K. Campbell, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed July 20, 1962, Ser. No. 211,437

4 Claims. (Cl. 117—126)

1. An article of manufacture comprising a woven glass cloth, the fibers in said cloth being coated with from .1 to 10 percent by weight based on the weight of the glass cloth of a copolymeric siloxane having a degree of substitution of from 1.9 to 2.5 inclusive organic radicals per silicon atom, said siloxane containing halogenated aryl radicals selected from the group consisting of $X_aC_6H_{5-a}$ and $X_bC_{12}H_{9-b}$ radicals, wherein X is selected from the group consisting of chlorine and bromine, *a* has a value of from 1 to 5 inclusive and *b* has a value of from 1 to 7 inclusive, the remaining organic radicals in said siloxane being selected from the group consisting of monovalent hydrocarbon and $C_nF_{2n+1}CH_2CH_2-$ radicals, wherein *n* has a value of from 1 to 8 inclusive, the halogenated aryl radicals being present in said siloxane in an amount so that there are at least 0.05 X atom per silicon atom.

3,262,811

TREATMENTS OF POROUS AND FIBROUS SUBSTRATES

Lucien Sellet, Saddle River, N.J., assignor to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Original application Oct. 5, 1960, Ser. No. 60,576, now Patent No. 3,223,751, dated May 10, 1965. Divided and this application Feb. 23, 1965, Ser. No. 434,639

18 Claims. (Cl. 117—142)

2. Leather treated with compositions of matter selected from the group consisting of

(1) mixtures of (a) a completely neutralized salt selected from the group consisting of ammonium and alkali metal salts of water-soluble anionic linear copolymers, said copolymers containing approximately equimolar amounts of at least one member of the group consisting of maleic anhydride, maleic acid and itaconic acid and at least one other ethylenically unsaturated monomer copolymerizable therewith with the proviso that when said copolymer contains acrylamide copolymerized with a comonomer selected from a group consisting of itaconic acid and salts of itaconic acid, there are from 1 to 3 moles of acrylamide per mole of said monomer, and (b) at least one member selected from the group consisting of water-soluble and water-dispersible amphoteric aminoplast resins and stable water-soluble and water-dispersible cationic aminoplast resins, said cationic aminoplast resins being formed by reacting a water-soluble amino-formaldehyde resin containing free and unreacted methylol groups with a water-soluble amino resin base in an amount sufficient to substantially react with all of said methylol groups of said amino formaldehyde resin, said amino-formaldehyde resin being formed by reacting at least one amino resin base with a compound selected from the group consisting of formaldehyde and formaldehyde liberating compounds, and the mole ratio of (a) to (b) in said mixture being from about 15:1 to about 1:15,

(2) complex salts of (a) a material selected from the group consisting of the free acid form of, the partially neutralized ammonium salt form of and the partially neutralized alkali metal salt form of water-soluble anionic linear copolymers, said copolymers containing approximately equimolar amounts of at least one member of the group consisting of maleic anhydride, maleic acid and itaconic acid and at least one other ethylenically unsaturated monomer copolymerizable therewith with the proviso that when said copolymer contains acrylamide copolymerized with a comonomer selected from the group consisting of itaconic acid and salts of itaconic acid, there are from 1 to 3 moles of acrylamide per mole of said monomer, and (b) at least one member of the group consisting of water-soluble and water-dispersible amphoteric aminoplast resins, and stable water-soluble and stable water-dispersible cationic aminoplast resins, said cationic aminoplast resins being formed by reacting a water-soluble amino-formaldehyde resin containing free and unreacted methylol groups with an amino resin base in an amount sufficient to react with substantially all of said methylol groups of the amino-formaldehyde reisn, said amino-formaldehyde resin being formed by reacting at least one amino resin base with a compound selected from the group consisting of formaldehyde and formaldehyde liberating compounds, and the mole ratio of (a) to (b) in forming said complex salt being from about 15:1 to about 1:15,

(3) condensates formed by reacting (a) water-soluble anionic linear copolymers containing at least one reactive radical selected from the group consisting of anhydrides and free carboxy acids, said copolymers containing approximately equimolar amounts of at least one member of the group consisting of maleic anhydride, maleic acid and itaconic acid and at least one other ethylenically unsaturated monomer copolymerizable therewith with the proviso that when said copolymer contains acrylamide copolymerized with a comonomer selected from a group consisting of itaconic acid and salts of itaconic acid, there are from 1 to 3 moles of acrylamide per mole of said monomer, with (b) a nitrogenous material at temperatures and pressures sufficient to remove the water of condensation, said nitrogenous material being selected from the group consisting of water-soluble and water-dispersible cationic aminoplast resins, amphoteric aminoplast resins, cationic amino resin bases and amphoteric amino resin bases, said cationic aminoplast resins being formed by reacting a water-soluble amino-formaldehyde resin containing free and unreacted methylol groups with a water-soluble amino resin base in an amount sufficient to react with all of the methylol groups of the amino-formaldehyde resin, said amino formaldehyde resin being formed by reacting at least one amino resin base with a compound selected from the group consisting of formaldehyde and formaldehyde liberating compounds, said nitrogenous material being present in an amount sufficient to react with all of said reactive radicals of said anionic linear copolymers.

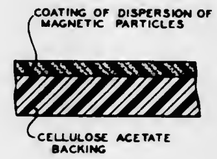
3,262,812

MAGNETIC RECORDING TAPE WITH MAGNETIC LAYER OF OXIDE COATED IRON-COBALT ALLOY PARTICLES IN A BINDER

Richard B. Falk, Greenville, Mich., assignor to General Electric Company, a corporation of New York

Filed Mar. 26, 1964, Ser. No. 355,103

6 Claims. (Cl. 117—160)



1. A magnetic recording medium comprising a non-magnetic support and electrodeposited, fine magnetic particles supported thereon, each of the particles consisting essentially of a ferromagnetic core of an alloy of iron and cobalt and a ferrimagnetic coating surrounding said core of an oxide of iron and cobalt, the particles having from 10 to 80 percent cobalt based upon the combined weight of iron and cobalt and in excess of one percent oxygen based upon the total weight of the particles, the average diameter of said particles being less than 1000 angstroms.

3,262,813

MAGNETIC RECORDING MEDIUM COATED WITH A BINDER COPOLYMER OF BUTADIENE, ACRYLONITRILE, AND A HYDROXY METHACRYLATE

Dervin L. Flowers, Redwood City, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

No Drawing. Filed Nov. 19, 1963, Ser. No. 324,865

2 Claims. (Cl. 117—161)

1. A magnetic recording medium including a support and a coating on said support, said coating consisting of finely divided magnetic particles dispersed in an organic binder, said organic binder comprising a copolymerized mixture of acrylonitrile, butadiene and a member selected from the group consisting of 2-hydroxy ethyl methacrylate and 2-hydroxy propyl methacrylate.

3,262,814

METHOD FOR COATING AN INDIRECTLY HEATED CATHODE

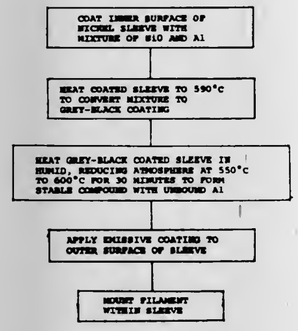
Henri Provisor, Suresnes, France, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 14, 1961, Ser. No. 159,255
Claims priority, application France, Dec. 15, 1960, 847,062

2 Claims. (Cl. 117—227)

1. A method of manufacturing an indirectly heated cathode including a heating element, a nickel supporting body in heat-transfer relationship to the heating element the surface of which facing the heating element being covered with a black layer, and an emissive layer on a surface of the supporting body on a side thereof remote from the heating element, which comprises the steps, forming on the surface of said supporting body facing

the heating element a layer of finely divided aluminum and nickel oxide, heating the so-covered supporting body to a temperature of at least 590° C. in a vacuum to form a grey-black intermetallic layer, and heating the body



with the grey-black layer in a humid, reducing atmosphere to a temperature between 550° C. and 600° C. for 30 minutes to convert unbound aluminum into a stable compound.

3,262,815
ELECTRODES FOR SECONDARY STORAGE BATTERIES
Alois Langer, Forest Hills, Earl A. Pantier, Penn Hills, and Sidney Barnartt, Monroeville, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 11, 1964, Ser. No. 388,844
25 Claims. (Cl. 136—36)

3. An electrode suitable for use in a secondary battery comprising a plate formed from a compact body of intermingled fine metal fibers, the majority of said fibers extending the full height of the plate and a small proportion extending transverse thereto, the fine metal fibers having a generally parallel lineal orientation in one direction, and an active electrode material distributed on and disposed within the body of the metal fibers, a liquid electrolyte permeable sheet wrapping enclosing the plate, an electrical contact attached to the plate transverse to the general lineal orientation of the fine metal fibers whereby most of the fibers are directly connected thereto, and an electrical lead attached to the electrical contact.

3,262,816
FUEL CELL INCLUDING A METAL HYDRIDE ELECTRODE
Ingemar Lindholm, Vasteras, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
No Drawing. Filed Nov. 26, 1962, Ser. No. 240,171
Claims priority, application Sweden, Nov. 29, 1961, 11,860/61
2 Claims. (Cl. 136—120)

1. A fuel cell comprising a sintered porous electrode consisting essentially of at least one substance selected from the group consisting of

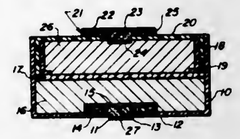
(1) a hydride from the group of titanium, zirconium and hafnium hydrides; and

(2) a carrier therefor and containing at least two percent by weight of said hydride; and an electrolyte in which said electrode is immersed, the electrolyte entering the pores of the electrode, and the hydride being in contact with the electrolyte at least at the pore surfaces of the electrode.

3,262,817
ELECTROCHEMICAL CELL ELECTRODES
Charles E. Thompson, Fanwood, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Aug. 1, 1961, Ser. No. 128,393
4 Claims. (Cl. 136—121)

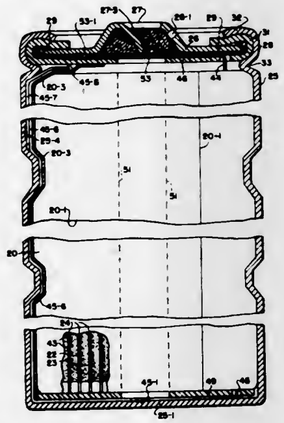
1. In an electrochemical cell an anodic oxidation anode comprising manganese molybdate upon a carbon support.

3,262,818
TERMINAL SYSTEM FOR LEAKPROOF ELECTROCHEMICAL GENERATORS
Renato Di Pasquale, Rutherford, N.J., and Otto C. Wagner, Bronx, N.Y., assignors to Yardney International Corporation, New York, N.Y., a corporation of New York
Filed Sept. 25, 1963, Ser. No. 311,537
9 Claims. (Cl. 136—135)



1. An electrochemical generator comprising a housing having a throughgoing passage communicating with the interior thereof, electrode means within said housing, and an electrically conductive terminal connected to said electrode means and extending through said passage, said terminal having a conductive body portion provided with at least an outer zone of porous sintered material bonded thereto and permeated with an electrically insulating synthetic resin.

3,262,819
SEALED ALKALINE BATTERY CELLS WITH EXCESS GAS PRESSURE RELEASE
Louis Belove, Ardsley, N.Y., assignor to Sonotone Corporation, Elmsford, N.Y., a corporation of New York
Filed June 9, 1965, Ser. No. 467,810
2 Claims. (Cl. 136—178)



1. In a sealed rechargeable battery cell:

an electrode assembly of at least two opposite-polarity electrodes and associated electrolyte which develop gas pressure when charged,

a sealed enclosure comprising a strong tubular metallic casing and a strong metallic cover sheet enclosing said assembly and connected to said two electrodes, respectively,

said cover sheet having a peripheral cover rim affixed to the surrounding tubular casing junction region near the open casing end of said tubular casing,

said cover sheet having a vent opening spaced from its rim and a strong tooth with a sharp end projecting toward the casing interior,

a thin flexible metallic diaphragm underlying the entire interior surface of said cover sheet for flexure against and being punctured by said tooth by gas pressures within said enclosure,

said diaphragm having a rim surrounding and overlapping a substantial exterior radial rim area of said cover rim,

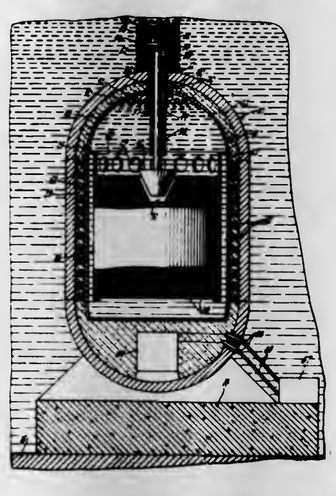
a continuous plastic insulating collar surrounding said cover rim and having inner and outer collar flanges overlapping substantial interior and exterior radial rim areas of said cover rim,

said tubular casing junction region having a double-wall inward casing projection underlying the interior rim area of said cover rim with its said overlapping diaphragm and collar flanges,

the open end section of said tubular casing junction region being inwardly turned and holding clamped said plastic collar with compression forces toward the edge of said cover rim and with axial compression forces toward said inward casing projection and confining therewith said inner and outer collar flanges and the embraced coversheet and diaphragm rim under gas-tight compression sealing engagement,

said diaphragm having sufficient strength to resist excessive deformation under normal internal gas pressure and being deformed into puncture engagement with said cover tooth under predetermined raised internal gas pressure.

3,262,820
CONTROL MEANS FOR A HEAT SOURCE
Robert Leslie Whitelaw, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 18, 1963, Ser. No. 274,030
8 Claims. (Cl. 136—202)

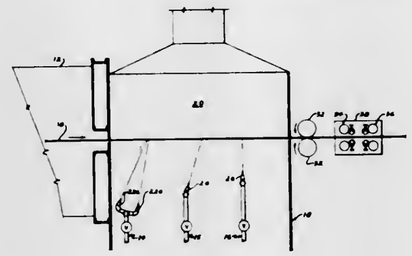


1. In combination, a heat source submerged in a relatively constant pressure fluid and mounted within a closed rigid container having a flexible outer wall portion, heat source control means mounted within the container on the flexible outer wall portion for movement therewith for controlling the temperature of the source, and the container having fluid therein exerting pressure on the flexible portion in opposition to the pressure of the relatively constant pressure fluid whereby as the temperature of the source varies the internal pressure of the container, forces due to the pressure differential of the fluids exteriorly and interiorly of the container are exerted on the control means via the flexible portion of the container to actuate the control means to thereby control the temperature of the source.

3,262,821
METHOD FOR PRODUCING COLD ROLLED RIMMED STEEL SHEET OR STRIP HAVING NON-AGING PROPERTY AND SUPERIOR DEEP DRAWABILITY
Hiroshi Yoshida, Chiba-shi, Chiba-ken, Japan, assignor to Kawasaki Steel Corporation, Hyogo-ken, Japan, a corporation of Japan
Filed Oct. 8, 1963, Ser. No. 314,702
Claims priority, application Japan, Oct. 19, 1962, 37/46,726
6 Claims. (Cl. 148—12.1)

1. A method for producing a cold rolled rimmed steel sheet or strip having non-aging property and superior deep drawability comprising the steps of: (1) providing a molten steel containing 0.020–0.150% carbon, 0.15–0.60% manganese, less than 0.010% phosphorus and the remainder being essentially iron, (2) adding to said molten steel phosphorus and at least one element selected from the group consisting of antimony, bismuth, niobium and lead so as to produce a rimmed steel containing phosphorus in an amount of 0.010–0.040% and at least one element selected from the said group in an amount of 0.003–0.050%, (3) forming a rimmed steel sheet or strip by hot and cold rolling, and (4) subjecting said cold rolled steel sheet or strip to a decarburizing and denitriding annealing to decrease the carbon content to less than 0.020% and the nitrogen content to less than 0.0025%.

3,262,822
METHOD FOR CONTINUOUS QUENCHING OF ALUMINUM STRIP
Robert M. Griffith, Spokane, Wash., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Aug. 29, 1963, Ser. No. 305,260
3 Claims. (Cl. 148—13)

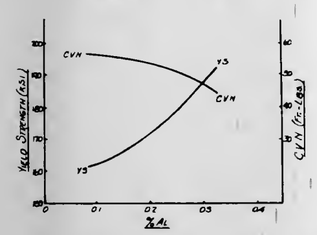


1. A method of quenching continuously heat treated aluminum strip as it emerges from a continuous heat treating furnace comprising withdrawing heat treated aluminum strip in a substantially horizontal position from said furnace, contacting said strip in said substantially horizontal position with at least one water spray to quench said strip, said spray impinging against said strip at a predetermined impingement angle less than 90° and with a sufficient velocity to avoid the formation of a substantial steam film on said strip, and supporting said strip in said substantially horizontal position with said water spray during quenching.

3,262,823
MARAGING STEEL

Edward P. Sadowski, Metuchen, and Raymond F. Decker, Fanwood, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 7, 1963, Ser. No. 286,365
12 Claims. (Cl. 148—142)



8. A process of heat treating maraging steel containing about 9.5% to about 13.5% nickel, about 2.5% to 5.5% chromium, about 1.9% to about 4.2% molybdenum, about 0.05% to about 0.4% aluminum and less than about 0.03% carbon, comprising subjecting said steel to a first martensitic transformation, annealing said steel to convert the thus-formed martensite to austenite, cooling the annealed steel to effect a second transformation to martensite and thereafter aging the thus-treated martensitic steel at about 800° F. to about 1000° F. for about 1 to about 10 hours.

3,262,824
SMOKELESS ASHLESS SIGNAL FLARE COMPOSITION CONTAINING AMMONIUM PERCHLORATE

James B. McGriffin, Linton, and William L. Ripley, Bedford, Ind., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed July 27, 1964, Ser. No. 385,518
4 Claims. (Cl. 149—42)

4. A consumable pyrotechnic mixture consisting of
about 74.2%, by weight, of ammonium perchlorate,
about 11.1%, by weight, of stearic acid,
about 3.6%, by weight, of paraffin, and
about 11.1%, by weight, of copper dust.

3,262,825
METHOD FOR ETCHING CRYSTALS OF GROUP III(a)–V(a) COMPOUNDS AND ETCHANT USED THEREFOR

Calvin S. Fuller, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

No Drawing. Filed Dec. 29, 1961, Ser. No. 163,094
10 Claims. (Cl. 156—17)

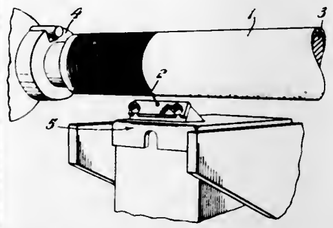
1. The method of etching crystals of a compound of the group III(a)–V(a) system of the Periodic Table which comprises wetting said crystals with a substantially anhydrous mixture consisting essentially of an organic liquid selected from the group consisting of glacial acetic acid, methanol and the chlorinated methanes, and a material selected from the group consisting of a halogen selected from among chlorine, bromine and iodine, the said halogen being present in an amount of at least 2 mg. per $cm.^3$ by volume of the total solution.

10. An etchant consisting essentially of a substantially anhydrous mixture of an organic liquid selected from the group consisting of glacial acetic acid, methanol and the chlorinated methanes, and a material selected from the group consisting of a halogen selected from among chlorine, bromine and iodine, said halogen being present in an amount of at least 2 mg. per $cm.^3$ by volume of the total solution.

3,262,826
METHOD OF MAKING CORD REINFORCED DRAFT APRONS

Mark Balkin and Denys G. Turner, Newcastle upon Tyne, England, assignors to George Angus & Company Limited, Newcastle upon Tyne, England

Filed June 26, 1962, Ser. No. 205,387
Claims priority, application Great Britain, July 4, 1961, 24,098/61
3 Claims. (Cl. 156—171)

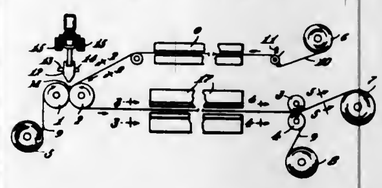


1. In a method for producing an endless cord reinforced rubber band comprising the steps of, preparing on a cylindrical mandrel a sleeve of rubber composition in plastic condition, the sleeve having a wall thickness corresponding to the required thickness of the band, the sleeve having inner and outer layers of rubber composition having different physical properties, the inner layer being more resistant than the outer layer, winding helically around the sleeve a reinforcing cord, and maintaining controlled tension on the cord, the cord cutting through the less resistant outer layer of the sleeve and being arrested by the more resistant inner layer of the sleeve.

3,262,827
FOAM SHEET WITH PRESSURE-SENSITIVE ADHESIVE COATING AND METHOD OF MAKING SAME

Ernest L. Kallander, Southboro, and George R. Nelson, Framingham, Mass, assignors to Dennison Manufacturing Company, a corporation of Nevada

Continuation of application Ser. No. 843,208, Sept. 29, 1959. This application Mar. 12, 1963, Ser. No. 264,682
2 Claims. (Cl. 156—230)

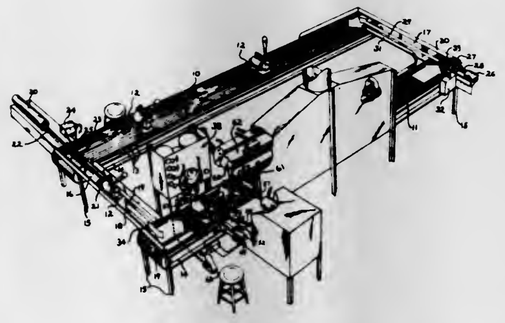


2. In making a resilient foam sheet with a coating pressure-sensitive adhesive on one surface thereof, the method comprising
providing a cover sheet with a release surface,
feeding said cover sheet and a second cover sheet along paths which converge to form therebetween a crotch terminating in a metering slit and thence continue through a foaming region,
feeding a mixture of materials which together produce foam with a microporous surface through said slit between said cover sheets and in contact with said release surface before substantial foaming takes place,
foaming said foam sheet in contact with said release surface and in the absence of substantial pressure,
curing the foam sheet between the cover sheets,
stripping away the cover sheet from the foam sheet,
providing a release sheet having a coating of pressure-sensitive adhesive,
laminating the foam surface exposed by removal of said cover sheet to the pressure-sensitive adhesive, and
stripping away the release sheet from the adhesive,
whereby a foam sheet is formed with a microporous surface coated substantially entirely and directly on said surface with a tacky, pressure-sensitive adhesive.

3,262,828
METHOD FOR JOINING GLASS PARTS

James D. Mallory, Maumee, and L. D. Ryan, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio

Filed Dec. 3, 1962, Ser. No. 241,629
3 Claims. (Cl. 156—295)

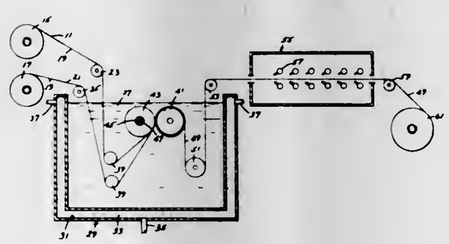


1. The method of applying a glass handle to the side wall of a glass tumbler comprising the steps of, loading a tumbler orienting jig with a tumbler having its axis generally horizontal, moving the tumbler into predetermined position beneath an epoxy resin dispenser, depositing a drop of resin on the side of the tumbler, moving the attaching portion of a glass handle into engagement with the resin coated portion of the tumbler side wall, retaining the handle and tumbler in engagement and curing the resin whereby the handle is fixed to the tumbler.

3,262,829
METHOD OF LAMINATING FILMS

John D. Conti, Elkins Park, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Apr. 26, 1963, Ser. No. 275,992
11 Claims. (Cl. 156—307)



1. A method of making a composite product including the steps of immersing a plurality of substantially dry individual hydrophilic sheet materials within a heated water bath in separated relationship to humidify the same and to soften a substantially dry coating of thermoplastic material carried on at least certain of the sides thereof, disposing the sheet materials in overlapping relationship with at least one side of each pair of opposing sides having a softened coating of thermoplastic material, bonding the overlapped sheet materials together under pressure while they are still immersed within the heated water bath and the coatings thereon are in a softened condition to provide a composite product, and removing the resulting composite product from the water bath.

3,262,830
ORGANOSILICON MOLDING COMPOSITIONS CONTAINING ORTHOTITANATE CATALYSTS

Harold L. Vincent, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Apr. 19, 1961, Ser. No. 103,977
21 Claims. (Cl. 156—329)

18. A method for the manufacture of an organosiloxane laminate which comprises
(1) impregnating a fibrous sheet material with a homogeneous solution produced by mixing
(A) a silane of the formula $R_nSi(OR')_{4-n}$ in which R is selected from the group consisting of phenyl and monovalent aliphatic hydrocarbon radicals with less than 4 carbon atoms and R' is an alkyl group of less than 4 carbon atoms with n having an average value of from .9 to 1.9,
(B) from .5 to 1 mol of H_2O per mol of [OR'] groups on the silane, and
(C) a hydrolysis catalyst selected from the group consisting of orthotitanates having the general formula $Ti(OR'')_4$ and partial condensates thereof, in which R'' is selected from the group consisting of hydrogen, hydrocarbon groups containing 1 to 30 carbon atoms and appropriately substituted hydrocarbons in which any atoms other than carbon and hydrogen are selected from the group consisting of nitrogen and oxygen atoms, said catalyst being present in an amount from .001 to .012 mol of Ti per mol of Si, so that there is a resin pick-up by the material of at least 1.5 percent by weight of organosiloxane solids based on the weight of the material,
(2) pre-curing the impregnated sheet of material to an extent such that it is sufficiently thermoplastic to be laminated with other sheets of impregnated material,
(3) assembling multiple plies of the sheets of material so impregnated and pre-cured to form a laminate,
(4) subjecting the assembly to sufficient heat and pressure to bond and consolidate the plies, and
(5) after-curing the resulting laminate at gradually increasing temperatures.

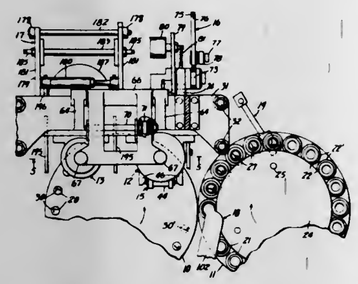
3,262,831
MACHINE FOR FORMING, PRINTING AND APPLYING LABELS TO PRODUCTS

Louis C. Ziegler, 5 Skyline Drive, Englewood Cliffs, N.J., and Joseph Gastaldo, 58—03 202nd St., Bayside, N.Y.

Filed Feb. 27, 1963, Ser. No. 261,269
19 Claims. (Cl. 156—384)

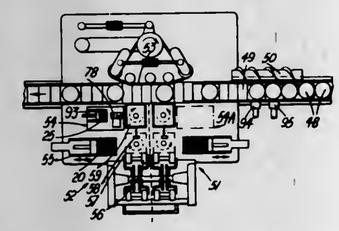
1. A machine for forming, printing and applying a label to a product in a cycle of operation of the machine, comprising a rotatable table, a label forming and applying unit and printing unit arranged in spaced relation over said table, a transfer unit movable over and toward and from said table, a product supporting station adjacent said transfer unit, whereby operation of the transfer unit will transfer a printed label from said table and apply the same

to a product supported at said product supporting station, and a single element simultaneously operating the label forming and applying unit and said printing unit,



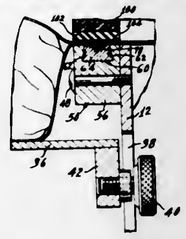
in movement of said units in the direction of the table in applying a label to the table and printing a label supported on the table.

3,262,832
APPARATUS FOR APPLYING MARGINALLY-GUMMED LABELS TO CYLINDRICAL ARTICLES
Derek H. Fairest, Sheffield, England, assignor to Morgan Fairest Limited, Sheffield, England
Original application May 1, 1961, Ser. No. 106,666, now Patent No. 3,138,508, dated June 23, 1964. Divided and this application Dec. 17, 1962, Ser. No. 245,107
8 Claims. (Cl. 156—455)



5. A labelling machine comprising a flat-sided delivery box each side of which has suction apertures for holding a label, means for intermittently rotating the delivery box, means for feeding a succession of cylindrical articles to and past one position of rest of the sides of the box, means for presenting to each side of the box at a preceding position of rest the ungummed face of a label, the other face of which is marginally gummed, with an ungummed central area extending longitudinally to at least one of two opposite margins, and with a hole through that area, a stack for sheets of material less in width than that area, spaced from an intermediate position of rest of a side of the delivery box and presenting its foremost sheet towards and parallel to a side of the box occupying that position, a flat-faced transfer member with suction apertures in its face, means for oscillating the transfer member between the stack and each side of the delivery box in the intermediate position of rest, means for intermittently rotating the transfer member during oscillation for its face to be brought into contact alternately with the foremost sheet in the stack and with that side of the delivery box, means for controlling the suction at the suction face of the transfer member for the face to extract a sheet from the stack and present it to the ungummed area of a label held to a side of the delivery box, with the sheet covering the hole in the label, suction apertures in the sides of the delivery box for applying through the hole in a label suction to hold a sheet to the label, and means for rolling an article over a side of the delivery box for a sheet and a label held to that side to be applied simultaneously to the article, so that the label holds the sheet of material to the article.

3,262,833
IMPULSE RADIANT SEALER
Seymour Zelnick, Whitesville Road, Toms River, N.J.
Filed Dec. 17, 1963, Ser. No. 331,257
4 Claims. (Cl. 156—583)



1. Heat sealing apparatus for sealing superimposed plies of thermoplastic film to each other along a predetermined line, comprising means for pressing confronting surface portions of said plies against each other adjacent said line, said pressing means comprising relatively movable confronting means having opposed surfaces for releasably clamping said surface film portions therebetween, one of said confronting means comprising a metal bar having spaced inner side walls defining a longitudinally extending groove with an opening facing the other of said confronting means, electrical insulation means in said groove of said bar, said insulation means comprising a series of ceramic blocks disposed in adjacent end-to-end relation in said groove of the bar, said blocks having grooves in registry with each other and collectively forming a groove having an opening adjacent said opening of said groove of the bar and extending longitudinally of said bar, the outer surfaces of said blocks adjacent said grooves therein forming at least part of one of said opposed surfaces of said film pressing means, said collectively formed groove of said ceramic blocks being V-shaped in cross section, and a radiant heating member disposed in and extending longitudinally of said grooves of said ceramic blocks and having an outer surface flush with yet spaced from said outer surfaces of said blocks for radiantly heating said film plies to their melting temperature adjacent said sealing line while said film surface portions are clamped between said pressing means, thereby heat-sealing said plies to each other.

3,262,834
WATERPROOF GAS-PERMEABLE PLASTIC SHEET
Jerrold J. Abell, Putnam, and Richard C. Berry, Danielson, Conn., assignors to Rogers Corporation, Rogers, Conn., a corporation of Massachusetts
Filed Dec. 20, 1962, Ser. No. 245,998
7 Claims. (Cl. 161—159)



1. A waterproof, microporous, gas-permeable plastic sheet having a water repellent incorporated throughout the structure of the sheet comprising plasticizer-water repellent impregnated thermoplastic resin granules sintered into said sheet, said sheet having an air permeability of 3–20 ft.^{3}/min./ft.^{2} at a pressure difference of 25 inches of water, and waterproofness measured as a resistance for at least 15 minutes to a static head of 50 cm. of water.

2. A waterproof microporous permeable plastic sheet as defined in claim 1 wherein a fibrous sheet is bonded to the sintered thermoplastic resin sheet material.

3,262,835
LAMINATED SAFETY GLASS
Edward Lavin, Longmeadow, Joseph G. Martins, Ludlow, and George E. Mont, Springfield, Mass., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware
No Drawing. Filed Nov. 20, 1964, Ser. No. 412,825
5 Claims. (Cl. 161—199)

1. In an improved plasticized polyvinyl acetal interlayer, having a moisture content of from about 0.1 to 0.8% and a vinyl alcohol content of from about 9 to 30% by weight based on the weight of the polyvinyl acetal the improvement which comprises incorporating sufficient potassium formate into the interlayer to produce an alkalinity titer of from about 25 to 40.

3,262,836
LAMINATED SAFETY GLASS
Edward Lavin, Longmeadow, George E. Mont, Springfield, and Joseph G. Martins, Ludlow, Mass., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 3, 1964, Ser. No. 415,814
9 Claims. (Cl. 161—199)

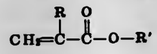
1. In an improved plasticized polyvinyl acetal interlayer, having a moisture content of from about 0.1 to 0.8% and a vinyl alcohol content of from about 9 to 30% by weight based on the weight of the polyvinyl acetal the improvement which comprises incorporating sufficient potassium salts of dicarboxylic acid of from 4 to 9 carbon atoms into the interlayer to produce an alkalinity titer of from about 25 to 40.

3,262,837
LAMINATED SAFETY GLASS
Edward Lavin, Longmeadow, George E. Mont, Springfield, and Aubrey F. Price, South Hadley, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 21, 1965, Ser. No. 489,054
18 Claims. (Cl. 161—199)

10. An improved laminated safety-glass comprising two layers of glass bonded to a plasticized polyvinyl acetal interlayer; said interlayer having a moisture content of 0.2 to 0.8% and containing sufficient metal alkyl carboxylates to produce a titer of from 2 to 100, wherein the metal portion of the metal alkyl carboxylate is selected from the group consisting of Groups IIA, IB, IIB, IIIA, IVA, VIIB and VIII of the Periodic Table and the alkyl carboxylate portion is selected from the group consisting of formate, acetate, propionate, and butyrate.

3,262,838
REPULPABLE COATED PAPER
Richard D. Vieth, Kinnelon, and Joseph A. Dooley, Cedar Grove, N.J., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed Apr. 4, 1963, Ser. No. 270,530
6 Claims. (Cl. 162—8)

4. A process for repulping coated printed paper which comprises applying a dilute aqueous solution of sodium hydroxide to a paper comprising a printed substrate coated with a blend of (1) a copolymer comprising from 15 to 30% of acrylic acid monomers and from 70 to 85% of acrylic ester material having the formula



where R is a member selected from the group consisting of methyl and hydrogen and R' is a lower alkyl radical containing from 1 to 4 carbons, and (2) a thermo-



setting aminoplast resin selected from the group consisting of urea-formaldehyde and melamine-formaldehyde resins.

3,262,839
NEUTRAL TO WEAKLY ALKALINE SULFITE PROCESS FOR THE EXTRACTION OF CELLULOSE FROM CELLULOSIC MATERIAL
Manfred Lüthgens, Frankfurt am Main, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany
No Drawing. Filed Oct. 18, 1962, Ser. No. 231,558
Claims priority, application Germany, Oct. 20, 1961, M 50,639
2 Claims. (Cl. 162—83)

1. In the process of the neutral to weakly alkaline sulfite type for extracting cellulose fibers from wood, the steps of comminuting the wood to wood chips having an average length of about 15 mm. and an average thickness of about 2 mm.; removing air from said wood chips; thoroughly impregnating the resultant air-freed wood chips with a sulfite solution having a pH value between 7 and 11.5, said sulfite solution having a concentration of about 50 g./l. sodium sulfite and about 10 g./l. sodium sulfide, the weight ratio of the sulfite solution to the wood chips being about 5:1, respectively; and digesting the resultant impregnated wood chips at 200–280° C. for 5–30 minutes.

3,262,840
METHOD AND APPARATUS FOR REMOVING LIQUIDS FROM FIBROUS ARTICLES USING A POROUS POLYAMIDE BODY
Laurence R. B. Hervey, West Concord, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Sept. 20, 1963, Ser. No. 310,389
8 Claims. (Cl. 162—205)

1. A method of reducing the liquid content of a wet fibrous article, comprising the steps of

(a) contacting, with the application of pressure, the surface of a wet fibrous article with a porous, resilient, polyamide body having a degree of porosity of at least 15 percent, the pores of said polyamide body being capillary in size and on an average smaller than those of said fibrous article;

(b) breaking the contact between said fibrous article and said porous resin body whereby a portion of said liquid in said article is transferred to said porous resin body; and

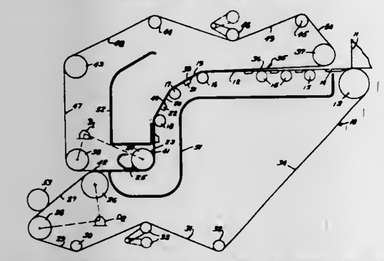
(c) removing said liquid from said porous resin body transferred to it from said wet fibrous article.

4. In a method of treating fabric which includes the steps of impregnating said fabric with a liquid and the subsequent removal of said liquid from said fabric, the step of contacting under pressure the liquid-treated fabric with a porous, resilient, polyamide surface having a degree of porosity of at least 15 percent, the pores of said polyamide surface being capillary in size and on an average smaller than those of said fabric thereby removing a portion of said liquid from said fabric.

3,262,841
APPARATUS FOR FORMING PAPER BETWEEN TWO FORMING WIRES

Lamar Embry, Kawerau, Bay of Plenty, Auckland, New Zealand, assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Apr. 29, 1963, Ser. No. 276,615
4 Claims. (Cl. 162—301)

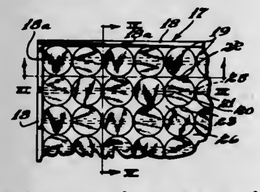


1. Apparatus for forming a web of paper or the like, comprising a frame, a bottom forming wire, a plurality of guide rolls on said frame for directing said bottom forming wire through a substantially horizontal run, headbox means for feeding watery pulp stock onto said bottom forming wire at the upstream end of said horizontal run, an upper forming wire substantially identical to said bottom forming wire, guide rolls for directing said upper forming wire through an initial run wherein it gradually converges into sandwiched relation with said bottom forming wire and stock to progressively express the liquids from the stock through each of said wires, first turning roll means for guiding the sandwiched forming wires and stock through a first turning path in one direction, second turning roll means for guiding said sandwiched forming wires and stock through a second turning path in an opposite direction, drive means for moving said wires at a predetermined speed sufficient to discharge the liquids in the stock by centrifugal force through one of said wires as said sandwiched wires and stock pass around said first turning roll and then through the other of said wires as said sandwiched wires and stock pass around said second turning roll to remove substantially all of the liquids from the stock by centrifugal force to produce a sheet of paper or the like, and means for separating said forming wires and removing the newly formed sheet therefrom.

3,262,842
SUCTION BOX COVER FOR A PAPERMAKING MACHINE

Edgar J. Justus, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Sept. 25, 1963, Ser. No. 311,468
6 Claims. (Cl. 162—374)



1. A suction box cover for a paper making machine, said cover including a planar wire bearing surface, comprising in combination,

a plurality of members positioned in adjoining abutting coacting mutually supporting relationship,

each member being rigid elongated and having an axis parallel to its length,

said member symmetrical about all planes parallel to and passing through said axis,

said member having at least one end cut to form a plane surface perpendicular to said axis,

the greatest dimension of said member measured in a direction parallel to said axis being less than the least dimension of said cover measured in the plane of said bearing surface,

said axis of said members being positioned perpendicular to said bearing surface, and said plane surfaces of all of said members being coplanar to form said bearing surface.

3,262,843
NEMATOCIDES

Frederick Charles Peacock, Bracknell, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 27, 1963, Ser. No. 334,027
Claims priority, application Great Britain, Dec. 28, 1962, 48,933/62
11 Claims. (Cl. 167—22)

6. A nematocidal composition comprising a nematocidal amount of a dithio-oxamide having at least one olefinically unsaturated aliphatic hydrocarbon substituent containing from 2 to 5 carbon atoms and a wetting agent.

3,262,844
METHOD OF ELIMINATING TOBACCO BLUE MOLD

David B. Campbell, Rte. 3, Hartsville, S.C.

No Drawing. Filed June 28, 1965, Ser. No. 467,727
2 Claims. (Cl. 167—24)

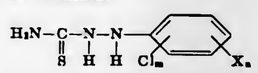
1. A method of eliminating tobacco blue mold which comprises the step of applying to tobacco blue mold an extract obtained by hot water extraction of the berry of the *Melia Azedarach* tree.

3,262,845
CONTROL OF FUNGI ON PLANTS WITH 1-PHENYLTHIOSEMICARBAZIDES

Christoffel Willem Pluijgers, Utrecht, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 24, 1962, Ser. No. 225,895
Claims priority, application Netherlands, Sept. 22, 1961, 269,542
5 Claims. (Cl. 167—30)

1. A method of combating fungi on living plants and seeds comprising contacting the fungi thereon with a fungicidally effective but a non-phytotoxic amount of a compound of the formula:



wherein X is a member of the group consisting of alkyl of 1 to 4 carbon atoms, alkoxy of 1 to 4 carbon atoms and mercapto alkyl of 1 to 4 carbon atoms, *m* is an integer from 0 to 1 inclusive and *n* is an integer from 0 to 3 inclusive.

3,262,846
STABLE COPPER EMULSION FOR CONTROLLING PLANT DISEASES

Charles D. Ercegovich, Hartsdale, N.Y., assignor, by mesne assignments, to Tennessee Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 6, 1962, Ser. No. 244,231
(Filed under Rule 47(b) and 35 U.S.C. 118)
3 Claims. (Cl. 167—42)

1. A fungicidal composition emulsifiable in water for application in spray form, said composition consisting essentially of 40–50 parts of a mixture of oil-soluble copper salts of fatty and rosin acids, 10–15 parts of a nonionic emulsifier, and 35–40 parts of an agricultural spray oil in the form of a petroleum distillate having a distillation range of 600° F.–900° F. and SUS viscosity in the range of 70–160 at 100° F., said oil-soluble copper salts comprising 10–14% copper oleate, 8–12% copper linoleate and 20–25% copper abietate.

3,262,847
CALCIUM SALT OF DEXTRAN FOR TREATING CATTLE DELIVERY PARESIS

Per Gustaf Magnus Flodin, Perstorp, and Johan Alfred Olof Johansson and Henning Lars-Erik Johansson, Uppsala, Sweden, assignors to Aktiebolaget Pharmacia, a company of Sweden

No Drawing. Filed Nov. 26, 1962, Ser. No. 240,167
3 Claims. (Cl. 167—53)

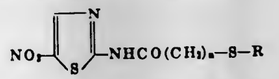
1. A therapeutic composition of matter adapted to the treatment of hypocalcemic conditions in the living body consisting of an injectable aqueous vehicle containing water soluble calcium metal salts of dextrans having, on an average, from 0.5 to 2.0, inclusive, carboxy-methyl groups per anhydroglucopyranosic unit, the average molecular weight of said dextrans being in the range of from 2,000 to 5,000, inclusive, and calcium propionate.

3,262,848
POULTRY ENTEROHEPATITIS TREATING COMPOSITIONS AND METHODS OF USING SAME

David B. Reisner, Cedar Grove, and Sidney Gister, Bound Brook, N.J., and Howard C. Klein, Brooklyn, N.Y., assignors to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 1, 1962, Ser. No. 227,565
9 Claims. (Cl. 167—53.1)

2. A process for controlling infectious enterobepatitis in poultry which comprises orally administering to poultry at least one compound of the formula



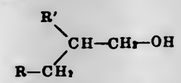
wherein *n* is an integer selected from the group consisting of 1 and 2, and R is selected from the group consisting of lower alkyl, benzyl, halobenzyl, nitrobenzyl, lower alkyl benzyl, lower alkoxy benzyl, phenyl, halophenyl, nitrophenyl, lower alkyl phenyl and lower alkoxy phenyl, said compound being sufficient to control said infectious enterohepatitis.

3,262,849
SUPPOSITORY BASE COMPOSITIONS

Gustav Lietz, Dusseldorf-Holthausen, and Günter Meinhard, Eggerscheidt, Ratingen, Germany, assignors to Dehydag Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany, a corporation of Germany

No Drawing. Filed Mar. 10, 1965, Ser. No. 438,791
Claims priority, application Germany, Apr. 24, 1959, D 30,529
9 Claims. (Cl. 167—64)

1. A suppository base composition having good mold release properties and a solidification point range of from 32 to 42° C. consisting essentially of from 90 to 99% of an alcohol having a formula



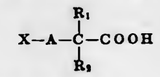
wherein R represents an alkyl radical having from 13 to 19 carbon atoms and R′ represents an alkyl radical having from 12 to 18 carbon atoms, from 1 to 5% based on the suppository mass, of a soap selected from the group consisting of aluminum soaps, zinc soaps and alkaline earth metal soaps, said soaps being formed from aliphatic acids having from 12 to 22 carbon atoms, and from 0 to 10%, based on the suppository mass, of an emulsifier.

3,262,850
METHODS FOR REDUCING CHOLESTEROL IN THE BLOOD

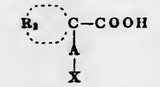
William Glynne Moss Jones, Jeffrey Meyrick Thorp, and Wilson Shaw Waring, all of Macclesfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Jan. 8, 1962, Ser. No. 165,041
Claims priority, application Great Britain, June 20, 1958, 19,793/58
4 Claims. (Cl. 167—65)

1. A method of reducing the cholesterol content of blood which comprises orally administering to a patient an effective dose of at least one compound selected from the group consisting of compounds having the formula:



and compounds of the formula:



wherein A is selected from the group consisting of oxygen and imino; R_1 is lower alkyl; R_2 is selected from the group consisting of hydrogen and lower alkyl; R_3 represents the methylene groups necessary to form, together with the adjacent carbon atom, a cyclohexyl ring; and X is selected from the group consisting of phenyl, halogenophenyl, alkylphenyl, alkenylphenyl, and alkoxyphenyl; and the lower alkyl esters and alkali metal, alkaline earth metal and acid-addition salts thereof.

3,262,851
PHARMACOLOGICAL COMPOSITIONS CONTAINING GLYCYRRHETINIC ACID DERIVATIVE

Siegfried Gottfried, Ilford, and Lily Baxendale, London, England, assignors to Biorex Laboratories Limited, London, England, a corporation of the United Kingdom

No Drawing. Original application June 26, 1958, Ser. No. 744,668, now Patent No. 3,070,623, dated Dec. 25, 1962. Divided and this application Sept. 27, 1962, Ser. No. 232,634
Claims priority, application Great Britain, July 16, 1957, 22,556/57
4 Claims. (Cl. 167—65)

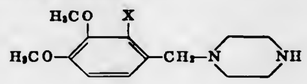
1. A pharmaceutical composition comprising a minor but anti-inflammatorily effective amount of a glycyrrhetinic acid derivative selected from the group consisting of hemiesters of glycyrrhetinic acid and the alkali salts thereof which are non-toxic and compatible with mammals, and a major amount of an inert pharmaceutical carrier.

3,262,852
VASODILATOR AND ANTI-ANGINOSE COMPOUNDS CONTAINING METHOXY BENZYL PIPERAZINES AND METHOD OF USING THE SAME

Jacques Servier, Neuilly-sur-Seine, France, assignor to the Société Anonyme dite: "Biofarma," Neuilly-sur-Seine (Seine), France, a society organized under the laws of France

No Drawing. Filed Nov. 23, 1962, Ser. No. 256,186
Claims priority, application France, June 30, 1960, 831,847
8 Claims. (Cl. 167—65)

1. A method of producing peripheral vasodilation which comprises administering perorally a compound having the following formula:



wherein X is selected from the group consisting of hydrogen and methoxy to persons suffering from peripheral circulatory disorders.

3,262,853
NOVEL 20β-AMINO-5β-PREGNANES
Daniel Bertin, Montrouge, Lucien Nedelec, Clichy-sous-Bois, and Jacques Perronnet, Paris, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France
No Drawing. Filed Jan. 8, 1964, Ser. No. 336,363
Claims priority, application France, Jan. 16, 1963, 921,608; Apr. 12, 1963, 931,475
11 Claims. (Cl. 167—65)

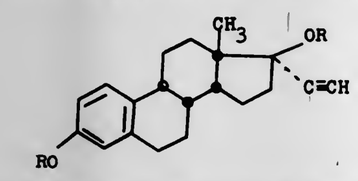
1. A spasmolytic composition comprised of 2 to 50 mg. of the dihydrochloride salt of 3α-(N',N'-dimethylamino-acetoxy)-20β-(N,N-dimethylamino) - 5β - pregnane and a major amount of a pharmacological carrier.

3,262,854
METHOD FOR THE RECOVERY OF HEPARIN
Takamasa Yasuda, 868 Yukigaya-machi, Ota-ku, Tokyo, Japan
No Drawing. Filed Mar. 29, 1963, Ser. No. 269,149
Claims priority, application Japan, Apr. 27, 1962, 37/16,592
6 Claims. (Cl. 167—74)

1. A method for the recovery of heparin from animal tissue containing the same, comprising the steps of adding picric acid to an aqueous alkaline decoction of the animal tissue and then maintaining the resulting mixture until the protein is hydrolyzed to lose its bonding power for heparin.

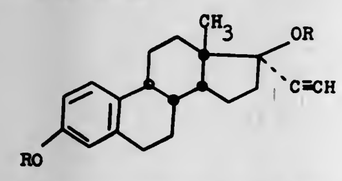
3,262,855
8-ISO-17α-ETHYNYL-ESTRADIOL DERIVATIVES AND PROCESS
Robert Bucourt, Clichy-sous-Bois, France, assignor to Roussel-UCLAF, Paris, France, a corporation of France
No Drawing. Filed Mar. 2, 1964, Ser. No. 348,845
Claims priority, application France, Mar. 5, 1963, 926,873; June 5, 1963, 937,076, Patent M 2,802
7 Claims. (Cl. 167—74)

1. An 8-iso-estradiol derivative of the formula:



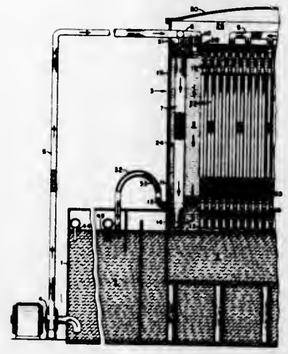
wherein R is a member selected from the group consisting of hydrogen, lower alkyl and the acyl radical of an organic carboxylic acid having from 1 to 18 carbon atoms.

6. A process for the treatment of estrogenic deficiencies in warm blooded animals which comprises administering from 0.01 to 4 milligrams per day of an 8-iso-estradiol derivative of the formula:



wherein R is a member selected from the group consisting of hydrogen, lower alkyl and the acyl radical of an organic carboxylic acid having from 1 to 18 carbon atoms.

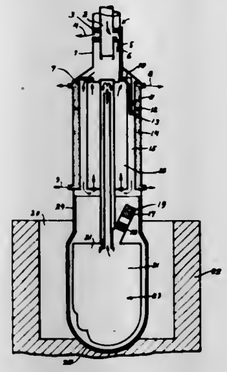
3,262,856
FUSED-SALT-FUELED, MOLTEN-METAL-COOLED POWER BREEDER REACTOR SYSTEM
Edward S. Bettis, Knoxville, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 14, 1965, Ser. No. 425,645
6 Claims. (Cl. 176—18)



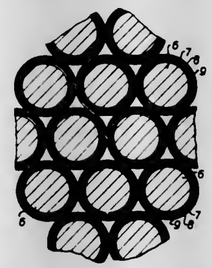
5. A fused-salt-fueled, molten-lead-cooled neutronic reactor comprising:
(a) a containment vessel;
(b) molten lead filling the lower portion of said containment vessel to form a molten lead reservoir;
(c) a centrally located active core region comprising fused salt containing fissile material floating on said molten lead reservoir;
(d) an annular blanket region comprising fused salt containing fertile material floating on said molten lead reservoir, said blanket region being adjacent to, but physically separated from, said active core region;
(e) means for passing molten lead from said reservoir downwardly through said active core region and said blanket region;
(f) means for providing a flowing layer of molten lead between said blanket region and said containment vessel; and
(g) means for removing heat from said molten lead reservoir.

3,262,857
UNDERGROUND MINING REACTOR APPARATUS
Guenther Schlicht, deceased, late of Hamburg-Othmarschen, Germany, by Erika Schlicht, legal representative, Hamburg-Othmarschen, Germany, and Hans Lange, Wietze, Kreis Celle, Germany, assignors to Deutsche Erdöl Aktiengesellschaft, Frankfurt am Main, Germany
Filed Mar. 27, 1963, Ser. No. 268,498
Claims priority, application Germany, Mar. 29, 1962, Sch 31,216
8 Claims. (Cl. 176—39)

1. An apparatus for combined thermal and radiation treatment of liquid bitumens containing reactor poisons comprising a power reactor adapted to be lowered into a boring in a bituminous stratum in combination with a radiation reactor, said power reactor having a reactor chamber surrounded by a reflector and carrying above it heat exchanger means, said heat exchanger means having an output side and an input side, a moderator in said reactor chamber for circulating through said input side, said radiation reactor having chamber means adjacent said heat exchanger means, said chamber means adapted to contain radioactive substances, means for conducting said liquid bitumens through said output side and said radiation reactor and means for discharging said liquid bitumens into underground deposits after having passed through said output side and said radiation reactor.



3,262,858
NUCLEAR REACTOR FUEL ELEMENTS
John Henry Gittus, Wrea Green, near Preston, Lancashire, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed May 31, 1963, Ser. No. 284,400
Claims priority, application Great Britain, June 5, 1962, 21,787/62
2 Claims. (Cl. 176—73)

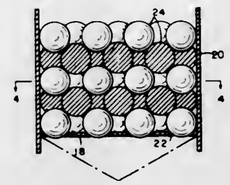


1. A nuclear reactor fuel element comprising a bundle of filaments of nuclear fuel material extending the full length of the fuel element, the filaments being coated with cladding material and being sintered together in the bundle along the lines of contact of the cladding material on the fuel elements, the composite structure containing 10–50 volume percent of porosity in the form of pores defined between the filaments, separate from one another, and extending along the length of the fuel element, so that in use of the fuel element in a nuclear reactor, coolant can pass through the pores in the fuel element as well as over its outer surface.

3,262,859
ORDERED BED NUCLEAR FUEL ASSEMBLIES
Warren E. Winsche, Bellport, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 20, 1965, Ser. No. 457,536
8 Claims. (Cl. 176—73)

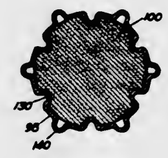
1. An ordered bed of spherical particles substantially identical in size consisting of a series of horizontal layers of said particles, the particles in any layer forming corners of squares and located in the cusps formed by the particles in an adjacent layer, means consisting of vertical, flat walls forming a container in rectangular cross-section enclosing said particles, each of said walls being parallel to some of the diagonal lines of said squares, said lines passing through the centers of said particles, and at right angles to the remainder of said diagonal lines, and means to establish the bottom layer of particles.

6. A nuclear fuel assembly comprising a container of rectangular cross-section formed by two pair of oppositely



facing, vertically extending parallel flat walls and means establishing within said container an ordered bed of spheres of substantially identical size, said bed consisting of horizontal plane layers of spheres of which in each layer the spheres form corners of squares and are located in the cusps formed by the spheres in an adjacent layer, said bed oriented so that each diagonal line passing through a square of spheres is parallel to one pair of said walls.

3,262,860
FLEXIBLE CLAD NUCLEAR FUEL ELEMENT
Edwin L. Zebroski, Los Altos, Calif., assignor to General Electric Company, a corporation of New York
Filed Dec. 26, 1962, Ser. No. 246,925
1 Claim. (Cl. 176—81)



A nuclear reactor fuel element which comprises an elongated cylindrical body of nuclear fuel material of substantially uniform geometric cross section with length and having a plurality of elongated longitudinal grooves spaced apart from one another on the exterior surface of said fuel material, a clad tube surrounding said fuel material, said clad tube being provided with a plurality of longitudinal folds of substantially U-shaped cross section and uniformly spaced around the periphery and extending substantially along the entire length of said clad tube to permit said tube to deflect radially in response to variations in external pressure and in response to differential expansion and contraction of said fuel material and said clad tube to maintain said tube in direct contact with said fuel material under variable operating conditions, said folds being arranged so that alternate folds project outwardly from the external surface of said clad tube and the remaining folds project inwardly into said elongated grooves, and means sealing the ends of said clad tube.

3,262,861
METHOD FOR PRODUCING L-ISOLEUCINE BY FERMENTATION PROCESS
Shukuo Kinoshita, Tokyo, Hirotoshi Samejima and Kunizo Mizuhara, Machida-shi, Takashi Nara, Tokyo, and Masanaru Misawa, Kawasaki-shi, Japan, assignors to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed May 5, 1965, Ser. No. 453,477
Claims priority, application Japan, Nov. 18, 1960, 35/45,347
17 Claims. (Cl. 195—29)

1. A method of producing L-isoleucine by fermentation which comprises cultivating an L-isoleucine producing strain of *Micrococcus glutamicus* in a culture medium containing α-aminobutyric acid, whereby L-isoleucine is accumulated in the medium in significant quantity, and recovering the L-isoleucine from said medium.

3,262,862
METHOD FOR PRODUCING LACTIC ACID WITH SPOROLACTOBACILLUS
Kakuo Kitahara, Tokyo, Japan, assignor to Kyowa Hakko Kogyo Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed May 6, 1963, Ser. No. 278,452
Claims priority, application Japan, May 10, 1962, 37/18,216
5 Claims. (Cl. 195—48)

1. A fermentation method for the production of lactic acid which comprises culturing a Sporolactobacillus in a culture medium containing saccharide, nitrogen source, inorganic salt and other nutrient required for the growth of the said Sporolactobacillus, whereby lactic acid is formed from the saccharide and accumulated in the medium.

3,262,863
PREPARATION OF STABLE LIPASE COMPOSITION AND PURIFICATION THEREOF
Juichiro Fukumoto, 4-227 Kirihata, Nagoyama, Takarazuka, Japan; Yoshio Tsujisaka, 21 1-chome, Tamade-Hondori, Nishinari-ku, Osaka, Japan; and Mieko Iwai, 11 3-chome, Haramicho, Ikuno-ku, Osaka, Japan
No Drawing. Filed Apr. 21, 1964, Ser. No. 361,558
Claims priority, application Japan, Apr. 27, 1963, 38/22,040
2 Claims. (Cl. 195—66)

1. A process for preparing stable lipase composition which comprises cultivating *Rhizopus delemar* on an aqueous nutrition medium comprising 0.5 to 1.5% of nitrogen source based on elementary nitrogen, 0.4 to 1.5% of carbon source based on elementary carbon, and a small amount of inorganic substance, the pH of said medium being in the range of from 5.0 to 6.0, until said medium is imparted a lipase activity, and recovering lipase fractions in the protease-free form from the cultured medium.

3,262,864
PROCEDURE FOR DEVELOPING ANTIMICROBIAL ACTIVITY IN NON-PATHOGENIC ORGANISMS
Georges Kouchner, Fontenay-sous-Bois, France, assignor of fifty percent to Societe Civile de Recherches Scientifiques et Industrielles "Sodersi," Paris, France, a company of France
No Drawing. Filed Mar. 2, 1962, Ser. No. 177,702
Claims priority, application France, Mar. 3, 1961, 854,461, 854,462; Feb. 26, 1962, 889,179, 889,204
13 Claims. (Cl. 195—96)

1. A process for obtaining from a population of living non-pathogenic microorganisms of one species selected from the group consisting of colibacilli, antibiotic-producing streptomyces, and antibiotic-producing penicillia having destructive properties directed against at least one other species of living microorganisms, a selected strain of said one species, in which said destructive properties are substantially stronger than in said population of organisms, said process consisting in carrying out a first cycle comprising the steps of placing microorganisms of said population and microorganisms of said other species into a common culture medium to provide a mixed culture of said micro-organisms of said one species and said other species; incubating said mixed culture; isolating from the incubated mixed culture a strain of surviving microorganisms of said one species; placing the isolated strain of microorganisms into another culture medium; and incubating said isolated strain in said other culture medium; and in carrying out at least one consecutive cycle comprising the steps of placing at least part of the incubated isolated strain of microorganisms of said one species together with microorganisms of said other into a new common culture medium to provide a new mixed culture of microorganisms of said one and said other species; incubating said new mixed culture in said new common culture a new strain of surviving microorganisms of said one species; placing the isolated new strain into a further culture medium and incubating said isolated new strain therein.

3,262,865
CHEMICAL TREATMENT AND DISTILLATION OF SEA WATER
Oscar B. Waters, Jr., Simpsonville, Md., assignor, by direct and mesne assignments, of one-half to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut, and one-half to the United States of America as represented by the Secretary of the Interior
No Drawing. Filed July 15, 1963, Ser. No. 295,220
3 Claims. (Cl. 203—7)

1. In the process for preparing potable water by distilling sea water in a tubular heat exchanger wherein the products are potable water and still waste, wherein sulfuric acid is added to prevent the deposit of scale on the heat exchangers tubes and concentrates in the still waste, and wherein the sulfuric acid in said still waste is neutralized with lime before discharging said still waste, the improvement comprising:

(a) Adding sufficient lime to said still waste to neutralize said waste and adjust its pH of said waste to about 7.0–9.5;

(b) Adding calcium chloride to said neutralized waste in such quantity that the total calcium ion concentration in the resulting mixture is substantially equivalent stoichiometrically to the sulfate ion concentration in said mixture, thereby precipitating substantially pure gypsum;

(c) Separating the thus precipitated gypsum from the thus treated still waste;

(d) Adding sufficient lime to the thus treated still waste to adjust the pH thereof to about 10.4, thereby precipitating magnesium hydroxide;

(e) Separating the thus precipitated magnesium hydroxide from the thus treated still waste to leave a remaining effluent.

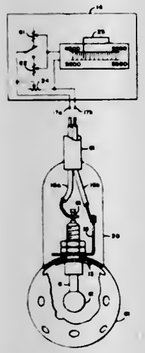
3,262,866
METHOD AND APPARATUS FOR DETERMINING THE VELOCITY OF SOUND IN A LIQUID
Anthony C. Suleski, Centerport, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed Feb. 6, 1963, Ser. No. 256,577
3 Claims. (Cl. 204—1)

2. The method of determining the velocity of sound in a liquid comprising:

placing a galvanic cell in said liquid with the liquid as an electrolyte;

measuring the current produced by said cell;

and the step of converting the measured current, by correlating it with predetermined velocity data, into

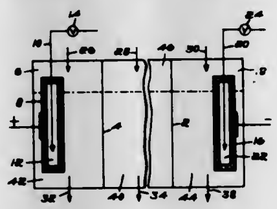


direct readings of the velocity of sound in said liquid.

3,262,867
METHOD FOR MAKING FILM CAPACITORS
Jefferson N. Callahan, Los Angeles, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Nov. 28, 1962, Ser. No. 240,661
10 Claims. (Cl. 204—38)

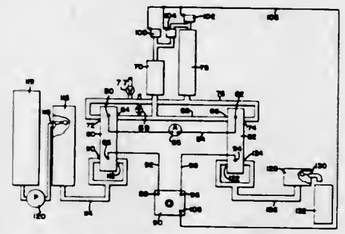
1. A method of making capacitors which comprises the steps of immersing an article having a thin film of titanium on at least one surface of said article in an organic anodizing bath, said bath comprising, by volume, 5% to 25% ethyl acid phosphate, 2% to 15% orthophosphoric acid, 5% to 50% glycerol and 20 to 80% water, anodizing said surface of said article in said bath by applying a direct current voltage between said suface and an associated conductor serving as a cathode of said anodizing step to form a first conductive electrode with a dielectric layer, and forming a second conductive layer on the exposed surface of said dielectric layer to complete the capacitor.

3,262,868
ELECTROCHEMICAL CONVERSION OF ELECTROLYTE SOLUTIONS
Walter Juda, Lexington, Mass., assignor to Ionics, Incorporated, Cambridge, Mass., a corporation of Massachusetts
Original application Sept. 28, 1959, Ser. No. 842,892, now Patent No. 3,124,520, dated Mar. 10, 1964. Divided and this application Oct. 10, 1963, Ser. No. 326,311
16 Claims. (Cl. 204—98)



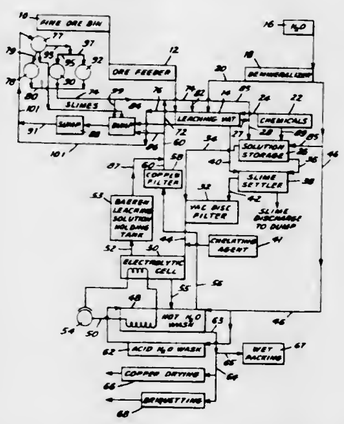
11. A process for the chemical conversion of electrolyte solutions in a cell having a porous catalytic fuel anode and porous catalytic oxidant cathode, at least two ion-exchange membranes between said electrodes disposed in spaced relationship with each other and with said electrodes to define at least three compartments adapted to contain liquid therein, the steps comprising passing electrolyte solutions into said compartments, passing a catalytically reactive combustible fuel into the anode and a catalytically reactive oxidant gas into the cathode, passing a direct current between said electrodes and withdrawing electrolyte solutions from at least some of said compartments.

3,262,869
PROCESS OF PRODUCING POTABLE WATER FROM URINE BY ELECTROCHEMICAL MEANS
Norman Belasco, Springfield, and Gordon Lee Fogal and James Greig Leisenring, Wayne, Pa., assignors to General Electric Company, a corporation of New York
Filed Sept. 28, 1961, Ser. No. 141,494
3 Claims. (Cl. 204—101)



1. The process of producing potable water from urine which comprises the step of electrolyzing the said urine in an electrolysis cell to produce hydrogen and oxygen and the step of recombining the said hydrogen and oxygen in a fuel or recombination cell to produce potable water and electrical energy.

3,262,870
PROCESS FOR THE EXTRACTION OF COPPER
George E. Harlan, Phoenix, Ariz., assignor to Powdered Metals Corporation, Phoenix, Ariz., a corporation of Arizona
Filed Aug. 31, 1961, Ser. No. 135,280
30 Claims. (Cl. 204—108)



1. A process for electrodepositing copper powder comprising: introducing an electrolyte into an electrolytic cell; said electrolyte being an H_2SO_4-water solution containing dissolved copper; said electrolytic cell having cathodes formed of substantially pure nickel and anodes formed of a lead-antimony alloy; electrolyzing said cell

to deposit copper powder from said electrolyte; said cell being maintained under the following conditions throughout said electrolysis:

(1) voltage between electrode pairs: at least approximately 6¼ volts

(2) cathode current density per cathode side: at least approximately 125 amps./ft.^{2};

and removing said copper powder from said electrolyte and electrolytic cell.

3,262,871

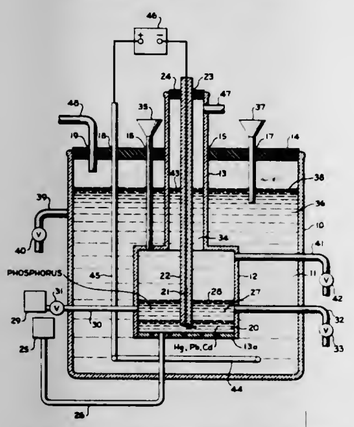
PREPARATION OF PHOSPHINE

George T. Miller, Lewiston, N.Y., and John Steingart, St. Catharines, Ontario, Canada, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Original application July 27, 1960, Ser. No. 45,654, now Patent No. 3,109,789, dated Nov. 5, 1963. Divided and this application Sept. 9, 1963, Ser. No. 307,750

The portion of the term of the patent subsequent to Nov. 5, 1980, has been disclaimed

2 Claims. (Cl. 204—266)



1. An electrolytic cell comprising an enclosed anode compartment and an enclosed cathode compartment within said anode compartment:

(A) said anode compartment comprising

(1) first conduit means for adding an anolyte to said anode compartment,

(2) second conduit means for removing said anolyte from said anode compartment,

(3) an anode positioned within said anode compartment in operative relationship with said anolyte, and

(4) third conduit means opening into the top of the anode compartment for removing anolyte gas from said anode compartment; and

(B) said cathode compartment comprising

(1) a horizontal cathode, having a top and bottom portion, positioned within said cathode compartment in operative relationship with a source of electrical energy,

(2) fourth conduit means opening into the bottom of the cathode compartment for adding cathode,

(3) fifth conduit means opening into the cathode compartment above the fourth conduit means for adding a reactant material on the top portion of said horizontal cathode,

(4) sixth conduit means opening into the cathode compartment above the fourth conduit means for withdrawing said reactant material,

(5) seventh conduit means opening into the top of the cathode compartment for introducing catholyte to said cathode compartment above the reactant material so that an electrical current may be maintained within said cathode compartment,

(6) eighth conduit means opening into the cathode compartment below the seventh conduit means for withdrawing catholyte from said cathode compartment,

(7) ninth conduit means opening into the top of the cathode compartment for removing catholyte gas from said cathode compartment, and

(8) a diaphragm, having a top and bottom portion, positioned below said horizontal cathode, so that its top portion is in contact with the bottom portion of the cathode, whereby, when a current is maintained between said anode and said cathode, a product of electrolysis is formed at said cathode and reacts with the reactive material to form a desired product.

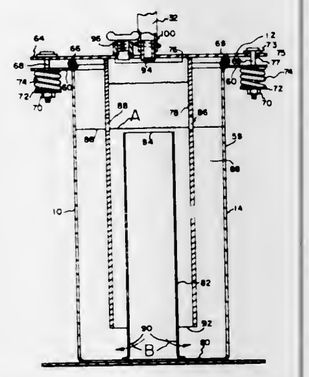
3,262,872

APPARATUS FOR THE ELECTROLYTIC PRODUCTION OF HYDROGEN AND OXYGEN FOR THE SAFE CONSUMPTION THEREOF

William A. Rhodes and Raymond A. Henes, Phoenix, Ariz., assignors to Henes Manufacturing Co., Phoenix, Ariz., a corporation of Arizona

Filed Mar. 23, 1962, Ser. No. 182,726

10 Claims. (Cl. 204—272)



3. In an electrolytic hydrogen and oxygen generator the combination of: a cylindrical tank member having an enclosed bottom portion; an upstanding cylindrical member conductively coupled to said bottom; a cover for said tank; a downwardly extending cylindrical member electrically coupled thereto and surrounding said upwardly extending cylindrical member; said tank adapted to contain an electrolytic solution, said downwardlly extending cylindrical portion having openings therein near the upper end of said upwardly extending cylindrical portion; an outlet in said cover internally of said downwardly extending cylindrical portion for the delivery of the mixture of hydrogen and oxygen from the generator.

3,262,873

FILTER AID FOR DEWAXING MINERAL OILS

John L. Tiedje and Stephan Ilnyckyj, Sarnia, Ontario, Canada, assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 6, 1960, Ser. No. 74,009

2 Claims. (Cl. 208—33)

1. In the process of solvent dewaxing wherein a lube oil fraction is solvent dewaxed by diluting with a mixture of 50% MEK and 50% MIBK and chilling at a rate

of 6° F./minute to a filtering temperature of 0° F. wherein 0.05 wt. percent of ethylene-vinyl acetate copolymer comprising 26.4 wt. percent of vinyl acetate and 73.6 wt. percent of ethylene based on the wt. of copolymer, having a molecular weight of 1,530 is added prior to filtration, precipitating the wax present in said oil and filtering the precipitated wax.

3,262,874

HYDROREFINING OF PETROLEUM CRUDE OIL AND CATALYST THEREFOR

John G. Gatsis, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Jan. 29, 1964, Ser. No. 341,097

11 Claims. (Cl. 208—216)

1. A process for removing sulfur and nitrogen from a heavy hydrocarbon charge stock containing pentane-insoluble asphaltenes which comprises reacting said charge stock with hydrogen in the presence of a catalyst containing the decomposition product of a mixture of a heteropoly acid and nickelous sulfate, and at conditions selected to convert nitrogenous and sulfurous compounds into hydrocarbons, ammonia and hydrogen sulfide.

3,262,875

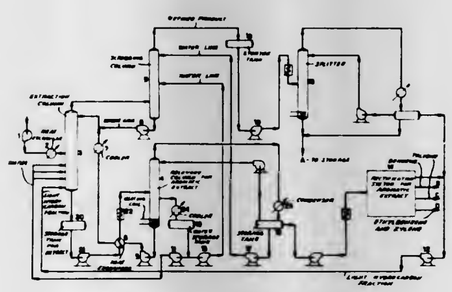
PROCESS FOR EXTRACTING HIGH-PURITY AROMATIC HYDROCARBONS FROM A HYDROCARBONACEOUS MIXTURE

Pier Leone Girotti and Ermanno Cinelli, San Donato Milanese, Italy, assignors to SNAM-Società per Azioni

Filed May 31, 1962, Ser. No. 198,804

Claims priority, application Italy, June 7, 1961, 10,486/61; Nov. 16, 1961, 20,505/61

3 Claims. (Cl. 208—324)



1. A process for recovering aromatic hydrocarbons from mixtures which contain said aromatic hydrocarbons admixed with other, non-aromatic hydrocarbons, comprising the steps of contacting said hydrocarbonaceous mixtures with a composite solvent mixture consisting of from about 95% to about 50%, by volume, of morpholine and from about 5% to about 50%, by volume, of water at a temperature in the range 0° C. to 95° C., increasing the water content of the solvent during the operation, and continuing the operation until substantially all the aromatic fractions of said hydrocarbonaceous mixture have been extracted therefrom, subjecting the extract thus obtained to azeotropic distillation at a temperature below about 100° C., contacting said extract with a recycled fraction consisting of aliphatic hydrocarbons having a boiling point lower than the boiling point of that aromatic hydrocarbon to be recovered which has the lowest boiling point of such aromatic hydrocarbons, and separating the individual aromatic hydrocarbons thus obtained.

3,262,876

CLEANING ION EXCHANGE RESINS

John J. Hronas, Pittsburgh, and Joseph L. Rizzo, Pitcairn, Pa., assignors to Calgon Corporation, a corporation of Pennsylvania

No Drawing. Filed July 5, 1963, Ser. No. 293,174

6 Claims. (Cl. 210—32)

1. Method of cleaning an ion exchange resin containing inorganic contaminants of iron, aluminum, silicon and manganese compounds comprising regenerating said bed with salt brine, converting said bed to the hydrogen form with a solution of acid, and contacting said bed with a solution of hydrofluoric acid for a period of time sufficient to remove said contaminants.

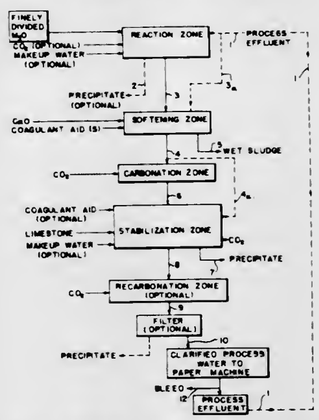
3,262,877

WATER TREATMENT PROCESS

Archie R. Le Compte, Jr., Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Nov. 5, 1964, Ser. No. 409,102

10 Claims. (Cl. 210—47)



1. In a lime treatment process for water, which water contains bicarbonate hardness, the improvement which comprises the step of introducing to the water, prior to the treatment with lime, substantially unhydrated magnesium oxide of a particle size of between about 0.1 to 1 micron with no significant quantity of the magnesium oxide exceeding about one micron so that the magnesium oxide reacts directly and essentially completely with bicarbonate hardness (a) to provide the magnesium component in solution essentially as magnesium carbonate and (b) to decrease the bicarbonate hardness, and adding to the water of decreased bicarbonate hardness containing the soluble magnesium component lime at least in sufficient amount to precipitate the magnesium component as a coagulant, and whereby the lime requirement for softening of the water is reduced.

3,262,878

METHOD AND APPARATUS FOR CONTINUOUSLY MONITORING WATER BEING TREATED TO REMOVE TURBIDITY THEREFROM

Robert W. Beckley and William F. Ettlich, Corvallis, Oreg., assignors to General Service Company, Corvallis, Oreg., a corporation of Oregon

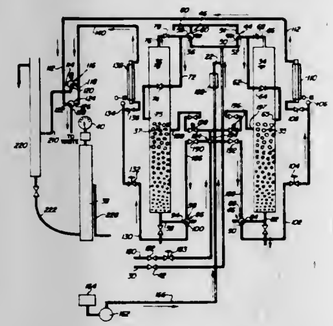
Filed Dec. 7, 1964, Ser. No. 416,240

4 Claims. (Cl. 210—53)

4. The method of continuously monitoring water being treated to remove turbidity therefrom which comprises the steps of:

adding an inorganic, flocculating agent to said raw water,

continuously withdrawing a sample of said raw water,
adding coagulant aid to said sample,
passing said sample through a filter for a first predetermined period of time and discharging the sample water from said filter to waste,
after a second predetermined period of time monitoring said sample water discharging from said first filter to determine the turbidity thereof,
after a third period of time continuously withdrawing a second sample from said water being filtered and passing the same through a second filter for a fourth predetermined period of time,
at the end of said fourth predetermined period of time commencing the monitoring of the effluent discharging from said second filter and terminating the monitoring of the sample water discharging from said first filter,
after a fifth predetermined period of time backwashing said first filter for a sixth predetermined period of time,



at the termination of said sixth predetermined period of time again continuously withdrawing a sample of water and passing the same through said first filter for a seventh predetermined period of time equal to said first predetermined period of time, at the termination of said seventh predetermined period of time commencing the monitoring of water from said first filter and ceasing the monitoring of water from said second filter,
after an eight predetermined period of time backwashing said second filter for a ninth predetermined period of time,
at the end of said ninth predetermined period of time again continuously withdrawing a sample of said raw water and passing the same through said second filter for a tenth period of time equal to said fourth period,
at the end of said tenth period of time commencing the monitoring of water from said second filter and terminating the monitoring of water from said first filter,
and repeating the aforesaid cycle.

3,262,879
LUBRICATING GREASE COMPOSITION FOR MISSILE SYSTEMS
Joseph F. Messina, Havertown, Pa., assignor to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Oct. 15, 1963, Ser. No. 316,478
21 Claims. (Cl. 252—28)

1. An improved grease-type lubricant comprising a mixture of mixed perfluorotrialkylamines, the alkyl groups thereof containing from 4 to 6 carbon atoms, with a thickener selected from the group consisting of tetrafluoroethylene polymers having a molecular weight in the range of 2,000 to 30,000, graphite, and silica.

3,262,880
PROCESSING CARBONATE DISPERSIONS IN OILS
Vanderveer Voorhees, Los Altos, Calif., assignor to Bray Oil Company, Los Angeles, Calif., a limited partnership of California
No drawing. Filed Sept. 23, 1963, Ser. No. 310,845
7 Claims. (Cl. 252—33)

1. The process of making a transparent, colloidal dispersion of carbonate of Group II metals in lubricating oil for use in lubrication of internal combustion engines which comprises preparing a mixture of an oil soluble sulfonate, a lubricating oil, a volatile hydrocarbon solvent, anhydrous methanol and a methanol complex of a Group II metal, carbonating the reaction mixture by injecting carbon dioxide with rapid agitation until it is substantially no longer absorbed, distilling off the anhydrous free methanol, decomposing remaining methanol complex by steaming at about 220 to 280° F., adding from 3 to 20 percent of water, based on the volume of lubricating oil and sulfonate, while thoroughly agitating the mixture for a period of time of 1 to 20 minutes at a temperature of about 160° to 200° F., then dehydrating the oil by distilling off the free water along with hydrocarbon solvent and liberated methanol.

3,262,881
METAL CARBOXYLATE ANTIOXIDANTS FOR FLUOROESTERS
Harold Ravner, Accokeek, and Carter O. Timmons, Oxon Hill, Md., assignors to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed May 31, 1963, Ser. No. 284,753
3 Claims. (Cl. 252—37.2)

1. A composition comprising a fluid neutral ester of a fluoroalcohol of the general formula:

$$H(CF_2CF_2)_nCH_2OH$$

wherein n is an integer from 2 to 5 and an aliphatic polycarboxylic acid of the general formula:

$$R-(COOH)_n$$

wherein n is an integer from 2 to 4 and R is a saturated aliphatic hydrocarbon group having from 3 to 9 carbon atoms and a metal carboxylate of the group consisting of those of the general formulas:

$$(R'-COO-)_2M,\ (COO-)_2M \text{ and } R''-(COO-)_2M$$

wherein R′ is an univalent and R″ a divalent hydrocarbon radical of the group consisting of univalent and divalent saturated aliphatic and phenyl-substituted saturated aliphatic hydrocarbon radicals, univalent and divalent hydrocarbon radicals of the benzene series, perfluoroalkyl and perfluoroalkylcarbalkoxyl radicals, and M is a metal of the group consisting of barium, strontium, copper, cobalt, nickel, titanium, cerium and ytterbium, in amount sufficient to increase the oxidation stability of the fluid neutral ester at temperatures in the range of from about 400 to 500° F.

3. A composition as defined in claim 1, wherein the metal carboxylate has the general formula:

$$(R'-COO-)_2Cu$$

in which R′ is a univalent hydrocarbon of the benzene series.

3,262,882
RADIATION RESISTANT LUBRICANTS
Sharda Das Gupta, Ottawa, Ontario, and James Theodore Slobodian, Bells Corners, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada
Filed Apr. 22, 1963, Ser. No. 274,590
4 Claims. (Cl. 252—59)

1. A lubricant for exposure to high energy radiation doses comprising a base lubricant consisting essentially of a long chain hydrocarbon copolymerized with about 10 to 50 percent styrene, said long chain hydrocarbon and said styrene being copolymerized by exposure to a dose of radiation in an amount of about 1×10^7 rads.

3,262,883
DEFOULING ION EXCHANGE RESINS BY THE REMOVAL OF IRON OXIDES THEREFROM
Sallie A. Fisher, Levittown, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 13, 1962, Ser. No. 237,293
7 Claims. (Cl. 252—105)

1. A method for defouling without deleteriously affecting ion exchangers by removing iron oxide which is deposited within their gel structure, comprising contacting the iron oxide on the substance bearing same with an aqueous solution of at least 0.01% of a water-soluble dithionite salt and at least 0.01% of a chelating agent from the class consisting of sodium and potassium polyphosphates and ethylenediamine tetraacetic acid for such time as is necessary to remove the iron oxide from said substance to the extent desired.

3,262,884
SKIN CLEANING COMPOSITION
James B. Myers, Canton, Ohio, assignor to Chemical Supplies, Inc., Canton, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 16, 1963, Ser. No. 251,716
5 Claims. (Cl. 252—106)

1. An antiseptic skin-cleaning composition consisting essentially of 30 to 99% by weight of a vegetable oil, 0 to 65% by weight of water, 0.001 to 3.0% by weight of an alkali metal permanganate selected from the group consisting of sodium permanganate, potassium permanganate and mixtures thereof, 0 to 2.0% by weight of a synthetic organic detergent selected from the group consisting of anionic and nonionic detergents, and 0.01 to 5.0% by weight of a polyamino-polycarboxylic acid sequestering agent selected from the group consisting of the alkali metal salts of diethylene-triamine penta-acetic acid, ethylenediamine tetra-acetic acid, propylene 1,2-diamine tetra-acetic acid, propylene 1,3-diamine tetra-acetic acid, 1,4-butylene diamine tetra-acetic acid, and dipropylene 1,2-triamine penta-acetic acid.

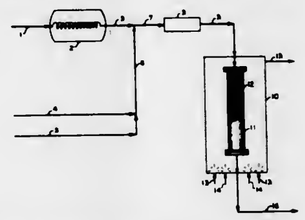
3,262,885
FISSION-PRODUCTS-CONTAINING COMPOSITION AND PROCESS OF MAKING
Peter R. Rushbrook, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
No drawing. Filed Apr. 8, 1964, Ser. No. 358,385
4 Claims. (Cl. 252—301.1)

1. A process of consolidating fission-products-containing granular zeolite, comprising mixing from 20 to 50% by weight of said zeolite with from 40 to 10% of lithium fluoride, from 40 to 10% of silica and from 10 to 50% of boron oxide, heating the mixture obtained at about 800° C. for two hours and then cooling the mass obtained to room temperature.

3. As a new composition of matter, a melted and cooled mixture of from 20 to 50% by weight of zeolite with from 40 to 10% of lithium fluoride, from 40 to 10% of silica and from 10 to 50% of boron oxide.

3,262,886
PROCESS FOR NAPHTHA REFORMING
Arnold R. Bernas, Nixon, N.J., and George Russell James, Armonk, N.Y., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 20, 1961, Ser. No. 160,749
6 Claims. (Cl. 252—376)

6. A process of making an ammonia synthesis gas mixture principally containing hydrogen and nitrogen in a molar ratio of about 3 to 1 by the continuous reforming of naphtha which comprises vaporizing liquid naphtha, preheating the resulting vaporized naptha to a temperature in the range of 122° F. to 1000° F., preheating an air stream, superheating a stream of steam, combining said streams of vaporized naphtha, steam and air to form a mixed gaseous stream at a temperature in the range of 1000° F. to 1700° F., said mixed gaseous stream having a steam/carbon molar ratio of between 3/1 to 7/1, reacting said mixture non-catalytically for a time interval less than 1.0 second whereby said vaporized naphtha is simultaneously oxidized, cracked and partially reformed without accumulation of free carbon, catalytically reforming the resulting gas mixture in contact with an externally heated reform catalyst selected from the group



consisting of nickel and cobalt deposited on a carrier, said gas mixture having a linear gas velocity of at least 5 ft./sec. during said catalytic reform, said catalyst being maintained at a reaction temperature of at least 1400 F., whereby a reformed gas mixture is produced substantially free of hydrocarbons and comprising hydrogen, nitrogen, steam, carbon monoxide and carbon dioxide, catalytically reacting the carbon monoxide content of said reformed gas mixture with steam to produce further hydrogen by CO-oxidation, and removing carbon dioxide from the resulting process gas stream to produce ammonia synthesis gas, the ratio of said air stream to said vaporized naphtha being proportioned so as to obtain a final hydrogen to nitrogen molar ratio in said ammonia synthesis gas stream of about 3 to 1.

3,262,887
POLYMERIZATION CATALYSTS AND PROCESSES
John D. Calfee, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 31, 1960, Ser. No. 53,059
6 Claims. (Cl. 252—429)

4. A chemical composition comprising a chemically-bonded complex of an aluminum alkoxide having from 1 to 12 carbon atoms in each alkoxide radical, and an aluminum halide, the major proportion of the halide being fluoride, any remainder being selected from the group consisting of chloride, bromide, and iodide, said chemical composition having been prepared by mixing an aluminum alkoxide having from 1 to 12 carbon atoms in each alkoxide radical with an aluminum halide selected from the group consisting of aluminum chloride, aluminum bromide, and aluminum iodide in an intimate mixture in molar proportions on the order of about 1 molar proportion of the aluminum alkoxide to from about 0.9 to 5 molar proportions of the aluminum halide to form a complex, dissolving said complex in a solvent, and contacting said resulting dissolved complex with sufficient fluorinating agent selected from the group consisting of boron trifluoride and hydrogen fluoride at a temperature of from —80° C. to 0° C. and then allowing the temperature to rise, to effect an in situ halogen interchange to convert the predominant portion of the aluminum halide of the aluminum alkoxide-aluminum halide complex to aluminum fluoride, and removing any unreacted fluorinating agent and halide containing by-product whereby a solid aluminum alkoxide-aluminum fluoride-aluminum halide complex is obtained.

3,262,888

PROCESS FOR PREPARING THE ORGANOMETALLIC COMPONENT OF A CATALYTIC SYSTEM

Giorgio Moretti, Francesco Dini, and Vincenzo D'Alessandro, Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed Nov. 7, 1961, Ser. No. 150,633
Claims priority, application Italy, Nov. 11, 1960, 19,466/60
3 Claims. (Cl. 252—431)

1. A process for preparing a composition containing beryllium diethyl and etherates of ethyl aluminum compounds, for admixture with a transition metal compound selected from the group consisting of titanium and vanadium chlorides to form a polymerization catalyst, which comprises fully alkylating anhydrous beryllium chloride with an amunt of aluminum triethyl such that the Al/Be molar ratio is at least 5:1, at a temperature of from 20° C. to 120° C., and in contact with an amount of an ether selected from the group consisting of diethyl ether, dipropylether, dibutyl ether and tetrahydrofuran, in excess of the stoichiometric amount with respect to the triethyl aluminum, and removing the amount of ether in excess of the stoichiometric amount from the reaction mass.

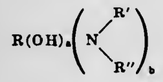
3,262,889

LIQUID ANHYDROUS STANNOUS SOAP COMPOSITIONS

Leonard M. Edwards, Cranford, and Otto E. Loeffler, Rahway, N.J., assignors, by mesne assignments, to M.T. Chemicals Inc., New York, N.Y., a corporation of Delaware

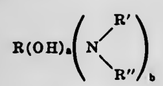
No Drawing. Filed Feb. 27, 1962, Ser. No. 176,112
20 Claims. (Cl. 252—431)

1. The process for liquifying substantially anhydrous metal soaps which comprises adding to 100 parts by weight of a soap selected from the group consisting of stannous oleate, stannous linoleate, stannous linolenate, and mixtures thereof from 0.1–3.0 parts by weight of a compound



wherein R is a hydrocarbon radical selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl, alkenyl, cycloalkenyl radicals and polyvalent radicals derived therefrom; *a* and *b* are integers from 0 to 6 and *a*+*b* is at least one; and R′ and R″ are selected from the group consisting of alkyl, aryl, aralkyl, alkaryl, alkenyl, cycloalkenyl, cycloalkyl and hydrogen radicals.

10. A novel liquid metal soap composition consisting essentially of substantially anhydrous metal soap selected from the group consisting of stannous oleate, stannous linoleate, stannous linolenate, and mixtures thereof; and from 0.1–3.0 parts by weight per 100 parts by weight of said metal soap of a compound



wherein R is a hydrocarbon radical selected from the group consisting of the alkyl, aryl, aralkyl, alkenyl, cycloalkyl, and cycloalkenyl radicals and polyvalent radicals derived therefrom; *a* and *b* are integers from 0 to 6 and *a*+*b* is at least one; and R′ and R″ are selected from the group consisting of alkyl, aryl, aralkyl, alkaryl, alkenyl, cycloalkenyl, cycloalkyl and hydrogen radicals.

3,262,890

MANUFACTURE OF SHAPED CRYSTALLINE ZEOLITIC MOLECULAR SIEVE BODIES

William J. Mitchell and Vincent C. Raab, Kenmore, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 5, 1960, Ser. No. 60,552
14 Claims. (Cl. 252—455)

1. A method for manufacturing shaped porous crystalline zeolitic molecular sieve adsorbent bodies comprising the steps of providing a mixture of said zeolitic molecular sieve and a clay mineral binder; granulating and initially firing said mixture at a temperature sufficiently high to simultaneously dry said clay mineral binder, bind the mixture, and activate the molecular sieve, the firing temperature being below that temperature at which said crystalline zeolitic molecular sieve is structurally unstable; adding powderous sodium silicate to the granular molecular sieve-clay binder mixture; adding an aqueous sodium silicate solution to the activated mixture containing powderous sodium silicate, the addition of powderous and aqueous sodium silicate being in quantities such that the total silicate content of the porous molecular sieve bodies is between about 9% and 25% by weight and the total moisture content is between about 16% and 20% by weight; mixing said aqueous sodium silicate solution with said activated mixture for sufficient duration so as to form a free-flowing blend of uniformly distributed molecular sieve particles in a sodium silicate matrix; uniformly pressurizing and shaping such blend for sufficient duration to provide said porous crystalline zeolitic molecular sieve body; and finally firing such body at temperatures between about 350° and 650° C.

3,262,891

AGGLOMERATION PREVENTION IN ANION EXCHANGE AND MIXED EXCHANGE RESINS USING FINELY DIVIDED BENTONITE

Irving M. Abrams, Redwood City, Calif., assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed July 9, 1962, Ser. No. 208,560
4 Claims. (Cl. 260—2.1)

1. The method for the prevention of agglomeration of an ion exchange resin selected from the group consisting of anion exchange resins and mixed beds of cation and anion exchange resins which consists of contacting the resin with an aqueous suspension of finely divided bentonite.

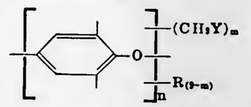
3,262,892

SUBSTITUTED POLYPHENYLENE ETHERS

Allan S. Hay, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No drawing. Filed Nov. 29, 1961, Ser. No. 155,828
12 Claims. (Cl. 260—2.2)

1. A composition comprising a polyphenylene ether having the structural formula



wherein *n* is a positive integer and is at least 10, *m* is a number from 0.01 to 2 inclusive, with the proviso that the product obtained by multiplying *m* by *n* is at least 1, Y is an acidic substituent having an ionizable hydrogen having the formula

$$\{R'\}_pZ$$

where *p* is an integer from 0 to 1, R′ is a divalent substituent selected from the group consisting of alkylene, haloalkylene, arylene and haloarylene, and Z is an acidic substituent selected from the group consisting of carboxy, sulfo and phosphono and R is a monovalent substituent

selected from the group consisting of hydrogen, halogen, hydrocarbon free of an aliphatic, tertiary α-carbon atom, halohydrocarbon free of an aliphatic, tertiary α-carbon atom and —OR′ where R′ is a monovalent substituent selected from the group consisting of hydrocarbon free of an aliphatic, tertiary α-carbon atom and halohydrocarbon free of an aliphatic, tertiary α-carbon atom.

3,262,893

ION EXCHANGE RESINS FROM KERATIN AND A VINYL CARBOXYLIC COMPOUND

John J. Krajewski, Wheeling, and Harry T. Anderson, Clarendon Hills, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 4, 1962, Ser. No. 228,230
6 Claims. (Cl. 260—2.2)

1. A method for preparing an ion exchange resin which comprises reacting a keratinaceous substance with a vinyl, carboxylic monomer solution in the presence of a polymerization catalyst, and thereafter treating the product with an oxidizing agent and a bacteria decay preventative.

3,262,894

FLAME RETARDANT URETHANE FOAM POLYMER

Harold A. Green, Havertown, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Sept. 13, 1962, Ser. No. 223,540
1 Claim. (Cl. 260—2.5)

In a polyurethane foam composition consisting predominantly of the reaction product of a precurseor containing trichlorofluoromethane foaming agent, an organic compound having at least two isocyanato groups and an organic compound having at least two alcoholic hydroxy groups selected from the group consisting of polypropylene glycol, polytetramethylene glycol and reaction products of an epoxyalkane with a compound selected from the group consisting of glycerol, pentaerythritol, mannitol and sorbitol, the improvement of imparting flame retardancy to said composition by incorporating in said precursor the combination of tris(2-chloroethyl) phosphate in a weight concentration within the range from 0.215 to 21.5% and alumina trihydrate in a weight concentration within the range from 11% to 30%.

3,262,895

CHLOROACRYLATE POLYMERS CONTAINING METAL SALTS OF FATTY ACIDS

Harry D. Anspon, Kansas City, Mo., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 9, 1962, Ser. No. 185,809
6 Claims. (Cl. 260—23)

1. A method for preparing a lubricating composition which comprises polymerizing methyl-α-chloroacrylate in the presence of from about 5% to about 40% by weight based on the weight of the monomer of an alkaline earth metal salt of a fatty acid having from 12 to 18 carbon atoms, said fatty acid being selected from the group consisting of saturated and monounsaturated fatty acids.

3,262,896

VINYL HALIDE RESINS STABILIZED WITH MIXTURES OF ZINC SALTS AND POTASSIUM SALTS OF MONOCARBOXYLIC ACIDS

Bernard Ackerman, Edison, N.J., assignor to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio

No Drawing. Filed July 6, 1965, Ser. No. 469,913
5 Claims. (Cl. 260—23)

1. A heat resistant plastic composition including as a major constituent a haloethylene polymer and containing as heat stabilizers a zinc salt and a potassium salt of an organic monocarboxylic acid selected from the group consisting of fatty acids having 6 to 12 carbon atoms, branched aliphatic acids having 5 to 12 carbon atoms, benzoic acid, and substituted benzoic acids.

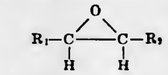
3,262,897

THERMOSETTING RESINS MODIFIED WITH GLYCOLIC ESTER DERIVATIVES AND METHOD OF PRODUCING THE SAME

Stanley Kordzinski, Old Bridge, and Robert Raetz, Westfield, N.J., assignors to Catalin Corporation, a corporation of Delaware

No Drawing. Filed June 27, 1960, Ser. No. 38,766
19 Claims. (Cl. 260—29.3)

4. A curable resinous composition which comprises a homogeneous compatible admixture of (A) a solvent, (B) a water soluble condensation product of (1) an aldehyde and (2) a compound selected from the group consisting of a phenol, urea, melamine, and a mixture of urea and melamine, which condensation product is thermally advanceable to an insoluble, infusible final stage of cure, and up to about 25% by weight of (C) the reaction product having a pH at least about 4.5 of (1) an alkylene oxide having a structure represented by the formula:



R_1 being selected from the group consisting of hydrogen atom, alkyl radical having up to twenty carbon atoms, aryl and alkylaryl radicals, R_2 being selected from the group consisting of hydrogen atom, halogen atom and alkoxy radical, with (2) a polycarboxylic synthetic polymer, said polymer being selected from the group consisting of styrene-maleic anhydride copolymer, styrene-maleic acid copolymer, an alkali metal salt of styrene-maleic acid copolymer, ethylene-maleic anhydride copolymer, ethylene-maleic acid copolymer, an alkali metal salt of ethylene-maleic acid copolymer, polyacrylic acid and polymethacrylic acid.

5. A curable resinous composition in accordance with claim 4 in which the solvent is water.

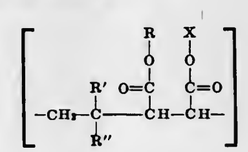
3,262,898

ORGANIC DISPERSANTS FOR ORGANIC PIGMENTS IN AQUEOUS SYSTEMS

Charles R. Williams, Longmeadow, Mass., assignor to Monsanto Company, a corporation of Delaware

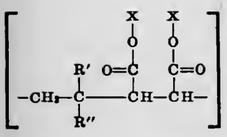
No Drawing. Original application Dec. 29, 1960, Ser. No. 79,116. Divided and this application Oct. 10, 1962, Ser. No. 229,730
7 Claims. (Cl. 260—29.6)

1. In a process for preparing an aqueous latex surface coating compositon comprising a water-insoluble organic pigment dispersed in an aqueous latex of a film-forming polymer; the improvement which comprises incorporating in the aqueous medium a salt of the ester of an olefin-maleic anhydride copolymer in the amount of 0.1–7.0 weight percent based on the weight of the organic pigment dispersed therein; said salt of the ester of an olefin-maleic anhydride copolymer having in its structure recurring groups of the formulae:



(I)

and



(II)

with the groups of Formula I constituting 50–100% of the total of groups (I) and (II); wherein R is selected from the group consisting of aralkyl and cycloalkyl radicals; R' is selected from the group consisting of hydrogen, methyl and ethyl; R'' is selected from the group consisting of hydrogen and methyl, providing that when R' is ethyl, R'' is hydrogen; X is selected from the group consisting of ammonium, substituted ammonium, and alkali metal ions; said aralkyl radicals having an aliphatic moiety of 1–10 carbon atoms and an aromatic moiety of 1–2 rings associated therewith and said cycloalkyl radicals having 5–7 carbon atoms.

3,262,899

SIZING POLYOLEFIN YARNS WITH AQUEOUS ATACTIC POLYPROPYLENE EMULSION

Walter B. Armour, Plainfield, and Herbert C. Olsen, Berkeley Heights, N.J., and Michael P. Diamantopoulos, South Acton, Mass., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 25, 1963, Ser. No. 267,790
9 Claims. (Cl. 260—29.6)

1. A method for sizing polyolefin yarns which comprises applying chlorinated atactic polypropylene to said yarns by passing said yarns through an aqueous emulsion of said chlorinated atactic polypropylene and thereupon drying the thus treated yarns.

3,262,900

MASKING COMPOSITIONS FOR PRINTED CIRCUITS

Guido Schreiber, 140 E. 40th St., New York 16, N.Y.

No Drawing. Filed Dec. 19, 1963, Ser. No. 331,967
6 Claims. (Cl. 260—29.6)

1. A masking composition for use in the production of printed circuits that comprises 2.5 to 91 parts of a finely divided powdered substance selected from a group consisting of oxides of cerium, lanthanum, barium, silicon, aluminum, and titanium; said powdered substance having a maximum particle size of 50 mesh; 0.01 to 97 parts of a diluent selected from the group consisting of ethylene glycol, propylene glycol, triethylene glycol, diethylene glycol, a high molecular weight ethylene oxide polymer, and a copolymer of methyl vinyl ether and maleic anhydride; 0.01 part to 8 parts of polyethyleneglycol; together with 0.25 part to 93 parts of water, 0.001 part to 95 parts of glycerine, and 0.01 part to 10 parts dimethyl silicone emulsion.

3,262,901

RESINOUS POLYURETHANE COATING LACQUERS PREPARED FROM POLYISOCYANATE, WATER, AND POLYHYDROXYL REACTION PRODUCTS, AND PROCESS FOR THEIR PREPARATION

Frank Whitley Lord, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 8, 1961, Ser. No. 158,162
Claims priority, application Great Britain, Dec. 19, 1960, 43,564/60
12 Claims. (Cl. 260—32.8)

1. An improved process for the preparation of resinous polyurethane lacquers, suitable for surface coatings, which comprises reacting organic polyisocyanates, at least one oxyalkylated diamine polyether, and water in an amount of 0.5 to 10% by weight based on the amount of said polyether, in the presence of an organic solvent which is at least partially miscible with water.

3,262,902

ALKYLENE OXIDE ELASTOMERS WITH AROMATIC HYDROCARBON EXTENDERS

Anderson E. Robinson, Wilmington, Del., assignor to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,253
10 Claims. (Cl. 260—33.6)

1. A vulcanizable oil extended copolymer composition comprising:

(a) a water-insoluble copolymer of from about 50% to about 99% of an alkylene oxide containing 3 to 4 carbon atoms and from about 1% to about 50% of at least one other epoxide selected from the group consisting of ethylenically unsaturated glycidyl ethers, butadiene monoxide and vinylcyclohexene monoxide, said copolymer having a weight average molecular weight of at least about 200,000,

(b) from about 10% to about 100% by weight based on the weight of the copolymer of an aromatic hydrocarbon oil in which at least about 30% of the carbon atoms are in aromatic ring structures and which has a solubility parameter range of from about 8.0 to about 10.0 and

(c) a small amount of cross-linking agent comprising elemental sulfur and at least one accelerator selected from the group consisting of dithiocarbamates, alkyl thiuram sulfides and benzothiazoles.

3,262,903

GREEN CHROMIUM OXIDE PIGMENT IN EPOXY RESIN AND PHOSPHATIZED EPOXY RESIN COATINGS

James A. Robertson, Lewiston, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 27, 1963, Ser. No. 290,910
6 Claims. (Cl. 260—37)

1. The composition comprising (1) the reaction product of a normally solid polyepoxide having more than one epoxy group per molecule, with orthophosphoric acid in an amount equal to at least 0.5 and less than 1.0 molecule of orthophosphoric acid per epoxy group, and (2) about 2 to 30 parts by weight of green chromium oxide per 100 parts by weight of said reaction product.

3,262,904

PENCIL LEADS

Dennis L. Ripley, Bartlesville, Okla., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Aug. 30, 1961, Ser. No. 135,067
7 Claims. (Cl. 260—41)

1. A method for making writing cores, in a form ready for use in pencils, which consists essentially in dry blending a mixture of ten to thirty percent of a rigid thermoplastic resin selected from the group consisting of polystyrene and styrene-acrylonitrile copolymers, 1 to 20 percent of a branched, high pressure polyethylene material and 65 to 75 percent natural flake graphite, compacting the mixture at a temperature above the softening point of the rigid thermoplastic resinous material, extruding the so densified mixture through a die with orifices of appropriate diameter and severing the extrudate into required lengths for use in pencils.

3,262,905

HEAT STABILIZATION OF POLYVINYL ALCOHOL WITH ALKALI METAL PHOSPHATES

Joseph G. Martins, Ludlow, Mass., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Filed Feb. 26, 1962, Ser. No. 175,830
4 Claims. (Cl. 260—45.7)

1. Solid polyvinyl alcohol containing in intimate dispersion 0.2 to 1.5% by weight of a stabilizer consisting of a finely divided alkali metal phosphate of slightly acid to slightly alkaline reaction,

said polyvinyl alcohol being water soluble and having from 0–45% residual acetate groups calculated as polyvinyl acetate and having a viscosity of 3–65 centipoises as a 4% aqueous solution at 20° C.

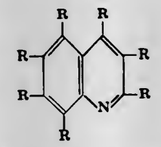
3,262,906

STABILIZATION OF POLYALDEHYDES WITH QUINOLINE COMPOUNDS

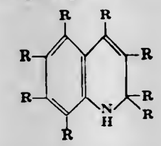
Eli Perry, Galveston, Tex., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Sept. 20, 1962, Ser. No. 225,144
5 Claims. (Cl. 260—45.8)

1. A thermally-stabilized polymeric composition comprising a polyaldehyde and from about 0.01 to about 15% by weight of said polyaldehyde of a quinoline compound chosen from the group consisting of compounds having the generic formula



and compounds having the generic formula



wherein R in said formulas is selected from the group consisting of hydrogen, the halogens, hydroxy, amino and nitro radicals, and alkyl, akenyl, alkoxy, and aryl radicals having up to 16 carbon atoms.

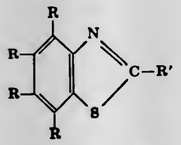
3,262,907

STABILIZATION OF POLYALDEHYDES WITH BENZOTHIAZOLE AND DERIVATIVES THEREOF

Eli Perry, Galveston, Tex., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Sept. 20, 1962, Ser. No. 225,160
5 Claims. (Cl. 260—45.8)

1. A thermally-stabilized polymeric composition comprising a polyaldehyde and from about 0.01% to about 15% by weight of said polyaldehyde of a compound of the formula



wherein R is selected from the group consisting of hydrogen, the halogens, amino and nitro radicals, and alkyl, alkenyl, alkoxy and aryl radicals having up to 16 carbon atoms, and R' is selected from the group consisting of hydrogen, the halogens, amino and nitro radicals, alkyl, alkenyl, alkoxy and aryl radicals having up to 16 carbon atoms, and radicals of the formula —SR'' wherein R'' is selected from the group consisting of morpholinyl and alkyl-substituted morpholinyl radicals.

3,262,908

THERMOPLASTIC MASSES BASED ON HIGH MOLECULAR WEIGHT POLYOXYMETHYLENES STABILIZED WITH NITRO AROMATIC COMPOUNDS

Jürgen Behrends, Hanau am Main, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,656
Claims priority, application Germany, July 16, 1960, D 33,793
3 Claims. (Cl. 260—45.9)

1. A polyoxymethylene composition capable of being shaped mechanically at elevated temperatures in contact with air comprising a polyoxymethylene having an average molecular weight between 10,000 and 100,000 selected from the group consisting of polyoxymethylene homopolymers having their terminal hydroxy groups esterified and polyoxymethylenes having their terminal hydroxy groups etherified and 0.01–10% by weight based upon the polyoxymethylene of a neutral aromatic compound having an evaporation point above 210° C. selected from the group consisting of o-dinitrobenzene, m-dinitrobenzene, p-dinitrobenzene, o-chloronitrobenzene, m-chloronitrobenzene, p-chloronitrobenzene, o-bromonitrobenzene, m-bromonitrobenzene, p-bromonitrobenzene, m-nitroanisole, p-nitroanisole, 2,4-dinitroanisole and 2,4-dinitrochlorobenzene.

3,262,909

POLYVINYL CHLORIDE RESINS CONTAINING A TRIALKYL LEAD CYANIDE AS A STABILIZER

Richard D. Gorsich, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 31, 1963, Ser. No. 284,348
9 Claims. (Cl. 260—45.75)

1. A vinyl chloride resin stabilized against discoloration by having incorporated therein a trialkyl lead cyanide in an amount sufficient to stabilize the resin against discoloration said trialkyl lead cyanide having from 1 to about 5 carbon atoms in each alkyl group.

3,262,910

STABILIZED POLYPROPIONALDEHYDE CONTAINING TRIPHENYLPHOSPHINE AND DILAURYL THIODIPROPIONATE AS STABILIZERS

Eli Perry, Galveston, Tex., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 18, 1962, Ser. No. 231,546
1 Claim. (Cl. 260—45.85)

A thermally-stabilized polymeric composition comprising polypropionaldehyde and from about 3% to about 6% by weight of said polypropionaldehyde of a synergistic combination comprising triphenylphosphine and bis-(dodecyl)-thiodipropionate wherein the weight ratio of said triphenylphosphine to said bis-(dodecyl)-thiodipropionate is about 1:1.

3,262,911

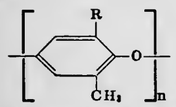
SUBSTITUTED POLYPHENYLENE ETHERS

Allan S. Hay, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,827
15 Claims. (Cl. 260—47)

1. The process of preparing halomethyl-substituted polyphenylene ethers which comprises reacting a halogenating agent selected from the group consisting of chlori-

nating and brominating agents under side chain halogenating conditions with a polyphenylene ether having the structural formula



where *n* is a positive integer and is at least 10 and R is a monovalent constituent selected from the group consisting of hydrogen, halogen, hydrocarbon free of an aliphatic, tertiary α-carbon atom, halohydrocarbon free of an aliphatic, tertiary α-carbon atom and —OR′ where R′ is a monovalent substituent selected from the group consisting of hydrocarbon free of an aliphatic, tertiary α-carbon atom and halohydrocarbon free of an aliphatic, tertiary α-carbon atom.

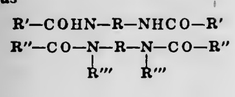
3,262,912
CURING OF EPOXY RESINS WITH THE 3-AMINOPROPYL ETHER OF DIETHYLENE GLYCOL
Phil H. Wilken, Raleigh, N.C., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 20, 1962, Ser. No. 218,118
12 Claims. (Cl. 260—47)

1. A curable composition comprising an epoxy ether resin having a 1,2-epoxy equivalency greater than one, and a hydroxyamine of the formula

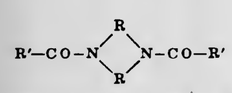
$$HO—(CH_2CH_2O)_2CH_2CH_2CH_2NH_2$$

3,262,913
PROCESS FOR PREPARING POLYCARBONATES
Toshio Chiba, Ashigarakami-gun, Kanagawa-ken, Masao Izuka, Odawara-shi, Kanagawa-ken, and Nobuo Tsuji, Ashigarakami-gun, Kanagawa-ken, Japan, assignors to Fuji Photo Film Co., Ltd., Ashigarakami-gun, Kanagawa-ken, Japan, a corporation of Japan
No Drawing. Filed July 8, 1963, Ser. No. 293,277
Claims priority, application Japan, July 19, 1962, 37/29,776
4 Claims. (Cl. 260—47)

1. A process for the production of a polycarbonate which comprises condensation-reacting a bis-(monohydroxyaryl)-alkane with a compound selected from the class consisting of phosgene and a bis-chloro-carbonic acid ester of a bis-(monohydroxyaryl)-alkane in the presence of an acid-acceptor consisting of a caustic alkali and in the presence of a catalyst selected from the class consisting of those acid amides represented by the following formulas



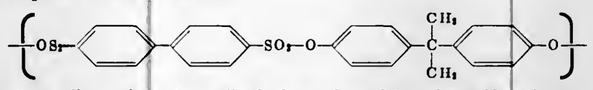
and



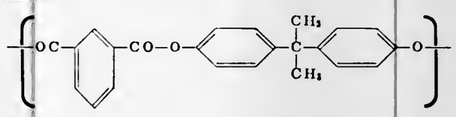
wherein R represents a member selected from the class consisting of an alkylene group and an alkylidene group, said groups each having 2 to 10 carbon atoms; R′ represents a member selected from the class consisting of a cycloalkyl group having 3 to 20 carbon atoms, an alkyl group having cycloalkyl branches, and aralkyl and alkyl groups bearing at least one tertiary or quaternary carbon atom; and R″ and R‴ each represents a member selected from the class consisting of straight chain alkyl group having 1–20 carbon atoms and the groups represented by symbol R′ in the above definition.

3,262,914
SULFONATE-CARBOXYLATE COPOLYMERS
Eugene P. Goldberg, Highland Park, and Frank Scardiglia, Arlington Heights, Ill., assignors to Borg Warner Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 16, 1965, Ser. No. 440,235
2 Claims. (Cl. 260—49)

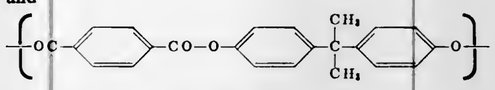
1. A linear copolymer composition having an intrinsic viscosity in excess of 0.3 dl./g. when measured in tetrachloroethane at 25° C. comprising from about 5 to about 40 mole percent bisphenol sulfonate ester structural units of the formula



and correspondingly from about 95 to about 60 mole percent bisphenol carboxylate ester structural units of the formulas

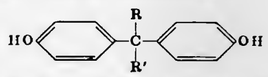


and



3,262,915
ORGANO-TIN POLYESTERS
Emil F. Jason and Ellis K. Fields, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed July 17, 1962, Ser. No. 210,566
21 Claims. (Cl. 260—61)

1. Solid substantially linear tin-containing polyester compositions composed of the condensation product obtained by reacting substantially equimolar proportions of (A) a bisphenol having the formula



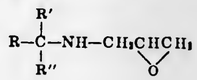
in which R and R′ represent alkyl radicals containing 1 to 4 carbon atoms, and (B) a mixture of (a) a diorganotin dihalide having the formula



wherein R_1 is a member of the group consisting of $C_{1\text{-}20}$ alkyl, phenyl and naphthyl, and X represents halogen, and (b) an acyl halide of a dicarboxylic acid from the group consisting of alkanedioic acids having from 2 to about 20 carbon atoms, benzene dicarboxylic acids and naphthalene dicarboxylic acids, said mixture (B) containing from 1 to 99 mole percent of said diorganotin dihalide, in an aqueous alkali metal hydroxide solution containing at least 1 mole of said hydroxide per gram atom of halogen present in reactant (B).

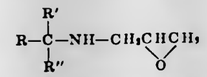
3,262,916
EPOXYAMINES
Van R. Gaertner, Ballwin, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Sept. 24, 1962, Ser. No. 226,198
13 Claims. (Cl. 260—78.4)

1. Compounds of the formula



wherein R, R′, and R″ are alkyl groups, one of which contains from 1 to 21 carbon atoms and the other two of which are lower alkyl groups containing from 1 to 6 carbon atoms.

10. A polyester of a cyclic acid anhydride selected from the group consisting of succinic acid and glutaric acid anhydrides having aliphatic hydrocarbon side chains of from 6 to 20 carbon atoms with an amine of the formula

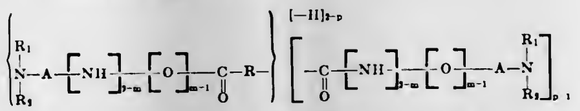


wherein R, R′, and R″ are alkyl groups, one of which contains from 1 to 21 carbon atoms, and the other two of which are lower alkyl groups having from 1 to 6 carbon atoms, said polyester containing from about 0.25 up to about 1 molar proportion of said cyclic acid anhydride moiety for each molar proportion of amine moiety.

3,262,917
ACID SALTS OF BASIC INTERPOLYMERS COMPRISING AN AMINE-SUBSTITUTED AMIDE OR ESTER
Arthur Maeder, Therwil, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss Company
No Drawing. Filed July 5, 1962, Ser. No. 207,808
Claims priority, application Switzerland, Mar. 22, 1957, 44,156/57
11 Claims. (Cl. 260—78.5)

1. A water-soluble salt which is the product of the substantially total neutralization of the basic amino groups contained in a basic linear additive copolymer with an acid, which copolymer consists, for every 100 parts by weight, of

(1) 5 to 60 parts by weight of polymerized units of a compound of the formula



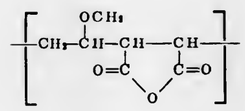
in which A represents an unsubstituted hydrocarbon radical which constitutes a bridge of two to six carbon atoms between the hetero atoms, R is the divalent monoethylenically unsaturated hydrocarbon radical of an acid selected from the group consisting of acrylic acid, methacrylic acid, crotonic acid, maleic acid and fumaric acid, R_1 and R_2 each represents a saturated alkyl radical containing 1 to 4 carbon atoms, and *m* and *p* each represents a whole positive number of at most 2,

(2) 30 to 75 parts by weight of a non-basic N-alkyl substituted amide of an acid of the acrylic acid series, the alkyl grouping containing 1 to 10 carbon atoms, and

(3) 0 to 70 parts by weight of an ester selected from the group consisting of an acrylic acid alkanol ester and a methacrylic acid alkanol ester, the alkanol radical containing 2 to 12 carbon atoms.

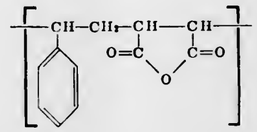
3,262,918
PHOSPHORUS CONTAINING COPOLYMERS AND METHOD OF MAKING
John E. Herweh and Norman L. Miller, East Hempfield Township, Lancaster County, and Algirdas C. Poshkus, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
No Drawing. Filed Sept. 10, 1963, Ser. No. 307,804
5 Claims. (Cl. 260—78.5)

4. A flame-retardant copolymeric thermoplastic resin containing phosphorus incorporated in the copolymer molecules, said resin being obtained by reacting a (methyl vinyl ether/maleic anhydride) copolymer having recurring structural units of the formula



in a refluxing solution containing a neutral ester of a trivalent phosphorus acid of the formula $(RO)_{3-n}R'_nP$, where R and R′ are alkyls of from 1 to 7 carbon atoms and where *n* is a whole number of from 0 to 2.

5. A flame retardant copolymeric resin containing phosphorus incorporated in the copolymeric molecules, said resin being obtained by reacting a styrene-maleic anhydride copolymer having recurring structural units of the formula



In a refluxing solution containing a neutral ester of a trivalent phosphorus acid of the formula $(RO)_{3-n}R'_nP$, where R and R′ are alkyl groups of from 1 to 7 carbon atoms and where *n* is a whole number of from 0 to 2.

ERRATUM

For Class 260—80.3 see:
Patent No. 3,262,985

3,262,919
TETRAPOLYMERS CONTAINING HYDROXYL AND CARBOXY GROUPS AND INKS MADE THEREFROM
Nicholas C. Bolgiano, Manor Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
No Drawing. Filed May 2, 1963, Ser. No. 277,491
9 Claims. (Cl. 260—80.5)

1. A clear addition tetrapolymer having, in the cured condition, excellent resistance to hot caustic solution and excellent adhesion to glass, the tetrapolymer consisting essentially of (1) 40–60 parts by weight of a hydrocarbon selected from the group consisting of styrene and vinyl toluene, (2) 20–50 parts by weight of an alkyl ester of an acid selected from the group consisting of acrylic acid and methacrylic acid, said alkyl group containing 2–10 carbon atoms, (3) 1–7 parts by weight of an acid selected from the group consisting of acrylic acid and methacrylic acid, and (4) 3–25 parts by weight of a hydroxyl-containing ester of an acid selected from the group consisting of acrylic acid and methacrylic acid in which the esterifying group contains 2–10 carbon atoms, total parts by weight being 100, the ratio hydroxyl group: carboxyl group in the tetrapolymer being in the range 3:1 to 8:1.

2. A printing ink for glass containers containing the tetrapolymer of claim 1, pigment, a solvent system, and an acetal cross-linking agent for the tetrapolymer.

3,262,920
LITHIUM CATALYSIS OF VINYL ESTER POLYMERIZATION

Donald J. Kelley, West Springfield, Mass., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware

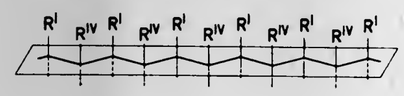
No Drawing. Filed Dec. 29, 1961, Ser. No. 163,093
4 Claims. (Cl. 260—89.1)
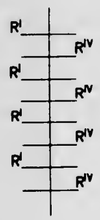
1. A process for the homopolymerization of ethylenically unsaturated vinyl ester monomers selected from the group consisting of the vinyl esters of alkanoic, alicyclic and aromatic acids containing up to about 20 carbon atoms and characterized by the absence of acidic functions in their molecules which comprises subjecting the monomers to a catalytic amount of pulverized lithium metal at a temperature in the range of from about −80° C. to about 135° C. and at pressures ranging from about 1 to about 400 atmospheres, wherein the process is carried out in the absence of moisture, oxidizing and acidic substances.

3,262,921
POLYMERS OF UNSATURATED HALOGENATED ETHERS HAVING A HIGHLY STEREOREGULAR STRUCTURE AND PROCESS FOR PREPARING THE SAME

Giulio Natta, Mario Farina, Giancarlo Bressan, and Mario Peraldo, all of Milan, Italy, assignors to Montecatini-Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

Filed May 15, 1961, Ser. No. 129,916
Claims priority, application Italy, May 17, 1960, 8,756/60
9 Claims. (Cl. 260—91.1)





1. A process for preparing high molecular weight polymers which comprises polymerizing a monomer of the formula

$$X—CH=CH—OR$$

wherein X is a halogen atom and R is selected from the group consisting of aliphatic, cycloaliphatic and aromatic groups, containing up to 10 carbon atoms; said monomer being selected from the stereo group consisting of the cis form, the trans form, and mixtures thereof wherein one of said forms constitutes over 90 percent by weight of said mixture, said polymerization characterized by being carried out with a catalytic system comprising at least one compound of the formula

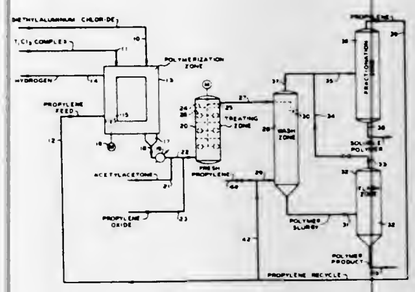
$$MeX_n^1Y_m(Z)_p$$

wherein Me is an element selected from the group consisting of the 3rd, 4th and 5th groups of the Periodic Table according to Mendeleef, X^1 is a halogen, Y is selected from the group consisting of alkyl, alkoxy and alkanoic groups, Z is a basic organic compound according to Lewis theory, n and m are selected from group consisting of zero and whole numbers, $m+n$ is equal to the valence of Me, and p is selected from the group consisting of zero and whole numbers.

3,262,922
POLYMERIZATION PROCESS

William E. Payne, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 8, 1963, Ser. No. 257,227
4 Claims. (Cl. 260—93.7)



3. In a mass polymerization process wherein liquid propylene is contacted with a catalyst comprising an organometal compound and a metal salt under polymerization conditions so as to form solid polymer in particle form and wherein an effluent containing solid polymer, catalyst residues and liquid propylene is recovered from said polymerization, the steps which comprise:

introducing said effluent into a treating zone and mixing same with acetylacetone, said mixing occurring under conditions such that propylene remains in the liquid phase,

withdrawing the thus-treated effluent from said treating zone and introducing said treated effluent into an upper portion of a wash zone,

introducing a wash liquid consisting essentially of liquid propylene polymerization feed into a lower portion of said wash zone, said feed including fresh and recycle propylene whereby all polymerization feed is first contacted with the treated effluent containing catalyst residues so as to render innocuous catalyst poisons present in said feed and whereby said feed extracts at least a portion of soluble materials from said effluent,

contacting said treated effluent with said liquid propylene in said wash zone in countercurrent flow under conditions such that said propylene remains in the liquid phase,

withdrawing from an upper portion of said wash zone a stream comprising propylene, soluble polymer, and catalyst residues and subjecting said stream to fractionation conditions to effect separation of propylene from soluble polymer and catalyst residues therein,

recycling said recovered propylene from said fractionation zone to said wash zone as the source of wash fluid and to said polymerization as the sole source of monomer and diluent, and

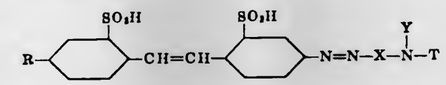
recovering from a lower portion of said wash zone a slurry stream comprising propylene and solid polymer substantially free of catalyst residues.

3,262,923
MONOAZO STILBENE DYESTUFFS CONTAINING A HALOPYRIMIDINO RADICAL

Herbert Francis Andrew and Donald Buckley, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 22, 1963, Ser. No. 303,934
Claims priority, application Great Britain, May 13, 1960, 16,938/60
4 Claims. (Cl. 260—154)

1. Azo dyestuffs which, in the free acid form, are of the formula:



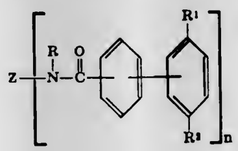
wherein R represents a substituent selected from the class consisting of chlorine, bromine, nitro, acetamido, benzoylamino, dimethylamino and 1′:2′:4:5-naphthatriazol-2-yl radicals carrying substituent sulpho groups, X represents a divalent radical selected from the class consisting of 1:4-phenylene and 1:4-naphthylene radicals and such radicals on which any substituents are selected from the group consisting of methyl, methoxy, acetamido and sulpho, Y is a member of the group consisting of hydrogen and lower alkyl groups, and T represents a member of the class consisting of trichloro- and tribromo-pyridyl radical.

3,262,924
PHENYL CARBOXAMIDO MONOAZO DYES

Milton Green, Newton Center, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Feb. 15, 1962, Ser. No. 173,349
7 Claims. (Cl. 260—163)

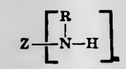
1. A monoazo dye of the formula:



wherein



is the residue of a monoazo dye molecule



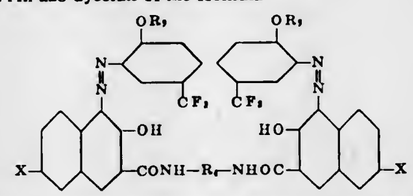
and wherein Z represents the azo dye molecule other than the amino group or groups; R is a member of the group consisting of hydrogen and lower alkyl radicals; R^1 and R^2 each are selected from the group consisting of hydroxy and carbethoxy; and n is a positive integer from 1 to 2.

3,262,925
DISAZO-DYESTUFFS

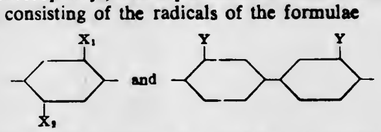
Willy Mueller and Karl Ronco, Riehen, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed June 13, 1963, Ser. No. 287,482
Claims priority, application Switzerland, June 21, 1962, 7,463/62
6 Claims. (Cl. 260—174)

1. An azo-dyestuff of the formula



in which X represents a member selected from the group consisting of hydrogen and bromine, R_2 a member selected from the group consisting of phenyl, chlorophenyl, dichlorophenyl, lower alkylphenyl, and lower alkyl-chlorophenyl, and R_4 a member selected from the group consisting of the radicals of the formulae



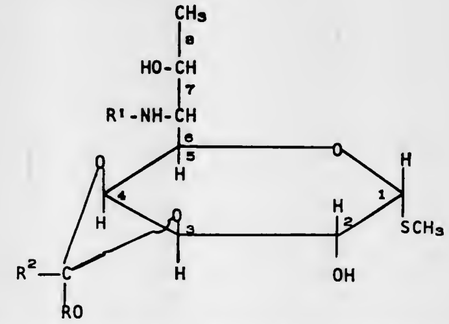
in which X_1, X_2 and Y each stands for members selected from the group consisting of hydrogen, chlorine, lower alkyl, and lower alkoxy.

3,262,926
LINCOMYCIN LOWER-ALKYL ORTHO LOWER-ALKANOATES

Barney J. Magerlein, Portage, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 13, 1964, Ser. No. 359,419
5 Claims. (Cl. 260—210)

1. A compound selected from the class consisting of a compound of the formula:



wherein R is lower alkyl; wherein R′ is trans-4-propyl-L-hygroyl; and wherein R^2 is selected from the class consisting of hydrogen and lower alkyl.

3,262,927
3,3′-DITHIOBIS(3-AZABICYCLO[3.2.2]NONANE)

John J. D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed June 1, 1965, Ser. No. 460,509
1 Claim. (Cl. 260—239)

3,3′ - dithiobis(3 - azabicyclo[3.2.2]nonane).

3,262,928
PROCESS FOR THE PRODUCTION OF SODIUM α-AMINOBENZYLPENICILLIN

Edmund Stanley Granatek, Baldwinsville, N.Y., assignor to Bristol-Myers Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 29, 1963, Ser. No. 269,132
2 Claims. (Cl. 260—239.1)

1. A method for the production of the sodium salt of α-aminobenzylpenicillin which comprises:

dissolving triethylamine in substantially anhydrous methylene chloride and contacting the solution with an α-aminobenzylpenicillin whereby a solution of the triethylamine salt of α-aminobenzylpenicillin in methylene chloride containing about 0.06 to 0.10% water is formed;

contacting said solution of the triethylamine salt of α-aminobenzylpenicillin with sodium 2-ethylhexanoate whereby the sodium salt of α-aminobenzylpenicillin is formed;

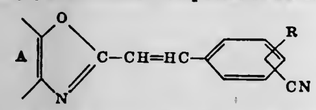
and recovering said reaction product.

3,262,929
2-STYRYLBENZOXAZOLE COMPOUNDS

Ichiro Okubo and Michihiro Tsujimoto, Tokyo, Japan, assignors to Mitsui Kagaku Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 31, 1962, Ser. No. 220,904
Claims priority, application Japan, Sept. 12, 1961, 36/33,202; July 18, 1962, 37/29,641
7 Claims. (Cl. 260—240)

1. A 2-styrylbenzoxazole compound of the formula:



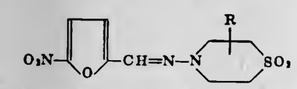
wherein A is a substituted benzene radical, which is condensed with the oxazole ring, substituents of said benzene radical being selected from the group consisting of lower alkyl-, phenyl-, and cyclotetramethylene-groups, said cyclotetramethylene group being attached to the 4,5-position of the benzoxazole ring, and R is selected from hydrogen and halogen.

3,262,930
NOVEL 5 - NITRO - FURFURYLIDENE - (2) DERIVATIVES AND PROCESS FOR PRODUCING THE SAME

Heinz Herlinger, Cologne-Flittard, Karl-Heinrich Mayer and Siegfried Petersen, Leverkusen, and Marianne Bock, Wuppertal-Sonnborn, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 13, 1963, Ser. No. 323,225
Claims priority, application Germany, Nov. 23, 1962, F 38,378
4 Claims. (Cl. 260—240)

1. A compound of the formula:



wherein R is a member selected from the group consisting of hydrogen, lower alkyl, benzyl and phenyl.

3,262,931
DERIVATIVES OF 3,3-SPIRO-SUBSTITUTED-3,4-DIHYDRO - 1,2,4 - BENZOTHIADIAZINE-1,1-DIOXIDES

Edward J. Cragoe, Jr., Lansdale, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed May 8, 1961, Ser. No. 108,273
4 Claims. (Cl. 260—243)

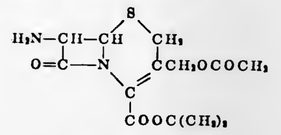
1. 4' - lower - alkoxy - 6 - R - 7 - sulfamylspiro - [1,2,4-benzothiadiazine - 3(4H),1' - cyclohexane] - 1,1 - dioxide compounds, wherein R is selected from the group consisting of halogen, lower alkyl, lower alkoxy, nitro and amino.

3,262,932
TERT-BUTYL 7-AMINOCEPHALOSPORANATE

Robert John Stedman, Paoli, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed June 7, 1965, Ser. No. 462,096
1 Claim. (Cl. 260—243)

The compound of the structure

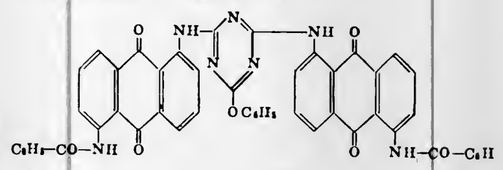


3,262,933
ANTHRAQUINONYL-TRIAZINE DYE

Konrad Mix and Rudolf Klein, Frankfurt am Main, Fechenheim, Germany, assignors to Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt am Main, Fechenheim, Germany, a company of Germany

No Drawing. Filed Sept. 9, 1964, Ser. No. 395,310
Claims priority, application Germany, Sept. 25, 1963, C 30,965
1 Claim. (Cl. 260—249)

The compound of the formula

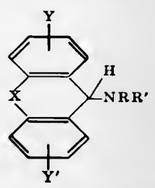


3,262,934
AMINO-SUBSTITUTED XANTHENES AND THIOXANTHENES

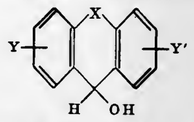
John W. Cusic, Skokie, and Peter Yonan, Chicago, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 21, 1964, Ser. No. 405,616
12 Claims. (Cl. 260—268)

1. A process for the preparation of a compound of the formula



wherein X is selected from the group consisting of O and S; Y and Y' are selected from the group consisting of hydrogen, lower alkyl, halogen, and lower alkoxy; and R and R' are selected in such a way that HNRR' is a secondary amine, which comprises bringing a secondary amine into contact with a compound of the formula



wherein X, Y, and Y' are defined as above, in an inert organic solvent in the presence of an organic carboxylic acid selected from lower alkanoic, benzoic, and substituted benzoic acids.

10. 1-methyl-4-(9-xanthenyl)piperazine.
11. 1-methyl-4-(2-chloro-9-xanthenyl)piperazine.
12. 4-(9-xanthenyl)-2-piperazinone.

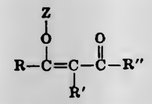
3,262,935
QUATERNARY AMMONIUM ENOLATES OF PSEUDO-ACIDS OF THE KETONIC TYPE

Reginald L. Wakeman, Philadelphia, Pa., and E Griffin Shay, Belle Mead, N.J., assignors, by mesne assignments, to Millmaster Onyx Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 15, 1964, Ser. No. 375,352
6 Claims. (Cl. 260—286)

3. Alkyl isoquinolinium enolate of 1-phenyl-1,3-butanedione.

6. A quaternary ammonium ketonic enolate having the structure:



wherein Z is the cation of a quaternary ammonium compound having a phenol coefficient of at least 100 with respect to *Staphylococcus aureus* and *Salmonella typhosa* at 20° C. and having at least one alkyl group of 8 to 22 carbon atoms on the quaternary nitrogen; R is selected from the group of alkyl and halogenated alkyl; R' is selected from the group of hydrogen, halogen, carboxyalkyl and carboxyaryl; and R'' is selected from the group of alkyl and alkoxy.

3,262,936
RING SUBSTITUTED-1-CYANOLOWER-ALKYLPIPERIDINES

Bernard L. Zenitz, Colonie, and Alexander R. Surrey, Albany, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 19, 1965, Ser. No. 473,228
15 Claims. (Cl. 260—293)

1. A compound having the formula



where R_2 is a member of the group consisting of carbamyl, N-lower-alkylcarbamyl, N,N-di-lower-alkylcarbamyl, hydroxy in other than the 2-position, lower alkanoylamino in other than the 2-position, N-phenyl-N-lower alkylamino in other than the 2-position, N-phenyl-N-lower-alkanolyamino in other than the 2-position, and cycloalkyl-lower-alkyl containing from five to seven ring carbon atoms and from one to two carbon atoms in the lower-alkyl moiety; R_3 is a member of the group consisting of hydrogen and from one to five lower alkyls; and Y' is lower-alkylene containing from one to seven carbon atoms.

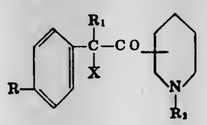
15. 1-(2-cyanoethyl)-4-cyclohexylmethylpiperidine.

3,262,937
BENZYL PIPERIDYL KETONES

Marcel Pesson, Paris, France, assignor to Societe Anonyme dite: Laboratoire Roger Bellon, Neuilly-sur-Seine, France, a company of France

No Drawing. Filed Jan. 11, 1963, Ser. No. 250,766
Claims priority, application Great Britain, Jan. 17, 1962, 1,747/62
6 Claims. (Cl. 260—294.7)

1. A benzyl piperidyl ketone compound selected from the group consisting of a benzyl piperidyl ketone of the formula



wherein

X represents a member selected from the group consisting of hydrogen and cyano;

R represents a member selected from the group consisting of hydrogen, halogen, lower alkyl, and lower alkoxy;

R_1 represents a member selected from the group consisting of hydrogen and lower alkyl; and

R_2 represents a member selected from the group consisting of lower alkyl;

and its pharmaceutically acceptable, substantially non-toxic acid addition salts.

3,262,938
CARBOCYCLIC SUBSTITUTED PIPERIDYL DIOXOLANES

Waldo Richard Hardie, Walnut Creek, and Isaac Frederick Halverstadt, Berkeley, Calif., assignors to Cutter Laboratories, Inc., Berkeley, Calif., a corporation of Delaware

No Drawing. Filed Nov. 19, 1964, Ser. No. 412,335
22 Claims. (Cl. 260—294.7)

6. A 1,3-dioxolane having at the 4-position, as its sole substituent other than at the 2-position, an unsubstituted piperidine ring bonded directly thereto by the 2-position ring carbon atom of the piperidine ring and at the 2-position a non-acidic, non-basic, non-nitrogenous neutral cyclic structure having a molecular weight less than 300 and containing from 1 to 3 benzene rings of which all are in carbon-to-carbon linkage with and separated by no more than one carbon atom from the 2-position carbon atom of the dioxolane ring.

8. 2,2 - diphenyl-4-(2-piperidyl)-1,3-dioxolane hydrochloride.

3,262,939
PROCESS FOR PREPARING THIAZOLE-4-ALDEHYDES

Arnold Kaufman, Scotch Plains, and George T. Wildman, Elizabeth, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Continuation of application Ser. No. 128,698, Aug. 2, 1961. This application June 4, 1965, Ser. No. 461,500
4 Claims. (Cl. 260—302)

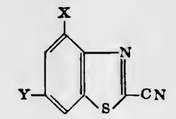
1. The method for producing thiazole-4-aldehyde which comprises forming a vapor mixture of a 4-lower alkyl thiazole with oxygen and contacting said mixture with a catalyst heated to a temperature of between 200° C. and 500° C., said catalyst containing a material selected from the group consisting of vanadium oxide, molybdenum oxide, and tin vanadate.

3,262,940
2-CYANO-6-OXYBENZOTHIAZOLE AND METHODS OF PREPARING SAME

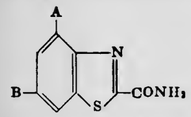
William D. McElroy, 220 Ridgewood Road, and Emil H. White, 1713 Waverly Way, both of Baltimore, Md.

No Drawing. Original application Aug. 8, 1961, Ser. No. 129,963, now Patent No. 3,164,613, dated Jan. 5, 1965. Divided and this application May 21, 1964, Ser. No. 375,692
6 Claims. (Cl. 260—304)

1. The process for preparing a compound of the formula

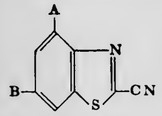


that comprises reacting a compounds of the formula



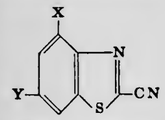
with phosphorus oxyhalide and heating the resulting substance with pyridine hydrochloride, where A and B are different members of the class consisting of hydrogen and lower alkoxy, and X and Y are different members of the class consisting of hydrogen and hydroxy groups.

2. A compound having the formula



where A and B are different members of the class consisting of hydrogen and lower alkoxy.

4. A compound having the formula



where X and Y are different members of the class consisting of hydrogen and hydroxy groups.

3,262,941

PROCESS FOR THE OXYALKYLATION OF CYANOGUANIDINE

Donald W. Kaiser, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed May 1, 1963, Ser. No. 277,123
4 Claims. (Cl. 260—307)

1. The process of oxyalkylating cyanoguanidine which comprises forming a liquid reaction mixture by admixing (1) a basic catalyst, (2) cyanoguanidine and (3) dimethyl sulfoxide, the weight ratio of (2) to (3) being between 1:1 and 1:5, heating said liquid reaction mixture to a temperature between 75° and 175° C. while passing into said liquid reaction mixture an alkylene oxide having 3 to 8 carbon atoms, the weight ratio of (2) to said alkylene oxide being between 1:5 and 1:125 and then removing said dimethyl sulfoxide.

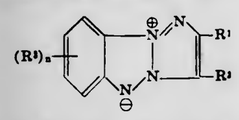
3,262,942

CERTAIN 2,3-BENZO-1,3a,4,6a-TETRAAZAPENTALENE COMPOUNDS

Rudolph A. Carboni, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,016
9 Claims. (Cl. 260—308)

1. A compound of the formula



wherein R^1 and R^2 taken singly represent a member of the group consisting of hydrogen, lower alkyl, lower alkenyl, alkoxycarbonyl of lower alkyl, tricyanovinyl, nitro, sulfo, and halo and taken together represent polymethylene of 3 to 5 carbon atoms, R^3 represents a member of the group consisting of lower alkyl, lower alkenyl, lower alkadienylene, nitro, sulfo, and halo, and *n* is a cardinal number of up to and including two.

3,262,943

PROCESS FOR PREPARING BENZOTRIAZOLE COMPOUNDS AND CERTAIN PRODUCTS THEREOF

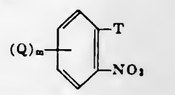
James C. Kauer, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,033
15 Claims. (Cl. 260—308)

1. Process for the ring closure of (o-nitrophenyl)-substituted compounds which comprises (I) contacting and reacting, at a temperature in the range of 0° C. to 250° C., a compound of the formula

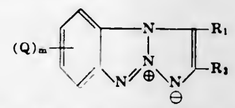
$$[R(O)_n]_3P$$

wherein R is an aliphatically saturated hydrocarbon radical and *n* is an integer in the range 0 to 1, with a compound of the formula



wherein T is a substituent selected from the group consisting of (a) —N=N—Z wherein Z is a member selected from the class consisting of alkyl, aryl, aralkyl and o-nitroaryl and (b) a heterocyclic group in which the heterocyclic ring thereof contains five members consisting solely of carbon and from 2 to 4 nitrogen atoms, one nitrogen of which is bonded to the above depicted ortho position nuclear carbon and to at least one other nitrogen of said heterocyclic ring, Q is a substituent selected from the group consisting of lower alkyl, lower alkylene, nitro, sulfo and halo and *m* is an integer in the range 0 to 2 inclusive, and (iii) recovering the resultant polynitrogen heterocyclic compound having o-phenylene-attached nitrogens.

6. A compound of the formula



wherein R_1 and R_2 taken singly represent members of the group consisting of hydrogen, lower alkyl, alkoxycarbonyl of lower alkyl, tricyanovinyl, nitro, sulfo and halo and taken together represent polymethylene of 3 to 5 carbon atoms, Q is a member of the group consisting of lower alkyl, lower alkylene, sulfo and nitro, and *m* is an integer of up to and including two.

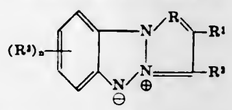
3,262,944

CERTAIN 2,3-BENZO-1,3a,6a-TRIAZAPENTALENE COMPOUNDS

Robert J. Harder and James C. Kauer, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,076
7 Claims. (Cl. 260—308)

1. 2,3-benzo-1,3a,6a-triazapentalenes of the formula



wherein R and R^2 each is selected from the group consisting of hydrogen, halogen, nitro, cyano, amino, aryl, and tricyanovinyl, R^1 is selected from the group consisting of hydrogen, halogen, cyano, and aryl, R^3 is selected from the group consisting of halogen, nitro, and amino, and *n* is a cardinal number in the range zero to two, inclusive.

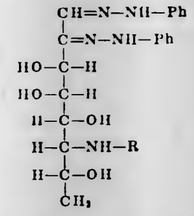
3,262,945

N-(4-PROPYL-L-HYGROYL) LINCOSAMINE PHENYLOSAZONE

William Schroeder, Pavilion Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed May 14, 1964, Ser. No. 367,559
3 Claims. (Cl. 260—326.3)

1. A compound of the formula:



wherein R is trans-4-propyl-L-hygroyl; and wherein Ph is phenyl.

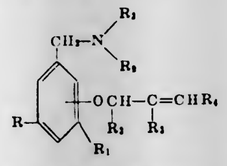
3,262,946

ALLYLOXY-3,5-DIALKYLBENZYLAMINES

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan

No Drawing. Original application Aug. 29, 1958, Ser. No. 757,909, now Patent No. 3,131,188, dated Apr. 28, 1964. Divided and this application Dec. 24, 1963, Ser. No. 333,213
16 Claims. (Cl. 260—326.5)

1. A compound selected from the class consisting of (1) compounds having the formula:



wherein R and R_1 represent lower-alkyl radicals, R_2, R_3, and R_4 are selected from the class consisting of hydrogen and lower-alkyl radicals, R_5 and R_6 taken individually are selected from the class consisting of hydrogen and lower-alkyl radicals, and R_5 and R_6 taken together with —N< represent a saturated heterocyclic radical containing from five to seven atoms in the ring, one of which atoms, in addition to the nitrogen atom, is selected from the class consisting of carbon, nitrogen and oxygen, the other ring atoms being carbon, and (2) acid addition salts thereof.

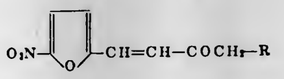
3,262,947

2-(3-OXO-4-SUBSTITUTED-1-BUTENYL)-5-NITROFURAN

Hiroshi Nakano, 237 Minowa, Toyonaka; Akira Sugihara, 4–161 Gamo-cho, Joto-ku, Osaka; and Masumi Ito, 201 Kodanjyutaku-40, Tonda-cho, Takatsuki, Japan

No Drawing. Filed May 3, 1965, Ser. No. 452,844
Claims priority, application Japan, May 4, 1964, 39/25,246
3 Claims. (Cl. 260—347.2)

1. A compound having the formula



wherein R is a radical selected from the group consisting of lower alkanoyloxy containing from 2 to 6 carbon atoms and thiocyanato.

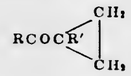
3,262,948

21,21-ETHYLENE-PROGESTERONE AND PROCESS FOR THE PRODUCTION THEREOF

Hans-Günter Lehmann, Berlin, Germany, assignor to Schering AG, Berlin, Germany

No Drawing. Filed Jan. 21, 1964, Ser. No. 339,078
Claims priority, application Germany, Jan. 22, 1963, Sch 32,647
6 Claims. (Cl. 260—397.3)

1. A process for preparing α,α-ethyleneketones of the formula



which comprises reacting a gamma-keto-tetraalkyl ammonium salt of the formula

$$RCOCHR'CH_2N(CH_3)_2X$$

with dimethylsulfoxoniummethylide in dn aprotic solvent selected from the group consisting of dimethylsulfoxide and dimethylformamide in the presence of a base, wherein R when taken alone is selected from the group consisting of methyl, phenyl, and a univalent radical of a pregnane derivative, R′ when taken alone is hydrogen, and R and R′ when taken together are a divalent organic radical which, togther with the group —COC—, forms a member of the group consisting of a cyclohexanonyl ring and a univalent radical of an androstane derivative, and wherein X is an acid anion.

5. 21,21-ethylene-Δ^4-pregnene-3,20-dione.

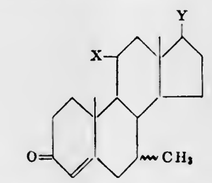
3,262,949

7-METHYL ANDROSTANE COMPOUNDS

Howard J. Ringold and George Rosenkranz, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Nov. 12, 1957, Ser. No. 695,495
Claims priority, application Mexico, Nov. 13, 1956, 46,335
15 Claims. (Cl. 260—397.3)

1. A compound having the formula:



wherein X is selected from the group consisting of hydrogen and keto and Y is selected from the group consisting of keto and



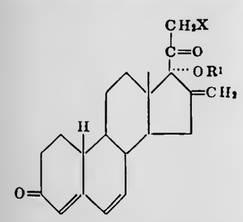
wherein R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid containing from 2 to 12 carbon atoms, inclusive, and R^1 is selected from the group consisting of hydrogen, methyl and ethyl.

3,262,950
16-METHYLENE-21-HALO-19-NOR-$\Delta^{4,6}$-PREGNADIENES

Fred A. Kincl, Atherton, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Dec. 17, 1963, Ser. No. 331,122
5 Claims. (Cl. 260—397.47)

1. A compound represented by the general formula:



wherein X is selected from the group consisting of fluorine and chlorine and R^1 is selected from the group consisting of hydrogen and an acyl group containing up to 12 carbon atoms.

3,262,951
HIGH MOLECULAR WEIGHT FATTY ACID AMIDO AMINE SURFACTANT AND PREPARATION THEREOF

Jacob Katz, Providence, R.I.
(48 Hunt St., Central Falls, R.I.)

No Drawing. Filed Nov. 25, 1960, Ser. No. 71,439
2 Claims. (Cl. 260—404.5)

1. As a surfactant, N-lauramidoethyl-N-hydroxyethyl-N'-sodium propionate.

3,262,952
REACTION PRODUCTS OF CASTOR OIL WITH ARYLENEDIISOCYANATES

Malcolm Kent Smith, Westfield, N.J., assignor to The Baker Castor Oil Company, Jersey City, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 23, 1961, Ser. No. 147,071
3 Claims. (Cl. 260—404.5)

1. The reaction product of castor oil and from about 3 to about 13 parts by weight of an arylene diisocyanate, based on the combined weight of the castor oil and the diisocyanate, said arylene diisocyanate being selected from the class consisting of tolylene diisocyanate, m-phenylene diisocyanate, 1-chlorophenylene-2,4-diisocyanate, xenylene-4,4'-diisocyanate, naphthalene-1,5-diisocyanate, 3,3'-bitolylene-4,4'-diisocyanate and diphenylene-4,4'-diisocyanate, the temperature of reaction producing said product being below about 100° C.

3,262,953
METHOD OF PRODUCING POLYETHER POLYMERS FROM EPOXY-CONTAINING FATTY ACIDS OR ESTERS

Thomas W. Findley, La Grange, Ill., and John L. Ohlson, Bedford, Mass., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

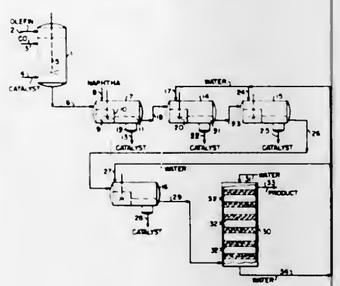
No Drawing. Original application Apr. 10, 1957, Ser. No. 651,822, now Patent No. 3,035,069, dated May 15, 1962. Divided and this application Feb. 5, 1959, Ser. No. 791,265
3 Claims. (Cl. 260—407)

1. A method of producing polyether polymers from epoxy-containing fatty materials, said materials being selected from the group consisting of epoxidized fatty acids and esters, which comprises: contacting said epoxy-containing material with a catalytic amount of a strong Lewis acid catalyst in the presence of an amount of solvent sufficient to provide a molar ratio of solvent to oxirane oxygen of less than 1, said solvent being of the formula ROH wherein R is selected from the group consisting of hydrogen, alkyl, alkoxy alkyl, and benzyl to selectively break the epoxy configuration of said epoxy-containing material and leave other functional groups of said material unaffected.

3,262,954
ACID HYDROLYSIS PROCESS

Albert Henry Wehe, Jr., Henry George Ellert, Raymond Carroll Lohman, and Worthy Truman Boyd, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Jan. 21, 1963, Ser. No. 252,723
6 Claims. (Cl. 260—413)



1. In a process for synthesizing carboxylic acids by a first step formation of a complex of carbon monoxide, a C_3 to C_{20} monoolefin and a hydrated boron fluoride catalyst and a second step hydrolysis of said complex, the improvement comprising: hydrolyzing said complex in a plurality of hydrolysis zones at a temperature below about 150° F. in which one mole of water per mole of olefin in said complex is employed to effect hydrolysis.

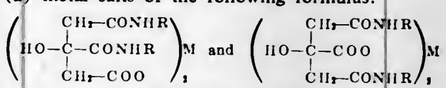
3,262,955
METAL SALTS OF CITRAMIC ACIDS

Paul Y. C. Gee, Woodbury, and Harry J. Andress, Jr., Pitman, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

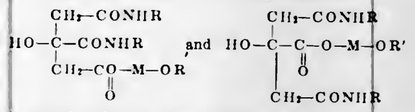
No Drawing. Original application June 1, 1962, Ser. No. 199,280, now Patent No. 3,192,160, dated June 29, 1965. Divided and this application Nov. 12, 1964 Ser. No. 410,718
5 Claims. (Cl. 260—429.9)

1. Metal salts from the group consisting of:

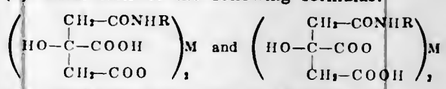
(a) metal salts of the following formulas:



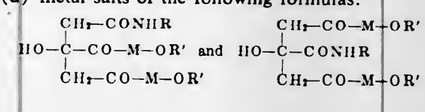
(b) metal salts of the following formulas:



(c) metal salts of the following formulas:



(d) metal salts of the following formulas:

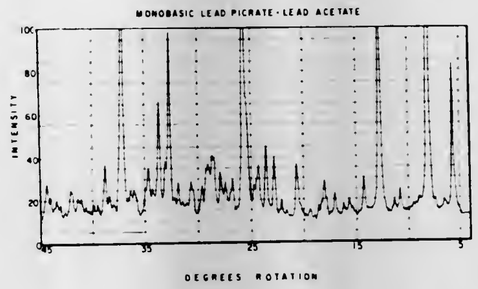


and mixtures thereof, wherein M is a Group II metal, R is an alkyl group of from four to about thirty carbon atoms and has a tertiary carbon atom attached to the nitrogen atom, and R' is a saturated aliphatic hydrocarbon group.

3,262,956
BASIC LEAD DOUBLE SALTS OF PICRIC ACID AND METHOD OF PREPARING SUCH SALTS

Joseph F. Kenney, Bridgeport, Conn., assignor to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware

Filed Jan. 28, 1964, Ser. No. 340,705
35 Claims. (Cl. 260—435)



1. A method of forming a complex double salt ot basic lead picrate, comprising the steps of:

(1) Dissolving and suspending in water a predetermined amount of picric acid

(II) Reacting with the solution and suspension of picric acid, for each gram mole of picric acid, slightly in excess of any multiple up to three of two gram moles of sodium hydroxide

(III) Adding, with heat and stirring, as a combining and precipitating agent, for each gram mole of picric acid, in excess of the same multiple of two gram moles of a lead salt selected from the group of lead salts consisting of lead acetate, lead lactate, lead acrylate, lead methacrylate, lead propionate, lead formate and lead amino-acetate

(IV) Continuing the stirring until an insoluble complex salt is precipitated

(V) Separating the complex double salt by washing the precipitate.

12. A complex double salt combining in characteristic crystalline form definite proportions of basic lead picrate, and a combining and precipitating lead salt selected from the group of lead salts of monobasic acids of no greater acid strength than picric acid consisting of lead acetate, lead lactate, lead acrylate, lead methacrylate, lead propionate, lead formate and lead amino-acetate in which there are present for each molecule of lead picrate, any multiple of molecules of lead hydroxide up to three and the same multiple of molecules of the selected lead salt.

3,262,957
PROCESS FOR OXIDIZING ALKYL ALUMINUM HALIDES IN PRESENCE OF POTASSIUM SALT

Max E. Roha, 8205 Parkview Road, and Warren L. Beears, 9307 Glenwood Trail, both of Brecksville, Ohio

No Drawing. Filed Apr. 18, 1960, Ser. No. 22,702
5 Claims. (Cl. 260—448)

1. The process for forming oxidation products of mixed alkyl aluminum halides, said oxidation products being suitable for hydrolysis to form high purity telomer alcohols, which process consists of adding dry oxygen gas to an aqueous dispersion containing (1) mixed alkyl aluminum halides, (2) an anhydrous liquid diluent and (3) a finely divided potassium salt until uptake of oxygen gas is essentially complete, whereby the presence of said potassium salt substantially prevents the occurrence of side reactions producing hydrocarbon impurities in the resulting oxidation products; said mixed alkyl aluminum halides being of the empirical formula

$$(C_nH_{2n+1})_xAlHa_y$$

in which n is an integer from 6 to 30, Ha is halogen and x and y are numerical values ranging from 2.7 to 0.3 and whose sum is 3, and said potassium salt being selected from the class consisting of the chloride, bromide, iodide, fluoride, acetate, tetraborate, phosphate and carbonate of potassium.

3,262,958
MAGNESIUM BIS-(VINYL ALUMINUM TRIHYDRIDE)

James M. Riddle, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed June 22, 1964, Ser. No. 378,483
2 Claims. (Cl. 260—448)

1. Magnesium bis-(vinyl aluminum trihydride).

3,262,959
LITHIUM TETRAVINYLALUMINUM BIS(DIETHYL ETHERATE)

James M. Riddle, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed June 22, 1964, Ser. No. 378,487
2 Claims. (Cl. 260—448)

1. Lithium tetravinylaluminum bis(diethyl etherate).

3,262,960
METHOD OF PRODUCING ORGANIC ISOCYANATES

Erwin S. Gutsell, Jr., Muskegon, Mich., assignor to The Ott Chemical Company, Muskegon, Mich., a corporation of Delaware

No Drawing. Filed Oct. 19, 1962, Ser. No. 231,843
15 Claims. (Cl. 260—453)

1. The process which comprises:

(a) reacting an aromatic primary amine wherein the amine groups are attached directly to an aromatic nucleus with a molar excess of a carbonyl halide selected from the group consisting of carbonyl chloride and carbonyl bromide in the presence of an aluminum halide catalyst selected from the group consisting of aluminum chloride and aluminum bromide and a liquid organic solvent for said aromatic amine to form a reaction product;

(b) removing the gaseous hydrogen halide present from the reaction product while simultaneously adding a carbonyl halide selected from the group consisting of carbonyl chloride and carbonyl bromide to the reaction product; and

(c) recovering an aromatic isocyanate wherein the isocyanate groups are attached directly to an aromatic nucleus.

3,262,961
PROCESS FOR SOLUBLE SODIUM TETRABORATE INHIBITORS

Charles B. Jordan, Aberdeen, Md., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 8, 1963, Ser. No. 322,557
4 Claims. (Cl. 260—462)

1. A method for preparing a corrosion inhibiting additive composition which comprises adding to one part by weight of 1,2-propylene glycol an amount of water corre-

sponding to (10—n) times the molar equivalent of sodium tetraborate to be added later, where n represents the molar ratio of water of hydration associated with the said sodium tetraborate and is a number less than 10 which may be zero, heating to 85° C., and then adding the said sodium tetraborate in a state of hydration corresponding to the formula $Na_2B_4O_7 \cdot nH_2O$ in a total amount of .01 to .37 part by weight based on the weight of the 1,2-propylene glycol used, times the ratio of the molecular weight of $Na_2B_4O_7 \cdot nH_2O$ to $Na_2B_4O_7 \cdot 10H_2O$, and in increments of .01 to .10 part by weight, maintaining the temperature at approximately 85° C. and stirring until the mixture becomes clear before the addition of each increment, and after the addition of the final increment heating to 105° C. and maintaining the solution at this temperature until the said solution has a water content no greater than 2.5% as determined by the Karl Fischer method.

3,262,962

CATALYTIC SYNTHESIS OF ACRYLONITRILE FROM OLEFINS, AMMONIA AND OXYGEN

Edgar L. McDaniel and Howard S. Young, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 23, 1961, Ser. No. 83,916
6 Claims. (Cl. 260—465.3)

1. A process for preparing a compound selected from the group consisting of acrylonitrile and acetonitrile which comprises reacting a mixture comprising propylene, ammonia and oxygen in the proportions of from 0.05–10.0 moles of the ammonia and from 0.05–10.0 moles of the oxygen to each mole of the propylene, in vapor phase at from 300–600° C., in the presence of a catalyst consisting essentially of the product of the calcination of a mixture of bismuth nitrate and a heteropoly acid component selected from the group consisting of dodecamolybdoceric acid and ammonium dodecamolybdocerate, and mixtures thereof, wherein the concentration of the bismuth component is about 3% to 75% by weight of the catalyst and wherein the concentration of the said heteropoly acid component is about 3% to 75% by weight of the catalyst and thereafter separating the nitrile products.

3,262,963

ACRYLONITRILE SEPARATION

Jacques Modiano and Francis Weiss, Pierre Benite (Rhone), France, assignors to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine, Paris, France, a corporation of France

Filed July 9, 1963, Ser. No. 293,777
Claims priority, application France, July 20, 1962, 904,637; Nov. 29, 1962, 917,009
7 Claims. (Cl. 260—465.3)

1. In a catalytic process for producing acrylonitrile by reaction between ammonia, oxygen and propylene to produce a gaseous reaction mixture containing acrylonitrile and ammonia the improvement of removing said ammonia which comprises the steps of cooling the gaseous reaction mixture, washing the mixture at a temperature below 20° C. with an aqueous solution of an organic acid selected from the group consisting of acetic acid and citric acid to produce a wash solution containing the ammonium salt of said acid in a concentration of from about 5% to about 50% by weight based on the total weight of the solution, removing said acrylonitrile by distillation at a temperature between 30° and 90° C. and thereafter heating the residual wash solution to a temperature above 90° C. to thermally decompose said ammonium salt, recycling said ammonia to the initial reaction zone and recyling said acid, in its entirety to said washing solution.

3,262,964

HALO-SULFONE PRODUCTION

Frederick F. Rust, Orinda, and Harold W. Moore, Menlo Park, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,662
10 Claims. (Cl. 260—465.7)

1. The process for the production of a β-haloorganosulfone by the 1,2-addition of an organic sulfonyl halide having up to 40 carbon atoms and from 1 to 6 sulfonyl halide substituents wherein the halogen has an atomic number from 17 to 35 to an olefinic compound in the presence of a catalytic amount of a copper salt.

3,262,965

FLUORONITRILES AND METHOD OF MAKING THE SAME

George J. Janz, Troy, N.Y., assignor to Union Carbide Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 30, 1964, Ser. No. 407,898
12 Claims. (Cl. 260—465.7)

1. A compound of the general formula:

$$R\left(\begin{matrix}CH-CH\\ | \quad | \\ R_1 \quad R_2\end{matrix}\right)_n CN$$

wherein R is a perfluoroalkyl group of one to three carbon atoms, R_1 and R_2 are selected from hydrogen and alkyl groups of one to six carbon atoms, and n is one to three.

3,262,966

PURIFICATION OF ACRYLONITRILE

Thomas D. Higgins, Jr., and David W. McDonald, Texas City, and Robert G. Roth, Dickinson, Tex., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 22, 1963, Ser. No. 296,490
3 Claims. (Cl. 260—465.9)

1. A process for purifying acrylonitrile containing minor amounts of carbonyl compounds selected from the group consisting of methyl vinyl ketone, acetone, acrolein, methacrolein, crotonaldehyde, acetaldehyde and biacetyl which consists of essentially of intimately contacting said acrylonitrile in the liquid state in substantially anhydrous condition with at least 50 grams of activated alumina per gram of total carbonyl compounds contained in the acrylonitrile, said treatment being effected at a temperature at which said acryonitrile flows and below which said acrylonitrile begins to polymerize, and collecting effluent acrylonitrile substantially free of said carbonyl impurities.

3,262,967

PROCESS FOR THE PREPARATION OF α-FLUOROACRYLATES

John Andrew Sedlak and Ken Matsuda, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 31, 1963, Ser. No. 320,518
5 Claims. (Cl. 260—486)

1. In an improved process for preparing unsubstituted α-fluoroacrylic acid esters having the structure:

$$CH_2{=}CFCOOR$$

wherein R is a lower alkyl radical, prepared from the reaction between equimolar amounts of an ester of fluoroacetic acid having the structure:

$$CH_2FCOOR$$

wherein R is defined as above, and an aldehyde selected from the group consisting of monomeric formaldehyde and paraformaldehyde, at a temperature between about zero degrees and 125° C. in the presence of a strong base selected from the group consisting of alkali metal alkoxides and alkali metal hydrides, the improvement which comprises: admixing at least an equimolar amount of a lower alkyl formate with said fluoroacetic acid ester, reacting the latter mixture with said aldehyde, and thereafter recovering desired α-fluoroacrylate in good yield and purity.

3,262,968

PROCESS FOR THE PREPARATION OF α-FLUOROACRYLATES

John Andrew Sedlak and Ken Matsuda, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 7, 1963, Ser. No. 322,027
3 Claims. (Cl. 260—486)

1. In an improved process for preparing unsubstituted α-fluoroacrylic acid esters having the structure:

$$CH_2{=}CFCOOR$$

wherein R is a lower alkyl radical, prepared from the reaction between equimolar amounts of an ester of fluoroacetic acid having the structure:

$$CH_2FCOOR$$

wherein R is defined as above, and an aldehyde selected from the group consisting of monomeric formaldehyde and paraformaldehyde, in the presence of a strong base, selected from the group consisting of alkali metal hydrides and alkali metal alkoxides, the improvement which comprises: admixing at least an equimolar amount of a di(lower)alkyl oxalate with the said fluoroacetic acid ester, reacting the latter mixture with said aldehyde, maintaining the reaction mass at a temperature of between about 0° C. and 75° C., and thereafter recovering anhydrously desired α-fluoroacrylate in good yield and purity.

3,262,969

PRODUCTION OF MONO- AND DI-ESTERS OF GLYCOLS BY OXIDATION OF OLEFINS WITH A PALLADOUS SALT IN PRESENCE OF A CARBOXYLIC ACID, A REDOX SYSTEM, AN ALKALI METAL HALIDE, CARBOXYLATE IONS AND MOLECULAR OXYGEN

Duncan Clark and Percy Hayden, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 18, 1963, Ser. No. 259,389
Claims priority, application Great Britain, Feb. 22, 1962, 6,945/62
10 Claims. (Cl. 260—497)

1. A process for the oxidation of olefinic hydrocarbons having at least one hydrogen atom attached to one of the carbon atoms forming part of the double bond to an ester-containing product having a total content of mono-esters and di-esters of glycols of at least 30 molar percent based on the total amount of organic compounds produced, which comprises the step of contacting at a temperature of 50° to 160° C. the olefinic hydrocarbon at a partial pressure of at most 10 atmospheres with the solution containing a carboxylic acid selected from the group consisting of aliphatic and aromatic monocarboxylic acids, carboxylate ions additional to those derived from the carboxylic acid and a palladous salt, the reaction being carried out in the presence of a redox system, molecular oxygen, less than 15% by weight of water and an alkali metal halide so that, assuming complete ionisation, the halide:palladous gram-ion ratio is greater than 6:1 and the halide:total carboxylate gram-ion ratio is at least 6:10.

3,262,970

CONDENSATION OF NAPHTHOIC ACID AND FORMALDEHYDE

Emil F. Jason and Ellis K. Fields, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed July 25, 1962, Ser. No. 212,479
1 Claim. (Cl. 260—515)

The isomeric mixture of di(carboxynaphthyl) methane obtained by reacting naphthoic acid and formaldehyde, in a molar proportion of about 2 moles of naphthoic acid per mole of formaldehyde, in a liquid reaction medium consisting essentially of a C_{2-4} alkanoic acid and a catalytic amount of a strong alkylation acid catalyst at a temperature and for a period of time sufficient to effect condensation of said naphthoic acid and said formaldehyde and thereby form said isomeric mixture.

3,262,971

PHOSPHORUS COMPOUNDS

Clifford N. Matthews, University City, St. Louis, Mo., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 7, 1964, Ser. No. 388,292
23 Claims. (Cl. 260—515)

1. Compounds wherein a single carbon atom links two phosphorus atoms, each having three substituents in addition to said single linking C atom, said phosphorus substituents consisting of hydrocarbon radicals free of non-benzenoid unsaturation and containing from 1 to 18 carbon atoms, said compounds being selected from the class consisting of (1) carbodiphosphoranes wherein said single C atom linking said two phosphorus atoms is unsubstituted; (2) outer salts having a cation comprising a monovalent mesomeric system wherein said C atom carries a substituent selected from the group consisting of H and hydrocarbon radicals free of non-benzenoid unsaturation and containing from 1 to 18 carbon atoms; and (3) trisubstituted phosphonium methylene trisubstituted phosphorane inner salts with mesomeric cations wherein said C atom carries a substituent selected from the class consisting of trisubstituted Group III element anionic groups of the formula



where M is a Group III element and each of R_1', R_2' and R_3' is a hydrocarbon radical free of nonbenzenoid unsaturation and containing up to 12 C atoms and anionic groups of the formula



where Y and Z are chalcogen elements.

3,262,972

BROMINE CATALYZED ISOMERIZATION OF MALEIC ACID TO FUMARIC ACID IN THE PRESENCE OF A PEROXIDE

Robert S. Barker, Port Washington, N.Y., assignor to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Aug. 29, 1963, Ser. No. 305,547
6 Claims. (Cl. 260—537)

1. A process for making fumaric acid which comprises: contacting an aqueous solution containing about 10 to 70 weight percent maleic acid with (1) from 0.001 to 10 weight percent based on maleic acid of a catalyst selected from the group consisting of soluble inorganic bromides; alkali and alkaline metals hypobromites; nitrosyl bromide; bromine; acetyl bromide, propanoyl bromide and butanoyl bromide; N-bromosuccinimide; N-bromopropanamide; and (2) from 0.003 to 10 weight percent based on maleic acid of an oxidizing agent selected from

the group consisting of ammonium, alkali and alkaline earth metal persulfates; hydrogen peroxide; benzoyl peroxide, cyclohexanone peroxide, methylcyclohexane peroxide, acetyl peroxide, lauroyl peroxide and t-butyl peroxide; cumene hydroperoxide, t-butyl hydroperoxide, Tetralin hydroperoxide and methyl ethyl ketone hydroperoxide at a temperature between 50 and 110° C., thereby precipitating fumaric acid from said solution; and separating the precipitated fumaric acid.

3,262,973
PREPARATION OF ALKALI METAL FORMATES IN ALCOHOLIC MEDIUM

Edward A. Swakon, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Nov. 20, 1963, Ser. No. 325,172
6 Claims. (Cl. 260—542)

1. A method of preparing an alkali metal formate which comprises reacting carbon monoxide with an alkali metal hydroxide in an alkanol reaction medium at a temperature in the range of from 0° C. to about the atmospheric pressure boiling point of said reaction medium whereby an alkali metal formate precipitates from the reaction medium.

5. A method for the continuous preparation of an alkali metal formate which comprises continuously adding a stream of carbon monoxide and a stream of lower alkanol containing alkali metal hydroxide to a reaction zone at 10 to 30° C. whereby an alkali metal formate precipitates from the reaction medium, continuously withdrawing a slurry consisting essentially of alkanol and precipitated alkali metal formate from the reaction zone and separating the alkali metal formate from the withdrawn slurry.

3,262,974
PROCESS FOR THE PREPARATION OF CARBAMYL CHLORIDE

Johannes J. Steggerda, Geleen, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed Jan. 28, 1963, Ser. No. 254,471
Claims priority, application Netherlands, Jan. 31, 1962, 274,226
7 Claims. (Cl. 260—544)

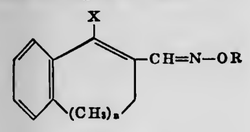
1. In a process for preparing carbamyl chloride by reacting hydrochloric acid with a nitrogen compound selected from the group consisting of urea and biuret, the improvement comprising maintaining a bed of heat-resistant, inert particles in the fluidized state by means of dry hydrochloric acid gas, feeding particles of said nitrogen compound directly into said fluidized bed while said bed is at a temperature of 300° to 500° C., removing the resulting gas mixture from said bed and subjecting said mixture to fractional condensation by first cooling the mixture until solid ammonium chloride precipitates and subsequently cooling the remaining gas sufficiently to condense liquid carbamyl chloride.

3,262,975
1-CHLORO-3,4-DIHYDRO 2-NAPHTHALDEHYDE OXIME AND ETHERS THEREOF

Leo A. Paquette, Portage Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Original application Feb. 12, 1963, Ser. No. 257,876. Divided and this application Aug. 7, 1963, Ser. No. 300,661
3 Claims. (Cl. 260—566)

1. Compounds having the formula:



(I)

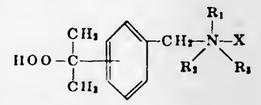
wherein X is selected from the group consisting of chlorine and bromine, R is selected from the group consisting of hydrogen, loweralkyl, and loweralkenyl, and *n* is an integer from 1 to 2.

3,262,976
CATIONIC HYDROPEROXIDES

William G. Lloyd, Millburn, N.J., and Wendell L. Roelofs, Bloomington, Ind., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Original application Dec. 10, 1962, Ser. No. 243,656. Divided and this application Apr. 12, 1965, Ser. No. 459,492
2 Claims. (Cl. 260—567.6)

1. A compound of the formula



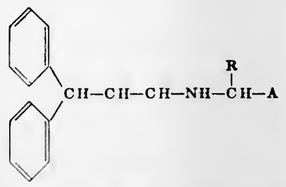
wherein X is chlorine, bromine, or iodine, R_1, R_2 and R_3 when taken separately are primary alkyl of 1–6 carbon atoms, hydroxyalkyl of 1–6 carbon atoms having two hydrogen atoms attached to the alpha carbon atom, or carboxyalkyl of 1–6 carbon atoms having two hydrogen atoms attached to the alpha carbon atom, and R_2 and R_3 when taken together with the nitrogen atom constitute piperidine or piperazine.

3,262,977
N-ARALKYL-1,1-DIPHENYL-PROPYLAMINE DERIVATIVES

Kálmán Harsányi, Dezsö Korbonits, Kálmán Takáts, László Tardos, and György Leszkovszky, Budapest, Hungary, assignors to Chinoin Gyógyszer-és Vegyeszeti Termékek Gjyára RT., Budapest, Hungary

No Drawing. Filed Aug. 20, 1962, Ser. No. 218,132
Claims priority, application Hungary, Mar. 10, 1962, CI 387; Mar. 30, 1962, CI 389
9 Claims. (Cl. 260—570)

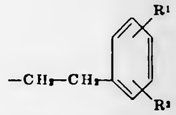
1. A compound selected from the group consisting of compounds of the formula:



wherein R is a lower alkyl, and A is a member selected from the group consisting of radicals of the formulae.

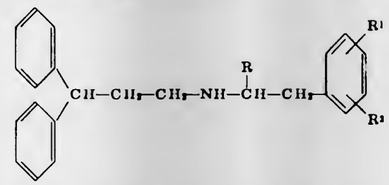


and



wherein R^1 is selected from the group consisting of hydrogen hydroxy, lower alkoxy and low dialkylamino, and R^2 is selected from the group consisting of hydrogen, hydroxy and lower alkoxy; and physiologically compatible salts thereof.

2. A compound selected from the group consisting of compounds of the formula



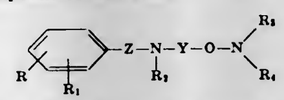
where R is ethyl, R^1 is selected from the group consisting of hydrogen, hydroxy, lower alkoxy and lower dialkylamino, and R^2 is selected from the group consisting of hydrogen, hydroxy and lower alkoxy; and physiologically compatible salts thereof.

3,262,978
O-ARYLAMINO- AND -ARALKYL-AMINO-ALKYLHYDROXYL-AMINES

Jerry E. Robertson, Milwaukee, Wis., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

No drawing. Original application June 19, 1963, Ser. No. 288,903. Divided and this application July 22, 1965, Ser. No. 485,664
7 Claims. (Cl. 260—570.5)

1. A compound of the formula



and acid addition salts thereof wherein R and R_1 are members of the group consisting of hydrogen, hydroxy, nitro, lower alkoxy, lower alkyl, bromo and chloro, trifluoromethyl, thiolower alkyl, and groups in which R and R_1 are joined to each other to form lower alkylenedioxy groups, R_2 is a member of the group consisting of hydrogen, lower alkyl and phenyl-lower alkyl, R_3 and R_4 are members of the group consisting of hydrogen and lower alkyl, Z is a member of the group consisting of a single chemical bond and lower alkylene groups, and Y is a lower alkylene group having two to four carbons.

3,262,979
PREPARATION OF COMPLEX LITHIUM VINYLTRIETHYLBORON

James M. Riddle, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No drawing. Filed June 22, 1964, Ser. No. 378,486
2 Claims. (Cl. 260—606.5)

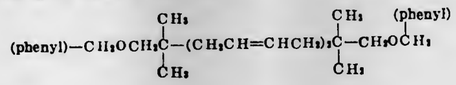
2. A process for the production of lithium vinyltriethylboron which comprises introducing gaseous vinyl chloride into a suspension of lithium metal in a solution of triethylborane in tetrahydrofuran and isolating the lithium vinyltriethylboron from the resultant system.

3,262,980
MIXTURES OF DIUNSATURATED DIETHERS

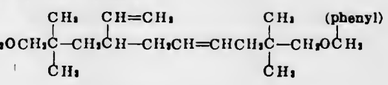
Marvin J. Hurwitz, Elkins Park, and Ellington M. Beavers, Meadowbrook, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No drawing. Filed Oct. 19, 1960, Ser. No. 63,495
3 Claims. (Cl. 260—611)

3. A mixture of diunsaturated diethers, each ether having two neopentylene groups, said ether mixture comprising an ether of the formula



and an ether of the formula



3,262,981
PRODUCTION OF FLUORINATED OLEFINS

Arnold H. Fainberg, King of Prussia, David S. Fetterman, Maple Glen, and Murray Hauptschein, Glenside, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 5, 1964, Ser. No. 401,499
3 Claims. (Cl. 260—653.3)

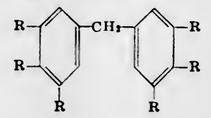
1. In the production of olefins selected from the class consisting of tetrafluoroethylene and perfluoropropene by the pyrolysis of fluoroform at temperatures of from 850 to 1300° C. and at contact times of from 0.001 to 1 second, under conditions producing C_2F_6 as a by-product of the pyrolysis reaction, the improvement which comprises separating C_2F_6 from the desired products of the pyrolysate and recycling the separated C_2F_6 to the pyrolysis zone together with fluoroform feed stock until the concentration of C_2F_6 in the organic product from said pyrolysis zone becomes equal to a value, not more than about 5% by weight of the feed to said pyrolysis, which is substantially the same as the concentration of C_2F_6 in the feed to said pyrolysis zone, while maintaining the total one pass conversion of the fluoroform to other products in the range of from about 20% to about 65%, thereby substantially eliminating the net production of C_2F_6 in said pyrolysis.

3,262,982
PROCESS FOR PREPARING ARYL ETHANES

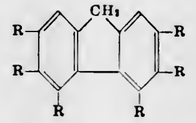
Allan S. Hay, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed Sept. 3, 1963, Ser. No. 306,300
18 Claims. (Cl. 260—668)

1. The process of producing an aryl ethane which comprises reacting in the liquid phase (1) an aryl methane selected from the group consisting of compounds having the following general formulas



and



where R is a monovalent substituent selected from the group consisting of hydrogen, halogen, methoxy and phenyl with (2) a 3,3',5,5'-tetrasubstituted diphenoquinone whose substituents are monovalent radicals selected from the group consisting of alkyl, alkoxy, aryl and aryloxy radicals.

3,262,983
HIGH TEMPERATURE REACTIONS

Raymond J. Ladd, Midland, and Frederick J. Soderquist, Essexville, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 8, 1963, Ser. No. 278,993
7 Claims. (Cl. 260—669)

1. In a method of performing high temperature reactions wherein hydrocarbon vapors are subjected to temperatures above 500 degrees centigrade, the improvement

which comprises carrying out the reaction in a reactor having a reaction contacting surface of a steel containing from about 11 to about 30 percent chromium and a maximum of about 1.5 percent nickel, such steel being metallurgically bonded to a supporting second steel which has good strength at temperatures above about 550 degrees centigrade.

3,262,984
SILVER HYDROXYFLUOBORATE

Alan Norton Oemler and Leon Singrey Scott, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 14, 1963, Ser. No. 280,418
6 Claims. (Cl. 260—677)

1. Silver hydroxyfluoborate.

2. Process for separating fluid hydrocarbon mixtures selected from the group consisting of mixtures of saturated and unsaturated hydrocarbons and mixtures of unsaturated hydrocarbons differing in absorptivity which comprises bringing said mixture into contact with an aqueous solution of silver hydroxyfluoborate, and recovering from the solution the absorbed unsaturated hydrocarbon.

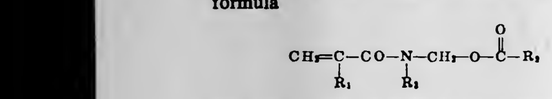
3,262,985
SELF-CROSSLINKING POLYMERS

Erwin Müller, Leverkusen, and Karl Dinges, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Jan. 11, 1963, Ser. No. 250,773
Claims priority, application Germany, Jan. 31, 1962, F 35,885
18 Claims. (Cl. 260—80.3)

1. A process for preparing a polymeric material having self-crosslinking properties which comprises polymerizing at a temperature of 10–80° C. in the presence of a catalyst selected from the group consisting of a peroxide polymerization catalyst and azodiisobutyric acid dinitrile, a member selected from the group consisting of

(A) an acrylic acide amide derivative of the general formula



wherein R_1 represents a member selected from the group consisting of hydrogen, a methyl group and a chlorine atom; R_2 represents a member selected from the group consisting of a saturated aliphatic hydrocarbon radical containing from 2 to 20 carbon atoms, a cycloaliphatic radical, an aryl radical, a heterocyclic ring and an araliphatic radical and R_3 represents a member selected from the group consisting of a hydrogen atom and a methyl group, and

(B) 0.2 to 50% by weight of said acrylic acid amide derivative of said formula and 50–99.8% by weight of at least one further olefinically unsaturated monomer having at least one terminal $CH_2{=}C<$ group and being copolymerizable with said acrylic acid amide derivative according to said formula, said further monomer being a member selected from the group consisting of an α,β-olefinically unsaturated monocarboxylic acid, an α,β-olefinically unsaturated monocarboxylic acid amide, an α,β-olefinically unsaturated monocarboxylic acid nitrile, an α,β-olefinically unsaturated monocarboxylic acid ester being the ester of an aliphatic saturated monohydric alcohol of from 1 to 20 carbon atoms, a styrene, an ester of vinyl-alcohol with an aliphatic saturated monocarboxylic acid, vinyl chloride, vinylidene chloride, a vinyl ether, an aliphatic conjugated diolefine with 4 to 6 carbon atoms, a N-methylolether of methacrylic acid amide, a Mannich base of acrylic acid amide and a Mannich base of methacrylic acid amide.

3,262,986
VULCANIZATION OF SATURATED POLYMERS WITH FURFURAL OR FURFURAL CONDENSATES

Roelf J. Kuipers, Delft, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands

No Drawing. Filed May 7, 1962, Ser. No. 192,987
Claims priority, application Netherlands, May 5, 1961, 264,475; Aug. 30, 1961, 268,788
14 Claims. (Cl. 260—828)

1. A process for the vulcanization of a substantially saturated polymer formed of monomers having only one vinyl double bond comprising heating a mixture of said polymer at 90 to 250° C. together with a compound providing a source of free radicals and an amount of 0.1 to 15% by weight with respect to the polymer of a material selected from the group consisting of furfural and a condensation product of furfural.

3,262,987
CURABLE COMPOSITIONS CONTAINING MIXTURES OF EXO AND ENDO DICYCLOPENTADIENE

Charles W. McGary, Jr., South Charleston, Paul S. Starcher, Charleston, and Samuel W. Tinsley, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed July 18, 1961, Ser. No. 124,887
11 Claims. (Cl. 260—835)

1. A composition containing from about 85 to about 55 weight percent of the diepoxide of exo-dicyclopentadiene and from about 15 to about 45 weight percent of the diepoxide of endo-dicyclopentadiene, based on the total weight of the aforesaid diepoxides.

3,262,988
COMPOSITION COMPRISING LOW DENSITY POLYETHYLENE AND A THERMOPLASTIC POLYHYDROXY POLYETHER GIVING SMOOTH CONTOUR AT HIGH EXTRUSION SPEEDS

William H. Joyce, Somerset, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 11, 1962, Ser. No. 243,750
5 Claims. (Cl. 260—836)

1. Composition useful as high extrusion speed wire insulation comprising an ethylene polymer having a density of from 0.915 to 0.925 and per 100 parts by weight thereof from 2 to 25 parts by weight of a thermoplastic polyhydroxyether, said polyhydroxyether having been prepared by the reaction of equimolar amounts of a dihydric phenol and an epoxide selected from the group consisting of diepoxides and halogen containing monoepoxides.

3,262,989
POLYAMIDE CONTAINING OXIDIZED POLYETHYLENE

Edmond P. Brignac, Pensacola, Fla., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Oct. 11, 1962, Ser. No. 229,967
4 Claims. (Cl. 260—857)

1. A process for preparing polyamide polymer having increased abrasion resistance comprising, in combination, the steps of:

(a) substantially homogeneously mixing polyhexamethylene adipamide and from 0.1% to 5.0%, by weight of said polyhexamethylene adipamide, of partially oxidized polyethylene polymer having a number average molecular weight of 1,000 to 3,000, an acid number of 9 to 16, and a saponification number of 24 to 30; and

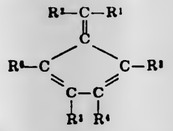
(b) melt-extruding resulting substantially homogeneously mixed material into desired form for subsequent use.

3,262,990
FULVENE-CONTAINING UNSATURATED POLYESTER RESINS

Marvin J. Hurwitz, Elkins Park, Pa., and Donald M. Fenton, Anaheim, Calif., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Oct. 11, 1963, Ser. No. 315,661
19 Claims. (Cl. 260—861)

17. A process which comprises reacting a composition comprising a fulvene of the formula



in which

(1) R^1 to R^6, when selected individually, are selected from the group consisting of a hydrocarbon atom, a hydrocarbon group, and a substituted hydrocarbon group substituted with inert substituents; and

(2) one of R^1 and R^2 is a substituent selected from the group consisting of a hydrogen atom and a hydrocarbon group while the other substituent of R^1 and R^2 is linked to one of the substituents R^3 to R^6 to form a divalent alkylene chain forming cycloalkylene ring having 4 to 10 carbon atoms to form a Diels-Alder chemical combination with at least one of the ethylenically unsaturated bonds of an unsaturated polyester which is a resinous condensation reaction product of unsaturated dibasic acids, mixtures of unsaturated dibasic acids, or anhydrides of said acids, and polyhydric alcohols.

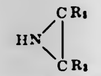
18. A process which comprises reacting the fulvene defined in claim 17 to form a Diels-Alder chemical combination with at least one of the ethylenically unsaturated bonds of an unsaturated polyester which is a resinous condensation reaction product of unsaturated dibasic acids and saturated acids, or anhydrides of said acids, and polyhydric alcohols and heating until the fulvene is crosslinked with the unsaturated polyster to give a cross-linked plastic product.

3,262,991
CROSS-LINKED REACTION PRODUCT OF AZIRIDINYL POLYESTER RESINS WITH CYCLIC ANHYDRIDES

Jack C. McClendon, Freeport, and Clarence R. Dick, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 20, 1963, Ser. No. 266,526
13 Claims. (Cl. 260—873)

1. The process for making a cross-linked resin comprising (1) reacting by contacting an aziridine having the formula



wherein each R represents a radical selected from the group consisting of hydrogen, alkyl radicals containing up to 6 carbon atoms and the phenyl radical, with an unsaturated polyester resin containing acryloxy groups, thus to form a polyaziridinyl polyester and (2) reacting by contacting said polyaziridinyl polyester with a cyclic anhydride of a polycarboxylic acid.

3. The process of claim 1 wherein the anhydride is a copolymer of styrene and maleic anhydride.

3,262,992
COMPOSITION OF MATTER COMPRISING POLYPROPYLENE AND AN ETHYLENE-PROPYLENE COPOLYMER

Richard Holzer, Oberursel, Taunus, and Karl Mehnert, Hofheim, Taunus, Germany, assignors, by mesne assignments, to Hercules Incorporated, a corporation of Delaware

No Drawing. Filed Jan. 17, 1961, Ser. No. 83,168
Claims priority, application Germany, Jan. 23, 1960, F 30,382
2 Claims. (Cl. 260—876)

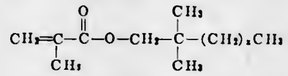
1. Composition of matter containing highly crystalline and high molecular polypropylene having a reduced specific viscosity of 2 to 15, measured at 135° C. in a 0.1% solution in decahydronaphthalene, and a heteroblock copolymer of polypropylene and polyethylene segments, the said copolymer containing more than 50% by weight propylene and the total composition containing 5–70% by weight of said heteroblock copolymer.

3,262,993
GRAFT COPOLYMERS OF 2,2-DIMETHYLALKYL METHACRYLATE AND ACRYLONITRILE WITH BUTADIENE POLYMERS

Hugh J. Hagemeyer, Jr., Alden E. Blood, and Marvin B. Edwards, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 9, 1963, Ser. No. 301,195
8 Claims. (Cl. 260—879)

1. A resinous graft copolymer of (1) from 20–85% by weight of monomeric material consisting of from 15–80% by weight of acrylonitrile and from 85–20% by weight of at least one 2,2-dimethylalkyl methacrylate having the general formula:



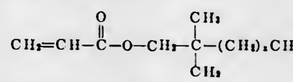
wherein x represents an integer of from 1–11, and (2) from 80–15% by weight of a preformed polymer selected from the group consisting of (a) polybutadiene and (b) a copolymer of at least 90% by weight of butadiene and not more than 10% by weight of a compound selected from the group consisting of acrylonitrile, styrene and a 2,2-dimethyl methacrylate represented by the said general formula.

3,262,994
GRAFT COPOLYMERS OF 2,2-DIMETHYLALKYL ACRYLATES AND STYRENE WITH BUTADIENE-STYRENE POLYMERS

Hugh J. Hagemeyer, Jr., Alden E. Blood, and Marvin B. Edwards, Longview, Tex., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No drawing. Filed Aug. 9, 1963, Ser. No. 301,171
7 Claims. (Cl. 260—880)

1. A resinous graft copolymer of (1) from 85 to 97 percent by weight of monomeric material consisting of from 40 to 60 percent by weight of styrene and from 60 to 40 percent by weight of at least one 2,2-dimethylalkyl acrylate having the general formula:



wherein x represents an integer of from 1 to 11 and (2) from 15 to 3 percent by weight of a preformed copolymer consisting of from 40 to 80 percent by weight of butadiene and from 60 to 20 percent by weight of styrene.

3,262,995

POLYMERIZATION OF ACRYLONITRILE IN THE PRESENCE OF A PHOSPHORUS-CONTAINING VINYL AROMATIC POLYMER

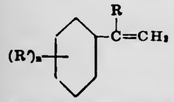
Terrence Huff, Texas City, and Eli Perry, Galveston, Tex., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 20, 1961, Ser. No. 160,897

6 Claims. (Cl. 260—881)

1. The method of preparing block polymers which comprises the steps of

(1) polymerizing a vinyl aromatic compound of the formula

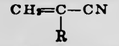


wherein R is selected from the group consisting of hydrogen, the halogens, and the methyl radical, R' is a substituent chosen from the group consisting of hydrogen, the halogens, and alkyl, amino, nitro, hydroxy, caboxy, alkoxy and cyano radicals and *n* is an integer between 0 and 2, in the presence of a phosphine of the formula



wherein R_1, R_2, and R_3 are selected from the group consisting of hydrogen, alkyl, haloalkyl, alkoxyalkyl, and aryloxyalkyl radicals containing from 1 to 8 carbon atoms to form a phosphorus-containing vinyl aromatic polymer said polymerization being effected using temperatures ranging from about —100° C. to about 250° C. at which said vinyl aromatic compound yields free radicals but at which said phosphine does not decompose appreciably to yield free radicals but functions as a chain-transfer agent; and

(2) polymerizing an acrylonitrile of the formula



wherein R is selected from the group consisting of hydrogen, the halogens, the cyano radical, and hydrocarbon, substituted hydrocarbon and alkoxy radicals having from 1 to 18 carbon atoms in the presence of the phosphorus-containing vinyl aromatic polymer from Step (1) at a temperature in the range from about —50° C. to about 150° C.

3,262,996

HOT MELT ADHESIVE CONTAINING A POLAR SYNTHETIC ELASTOMER AND AN AROMATIC HYDROCARBON-ALDEHYDE RESIN

Stewart S. Kurtz, Jr., Merion Station, and Melvin E. Peterkin, Brookhaven, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Nov. 6, 1962, Ser. No. 235,837

3 Claims. (Cl. 260—887)

1. A hot melt adhesive composition comprising a homogeneous mixture of from 5 to 60 wt. percent of a polar synthetic elastomer having a Mooney viscosity of 30 to 80 and from 40 to 95 wt. percent of an aromatic hydrocarbon-aldehyde resin having a ring and ball melt point in the range of 165° to 350° F.

3,262,997

BUTYL RUBBER-POLYOLEFINE BLENDS

Douglas Cameron Edwards and John Walker, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate

No Drawing. Filed Apr. 27, 1964, Ser. No. 362,978

Claims priority, application Canada, May 3, 1963, 874,657

25 Claims. (Cl. 260—889)

1. A process comprising blending 5–95 parts by weight of a solid homopolymer of a C_2–C_5 alpha-monoolefine, 95–5 parts by weight of a rubbery copolymer of isobutylene and at least one copolymerizable C_4–C_{14} diolefinic hydrocarbon containing 80–99.9 mole percent copolymerized isobutylene, and 0.1–3.0 parts by weight per 100 parts by weight of total polymers of a halomelamine, masticating the blend at 120–200° C. for 1–30 minutes, lowering the temperature of the masticated blend to a point where vulcanization of the rubbery isobutylene-diolefinic hydrocarbon copolymer is substantially negligible, mixing into the cooled blend a vulcanizing agent for the rubbery isobutylene-diolefinic hydrocarbon copolymer component of the blend, and shaping and vulcanizing the thus prepared blend.

3,262,998

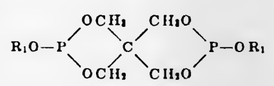
PHOSPHORUS CONTAINING POLYOLS

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 11, 1962, Ser. No. 201,240, now Patent No. 3,139,450, dated June 30, 1964. Divided and this application Aug. 7, 1963, Ser. No. 300,633

2 Claims. (Cl. 260—927)

1. A compound having the formula



where R_1 is a lower alkaneetherpolyol having 3 to 6 hydroxyl groups from which polyol one of the hydroxyl groups has been removed, said alkaneetherpolyol being the ether of a lower alkanepolyol having 3 to 6 carbon atoms and 3 to 6 hydroxyl groups with a glycol member of the group consisting of lower alkylene glycols and poly lower alkylene glycols.

3,262,999

PHOSPHORUS CONTAINING POLYOLS

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 11, 1962, Ser. No. 201,240, now Patent No. 3,139,450, dated June 30, 1964. Divided and this application Aug. 7, 1963, Ser. No. 300,680

2 Claims. (Cl. 260—927)

1. Bis(tris(2 - hydroxypropoxy)propane)pentaerythritol diphosphonate.

3,263,000

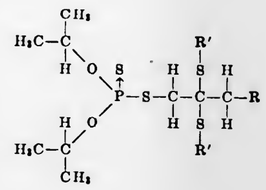
DIISOPROPYL-DITHIOPHOSPHATYL THIOKETALS

Henryk A. Cyba, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

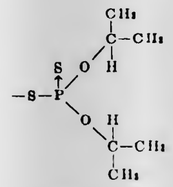
No Drawing. Filed Nov. 19, 1962, Ser. No. 238,773

3 Claims. (Cl. 260—929)

1. Alpha-substituted diisopropyl-dithiophosphatyl thioketal of the following formula:



where R' is alkyl of from one to 6 carbon atoms and R is selected from the group consisting of hydrogen, alkyl of from one to three carbon atoms, and



3,263,001

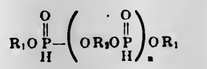
PHOSPHORUS CONTAINING POLYOLS

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 11, 1962, Ser. No. 201,240, now Patent No. 3,139,450, dated June 30, 1964. Divided and this application Aug. 7, 1963, Ser. No. 300,651

3 Claims. (Cl. 260—929)

1. A compound having the formula



where each R_1 is a lower alkaneetherpolyol having 3 to 6 hydroxyl groups, there being no more than one hydroxyl group attached to any carbon atom, from which polyol one of the hydroxyl groups has been removed, R_2 is a lower alkaneetherpolyol having 3 to 6 hydroxyl groups, there being no more than one hydroxyl group attached to any carbon atom, from which polyol two hydroxyl groups have been removed, said alkaneetherpolyol in each instance being the ether of a lower alkanepolyol having 3 to 6 carbon atoms and 3 to 6 hydroxyl groups with a glycol member of the group consisting of lower alkylene glycols and poly lower alkylene glycols and *n* is an integer from 0 to 6.

3,263,002

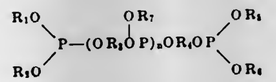
PHOSPHORUS CONTAINING POLYOLS

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 11, 1962, Ser. No. 201,240, now Patent No. 3,139,450, dated June 30, 1964. Divided and this application Aug. 7, 1963, Ser. No. 300,679

6 Claims. (Cl. 260—929)

1. A polymeric phosphite having the formula



where R_1, R_2, R_5, R_6 and R_7 are a lower alkaneetherpolyol having 3 to 6 hydroxyl groups from which polyol one of the hydroxyl groups has been removed, R_3 and R_4 are a lower alkaneetherpolyol having 3 to 6 hydroxyl groups from which polyol two hydroxyl groups have been removed, said alkaneetherpolyol in each instance being the ether of a lower alkanepolyol having 3 to 6 carbon atoms and 3 to 6 hydroxyl groups with a glycol member of the group consisting of lower alkylene glycols and poly lower alkylene glycols and *n* is an integer of 0 to 6.

3,263,003

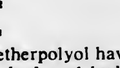
PHOSPHORUS CONTAINING POLYOLS

Lester Friedman, Beachwood Village, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 11, 1962, Ser. No. 201,240, now Patent No. 3,139,450, dated June 30, 1964. Divided and this application Aug. 7, 1963, Ser. No. 300,652

5 Claims. (Cl. 260—953)

1. A phosphonate ester of a lower alkaneetherpolyol having the formula



wherein R_1 and R_2 are an alkaneetherpolyol having 3 to 6 hydroxyl groups with one of the hydroxyl hydrogens removed, said alkaneetherpolyol being the ether of a lower alkanepolyol, having 3 to 6 carbon atoms and 3 to 6 hydroxyl groups, there being no more than one hydroxyl group attached to any carbon atom, with a member of the group consisting of lower alkylene glycols and poly lower alkylene glycols, said phosphonate having a plurality of free alcoholic hydroxyl groups and R_3 is as defined for R_1 except that a hydroxyl group is removed from the alkaneetherpolyol rather than a hydrogen.

3,263,004

PROCESS OF MAKING A SINTERED, HOMOGENEOUS DISPERSION OF NUCLEAR FUEL AND BURNABLE POISON

Charles H. Bean, Naperville, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Oct. 8, 1964, Ser. No. 402,662

8 Claims. (Cl. 264—.5)

1. A process of making a nuclear fuel consisting of a stable homogeneous dispersion of lanthanide rare-earth oxide in actinide metal oxide in which the former is present in a quantity of less than 1% by weight, said process comprising mixing from 2 to 25 w/o of a powdered oxide of a rare earth that has a high neutron-capture cross section and from 98 to 75% by weight of a powdered uranium-dioxide-base material; impact-fusing the mixture obtained at a pressure of between 200,000 and 300,000 p.s.i. and a temperature of between 1000 and 1300° C.; cooling the product; grinding the product to form a master blend; adding master blend to additional uranium-dioxide-base actinide metal oxide in a quantity to yield a concentration of less than 1% by weight, whereby a fuel mass is obtained; shaping and compacting the fuel mass; and sintering the fuel mass.

3,263,005

PROCESS FOR PRODUCING CONTACT LENSES AND OTHER OPTICAL AIDS

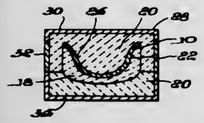
Harold C. Emerick, 5007 Wayne Trace, Fort Wayne, Ind.

Filed Apr. 17, 1963, Ser. No. 273,589

11 Claims. (Cl. 264—1)

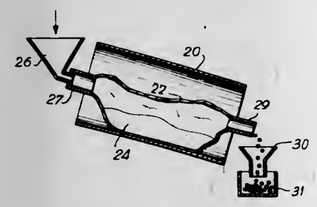
1. The process for making a completely cured heat hardened lens of resin composition which is rendered substantially entirely free of unpolymerized resin material of nonreacted vaporizable materials, said polymerized material being adapted for contact lens usage, comprising the steps of: mixing together polymeric and monomeric resin material, investing such material within a gypsum type plaster mold investment having a model which conforms with the desired lens contour, and while said resin is in pliable form to adapt to said model, shaping said plastic material to the mold investment structure and retaining the resin in a desired lens shape while providing egress of moisture monomer and other volatile ingredients from said resin through the surrounding walls of said gypsum mold, imposing said resin filled mold having the model and resin content therein

under a pressure within the flask which yieldably confines said resin within its mold cavity, preliminarily heating said plaster model mold to effect removal of the vaporizable gaseous content thereof and concurrently effecting partial resin polymerization, continuously exhausting the atmosphere completely surrounding the entirety of said charged flask to suppress deterioration of both the plastic mold investment and its resin content



while providing for substantially entire removal of vaporizable unreactive and nonreacted materials derived from said plaster and resin plastic material and which permeates through said plaster mold, and thereafter heating both the plaster mold and its resin content substantially above 212° F. to remove all volatilizable material from said resin and which is adapted to permeate through said pervious plaster model mold to effect substantially complete resin polymerization.

3,263,006
PROCESS FOR GRANULATING SUBSTANCES FROM THE MELT
Klemens Gutweiler, Mainz (Rhine), and Friedrich Wunder and Wilhelm Riemenschneider, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany
Filed July 31, 1962, Ser. No. 213,782
Claims priority, application Germany, Aug. 5, 1961, F 34,617
13 Claims. (Cl. 264—8)



1. A process for preparing solid granular particles of an organic substance which does not tend to form supercooled melts from a melt of said substance which comprises restraining said melt in a granulating zone having flexible walls, said granulating zone having a greater volume than the volume of said melt, cooling gradually the melt, and flexing continuously the walls of said granulating zone while cooling to provide a relative motion between said walls and the melt being cooled to form said granular particles.

3,263,007
METHOD OF MAKING A CERAMIC PLATEN FOR A BRAZING FIXTURE
Geoffrey Martin and Estill G. Music, Nashville, Tenn., assignors to Avco Corporation, Nashville, Tenn., a corporation of Delaware
Filed June 5, 1961, Ser. No. 114,787
3 Claims. (Cl. 264—60)

1. A method of forming a ceramic platen for brazing metals in situ, comprising the steps of

(1) forming a master pattern,

(2) coating the pattern with a release film,

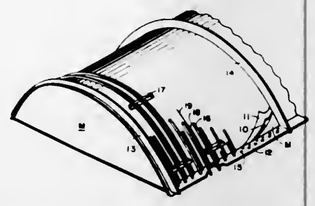
(3) dividing the surfaces of said pattern into workspace zones,

(4) mounting continuous tube forms within each zone equidistant from the surface of the pattern,

(5) utilizing a vibratory trowel-like element to deposit a thixotropic siliceous mix into and distribute it throughout a first zone and around said tube forms and to smooth and level the unsupported surface of the deposited mix,

(6) allowing the mix in said zone to "set" sufficiently to acquire a substantial green strength,

(7) similarly depositing and distributing said mix successively into and throughout the next-adjacent zone,

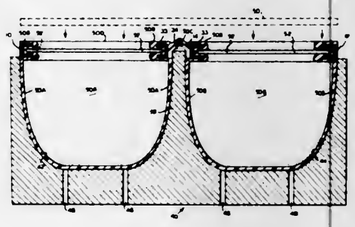


(8) allowing the mix in said zone to "set" sufficiently to acquire a substantial green strength,

(9) cementing a heat insulating support to a supporting surface of the dried ceramic platen formed by the foregoing steps, and

(10) subjecting said composite structure to temperatures elevated in steps up to 1800 degrees F. to form monolithic structure upon which the metal components to be brazed may be mounted for effecting the brazing thereof into a unitary whole.

3,263,008
POST-ASSEMBLY MOLDING
Louis Bender, Plainfield, N.J., assignor of one-half to Leo Miller, Plainfield, N.J.
Filed Aug. 7, 1962, Ser. No. 215,308
4 Claims. (Cl. 264—90)



1. A method of fabricating a carrying case including two half-members hinged together; comprising the steps of:

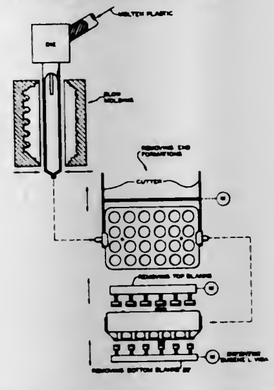
(a) assembling a frame by hinging together two half-frames;

(b) thereafter placing the frame assembly in operative association with the vacuum-forming mold formed with two half-member-wall-molding cavities each arranged to cooperate with a respective one of the half-frames to form respective half-member walls thereon;

(c) thereafter placing a single sheet of vacuum-formable plastic in operative association with the two half-frames and the two molding cavities;

(d) and thereafter vacuum-drawing the plastic sheet into assembled relationship with the frame assembly and into the two molding cavities to form both respective half-member walls simultaneously therein, thereby forming a composite case made up of said frame and said drawn plastic.

3,263,009
METHOD OF MAKING A CARRYING CASE
Eugene L. Vidal, Avon, Conn., assignor to Phillips Petroleum Company, a corporation of Delaware
Original application Nov. 28, 1961, Ser. No. 155,312, now Patent No. 3,151,762, dated Oct. 6, 1964. Divided and this application May 8, 1964, Ser. No. 371,866
4 Claims. (Cl. 264—98)



1. A process for making a one-piece carrying case comprising the steps of:

(a) in a multi-piece mold, one piece of which is provided with at least one projection which extends only a relatively short distance toward an opposite wall, said projection being so shaped and spaced as to provide in said mold a space along said projection in which an upper edge-stiffening flange portion will be formed,

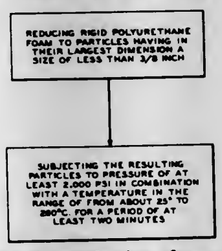
(b) blow molding a plastic material in said mold in a manner so that there will be formed in said mold a substantially closed, hollow rectangular shell having an upper edge-stiffening flange formed in said space, thus also forming a recessed portion in the surface of said shell, said flange and said recessed portion substantially encompassing said projection;

(c) cutting said recessed portion along a line substantially at the base of said stiffening flange, thus forming an open top, one-piece carrying case having a reinforcing edge-stiffening flange at the open top thereof;

(d) removing said recessed portion; and

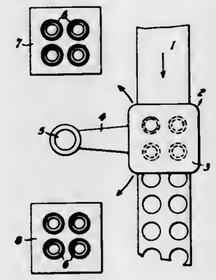
(e) forming in at least one wall of said shell a band grippable holder whereby the case thus formed can be carried.

3,263,010
NON-CELLULAR UNITARY STRUCTURES AND PREPARATION THEREOF
Andrew Shultz, Amherst, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Oct. 31, 1962, Ser. No. 234,510
3 Claims. (Cl. 264—126)



1. A process for the production of non-cellular unitary structures which comprises reducing rigid polyurethane foam to particles having in their largest dimension a size of less than ⅜ inch and subjecting the resulting particles to pressure of at least about 2000 p.s.i. in combination with a temperature in the range of from about 25° to 260° C. for a period of at least 2 minutes.

3,263,011
MOULDING ARTICLES
Ernest T. Jagger and Edward I. Hunter, Newcastle-upon-Tyne, England, assignors to George Angus & Company Limited, Newcastle-upon-Tyne, England
Filed Apr. 18, 1962, Ser. No. 188,307
Claims priority, application Great Britain, Apr. 24, 1961, 14,714/61
6 Claims. (Cl. 264—153)



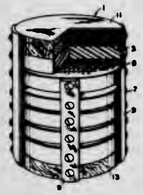
1. In a method of moulding articles from blanks of plastic material which are moulded within a set of moulding die members, there being provided a set of blank-forming means at a first location and a set of upper and lower moulding die members both located at a second location laterally displaced from said first location, the steps comprising: effecting relative movement of the blank-forming means and a stock of plastic material at said first location so as to form blanks from said material, retaining said blanks in one blank-forming part of the blank-forming means, effecting relative lateral movement between said one blank-forming part of the blank-forming means and at least one die member of said set so as to bring said one blank-forming part and said one die member into alignment, releasing said blanks from said one blank-forming part and depositing them directly onto said one die member of said set, effecting a further relative movement between said one blank-forming part and said one die member so as to move said one blank-forming part and said one die member out of alignment with each other and so as to place said one blank-forming part at said first location and so as to place said one die member in alignment with the other die member of said set at a location displaced laterally from said first location, closing said set of die members to effect moulding of said blanks, opening said die members, and removing said moulded articles from said die members.

3,263,012
DYE COMPOSITION
Coleman Nadler, Philadelphia, and Harry T. Haefelin, Glenside, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Original application Sept. 30, 1963, Ser. No. 312,796. Divided and this application Mar. 26, 1964, Ser. No. 355,133
1 Claim. (Cl. 264—234)

A method for making a dye emitting cake which by the nature of its composition is able to control the rate of emission of the dye from the cake, said method comprising the following steps:

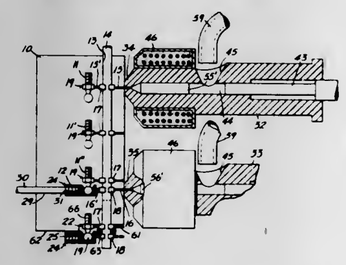
(a) mixing from 0.8 to 1.8 parts by weight of glycerine with 0.75 to 1.5 parts by weight of polyvinyl alcohol;

(b) permitting the mixture to stand for 48 hours at room temperature;
(c) dry mixing from 3 to 5 parts by weight of sodium fluorescein with no more than 0.12 part by weight of borax;



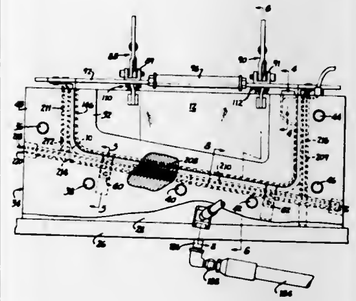
(d) adding the sodium fluorescein borax mixture to the polyvinyl-alcohol mixture;
(e) pressing the resulting mixture into cakes;
(f) heat treating the cakes from 1 to 4 hours at temperatures ranging from 212 to 250° F. respectively.

3,263,013
INTERCAST RELATIVELY MOVABLE PLASTIC ELEMENTS AND METHOD OF FORMING THE SAME
Louis H. Morin, Bronx, N.Y.
(125 Beechwood Ave., New Rochelle, N.Y.)
Filed June 20, 1962, Ser. No. 203,759
The portion of the term of the patent subsequent to June 1, 1982, has been disclaimed
6 Claims. (Cl. 264—242)



1. The method of producing a multi-element thermoplastic product wherein said elements are connected but relatively and freely movable, which comprises injection molding a first element of thermoplastic of one melting point at a first molding station in a pair of dies, moving said first element to a second molding station in said dies, cooling said first element in said dies substantially to a solid integral mass, and injection molding upon at least a part of said cooled solid integral mass while in said dies at said second station a second element of thermoplastic of a lower melting point than the melting point of the plastic of the first element.

3,263,014
METHOD AND APPARATUS FOR BEDDING PANELS INTO FRAMES
Robert J. Deisenroth, Elkhart, Ind., assignor to Excel Corporation, Elkhart, Ind., a corporation of Indiana
Filed Sept. 10, 1962, Ser. No. 222,590
11 Claims. (Cl. 264—261)

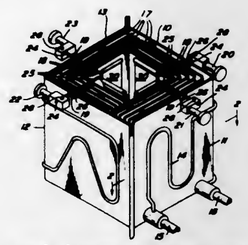


1. The method of bedding a panel into a frame having a channel for the reception of edge portions of the panel comprising the steps of positioning edge portions of the panel within the frame channel in spaced apart relationship with the channel surface, applying sealing means between the frame and panel to form a liquid-tight cavity defined by the channel surface, the edge portions of the panel and the sealing means, then injecting a heat-curable liquid bedding material into said cavity, and then heating the bedding material until said material is cured to a solid form.

ELECTRICAL

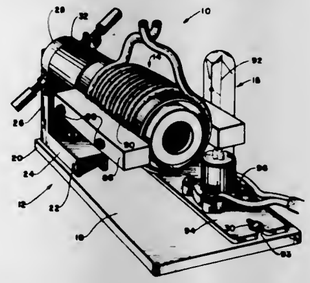
3,263,015
HEATING ELEMENTS FOR HIGH VACUUM FURNACES
Charles A. S. Hill, Southampton, Pa., assignor, by mesne assignments, to Abar Corporation, Willow Grove, Pa., a corporation of Pennsylvania (1964)
Filed Nov. 7, 1963, Ser. No. 322,205
8 Claims. (Cl. 13—25)

1. A resistance heating device for vacuum furnaces comprising
electrodes,
a matched pair of upper horizontal supporting rods respectively connected to said electrodes,
a matched pair of resistance heating elements in sheet form extending downwardly from said upper supporting rods,
a common lower horizontal connecting rod engaging the lower ends of said pair of elements,



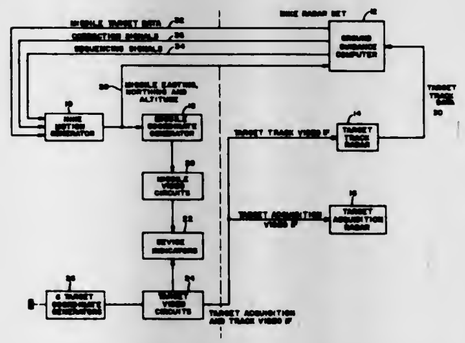
said elements each having a curved upper end portion and a curved lower end portion extending respectively around the upper and lower rods.

3,263,016
BLACK-BODY FURNACE
James Robert Branstetter, Avon, and Allen J. Metzler, Cleveland, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Oct. 30, 1963, Ser. No. 320,233
4 Claims. (Cl. 13—26)



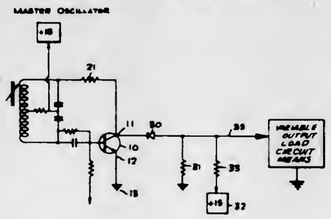
3. A supporting structure for a high temperature calibration furnace assembly of the type having an RF heated carbon rod with a radiating chamber in the front portion thereof and radial slots in the rear portion to reduce heat losses, said support structure comprising
a water-cooled housing at the rear of the carbon rod, and
a sleeve affixed to said housing, said housing and sleeve connected to and supporting said furnace whereby excessive heat build-up in the supporting structure is prevented.

3,263,017
NIKE MOTION GENERATOR
Melvin H. Damon, Jr., Wayne, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 8, 1963, Ser. No. 293,568
4 Claims. (Cl. 35—10.4)



1. A device for training personnel in the operation of airborne self-propelled missiles comprising:
means for generating signals simulative of the vertical motion of a missile,
means for generating signals simulative of the horizontal motion of a missile,
timing circuits, said timing circuits being coupled to said vertical and horizontal signal generating means for control thereof,
means for generating signals representative of missile velocity comprising:
a first motor means,
a second motor means,
relay means, said relay means being interconnected between said first and second motor means,
and a source of operating voltage, said source of operating voltage being connected to said first and second motor means for operation thereof whereby said first and second motor means in combination with said relay means produce signals at certain specified intervals to simulate the operation and velocity of a missile,
said missile velocity signal generating means being coupled to said vertical and horizontal signal generating means for control thereof,
integrating means, said integrating means being coupled to said vertical and horizontal signal generating means for conversion of said vertical and horizontal missile motion signals to missile position signals,
first control means, said first control means being operatively connected to said first motor means whereby said first motor means operates at a speed to produce a time delay of two seconds,
and second control means, said second control means being operatively connected to said second motor means whereby said second motor means produces a time delay of seven seconds.

3,263,018
DIODE DISCONNECT CIRCUIT, FOR ELECTRONIC MUSICAL INSTRUMENTS, ISOLATING VARIABLE LOAD MEANS FROM TONE GENERATOR MEANS
John R. Brand, Northridge, Calif., assignor, by mesne assignments, to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed June 21, 1963, Ser. No. 289,594
5 Claims. (Cl. 84—1.01)

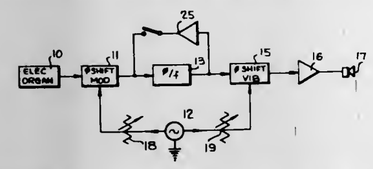


1. A tone generator system for electronic musical instruments having variable load circuit means, comprising:
regenerative tone generator means having output means which alternately develops a low internal impedance and a high internal impedance; and
output isolator static passive unidirectional means connected between said output means and said load circuit means, said output isolator means being operative to connect said generator means to the load circuit means during periods of low internal generator impedance and disconnect it from said load circuit means during periods of higher internal impedance whereby the frequency of the tone generator means is unaffected by variations in said load circuit means.

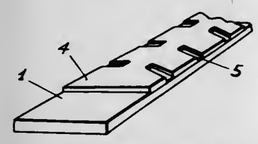
3,263,019
RANDOMIZATION OF PHASES AND FREQUENCIES OF MUSICAL SPECTRA
Hyman Hurvitz, 822 Warner Bldg., Washington, D.C.
Filed Mar. 18, 1964, Ser. No. 352,762
18 Claims. (Cl. 84—1.24)

1. In combination, a source of an audio band representing music, an audio phase modulator connected in cascade with said source, an audio filter arranged to disperse phase as a function of frequency connected in cascade with said phase modulator, a further audio phase modulator connected in cascade with said audio filter,

means for deviating the phases of the audio outputs of said modulators in opposite senses, and means acoustically radiating the output of said further phase modulator.



3,263,020
HIGH VOLTAGE POWER CABLE INSULATED BY IMPREGNATED SYNTHETIC MATERIAL AND METHOD
Henri Thevenon, Lyon, France, assignor to Compagnie Generale d'Electricite, Paris, France
Filed Sept. 27, 1963, Ser. No. 312,152
Claims priority, application France, Oct. 13, 1962, 912,192
12 Claims. (Cl. 174—25)



2. In an electrical high-power cable having a central conductor and insulating means comprising a plurality of layers of a composite tape wrapped helically around said conductor in such a manner that a joint exists between two consecutive turns of the composite tape.

the improvement essentially consisting of a composite assembly tape including a first tape of impervious synthetic material having essentially oblong notches disposed obliquely to the axis of said first tape, each of said notches being extended to one of the edges of the tape,

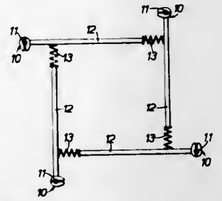
a second tape of impervious synthetic material,

said first and second tapes being superimposed and secured together.

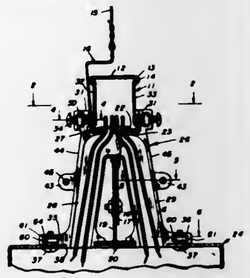
12. A method for making an electrical high-power cable having a central conductor and insulating means comprising a plurality of layers of a composite tape wrapped helically around said conductor in such a manner that a joint exists between two consecutive turns of the composite tape, said composite tape being provided with ducts having at least an outlet in said joint, the width of said ducts being at most equal to that of said joint, comprising the steps of cutting notches in a first tape of impervious synthetic material, superimposing said first tape on a second uninterrupted tape of impervious synthetic material and bonding said first and said second tapes together to form a composite tape and wrapping said composite tape helically about said central conductor.

3,263,021
CABLE SPACERS FOR MULTI-CONDUCTOR ELECTRICAL OVERHEAD TRANSMISSION LINES
Alan Caunt, Oadby, Leicester, England, assignor to Metalastik Limited, Leicester, England, a British company
Filed May 13, 1965, Ser. No. 455,516
Claims priority, application Great Britain, May 21, 1964, 21,087/64
5 Claims. (Cl. 174—42)

1. A cable spacer for holding apart at least three individually suspended generally parallel conductors of an electrical overhead transmission line, comprising a plurality of conductor clamps one to grip each of the conductors, a plurality of spacing links, one only for each clamp and rigidly connected with the clamp, and a plurality of flexible connections one only for each clamp for permitting relative longitudinal movements of conductors spaced by the spacer, said links being flexibly connected each with one other of the links by one of the flexible connections, the links and flexible connections together forming a closed geometrical figure.



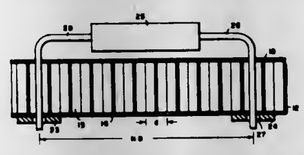
3,263,022
WIRE-WAY ASSEMBLY COMBINATION FOR LIGHT FIXTURES ON SUSPENDED CEILINGS
Marcus Bodian, Los Angeles, Calif., assignor to Sunbeam Lighting Company, Los Angeles, Calif., a limited partnership
Filed Oct. 4, 1963, Ser. No. 313,927
5 Claims. (Cl. 174—48)



1. Electrical wiring conduit means adapted for use in mounting and electrically connecting outlet boxes on a ceiling suspended from overhead structural members comprising a horizontal metal channel for enclosing electrical wires, said channel having one or more openings in the bottom thereof along its length for carrying electrical wires out of said channel; means for supporting said channel from said overhead structural members; an outlet box disposed on a ceiling; a wire-carrying supporting yoke having an upper tubular member disposed for engagement in one of said channel openings, said yoke having angularly disposed legs communicating with and engaging holes in said outlet box, said yoke being adapted to carry electrical wires from said channel into said outlet box; means for attaching said outlet box to the lower ends of said legs; and means for removably attaching said yoke to said channel.

3,263,023
PRINTED CIRCUITS ON HONEYCOMB SUPPORT WITH PIERCEABLE INSULATION THEREBETWEEN
William W. Staley, Pasadena, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 729,428, Apr. 18, 1958. This application Apr. 9, 1964, Ser. No. 360,165
3 Claims. (Cl. 174—68.5)

1. A printed circuit assembly comprising, a honeycombed planar support member having a plurality of preformed transverse apertures extending therethrough, an insulating member bonded to at least one side of said support member, said insulating member comprising an unpierced layer after being bonded and being of such a thickness to permit leads readily to pierce therethrough, a plurality of electrically distinct circuit conductors intimately secured to the outside surface of said insulating member, and circuit components having leads forming holes in the previously unpierced layer by piercing through said insulating member and passing through preformed apertures in said support member and secured in electrical contact with preselected of said circuit conductors.

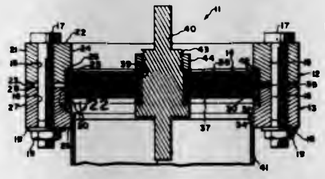


3,263,024
CABLE VALLEY FILLER
Felix Hirsch, Cambria Heights, N.Y., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed June 15, 1964, Ser. No. 375,235
8 Claims. (Cl. 174—116)



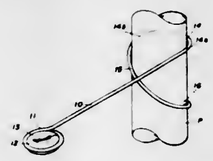
1. An electric cable construction including a plurality of conductors each of which is covered with a layer of electrically insulating material, the conductors being located adjacent to one another and with valleys extending outward from the lines of adjacency of the insulated conductors, fillers in the valleys including cords made of creped paper having wax on the surface thereof and at least some of the interstices of the creping being free of wax with resulting saving in weight and improved flexibility of the filler, and an outer sheath covering the assembly of conductors and valley fillers and holding the assembly packed together to a smooth rounded contour.

3,263,025
DEMOUNTABLE METAL-TO-CERAMIC SEAL
William R. Wheeler, Saratoga, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed July 30, 1963, Ser. No. 298,630
5 Claims. (Cl. 174—151)



1. A demountable metal-to-ceramic seal to be used between a high and low pressure region comprising: a metal member and a ceramic member spaced from each other and adapted for relative movement along a longitudinal axis towards each other; said metal member having a shoulder portion with an inner wall substantially parallel to the longitudinal axis; said metal member being provided with a ridge portion having a slanted side angled toward said inner wall to define an acute angle therebetween; said ceramic member being provided with a surface facing in the direction of relative movement of said ceramic member toward said metal member; said surface having a bevelled portion forming a slanted side angled toward said inner wall to define an acuate angle therewith when said metal member and said ceramic member are drawn together in the direction of relative movement; said slanted sides being opposite each other and forming a cavity with said inner wall; and a soft metal sealing gasket disposed within said cavity in contact with said slanted sides and said inner wall.

3,263,026
WIRE STAND-OFF
Josef Karl Kihs, 236 Roxborough Ave., Hamilton, Ontario, Canada
Filed May 12, 1965, Ser. No. 455,268
5 Claims. (Cl. 174—154)



4. A cable stand-off device for use in association with a cylindrical antenna pole or like support of predetermined diameter for maintaining a cable parallel thereto and comprising:

a wire stem portion oriented to extend substantially in a horizontal plane normal to the axis of said pole;

a wire ring member at one end of said stem portion formed integrally therewith;

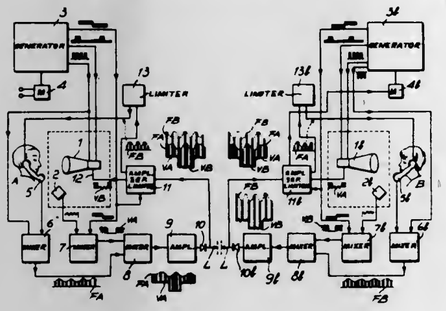
cable insulation means within said wire ring member;

spirally wound wire attachment means at the other end of said wire stem portion formed of wire integrally therewith and wound about an axis oriented to coincide with the axis of said pole, and a semi-rotational twist formed in said wire stem portion and locating said wire ring portion in a plane tilted from the horizontal prior to insertion of said cable, said stem portions being torsionally yieldable to tension in said cable parallel to said pole to permit said wire ring portions to adapt a horizontal position.

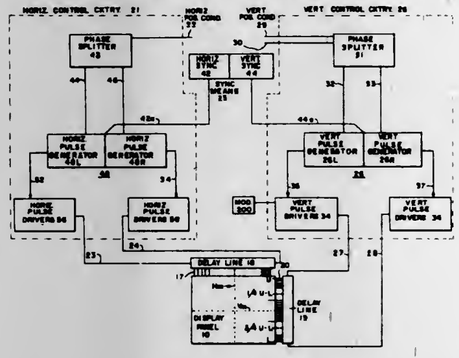
3,263,027
SIMULTANEOUS BILATERAL TELEVIDEOPHONIC COMMUNICATION SYSTEMS
Aurelio Beltrami, Via Circo 4, Milan, Italy
Filed Feb. 19, 1963, Ser. No. 259,525
Claims priority, application Italy, Dec. 11, 1962, 29,814/62
5 Claims. (Cl. 178—6.8)

1. A simultaneous bilateral televideophonic communication system comprising a plurality of receiving and transmitting posts, each post including a cathode ray tube adapted to function alternately as a scanning device and as a kinescope, a reticle on the face of said cathode ray tube, a signal generator connected to said tube for producing synchronized voltages for controlling the reticle on the screen of said tube at one post and for controlling the switching of said tube from a scanning device to a kinescope at another post, a photosensitive device adjacent said tube for scanning an image to be transmitted, sound transmitting equipment at each post for providing audio signals, first mixer means for combining signals from said generator and said sound equipment,

second mixer means for combining signals from said generator and said photosensitive device, and third mixer means connected to said first and second mixer means for producing a single composite signal, a single signal transmission means between said posts for transmitting said composite signal, and amplifier-separator means responsive to said signal generator for receiving an incoming composite signal connected to said cathode ray tube grid and providing therefor a video signal and a switching signal whereby the tube is operated alternately as a scanning device and as a kinescope, said amplifier-separator means also being connected to said generator and to said sound equipment.

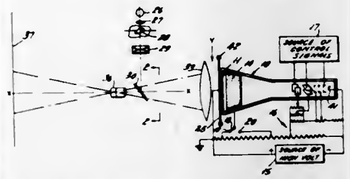


3,263,028
SWITCHING CIRCUIT FOR DISPLAY DEVICE
Leo A. Shanafelt, Los Altos Hills, and Quentin H. Joy, Palo Alto, Calif., assignors, by mesne assignments, to Kaiser Aerospace & Electronics Corporation, Oakland, Calif., a corporation of Nevada
Filed Aug. 6, 1962, Ser. No. 214,886
23 Claims. (Cl. 178—7.3)



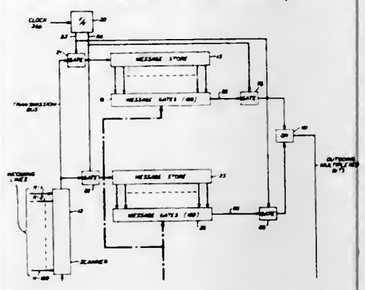
1. In a display system including a transmission line and light-emitting media disposed to be selectively energized at different positions responsive to coincidence of a pair of pulses at a related position on the transmission line, input means for receiving signals representative of the position on the transmission line to be selected, sync means for providing a sync pulse for each selection of a position on said line, and control circuit means including means connected to said input means operative to provide at least a first and a second output pulse timed to coincide at the represented position on the line at a predetermined period after generation of said sync pulse, said means being operative to effect coincidence at any represented point on the line at the same predetermined period after the sync for said pair of pulses.

3,263,029
LARGE SCREEN PROJECTION DISPLAY DEVICE EMPLOYING A PRINTING CATHODE RAY TUBE
Adolph H. Rosenthal, deceased, late of Forest Hills, N.Y., by Lilly S. Rosenthal, executrix, Forest Hills, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
Filed Mar. 28, 1963, Ser. No. 268,832
4 Claims. (Cl. 178—7.88)

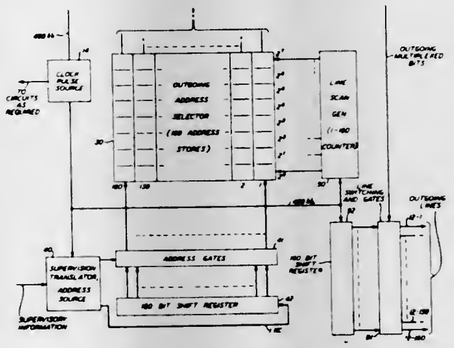


1. A device of the class described comprising a printing cathode ray tube having a target area, means for generating an electron beam and directing said beam to said target area, and means for deflecting said beam to selected points of said target area thereby establishing local charges at said points; a sheet external of said tube adjacent to said target area; first means impinging upon said sheet to produce at said sheet an image relate to points of said target area reached by said electron beam; a screen; and second means for enlarging and projecting said image onto said screen for viewing; said sheet comprising a membrane closely spaced from said target area; said membrane being deflectable at local areas thereof; said membrane including a light reflecting surface on the side thereof remote from said target area; a light source for generating a light beam constituting said first means; a diaphragm including a reflecting portion and a transparent portion; said reflecting portion positioned to reflect said light beam to said light reflecting surface; said image being formed by deflection of said membrane at points thereof opposite points of said target area traversed by said electron beam; said transparent portion of said diaphrgam positioned to pass portions of said light reflected from deflected parts of said light reflecting surface to said screen.

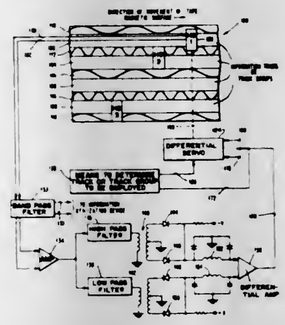
3,263,030
DIGITAL CROSSPOINT SWITCH
Rudy C. Stiefel, New York, N.Y., and Harvard W. Townsend, Whippany, N.J.; said Stiefel assignor to Radio Corporation of America, a corporation of Delaware, and said Townsend assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Sept. 26, 1961, Ser. No. 141,249
8 Claims. (Cl. 179—15)



1. In a switching network, a plurality of incoming lines, each line comprising a train of digital bits, a common transmission bus, means for connecting each of said incoming lines individually and in time sequence to said common transmission bus in a particular one of a plurality of time slots in a repeated cycle defined by said time slots, storage means having a plurality of storage stages equal in number to the number of said time slots in a cycle for storing a cycle at a time the multiplexed digital bits occurring in each of said cycles, a register means permanently associated with each of said storage stages, means for inserting in each of said register means a binary signal identifying a particular one of a plurality of outgoing multiplex channels, counter means coupled to each of said register means and operative to cyclically and sequentially produce binary signals corresponding to each of said outgoing channels, and means coupled to each of said register means for gating out the digital bits of each storage stage when the binary signal output of said counter means corresponds to the binary signal inserted in said associated register means.

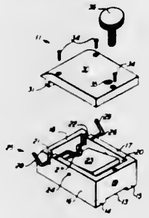


3,263,031
HIGH-LOW FREQUENCY HOMING
Herbert Frazer Welsh, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 29, 1962, Ser. No. 198,539
14 Claims. (Cl. 179—100.2)



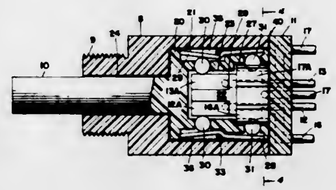
10. A device for properly aligning a sensing head with a magnetic recording channel comprising a first track placed adjacent to one edge of said magnetic recording channel and having permanently recorded therein a first series of signals; a second track placed adjacent to the other edge of said magnetic recording channel and having permanently record therein a second series of signals; means to sense said first and second tracks and produce an output signal in accordance with the relative strengths of the signals of said first and second tracks due to the position of the sensing head; and means responsive to said output signal to provide further signals indicative of the direction and magnitude of any misalignment of said sensing head with respect to a magnetic recording channel whereby said further signals may be employed to control the movement of said sensing head to a position of alignment with said magnetic recording channel.

3,263,032
ADJUSTABLE HINGE FOR EAR PHONE ATTACHED TO A HEAD SUPPORT
Edward Charles Scanlon, 13 Richmond Ave., Barrington, R.I.
Filed Mar. 2, 1963, Ser. No. 277,595
3 Claims. (Cl. 179—156)



1. An adjustable hinge for an ear phone attached to a head support comprising a band, a hinge consisting of a box structure, means fastening said box structure to said band, a lever, means pivotally mounting said lever within said box structure, a cover, means fastening said cover to said box structure, a thumb screw rotatively mounted in said cover for movement toward and away from said lever, a wire bracket, means pivotally mounting said wire bracket to said box structure, means on said wire bracket engageable with said lever for pivotal movement by said lever, an ear phone, a block means fastening said block to said ear phone, and means attaching said block to said wire bracket.

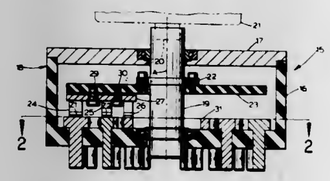
3,263,033
MINIATURE ROTARY MULTIPOLAR SELECTOR SWITCH WITH ROTOR RESILIENT CONDUCTIVE BRUSH AND BALL CONTACT STRUCTURE
Arthur C. Metzger, 16 Forty Acre Drive, Wayland, Mass.
Filed Jan. 4, 1965, Ser. No. 423,400
4 Claims. (Cl. 200—8)



1. A rotary selector switch comprising in combination, an open-ended cylindrical casing providing a fixed outer housing for said switch, a cylindrical rotor element seated and rotatable in said casing in coaxial relation thereto, two longitudinally-spaced conductive ball contacts with an elongated conductive resilient spring brush element carried by said rotor element and conductively bridging between said contacts, a cylindrical stator element connected with the casing and extending coaxially within said rotor element, means providing fixed equally angularly-spaced stator contact areas in two longitudinally-spaced peripheral paths contacted and bridged conductively by said ball contact and brush elements for selective switching by rotation of said rotor with respect to the stator

and casing, the contact areas in one path being depressed radially to provide detent means for the ball contacts and define the selector switching stop positions for the rotor, and terminal elements connected each with one of said stator contact areas for external circuit connection with the switch.

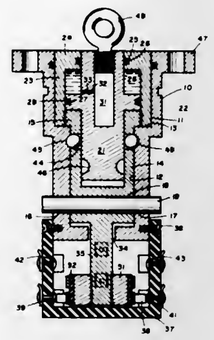
3,263,034
ROTARY SWITCHING APPARATUS FOR DISCRETELY ENERGIZING SUCCESSIVE CIRCUITS
Jack L. Relf, Milford, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 14, 1964, Ser. No. 396,066
4 Claims. (Cl. 200—11)



1. Switching apparatus comprising an electrical network having a rotary switch, said rotary switch having a housing, a plurality of stationary studs mounted in said housing, a switch element rotatably mounted in said housing for rotation about an axis and engagement with the studs, said studs positioned in two concentric circles around said axis, every other stud in each circle electrically connected into said network and alternate studs in each circle electrically disconnected therefrom, the disconnected studs in one circle in staggered and overlapping relation to the disconnected studs in the other circle, said rotatable switch element electrically connected into said network and having two radially aligned contact zones, respectively, for the two circles of studs, the two contact zones in simultaneous stud engagement in the switch continuously during rotation of said rotatable element, said contact zones defining a closed circuit branch with connected studs when engaged therewith and defining an open circuit branch with disconnected studs when engaged therewith.

3,263,035
RETARD SENSOR FOR RETARDED BOMBS
Robert H. Semenoff, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 31, 1964, Ser. No. 393,453
6 Claims. (Cl. 200—34)

1. A switch responsive to the retarding force of a parachute retarded drop bomb for controlling the timing of a fuze arming timing mechanism comprising,
a housing connected to said bomb,
a dashpot assembly having a piston and a cylinder,
said piston having means at one end thereof for attachment to a parachute,
said cylinder being releasably coupled to said housing,
said housing and cylinder having aligned through apertures formed therein to receive a shear pin,
a shear pin positioned within and extending through said aligned through apertures,
a contact arm mounted upon said cylinder for movement therewith and having movable electric contacts mounted thereon,
a contact support connected to said housing and having mounted thereon at least one pair of fixed electrical contacts disposed for operative cooperation with the movable contact,
whereby the piston of the dashpot is moved from a first position to a second position by the retarding force created when the parachute is deployed to release the ball-lock mechanism and transfer the force to the



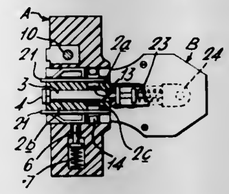
shear pin which will remain integral and prevent movement of the movable contact and operation of the switch unless the force applied thereto exceeds a predetermined magnitude.

3,263,036
MULTI-CIRCUIT COMMUNICATION PLUG AND SWITCH THEREFOR
William H. Flanagan, 395 Chestnut Hill Road, Stamford, Conn.
Filed Aug. 7, 1964, Ser. No. 388,142
2 Claims. (Cl. 200—51)



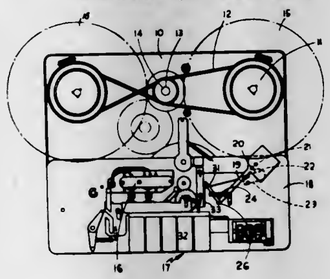
1. A multi-circuit communications phone plug, having in combination a slide switch, a plurality of male contact members extending from one end thereof, and a female jack receptacle at the other end, said plug containing a centrally disposed slotted terminal board having 1st and 2nd pairs of fixed contacts mounted adjacent each of the distal ends thereof, said phone plug maintained in electrical continuity with said 1st pairs of fixed contacts, said slide switch having downwardly depending L-shaped contact members extending through said slotted terminal board and adapted for linear movement therein, a 3rd set of fixed contact members extending from said female jack receptacle and positioned at one end of the travel of said slide switch and adjacent the said 1st pairs of fixed contacts whereby longitudinal movement of the slide switch will select the female jack receptacle or the 2nd set of fixed contacts.

3,263,037
PLUG AND SOCKET COMBINATION HAVING LOCKING MEANS IN ITS CONNECTING AND DISCONNECTING POSITION
Giuseppe Antonio Correnti, Palermo, Italy
(% Angelo Fontana, 411 E. 12th St., New York, N.Y.)
Filed Aug. 19, 1964, Ser. No. 390,763
10 Claims. (Cl. 200—51.07)



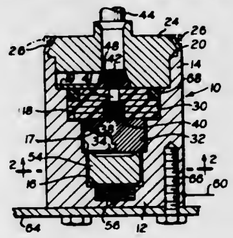
1. A switch-type electrical plug and socket combination comprising a plug and socket, said socket comprising an insulator base and electrical terminal means mounted therein, a drum made of electrically insulating material rotatably mounted in said base, said drum comprising recess means, said plug comprising an insulator base and electrical prong means mounted in said plug base and extending therefrom, said prong means being insertable into said drum recess means, said drum being rotatable with said plug prong means located in said recess means between disconnect and connect positions, in said disconnect position said prong means being out of contact with said base terminal means, and in said connect position said prong means being in contact with said base terminal means, drum lock means to lock said drum in said disconnect position and to unlock said drum pursuant to insertion of said plug into said drum recess means, said lock means being actuable to unlock said drum when said plug prong means is inserted into said drum recess means, and plug lock means to prevent withdrawal of said plug prong means from said drum recess means when said drum is in a rotative position other than said disconnect position.

3,263,038
AUTOMATIC SWITCH MEANS FOR A MAGNETIC TAPE RECORDER
Ronald Walker, Norton, Stourbridge, England, assignor to BSR Limited, Stafford, England, a British company
Filed Oct. 6, 1964, Ser. No. 402,026
Claims priority, application Great Britain, Oct. 10, 1963, 39,921/63
2 Claims. (Cl. 200—61.13)



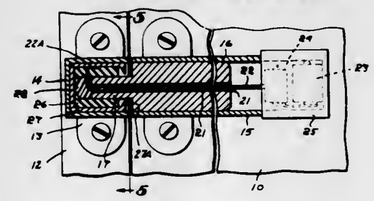
1. In a tape recorder having a magnetic tape, an assembly of transducer and eraser heads, means for moving the tape longitudinally across said assembly of heads, an electric driving motor for driving said tape moving means and manually operable switch means for switching off said motor; the provision for automatic means for switching off said motor independently of said manually operable switch means, said automatic means comprising, an electric switch to break the circuit to the electric motor, a fixed plate, said plate having a narrow slot formed therein, a pivoted arm, spring means acting on said pivoted arm to urge the same towards the fixed plate, a finger arranged on said pivoted arm to pass through the slot in the fixed plate to actuate said electric switch to switch off the electric motor when said arm is pivoted by said spring means; the tape, during normal operation of the apparatus, being passed across said slot in said plate to prevent passage of said finger therethrough, said manual switch means including means for moving said finger out of said slot after automatic stopping of said electric motor.

3,263,039
IMPACT RESPONSIVE SIGNAL PICK-UP
George Wintriss, Carversville, Pa., assignor to Industronics Controls, Inc., New York, N.Y., a corporation of New York
Filed May 26, 1964, Ser. No. 370,276
12 Claims. (Cl. 200—61.45)



1. A magnetic impact detector comprising a housing enclosing a chamber, a ferrous metal contact element within the chamber, a free-sliding inertia element within the housing and also made of ferrous metal, the inertia element having a face confronting a face of the contact element and movable toward and from said contact element in response to impacts that jar the housing, said inertia element fitting in the chamber and being guided by the wall of the chamber during its movement toward and from the contact element, and the confronting faces of the inertia element and contact element touching one another at substantially radial distances from the centers of said faces and at least one of the elements being magnetic for holding the elements in contact with one another and for restoring them to contact when the inertia element is caused to move away from the other element in response to jarring of the housing by impact of the element against the housing.

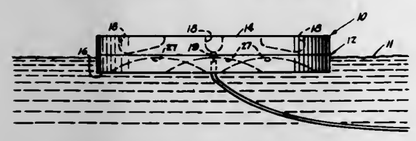
3,263,040
PRESSURE OPERATED CIRCUIT CONTROLLING DEVICES OPERABLE ON RELATIVE MOVEMENT BETWEEN TWO ELEMENTS
Harry F. Bliven, 69 Hartford St., Newton Highlands, Mass.
Filed June 29, 1964, Ser. No. 378,893
8 Claims. (Cl. 200—61.64)



1. A pressure operated, circuit controlling device to respond to movement between two elements, said device including a first member in the form of a bolt attachable

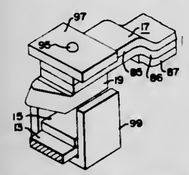
to one element for sliding movement relative thereto into and out of an operative position relative to the other element and a second member attachable to said other element and including a keeper portion, one portion being entered within the other portion in said operative position, a yieldable sleeve carried by one member portion and yieldably opposing movement between said elements in said operative position, and a switch having open and closed positions, one contact of said switch being a part of the sleeve carrying portion and the other contact being held to establish one switch position by said sleeve until pressure on one of said elements results in the yielding of said sleeve, the other switch position then resulting.

3,263,041
FLOAT SWITCH FOR SWIMMING POOLS
George C. Meyer, 5037 Corvair St., North Highland, Calif.
Filed Mar. 12, 1965, Ser. No. 439,189
5 Claims. (Cl. 200—84)



1. In an alarm for swimming pools, a float comprising a substantially cylindrical body having a central axis and a radius, said body having an upper surface providing at least one surface means sloping from said axis toward the periphery of said body adapted to support an alarm actuated switch means, a lower surface, said lower surface including means for entrapping air beneath said float, said last mentioned means including symmetrically downwardly extending portions forming a series of open cut-out areas.

3,263,042
ELECTRIC CONTROL DEVICE WITH ELECTROMAGNETIC CONTACT-BIASING MEANS
Lloyd W. Dyer and James B. Wallace, Beaver, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 18, 1963, Ser. No. 259,146
4 Claims. (Cl. 200—87)



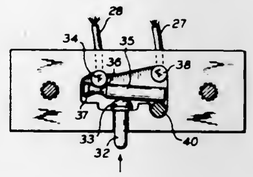
1. A multi-pole switch for controlling a multi-phase electric circuit, each of said poles comprising a stationary contact and a switch arm structure, each of said switch arm structures comprising a movable contact, a tie bar common to all of said poles, each of said switch arm structures being supported at one end thereof on said tie bar and comprising a contact in proximity to the other end thereof, a non-automatic operating structure manually operable to move said tie bar to thereby move all of said switch arm structures into and out of butting engagement with said stationary contacts, electromagnetic means for each pole comprising a stationary magnetic member supported in proximity to the associated stationary contact, separate resilient means in each pole biasing the associated stationary contact and stationary magnetic members generally toward the associated movable contact to provide contact pressure in the closed position, each of said electromagnetic means comprising a movable magnetic member supported on the associated switch arm, in each pole said stationary and movable magnetic members being disposed on opposite sides of the associated closed contacts, each of said electromagnetic means operating when said switch is closed on an overload to offset magnetic blow-off forces and to offset contact rebound forces which forces tend to separate said contacts whereby when said switch is closed on an overload said contacts are more firmly held in the closed position while said overload persists.

3,263,043
TECHNIQUES FOR THE CONSTRUCTION OF REED RELAYS
Patrick E. McKeon and Richard A. Leshuk, Chicago, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 394,943
6 Claims. (Cl. 200—87)



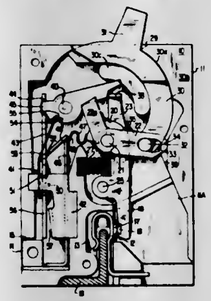
1. An electromagnetic device comprising: an elongated capsule; reeds supported by said capsule and including overlapping contact portions; a coil for producing an electromagnetic field to thereby actuate said contact portions, said coil having at least two ends and being wound on said capsule; terminals connected to said coil ends; and a pair of sleeves of heat-shrinkable insulating material secured to said capsule so as to axially contain said coil on, and secure said terminals to, said capsule.

3,263,044
SELF-CLEANING MAGNETIC SWITCH
George Wintriss, Carversville, Pa., assignor to Industrionics Controls, Inc., New York, N.Y., a corporation of New York
Filed Mar. 26, 1965, Ser. No. 442,887
15 Claims. (Cl. 200—87)



1. A self-cleaning magnetic switch including a round movable contact bar made of para-magnetic material held in electrical contact at one end by a magnetic contact that serves as a fulcrum for said round bar, and adjacent opposite sides of the other end of said round movable bar, a magnetic abutment and a second abutment, at least one of said abutments also being an electric contact, whereby said round bar is positioned having one end in contact with said magnetic contact and the other end in contact with said magnetic abutment, and a plunger positioned on the side of said round bar which is adjacent said magnetic abutment at a position intermediate the ends of said round bar whereby movement of said plunger against said round bar thrusts said round bar away from said magnetic abutment with a snap action and against said second abutment.

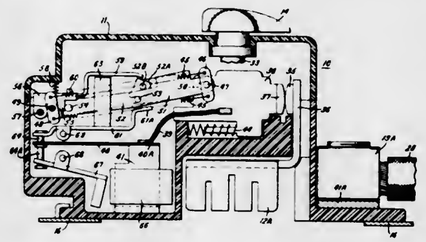
3,263,045
CIRCUIT BREAKER WITH HIGH AND LOW OVERCURRENT MEANS FOR DISENGAGING THE LATCH
Norman R. Beaudoin, Southington, Conn., assignor to General Electric Company, a corporation of New York
Filed May 28, 1964, Ser. No. 370,970
12 Claims. (Cl. 200—88)



1. An electric circuit breaker comprising:
(a) an insulating casing,
(b) a stationary contact supported in said casing,
(c) a contact arm in said casing having first and second end portions,
(d) latching means carried by said casing and releasably supporting said first end portion of said contact arm for pivotal movement of said contact arm thereabout between open and closed circuit positions,
(e) a movable contact member pivotally supported on said contact arm at a pivot point adjacent said second end portion,
(f) said contact member including a first section extending from said pivot point toward said first end portion of said contact arm and a second section extending from said pivot point away from said first end portion of said contact arm,
(g) a spring mounted between said casing and said first section of said contact member to bias said contact member for rotation about said pivot point,
(h) stop means carried by said contact arm for limiting rotation of said contact member about said pivot point, said spring moving said contact arm and said contact member thereafter as a unit toward the open circuit position,
(i) manually operable means supported in said casing and acting on said contact arm,
(j) said manually operable means for pivoting said contact arm and said contact member as a unit about said latching means until said second section of said contact member engages said stationary contact, and for thereafter moving said first section of said contact member away from said stop means and stressing said spring to urge said second section of said contact member into engagement with said stationary contact.

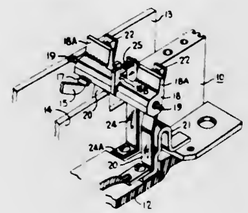
3,263,046
MULTIPOLE CIRCUIT BREAKER
Benjamin A. Piteo, Forestville, Conn., assignor to General Electric Company, a corporation of New York
Filed Apr. 12, 1963, Ser. No. 272,721
10 Claims. (Cl. 200—116)

4. An electric circuit breaker comprising:
(a) a generally rectangular insulating casing having opposed side walls, opposed end walls, and opposed top and bottom walls,
(b) at least two circuit breaker pole chambers in said insulating casing extending substantially from end-to-end thereof parallel to said side walls,
(c) at least one stationary contact and at least one relatively movable contact in each of said pole chambers,
(d) manually engageable operating means for operating said movable contacts between open and closed circuit positions comprising a manually operable handle member supported on said top wall of said casing, a manual operating shaft extending substantially parallel to said side walls and perpendicular to said top wall in the space between said pole chambers, said operating shaft being rotatable about its own axis,



(e) operating means extending from said operating shaft at opposite sides thereof into engagement with an operating mechanism in each of said pole chambers respectively whereby rotation of said operating shaft by means of said manually operable handle operates said movable contacts in both of said pole chambers simultaneously between open and closed circuit conditions,
(f) current responsive latching means for retaining said movable contacts in said closed circuit conditions when moved thereto by said manually operable handle member.

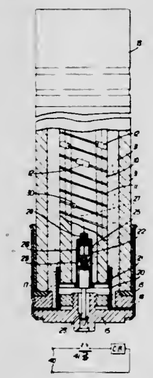
3,263,047
CIRCUIT BREAKER WITH AMBIENT COMPENSATION MEANS
Charles L. Jencks, Avon, Conn., assignor to General Electric Company, a corporation of New York
Filed Apr. 14, 1964, Ser. No. 359,573
4 Claims. (Cl. 200—116)



1. An electric circuit breaker comprising:
(a) an insulating casing;
(b) a movable trip member movable to cause automatic opening of said circuit breaker;
(c) thermal current responsive means disposed and arranged to operate on said movable member to cause opening of said circuit breaker upon the occurrence of predetermined current conditions;
(d) an elongated non-current-carrying compensating bimetal strip having one end thereof rigidly mounted in said circuit breaker casing, and the other end movable;

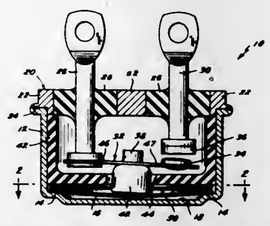
(e) biasing means acting between the movable end of said compensating bimetallic strip and said movable trip member, said biasing means acting on said trip member to oppose movement of said trip member in releasing direction;
(f) said movable end of said compensating bimetallic strip being moved in a predetermined direction and acting on said biasing means to increase the force exerted by said biasing means on said trip member upon deflection of said compensating bimetallic strip due to increase in ambient temperature;
(g) a stop projection on said movable end of said bimetallic strip extending in said predetermined direction, and a stop abutment rigidly supported by said casing adjacent said projection, said projection engaging said abutment upon a predetermined amount of deflection of said bimetallic strip due to increase in ambient temperature, said movable end of said bimetallic strip thereafter having no substantial further movement in said predetermined direction upon continued deflection of said bimetallic strip due to increase in ambient temperature.

3,263,048
TRIP DEVICES FOR ELECTRIC FUSES
Bruce Clifford Hicks, Caringbah, New South Wales, Australia, assignor to E.M.P. Electric Limited
Filed July 8, 1964, Ser. No. 381,123
Claims priority, application Great Britain, July 10, 1963, 27,293/63
4 Claims. (Cl. 200—120)



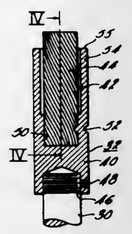
1. In a high voltage powder filled electric fuse for limiting electric current having an outer casing, terminal end caps closing the ends of said outer casing, and a plurality of fusible elements for interconnecting said end caps, the improvement of a trip device comprising an auxiliary casing fitted at one end of said outer casing, terminal means for mounting said auxiliary casing on one of said end caps, at least one of said fusible elements being connected to said terminal means, a striker pin housed within said auxiliary casing, a charge of gas-producing material within said auxiliary casing for actuating said striker pin, an actuating wire in contact with said gas-producing material, said wire being connected to a shunted part of the length of said one of said fusible elements between an intermediate point and said terminal means, and a portion of low melting point metal fixed to said shunted part of said one fusible element to effect alloying for interruption of the electrical current through said shunted part of said one fusible element under overcurrent conditions whereby to divert electric current through said actuating wire to activate said charge of gas-producing material so as to actuate said striker pin, said metal portion being at a point in heat transferring relation to said terminal means so that heat is absorbed from said metal portion to prevent premature interruption of the current through said shunted part.

3,263,049
MINIATURIZED, VIBRATION RESISTANT, THERMALLY RESPONSIVE ELECTRICAL SWITCH
John Doherty, Jr., Assonet, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Apr. 13, 1964, Ser. No. 359,028
6 Claims. (Cl. 200—138)



1. A thermostatic electrical switch comprising in combination a housing; a pair of electrically conductive contacts mounted in the housing; a resilient contact-carrying arm having one of the pair of electrical contacts mounted thereon for movement into and out of engagement with the other of the contacts; a thermally responsive snap-acting member mounted in said housing; a motion transfer member located intermediate the snap-acting member and the contact-carrying arm for transmitting snap-movement of the thermally responsive member to the contact-carrying arm to move the movable contact into and out of engagement with the other contact; a liner member formed of electrically insulating material having a portion thereof located generally intermediate the housing and the thermally responsive member on the one hand and the contacts and mounting arm on the other hand to electrically insulate and provide an arc-shield for the housing and the thermally responsive member; and a spring member disposed between and in engagement with each of the liner member and the thermally responsive member to retain the liner and thermally responsive member in a generally resiliently fixed position within the housing, the spring member engaging the thermally responsive member substantially only at peripheral portions of the thermally responsive member.

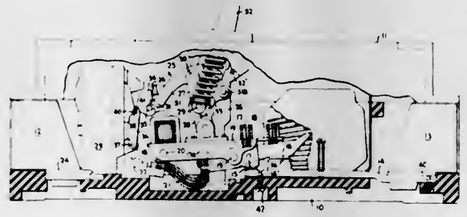
3,263,050
ELECTRICAL CONTACT COMPRISING A PLURALITY OF FLEXIBLE CURVED WIRES
Herbert M. Pflanz, Nuenen, Netherlands, and Julius W. Timmerman, Brookfield, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Nov. 25, 1964, Ser. No. 413,805
6 Claims. (Cl. 200—166)



1. In an electric circuit breaker, in combination, a pair of contacts movable into and out of engagement with each other, at least one contact of said pair of contacts

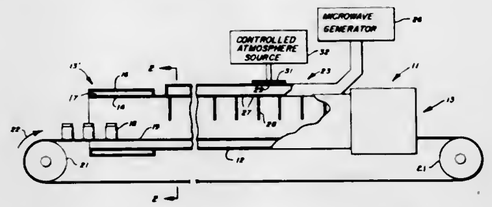
comprising a plurality of resilient closely spaced electrically conductive filaments arranged around a central longitudinal axis, each filament having one end rigidly secured with respect to one end of the other filaments and each filament having a free end for engagement with the other contact of said pair of contacts, and each of said filaments being helically curved around said axis between its ends whereby said filament is able to flex upon engagement of its free end with said other contact.

3,263,051
ELECTRIC CIRCUIT BREAKER WITH OVERCENTER ACTING TYPE MECHANISM AND CONTACT ADJUSTMENT
George E. Gauthier, Plainville, and Charles F. Hobson, Jr., Southington, Conn., assignors to General Electric Company, a corporation of New York
Filed Feb. 5, 1963, Ser. No. 256,329
4 Claims. (Cl. 200—170)



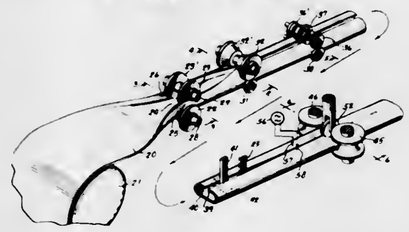
1. An electric circuit interrupter comprising:
(a) a support,
(b) at least one stationary contact,
(c) at least one movable contact arm pivotally supported on said support and movable between open and closed circuit positions with respect to said stationary contact,
(d) means for operating said movable contact arm between said open and closed circuit positions comprising a first link pivotally connected to said contact arm, a second link pivotally supported on a bearing normally stationary with respect to said support, said first and second toggle links being interconnected by a knee toggle pin,
(e) an operating member movably supported on said support,
(f) means for operating said toggle linkage between collapsed and straightened conditions to move said contact arm between said open and closed circuit positions respectively comprising overcenter spring means acting between said operating member and said toggle knee pin, and
(g) means supporting said stationary contact on said support comprising an elongated contact strap,
(h) means attaching one end of said contact supporting strap to said support member while allowing limited relative pivotal movement therebetween, said stationary contact being mounted adjacent the opposite end of said strap,
(i) means attaching said opposite end of said strap to said support comprising at least one set screw threadedly engaged in said supporting strap and including an end portion bearing against said support member whereby to adjustably space said second end from said support member and to directly transmit force exerted on said relatively movable stationary contact to said support member,
(j) and separate screw threaded attaching means attaching said second end of said contact strap to said contact supporting member adjacent said set screw.

3,263,052
POWER DISTRIBUTION SYSTEM FOR MICROWAVE PROCESS CHAMBERS
Morris R. Jeppson, Alamo, and Franklin J. Smith, Danville, Calif., assignors to Cryodry Corporation, San Ramon, Calif., a corporation of California
Filed Sept. 11, 1963, Ser. No. 308,284
8 Claims. (Cl. 219—10.55)



4. In apparatus for irradiating products with microwave energy, the combination comprising a microwave generator, a processing chamber formed of electrically conducting material and having product input and output openings, means for conveying the products through said chamber along a path of travel from said input to said output opening, and an elongated microwave guide having one end thereof coupled to said generator for excitation thereby, said guide extending along at least a portion of said chamber and having an electrically conductive wall facing said path of travel and electrically opened to said chamber at each of a plurality of apertures which are distributed along said elongated guide and along said path of travel and which have sizes and spacings forming a non-resonant array, whereby the output of microwave energy from said generator is divided into a plurality of increments which are injected into said chamber from successive ones of the apertures in said wall of said elongated guide as said output of energy travels along said guide from said one end thereof.

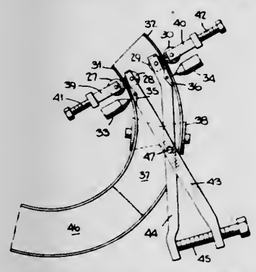
3,263,053
TUBE FORMING APPARATUS
Wallace C. Rudd, Larchmont, N.Y., assignor to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 27, 1964, Ser. No. 414,299
6 Claims. (Cl. 219—59)



1. Apparatus adjustable for forming from flexible sheet material, tubing of various different dimensions, comprising in combination: a plurality of pairs of opposed tube forming rolls for engaging an advancing strip of said material while deflecting the opposite side portions thereof around to form generally flattened oval cross-sectional shaped tubing having opposed longitudinally-extending and generally flattened areas, one of which embodies the strip edges; and means for forming a longitudinal seam joining said edges to thereby complete the tubing of said shape, said rolls being shaped to form substantially arcuate portions of a predetermined radius and constituting the sides of the tubing interconnecting the

sides of said flattened portions, said rolls being adjustable along their axes respectively to differently spaced-apart positions to form such tubing having its said opposed flattened areas of different widths but interconnected in each case by such arcuate cross-sectional portions having said predetermined radius.

3,263,054
METHOD FOR PRODUCING WELDED PRODUCTS AND A DEVICE FOR CARRYING OUT THE METHOD
Alfred Birger Ivar Holmgren, Fack 8, Skutskar, Sweden
Filed Oct. 31, 1962, Ser. No. 234,497
Claims priority, application Sweden, Sept. 18, 1962, 10,031/62
3 Claims. (Cl. 219—60)



1. A welding device for producing a pipe weld seam comprising: a welding burner adapted to form a weld bead along the seam of whatever partially formed pipe is fed to said device, a pair of rollers opposed to one another and adjacent to said welding burner, the spacing between said rollers being adjustable to accept whatever weld bead may have been laid down along the seam of the pipe so that one of said rollers is on the outside of said pipe and the other of said rollers is on the inside of said pipe, means for applying pressure between said rollers, said welding burner and said rollers being sufficiently close to one another so that pressure applied by said rollers will work on the weld bead while the bead is hot and malleable, and means for driving one of said rollers at a rotational speed such that it will skid relative to the weld bead.

3,263,055
ARC WELDING APPARATUS
John P. Broderick, Bayside, Don L. Keys, Huntington, and Gordon E. Cossaboom, Syosset, N.Y., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York
Filed July 1, 1964, Ser. No. 379,503
9 Claims. (Cl. 219—75)



1. An arc welding apparatus comprising a torch, an inert gas conduit in said torch, a non-consumable electrode in said conduit at one end of said torch, a supply of inert gas communicating with said conduit, and a three-way valve in said conduit between said electrode and said gas supply for controlling the flow of gas to said electrode, said valve having a closed position for preventing flow of gas to said electrode, said valve having a fully open position for permitting full capacity flow of gas to said electrode, and said valve having an intermediate position for permitting restricted flow of gas to said electrode at a sufficient rate to provide a protective shielding atmosphere for said electrode when it cools between operations, said three-way valve including a rod having a longitudinal aperture at each end thereof communicating with said conduit, a number of radial passageways in said rod communicating with one of said longitudinal apertures, a number of radial restricted flow passages in said rod communicating with said one longitudinal aperture, a slidable sleeve telescoped over said rod, an annular passage in said sleeve communicating with the other of said longitudinal apertures, said annular passage being disposed and arranged to communicate with said radial passageways and said restricted flow passages when said sleeve is moved to said fully open position, said annular passage being disposed and arranged to communicate with said restricted flow passage and to be out of communication with said radial passageways when said sleeve is moved to said intermediate position, and said annular passage being disposed and arranged to be out of communication with said radial passageways and said restricted flow passages when said sleeve is moved to said closed position.

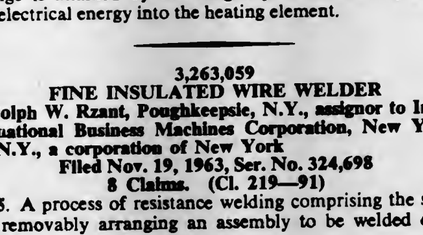
3,263,056
ARC WELDING APPARATUS
Clifford S. Tallman, New City, N.Y., assignor to Eutectic Welding Alloys Corporation
Filed Mar. 19, 1965, Ser. No. 441,185
6 Claims. (Cl. 219—75)



1. An arc welding apparatus comprising a torch having a handle section, a tip section secured to said handle section, an inert gas conduit in said torch extending through said handle section and said tip section, means at one end of said conduit for connection to a supply of inert gas, a collet assembly in said tip section for holding an electrode, said collet assembly including a tubular retainer, a gripping member in said retainer, said gripping member having adjustable gripping fingers projecting from said retainer for clamping around the electrode, an adjustable sleeve on said retainer contacting said gripping member for selectively moving said fingers closer together and permitting said fingers to spread further apart whereby said gripping member may hold different diameter electrodes, and said collet assembly being disposed substantially out of the stream of inert gas flowing through said conduit.

3,263,057
THERMOCOMPRESSION BONDER
Ronald J. Conti, Anaheim, Calif., assignor to North American Aviation, Inc.
Filed May 9, 1963, Ser. No. 279,233
6 Claims. (Cl. 219—78)

1. In combination:
means for simultaneously diffusion bonding a plurality of elements, comprising a plurality of spring loaded joining means each having a first and a second electrode means in fixed spatial and insulated relationship with respect to each other and wherein each of said joining tips occupies a fixed spatial relationship with respect to each other;
means forming a beam and a fulcrum, said beam being rotatable, relatively friction free about said fulcrum with the rotatable axis being parallel to the horizontal plane;



means for supporting elements to be diffusion bonded, said means being horizontally rotatable and mobile in a vertical and horizontal direction;
means connected to said means for supporting for compressing said elements with said stationary joining tip means, said support means being mounted for relatively frictionless motion along said beam;
means for supplying electrical power to said joining tip means.

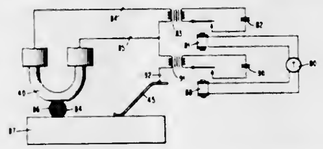
3,263,058
WAVEGUIDE ALIGNER
Harry J. Goonan, Brooklyn, N.Y., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed July 5, 1963, Ser. No. 292,821
3 Claims. (Cl. 219—85)



3. Flanging means for metallic waveguide having a plurality of internal corners which comprises a like plurality of uniformly tapered elongated corner engaging means, mounting plate means loosely affixed to said corner engaging means and transversely disposed in respect thereto to provide abutment for a waveguide flange, wedge means within said plurality of corner engagement means for the spreading thereof upon wedge means tightening, means to tighten the said wedge means, and an electrical heating element in said wedge means, whereby the mounting plate means transversely aligns a waveguide flange while the plurality of corner engaging means grip and expand a waveguide within said flange when the wedge means is tightened toward the mounting plate means, and soldering temperature of the thus assembled flange is attained by releasing a predetermined quantity of electrical energy into the heating element.

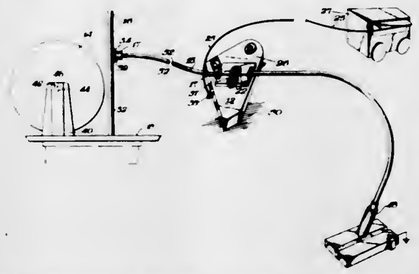
3,263,059
FINE INSULATED WIRE WELDER
Adolph W. Rzant, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 19, 1963, Ser. No. 324,698
8 Claims. (Cl. 219—91)

5. A process of resistance welding comprising the steps of removably arranging an assembly to be welded on a table,
vertically and horizontally adjusting a head member carrying an electrode and a spring contact with respect to said assembly,
lowering said electrode and contact into contact with said assembly,
applying a current pulse through said electrode to melt any coating on members of said assembly to effect metal to metal contact between said members,



applying a second current pulse through said electrode and contact to effect a weld between said members,
raising said electrode and contact from said assembly, and
applying a current pulse to said electrode to effect a cleaning action.

3,263,060
WIRE-FEEDING WELDING ASSEMBLY
Henri Marie Louis Bosteels, Lausanne, Switzerland, assignor to Central Welding Research Lab. Ltd., a corporation of Bermuda
Filed Oct. 26, 1964, Ser. No. 406,515
11 Claims. (Cl. 219—130)



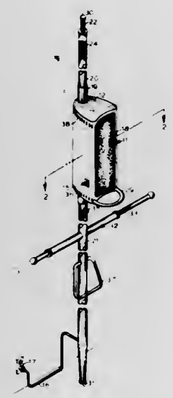
1. A wire-feeding welding assembly comprising a carrier, a wire-feeding and welding control component, detachable means connecting said component to said carrier, a wire feeding reel mounting means on said carrier, tube coupling means on said carrier adjacent said reel mounting means, tube coupling means on said component whereby a flexible tube may be installed between the tube coupling means on said carrier and the tube coupling means on said component when said component is detached from said carrier to protect the wire of said reel when it is fed to said component and to facilitate the positioning of said component at a location remote from said carrier, and both of said tube coupling means being aligned with each other when said component is mounted on said carrier whereby the wire from said reel may be inserted through both of said tube coupling means to said component to facilitate the use of said component on said carrier.

3,263,061
POLE MOUNTED ELECTRIC HEATER DEVICE
Kenneth Rawald, 223 N. Siesta, Anaheim, Calif.; Karl J. Fleming, Santa Ana, and John T. Rietz, Los Angeles, Calif.; said Rietz and said Fleming assignors to said Rawald
Filed Aug. 23, 1963, Ser. No. 304,171
3 Claims. (Cl. 219—343)

1. In a heater device suitable for mounting between floor and ceiling,
a heater unit, said heater unit including an elongated curved case, said case having substantially flat top and bottom portions, said top and bottom portions

having apertures formed therein, a curved grill forming the front portion of said case, a substantially parabolically shaped reflector running the length of said case and fixedly attached to the sides of the front portion of said case, an air space being formed between said reflector and the back of said case, the top and bottom portions of the back of said case having venting slits formed therein, an insulator fixedly attached to said reflector, a heating element fixedly attached to said insulator, and switch means for controlling said heating element,

a first hollow pole section enclosed within said case and fixedly attached to the back portion thereof, said pole section protruding through the apertures formed in the top and bottom portions of said case,



a second pole section telescopically fitted into the bottom of said first pole section,

a third pole section telescopically fitted into the top of said first pole section,

a rod slidably mounted in one of said second and third pole sections,

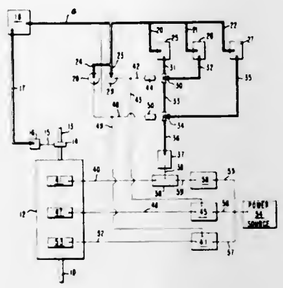
spring means for urging said rod out of said one of said pole sections, and

a pair of resilient bumpers, one of said bumpers being attached to the end of said rod the other of said bumpers being attached to the extreme end of the other of said second and third pole sections,

whereby one of said bumpers abuts against the floor and the other of said bumpers abuts against the ceiling and said heater device is firmly held therebetween.

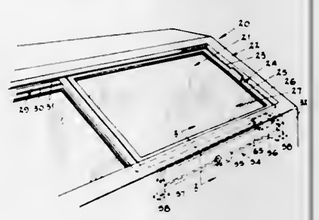
3,263,062
CONTROL SYSTEM
Frank Emmons Mendes 3rd, Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 10, 1963, Ser. No. 329,570
1 Claim. (Cl. 219—494)

In a system for controlling a variable condition, including a sensor for the condition and a monitoring device for generating a signal in response to a variation in said condition; first means for influencing said condition comprising a first element of variable output; second means for influencing said condition comprising at least one additional element having a fixed output which is less than the maximum output of said first element; a first amplifying relay responsive to the signal generated by said monitoring device and operatively coupled with said first means to control its output; a second amplifying relay responsive to the signal generated by said monitoring device and operatively coupled with said first means to control its output, the second amplifying relay being arranged to bias its control of the output of said first means at values reduced by the value of the fixed output of said second means; a third signal translating means having two operative conditions in response to the signal from the monitoring device, the signal translating means being operative in one condition, when the signal from the monitoring device causes the first amplifying relay to control the output of said first means near its maximum,



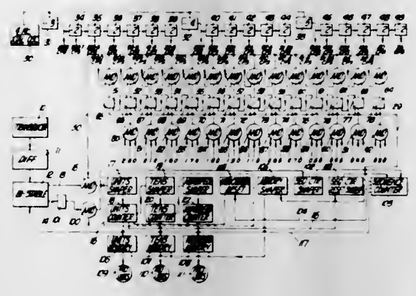
to switch control of said first means from the first amplifying relay to the second amplifying relay and simultaneously switch on the output of said second means, and being operative in the other condition, when the signal from the monitoring device decreases to a predetermined level below the level at which the first amplifying relay controls the output of said first means near its maximum, to switch control of said first means from the second amplifying relay to the first amplifying relay and simultaneously switch off the output of said second means.

3,263,063
APPARATUS FOR PREVENTING THE FORMATION OF CONDENSATION
James G. Marriott, Perrysburg, and Charles F. Iffland, Sylvania, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed July 1, 1963, Ser. No. 291,646
12 Claims. (Cl. 219—522)



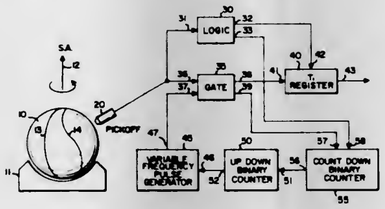
11. Apparatus for preventing the formation of condensate and frost on windows in movable glazed doors of a refrigerated cabinet having, in combination, an electrically conductive film adherent to said windows, a coil mounted on said door for movement therewith and connected to said film, a second coil mounted on said cabinet, means connecting said second coil to a source of electrical energy on said cabinet to energize said coil and produce a magnetic circuit linking said first and second coils.

3,263,064
APPARATUS FOR DETERMINING THE REPETITION FREQUENCY OF PULSE SIGNALS
Herman Lindars, The Glen, Endcliff Vale Road, Sheffield 10, England
Filed Feb. 25, 1963, Ser. No. 260,383
Claims priority, application Great Britain, Feb. 27, 1962, 7,648/62
5 Claims. (Cl. 235—92)



1. Apparatus for determining the repetition frequency of repetitive input pulse signals comprising a constant frequency oscillator, a main counter fed from said oscillator and operative, when started, to count down on receipt of each successive signal fed from said oscillator to the main counter, reset means for said main counter operative on receipt of a reset signal to reset the main counter to a predetermined datum, a sequence counter triggered by each of said input pulse signals to start counting signals from said oscillator on receipt of each input pulse signal and operative to reset and restart the main counter, means operated by the main counter to reset the sequence counter after the main counter has started counting down, means responsive to the output of the main counter operative to reduce periodically the rate of feeding of signals from said oscillator to said main counter, and output means responsive to the counted down output of the main counter at the end of the count down.

3,263,065
PULSE RATIO DETECTOR
Paul G. Savage, Plymouth, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed June 28, 1965, Ser. No. 467,526
5 Claims. (Cl. 235—92)



1. Apparatus for varying the frequency of a variable frequency oscillator as a function of the time elapsing between consecutive pulses in a series of such pulses, said apparatus comprising:

a variable frequency oscillator having an input and an output, the frequency of the signal at its output being proportional to the amplitude of a D.C. signal at its input;

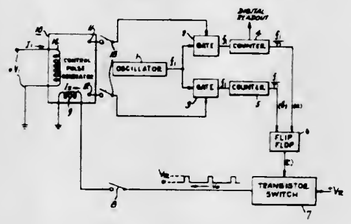
a source of reference pulses;

counting means connected to said oscillator and to said source of pulses to count the number of pulses received from said oscillator between a pair of consecutive pulses from said source of reference pulses;

comparing means connected to said counting means to provide an output D.C. signal which is lesser than a bias value if the number of pulses counted by said counter exceeds a predetermined value and to provide a D.C. signal which is greater than said bias value if the number of pulses counted by said counter is lesser than said predetermined value; and

means connecting the output of said comparing means to the input of said oscillator means.

3,263,066
HYBRID DIGITAL-ANALOG CIRCUIT
Walter R. Seegmiller, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 31, 1962, Ser. No. 198,889
10 Claims. (Cl. 235—150.5)



1. An electronic circuit comprising,

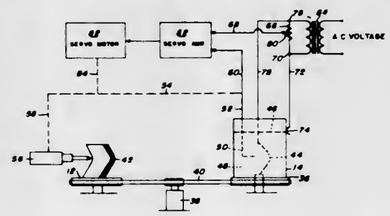
a high frequency pulse source,

two pulse counters, said two pulse counters actuated by the high frequency pulse source to run in synchronism in the absence of any control action,

a pulse gate circuit for rendering one of said pulse counters responsive to an analog input signal to thereby provide a control action, said control action effecting a phase displacement between outputs of the two pulse counters to develop a pulse-width modulated analog signal,

and means whereby said pulse width modulated signal may be transmitted in feedback relationship to said analog input signal.

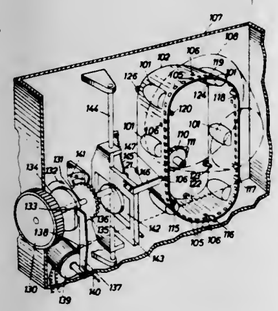
3,263,067
ELECTRICAL ANALOGUE DEVICE FOR PRODUCING THREE-DIMENSIONAL SURFACES
George B. Bush, Trotter Road, Clarksville, Md., and Lawrence J. Viernstein, 4404 Ambler Drive, Kensington, Md.
Original application Jan. 27, 1959, Ser. No. 789,376, now Patent No. 3,099,741, dated July 30, 1963. Divided and this application July 24, 1962, Ser. No. 202,934
4 Claims. (Cl. 235—184)



1. In a three dimensional analogue computing device, in combination, a probe assembly to sense a scalar value of a three dimensional field region defined by selected

boundary conditions, said probe assembly in addition equipped with a plurality of other sensing means to measure the three orthogonal gradients of said scalar field, further means comprising a pair of servo systems controlled separately by two of said gradient measures, said further means acting to control the spatial angular orientation of said probe assembly in a manner to reduce those two gradient measures to zero.

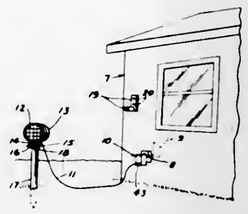
3,263,068
FLASH ASSEMBLY FOR CAMERAS AND THE LIKE
Franz Jakob, Unterhaching, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed Aug. 22, 1961, Ser. No. 133,254
Claims priority, application Germany, Aug. 30, 1960, A 35,445; Dec. 1, 1960, A 36,173
9 Claims. (Cl. 240—1.3)



9. In a flash assembly for cameras and the like, in combination, a supporting strip having longitudinal edges and a face located between said edges and having a plurality of consecutive openings located within a longitudinal region of said strip being narrower than the width thereof so as to provide longitudinal flat margin means outside of said longitudinal region; a plurality of flash lamps respectively arranged in said openings projecting beyond opposite sides of said strip; a plurality of contact means arranged in said longitudinal margin means of said strip spaced from each other in longitudinal direction of said strip and respectively electrically connected to said flash lamps; stationary reflector means having an optical axis; guide means engaging said margin means for guiding said strip in longitudinal direction along a path extending through said reflector means; stationary contact means mounted on said guide means opposite the path of said contact means in said margin means of said strip and arranged so as to contact said contact means on said strip of one of said lamps when said one lamp is located along said optical axis; and motor means responding automatically to the ignition and burning of one lamp and cooperating with said strip for advancing the same in stepwise manner through increments successively locating said lamps in said reflector means along the optical axis thereof in unignited condition ready to be successively ignited therein.

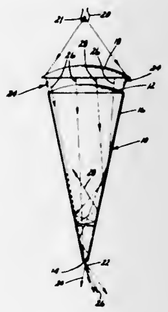
3,263,069
LOW VOLTAGE LOW AMPERAGE FLOOD LIGHT
Charles S. Krucki, 24823 Beierman, and Granville W. Anderson, 27694 Mound Road, both of Warren, Mich.
Filed Apr. 1, 1964, Ser. No. 356,524
3 Claims. (Cl. 240—3)

1. In a device of the character described, the combination of a low voltage, direct current, electric lamp, portable and pivotable means for supporting said lamp, a source of high voltage, alternating current electricity and means connected to said lamp and to said high voltage source for transforming said high voltage electricity to low voltage electricity suitable for use by said lamp, said last named means comprising a transformer, a housing for said transformer; one side of said housing having a plug secured thereto and arranged to be received in a



receptable of a conventional domestic electrical system, said plug being electrically connected to the primary coil of said transformer, another side of said housing having a fitting secured thereto, said fitting being electrically connected to the secondary coil of said transformer and arranged to receive a plug carried on a low voltage line which is electrically connected to said lamp.

3,263,070
APPARATUS FOR PRODUCING A SOURCE OF LIGHT OF REDUCED SIZE
Sheldon H. Hine, 3232 Clinton Court, Fort Wayne, Ind.
Filed Sept. 10, 1963, Ser. No. 307,889
12 Claims. (Cl. 240—47)



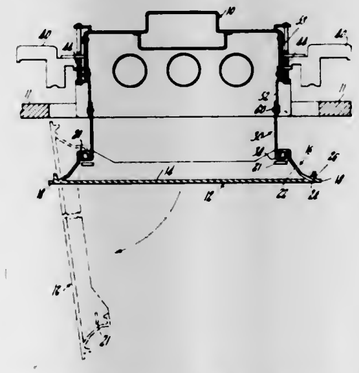
1. Apparatus for reducing the optical size of a source of light comprising a source of light, light-transmitting cone means having a base and an apex portion, the cross-sectional dimensions of said apex portion being smaller than the cross-sectional dimensions of said source of light, said cone means having an outer wall, the inner surface of said wall being light-reflective, source means for providing a bundle of converging rays of light from said source of light and for directing said bundle onto the base of said cone means, the axis of said convergent bundle being substantially coincident with the axis of said cone means, the angle of convergence of said bundle being such as to cause said rays to cross-over in the region of said apex portion, said source means also providing rays which are transmitted through said cone means to said apex portion by multiple internal reflections from said inner surface thereby adding the energy of the last-mentioned rays to the energy of the rays which converge onto said apex portion.

3,263,071
LIGHT FIXTURE SHIELD
William C. Fabbri, Peabody, Mass., assignor to Smithcraft Corporation, Chelsea, Mass., a corporation of Massachusetts
Filed Jan. 21, 1964, Ser. No. 339,171
5 Claims. (Cl. 240—51.11)



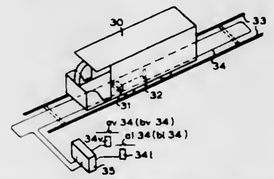
1. A flexible wide model rectangular light diffusing shield adapted to be suspended in a bottom opening of a light fixture housing by side supporting means cooperating with the sides of the shield,
said shield having tab projections located on its ends and said fixture having inwardly extending ledge members located at the ends of said housing, said projections, when said shield is installed, extending over and resting upon said ledge members to support the ends of said shield, said shield having a length exclusive of said projections slightly shorter than the length of the housing opening between said ledge members, said projections located spaced substantially from both sides of the shield to divide widthwise the ends of the shield into a plurality of unsupported segments each substantially narrower than the width of said shield,
said shield adapted to be installed while supported at its middle, the unsupported ends of said shield causing said shield to automatically wrack lengthwise to allow said projections to pass upwardly beyond said ledge members, said wracking disappearing as said grasped side is left to rest upon said side supporting means.

3,263,072
RECESSED LIGHT FIXTURE
Michael Henry Kruger, Chestnut Hill, Mass., assignor to Smithcraft Corporation, Chelsea, Mass., a corporation of Massachusetts
Filed Nov. 29, 1963, Ser. No. 326,717
3 Claims. (Cl. 240—51.11)



1. An elongated fluorescent lighting fixture having
a main housing adapted to be installed in a recess in a ceiling with said housing lying entirely above the lower surface of the ceiling,
a light-diffusing shield adapted to be installed in said fixture without external securing means, and
shield supports associated with said shield,
said shield adapted to be installed in said fixture by upward movement toward said housing and to be retained in its installed position by said supports,
said shield comprising
a main transmitting body located flush with the ceiling when said shield is in said installed position,
light transmitting support engaging members mounted along two opposing edges of said main body and extending upwardly and inwardly of said edges to removably engage said shield supports along substantially the entire length of said shield, and
light-transmitting flanges exposed to view and extending from said opposing edges of said main body laterally outwardly of said main body beyond said support engaging members,
said shield supports comprising elongated plates extending along the sides of said housing spaced inwardly relative to the corresponding edge of said shield and retractably connected by resilient means to said housing and movable between
a retracted position in which said overlapping flanges firmly contact the borders of said recess while said resilient means, through said shield supports, exert upward force on said shield thereby holding said flanges tightly against said ceiling, and
an extended position in which said flanges are sufficiently below the ceiling so that, upon disengaging either one of said support engaging members from its corresponding shield support, said shield is pivotal at the other of said support engaging members about its corresponding shield support at an axis spaced below the level of the ceiling and parallel to the shield edge adjacent said other support engaging member to allow the main body of the shield to swing down, while providing clearance for said shield edge to swing up.

3,263,073
ELECTRONIC RAILWAY EQUIPMENT
Jacobus P. Westerweel, Brunssum, Netherlands, assignor to Stamicarbon N.V., Heerlen, Netherlands
Filed July 27, 1962, Ser. No. 212,987
Claims priority, application Netherlands, July 27, 1961, 267,646
8 Claims. (Cl. 246—30)

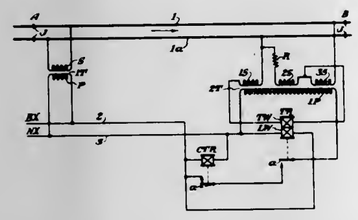


1. A railway traffic control system for automatically controlling the movement over given railway track of vehicles providing different signal transmissions for different characteristics associated with the particular vehicle at the time, comprising
at least one electrically operated device for regulating traffic on said track,
receiver means, including a plurality of loop antennae each stretching over a section of said track for respectively receiving a said transmission when one of said vehicles is opposite the receiving antenna, for providing a signal signifying the said characteristic associated with the vehicle whose transmission is received by the said opposite antenna,

means coupled to said receiver means for conjoint control of said traffic regulating device by the presence and absence of concurrent vehicle transmissions received by at least two of said loop antennae, wherein the ends of said adjacent loop antennae overlap, and

a relay, which is part of said conjoint control means and which has been excited by a loop antenna passed first by a vehicle, which remains excited when the train influences the following loop antenna, and remaining excited until the train leaves the overlap.

3,263,074
RAILWAY TRACK CIRCUIT APPARATUS
Clifford D. Ihrig, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Dec. 19, 1962, Ser. No. 245,872
8 Claims. (Cl. 246—34)



1. Railway track circuit apparatus comprising, in combination:

(a) a section of railway track over which trains travel in a predetermined direction,

(b) a source of alternating current connected across the rails at the entrance end of said section,

(c) an alternating current track relay,

(d) transformer means having a primary winding and a plurality of secondary windings,

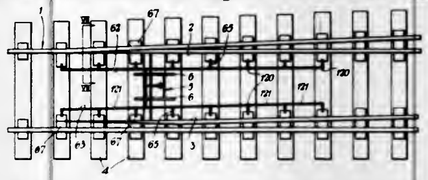
(e) means including a back contact of said track relay for supplying coded alternating current from said source to said primary winding,

(f) circuit means including a first selected group of said secondary windings connected across the rails at the exit end of said track section for supplying coded alternating current to said rails when said relay is deenergized, and

(g) other circuit means including a second selected group of said secondary windings for connecting said relay across the rails at said exit end so that said relay responds only to current supplied from said alternating current source at said entrance end.

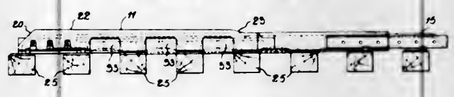
3,263,075
RAILWAY TRACK SWITCH LUBRICATING OR DE-ICING APPARATUS
John Alexander Hill, Wallington, Surrey, England, assignor to The P. & M. Co. (England) Limited, London, England, a British company
Filed May 27, 1963, Ser. No. 283,478
Claims priority, application Great Britain, June 1, 1962, 21,334/62
15 Claims. (Cl. 246—428)

1. Apparatus for applying lubricant and other treatment fluid to a railway track switch, said apparatus comprising a reservoir for the treatment fluid, a pump disposed within said reservoir for ejecting treatment fluid from the reservoir, and actuating mechanism for actuating said pump in accordance with displacement of the track switch, said actuating mechanism comprising an operating member displaceable by the track switch, a drive shaft mounted for angular to-and-fro movement in



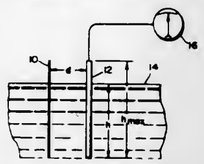
said reservoir, lever means for operatively connecting said operating member to said drive shaft, and a cam keyed to said drive shaft for operating said pump.

3,263,076
RAILROAD FROGS
Oscar F. Magnus, Tinley Park, and Joseph P. Kleinkort, Wilmette, Ill., assignors to American Brake Shoe Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 7, 1963, Ser. No. 314,364
6 Claims. (Cl. 246—454)



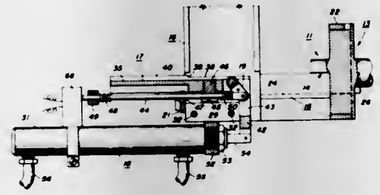
1. A railway frog comprising a body of cast steel, said body comprising a top bridging web, and upstanding outer webs, said top web carrying intersecting flangeways and treadways, said body having supporting portions for resting on railroad ties and a spanning portion for location between the ties, said body at said supporting portions having flanges projecting outwardly from said upstanding webs, at least one upstanding web at said spanning portion sloping downwardly and inwardly to form a body recess to give access to tools for tamping ballast between ties.

3,263,077
MASS DETERMINATION OF A FLUENT MATERIAL BY RADIOACTIVE MEASURING MEANS
Donald C. Brunton and James M. McMullen, Columbus, Ohio, assignors to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Aug. 30, 1961, Ser. No. 135,047
5 Claims. (Cl. 250—43.5)



1. The combination, with a tank containing liquid having a variable density and wherein the fill level of said liquid varies between a high level and a low level, of means responsive to the product of said variable density and said variable fill level for indicating the mass of said liquid in said tank, said responsive means comprising a source of penetrative radiation and a radiation detector each extending from said high level to said low level, the distance between said source and said detector being less than one relaxation length for said radiation in said liquid, said detector producing a signal that is a function of the product of the liquid density and level and is substantially linearly responsive to the mass of said liquid said detector having an indicator calibrated in units of mass and coupled to said signal to readout said liquid mass.

3,263,078
AUTOMATIC SAMPLE CHANGER FOR X-RAY DIFFRACTOMETER
William C. Thackara, Iselin, and Benjamin S. Sanderson III, Little Silver, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed May 18, 1964, Ser. No. 368,030
6 Claims. (Cl. 250—51.5)



1. An automatic sample changer for use on and X-ray diffractometer of the type having a goniometer rotatable on a horizontal axis and provided with a sample scanning mount coaxial with the axis of rotation of said goniometer said changer comprising:

(a) a frame-member arranged to be detachably secured to said sample scanning mount coaxial with the longitudinal axis thereof,

(b) a sample transferring member mounted on said frame-member for movement longitudinally thereof to and from said sample scanning mount,

(c) a sample magazine secured to said frame-member; and

(d) means arranged to be energized by rotation of said goniometer to automatically move said sample-transferring member to and from said sample scanning mount thereby to transfer a sample from said magazine to said scanning mount and to withdraw a sample therefrom, respectively.

3,263,079
METHOD FOR FORMING AN IMAGE OF AN INVISIBLE RADIATION PATTERN AND APPARATUS FOR COPYING THE IMAGE
Lawrence N. Mertz, Cambridge, and Niels O. Young, South Lincoln, Mass., assignors to Block Engineering, Inc., Cambridge, Mass., a corporation of Delaware
Filed Nov. 26, 1962, Ser. No. 240,107
17 Claims. (Cl. 250—65)

1. A picture recording method which comprises the steps of:

casting within camera means shadows of a shadowing reticle with invisible radiation having a wavelength of less than 1000 A. from a point source configuration external to the recticle camera means, the dimensions of said reticle and of said camera means, and wavelengths of said radiation being so related that focusing and diffraction effects are essentially excluded;

forming a faithful replica of the pattern of said reticle shadows as cast with said radiation within the field of view to be recorded; and

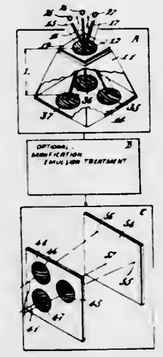
optically reconstructing said pattern of said replica of the reticle shadows by using each reticle shadow replica as an optical element for concentrating visible reconstruction radiation into points corresponding to said original point sources, said reconstruction radiation being of a wavelength convenient for use in ordinary photographic and optical practice.

16. Reticle photography copying apparatus comprising:

an array of Fresnel focusing zone plate means having a multiplicity of foci at different axial distances, and produced as a record by exposure to invisible radiation through a shadowing reticle;

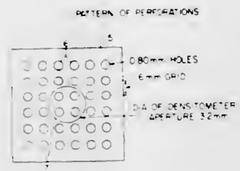
a source of visible light;

means for directing a beam of light from said source towards said record for focusing thereby of respective portions of the beam on several planes therebeyond on an optical surface in a selected one of said planes; and



mask means placed in a selected one of said planes for absorbing the light imaged in all but said selected focal plane.

3,263,080
RADIATION DOSIMETER FOR MEASURING EXPOSURE TO HIGH AND LOW ENERGY RADIATION
George Cowper and Stuart Douglas Simpson, Deep River, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation
Filed Aug. 9, 1963, Ser. No. 301,009
5 Claims. (Cl. 250—83)

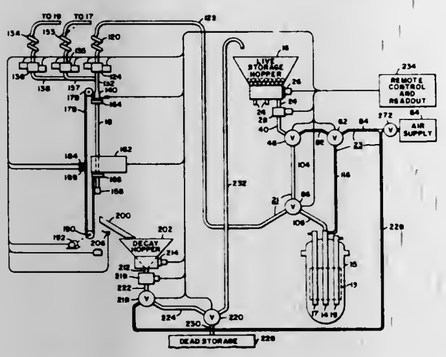


1. A radiation dosimeter for measuring exposure to both high and low energy radiation which comprises, a radiation sensitive film, a filter plate over said film for absorbing radiation falling thereon, said filter substantially masking said film at lower radiation energies while permitting exposure at higher radiation energies, said filter plate defining a predetermined regularly repeated pattern of holes therethrough for increasing exposure of said film by said lower energy radiation in areas beneath said holes. the frequency of repetition of said hole pattern over each portion of said plate being chosen with respect to a viewing densitometer aperture for viewing the film after exposure, whereby said aperture encompasses a substantially uniform ratio of area of film exposed through said holes to area of said film exposed through said plate regardless of the portion of said film viewed by said densitometer.

3,263,081
FLUX MAPPING SYSTEM FOR MEASURING RADIATION

Robert A. Wiesemann, Monroeville, and Stanley N. Ehrenpreis, White Oak Boro, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 18, 1962, Ser. No. 188,417
22 Claims. (Cl. 250—83.3)

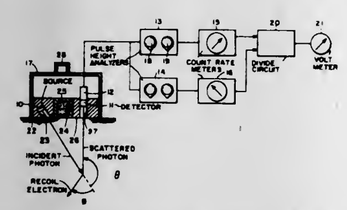


1. A flux mapping system for neutronic reactor comprising a plurality of pellets of flux sensitive material, means for inserting and distributing said pellets within said reactor in a predetermined arrangement so as to be activated by said reactor, means for withdrawing said pellets from said reactor, and means for measuring in conformance with said arrangement the activation of said pellets.

3,263,082
GEOLOGICAL PROSPECTING COMPRISING DIRECTIONAL IRRADIATION AND DETECTION

Richard L. Caldwell, Dallas, Tex., assignor to Mobil Oil Corporation, a corporation of New York

Filed June 17, 1963, Ser. No. 288,134
5 Claims. (Cl. 250—83.3)

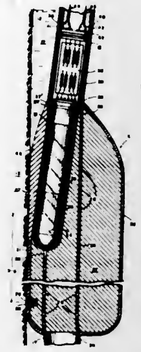


1. A method of determining the nature of the elements in an environment of interest, comprising the steps of irradiating said environment with radiation of a predetermined energy, said radiation being applied to said environment in a predetermined direction to investigate elements in a zone of interest, detecting radiation scattered by said elements in said zone at a given angle relative to said predetermined direction, selectively producing a first measurement representative of the intensity of said radiation scattered by said elements in said zone and detected at an energy level substantially the same as said predetermined energy, selectively producing a second measurement representative of the intensity of said radiation scattered by said elements in said zone and detected at an energy level less than said predetermined energy and determined in part upon said angle of scattering, and comparing said measurements to determine the nature of the elements in said environment.

3,263,083
HIGH RESOLUTION APPARATUS USING A GAMMA RAY SOURCE AND DETECTOR FOR INVESTIGATING EARTH FORMATIONS

Frank Fawcett Johnson and Jay Tittman, Danbury, Conn., assignors to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas

Filed Oct. 20, 1958, Ser. No. 768,164
19 Claims. (Cl. 250—83.6)

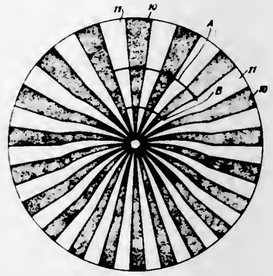


1. Apparatus for investigating earth formations traversed by a well or borehole comprising an instrument adapted to be passed through the borehole and including a wall-engaging face; means for maintaining said wall-engaging face in engagement with the sidewall of the borehole; a source of gamma radiation, having an energy of at least 250 kev. but no greater than 800 kev, so that a high density resolution resulting from low transmission in formation material occurs, supported within said instrument in the vicinity of said wall-engaging face; and a detection system including a gamma-ray-responsive device supported within said instrument in the vicinity of said wall-engaging face and in longitudinally spaced relation from said source relative to the axis of the borehole.

3,263,084
OPTICAL SENSING SYSTEM

Timothy Gordon B. Boydell, Bolton, Lancashire, England, assignor to Hawker Siddeley Dynamics Limited, Hatfield, England

Filed Aug. 10, 1959, Ser. No. 832,868
Claims priority, application Great Britain, Aug. 11, 1958, 25,801/58
2 Claims. (Cl. 250—203)



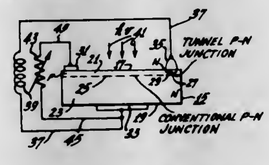
1. In an optical radiation sensing system for deriving signals indicative of the position of a target source of radiations including a target image forming optical system, a graticule rotatably mounted in the focal plane of the target image forming optical system and comprising alternate radiation transmitting and radiation non-transmitting areas emanating from the centre of the graticule and directed outwardly from the centre towards its circumference, the

angular width of the areas progressively varying throughout in the direction of rotation to produce a frequency modulated signal, the phase of modulation of the signal obtained being determined by the angular positioning of the target image on the surface of the graticule, and the angular width of each area progressively varying also radially to a circular limit, beyond which the angular width of each area remains constant, whereby the frequency deviation is determined by the radial deviation of the target image up to a predetermined image deviation, beyond which a constant maximum frequency deviation is obtained.

3,263,085
RADIATION POWERED SEMICONDUCTOR DEVICES

Paul Rappaport, Princeton, and Edward Pasierb, Jr., Trenton, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Feb. 1, 1960, Ser. No. 5,904
10 Claims. (Cl. 250—211)

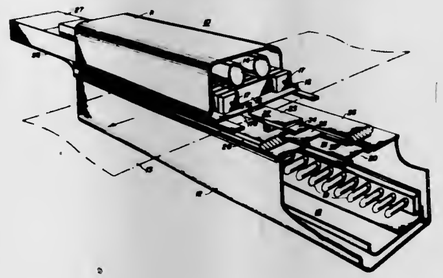


3. A semiconductor device comprising a single crystal semiconductor body of gallium arsenide, a first conventional P-N junction in said body at least a portion of which is substantially parallel to and within a diffusion length for minority charge carriers of a surface of said body, means for directing radiant energy incident upon said surface, non-rectifying electrode means at least partially transparent to said radiant energy contacting said surface, and a second tunnel P-N junction in said body between and spaced from both said conventional P-N junction and said surface, said tunnel P-N junction being characterized by exhibiting a negative resistance characteristic when biased in a range of low voltage in the forward direction.

3,263,086
PINHOLE DETECTORS

Daniel R. Brosious, Bethlehem, and James K. Hollingshead, Hellertown, Pa., assignors to Bethlehem Steel Company, a corporation of Pennsylvania

Filed May 3, 1963, Ser. No. 277,886
3 Claims. (Cl. 250—219)

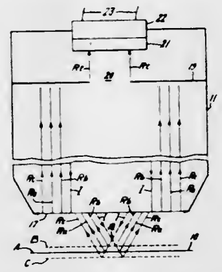


1. In apparatus for detecting imperfections in moving strip by photoelectric means,
(a) a source of light within a first frequency range positioned on one side of said strip,
(b) first light-sensitive means positioned on the other side of said strip,
(c) selective transmission means disposed between said source and said strip for converting to light within a second frequency range light within said first frequency range emitted from said source toward said strip in planes noncoplanar with planes substantially perpendicular to the surface of the strip and parallel to the direction of strip travel,
(d) a shutter positioned adjacent each edge of the strip and adapted to be driven transverse to the direction of strip travel,
(e) said shutter comprising a first shield and a second shield,
(f) said first shield extending inwardly of the edge of the strip between said strip and said first light-sensitive means,
(g) said second shield extending inwardly of the edge of the strip between said strip and said selective transmission means,
(h) said shields being characterized by the property of absorbing light within said first frequency range, said second shield further being characterized by the property of transmitting light within said second frequency range,
(i) second light-sensitive means sensitive to light within said second frequency range and positioned in said first shield to receive light which passes around the edge of the strip,
(j) motive power means for driving said shutter,
(k) control means for energizing said motive power means in response to the intensity of light impinging upon said second light-sensitive means, and
(l) means disposed between said strip and said first light-sensitive means for transmitting only light within said first frequency range.

3,263,087
ELECTRO-OPTICAL DISTANCE GAGE

Richard G. Goldman and William R. Marklein, Schnectady, N.Y., assignors to General Electric Company, a corporation of New York

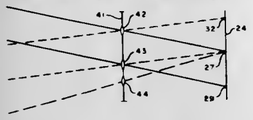
Filed Mar. 27, 1963, Ser. No. 268,358
3 Claims. (Cl. 250—224)



1. A device for indicating displacement of a surface from a reference position comprising:
(a) means providing a concentrated beam of radiation emanating from said surface which varies in size as the surface is displaced from said reference position;
(b) lens means for magnifying the varying size of said beam;
(c) radiation-sensitive means disposed in the path of the magnified beam for detecting changes in the amount of radiation incident thereon; and
(d) means defining an aperture disposed in the path of said beam between said magnifying means and said radiation-sensitive means for limiting the portion of said magnified beam which reaches said radiation-sensitive means,

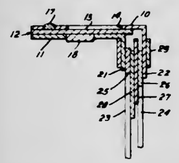
(e) the size of said aperture being smaller than the smallest size of the magnified beam at the location of the aperture-defining means.

3,263,088
STAR FIELD CORRELATOR
Lester I. Goldfischer, New Rochelle, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Aug. 27, 1963, Ser. No. 305,575
11 Claims. (Cl. 250—237)



1. A map reference for a correlation star field tracker, comprising,
an opaque frame, and
a plurality of lenses having the same focal length positioned in a like plurality of apertures in said frame,
said lenses and apertures being arranged in a pattern such that the optical centers of said lenses represent to a reduced scale the relative positions of a like plurality of stars in a selected region of the celestial sphere.

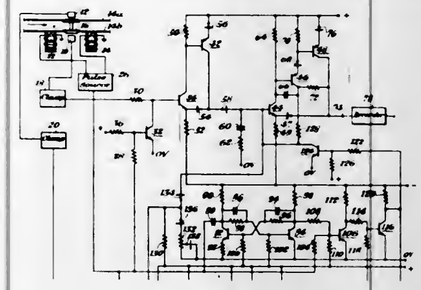
3,263,089
MOUNTING STRUCTURE FOR A PHOTOSENSITIVE DEVICE
John Sasuga, Torrance, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Jan. 29, 1962, Ser. No. 169,526
3 Claims. (Cl. 250—239)



1. A mounting structure for a flat photosensitive element; said mounting structure comprising a first and second conductive strip of uniform thickness positioned on opposite surfaces of said photosensitive element; said first strip having a window aperture and a solder aperture; said second conductive strip having a solder aperture; said solder apertures in said first and second conductive strips receiving solder for electrically connecting said first and second conductive strips to said respective opposite surfaces of said photosensitive element; said first and second conductive strips having lead receiving portions for receiving electrical leads; said lead receiving portions being formed of extensions of said first and second strips respectively; said extensions being at an angle to their said respective conductive strips.

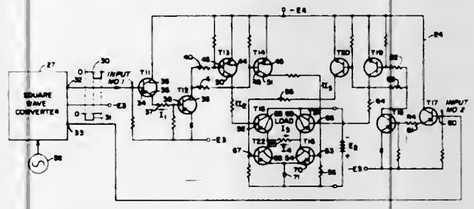
3,263,090
DATA STRETCHING CIRCUIT
Thomas J. Blocher, Jr., Monroeville, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Apr. 20, 1962, Ser. No. 189,025
2 Claims. (Cl. 307—88.5)

1. A circuit for stretching a signal from a source for a predetermined period beyond the duration of said signal comprising, an amplifier having a first and second stage with input and output terminals to each stage, a pulse source for providing a pulse having a leading edge and a trailing edge, a first gate actuated a leading edge edge of said pulse for admitting said signal into said first amplifier stage, storage means for receiving and storing said signal and for applying said signal to said second stage to provide a continuous output representative of the amplitude of said signal, a second gate connected to a junction between the output terminal of said first amplifier



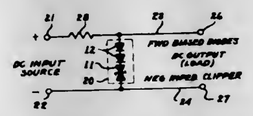
stage and the input terminal of said second amplifier stage, said storage means consisting of a capacitor having one of its terminals connected to said junction and its other terminal connected through an impedance element to a source of potential, and means responsive to the trailing edge of said pulse for controlling said second gate to discharge said capacitor at the end of said predetermined period.

3,263,091
TRANSISTORIZED SYNCHRONIZED INVERTER
Jimmy R. Cole and Douglas S. Sullivan, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Continuation of application Ser. No. 55,983, Sept. 14, 1960. This application Sept. 10, 1963, Ser. No. 307,955
1 Claim. (Cl. 307—88.5)



A drive system for a low frequency, high powered electromagnetic seismic wave transducer having two input terminals, comprising:
a P-N-P transistor bridge having two output terminals connected to the input terminals of the transducer, said bridge also having two power input terminals and two sets of opposed control input terminals;
a unidirectional power source connected to the two power input terminals of the bridge for driving the transducer in accordance with the conduction states of the transistors in the bridge; and
means for controlling the conduction states of the transistors in the bridge, comprising:
a sine wave generator producing variable frequency sine wave signals including frequencies at least as low as ten cycles;
a square wave converter connected to said sine wave generator and having first and second outputs for converting a sine wave input thereto to one negative square wave at said first output thereof synchronized with the positive portions of said sine wave input and another negative square wave at said second output thereof synchronized with the negative portions of said sine wave input;
first and second transistors, each having a base, an emitter connected to a supply voltage source, and a collector output;
first and second means responsive to respective first and second negative signal outputs from said square wave converter to apply an output signal to each base of said first and second transistors;
third and fourth transistors each having a base which receives the input from said first transistor output, an emitter connected to a supply voltage source, and a collector output connected to respective ones of a set of said opposed control input terminals of the bridge for directing current from said power source to the transducer in one direction when said sine wave is positive; and
fifth and sixth transistors each having a base which receives the input from said second transistor output, an emitter connected to a supply voltage source, and a collector output connected to respective ones of the other set of said opposed control input terminals of the bridge for directing current from said power source to the transducer in the opposite direction when said sine wave is negative.

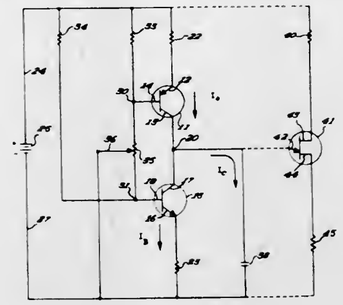
3,263,092
LOW IMPEDANCE VOLTAGE REGULATING CIRCUIT
Dalton L. Knauss, Scottsdale, Ariz., assignor to Dickson Electronics Corporation
Filed Sept. 12, 1963, Ser. No. 308,562
6 Claims. (Cl. 307—88.5)



1. In a voltage regulating circuit: a semiconductor element having an intermediate layer of one conductivity type and oppositely disposed layers of opposite conductivity type; said intermediate layer having a thickness less than the minority carrier diffusion length in the region comprising said intermediate layer to thereby provide negative incremental impedance; and a positive impedance element in series with said semiconductor element and having a positive incremental impedance to compensate for said negative incremental impedance.

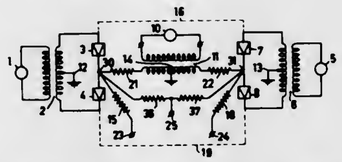
3,263,093
RAMP GENERATOR EMPLOYING CONSTANT CURRENT SINK MEANS CONTROLLING CAPACITOR CHARGING CURRENT FROM CONSTANT CURRENT SOURCE
David P. Erdmann, St. Louis Park, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Oct. 2, 1963, Ser. No. 313,239
5 Claims. (Cl. 307—88.5)

1. A linear ramp generator comprising: a source of energy; constant current source means including a first semiconductor current amplifying device having first and second current carrying electrodes and a control electrode; constant current sink means including a second semiconductor current amplifying device having first and second current carrying electrodes and a control electrode; means connecting said first current carrying electrode of said first semiconductor device to said first current carrying electrode of said second semiconductor device; means connecting said second current carrying electrode of said first semiconductor device to a first polarity of said source of energy; means connecting said second current carrying electrode of said second semiconductor device to a second polarity of said source of energy; adjustable means connected intermediate said control electrodes of said first and second semiconductor devices, for regulating the amount of current allowed to



flow into said constant current sink means; a capacitor; and means connecting said capacitor across said constant current sink means, such that when the current from said constant current source means is not equal to the current allowed to flow into said constant current sink means, the constant difference between said currents will linearly charge said capacitor.

3,263,094
CIRCUIT ARRANGEMENT FOR SEPARATING SIGNALS
Johannes Cornelis Balder, Eeltje de Boer, and Gerardus Johannes Jacobus Moonen, all of Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 23, 1963, Ser. No. 332,454
Claims priority, application Netherlands, Dec. 27, 1962, 287,235
3 Claims. (Cl. 307—88.5)

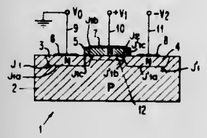


3. An electrical circuit arrangement for selectively transmitting a signal having an amplitude between first and second limiting values, comprising a first pair of tunnel diodes connected in series with unlike electrodes connected together to form a first junction, a second pair of tunnel diodes connected in series with unlike electrodes connected together to form a second junction, center tapped winding means for applying an alternating voltage in phase opposition to the ends of each of said pairs of diodes, center tapped winding means for applying said signal to said first junction in given phase and to the second junction in phase opposition, means for applying to said first junction a first setting potential of given polarity and amplitude, means for applying to said second junction a second setting potential of opposite polarity to said first potential and greater than said first setting potential by an amount substantially equal to the difference between said first and second limiting values, impedance means provided with a tap and interconnecting said first and second junctions, and means for deriving said transmitted signal from said tap.

3,263,095
HETEROJUNCTION SURFACE CHANNEL TRANSISTORS

Frank F. Fang, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 26, 1963, Ser. No. 333,435
14 Claims. (Cl. 307—88.5)



2. A heterojunction surface channel device comprising a monocrystalline semiconductor body constituted of a first semiconductor material having a first band gap and being of predetermined conductivity type,

two spaced regions of opposite conductivity-type on one surface of said semiconductor body,

a third monocrystalline region of a second different semiconductor material having a second wider band gap and being of opposite conductivity type on said one surface intermediate said two spaced regions and defining with said body a heterojunction whereby an inversion layer is created at the interface and contacting said two spaced regions to define an ohmic conduction channel therebetween,

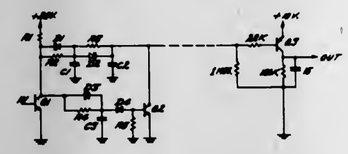
ohmic contacts to said two spaced regions and to said third region,

means for applying bias potentials to each of said ohmic contacts so that a flow of majority carriers is produced in said conduction channel and is controlled by said biasing potentials applied at said third region serving as a gate.

3,263,096
COMMAND PULSE ANALYZER APPARATUS

David S. Willard, Alamogordo, N. Mex., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Mar. 24, 1964, Ser. No. 354,481
1 Claim. (Cl. 307—88.5)

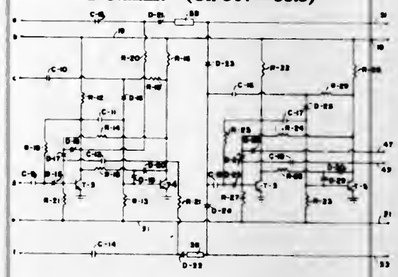


Pulse analyzer apparatus comprising a pulse input circuit, an output circuit, a plurality of differentially conducting circuits interconnecting said input circuit with said output circuit, said plurality of circuits comprising charge-discharge circuit means for guiding current flow through said differentiating circuits to said output circuit only when said input pulses exceed a predetermined on/off ratio, means for guiding current flow through said differentially conducting circuits to said output circuit only when the repetition rate of pulses from said input circuit is within a predetermined band of pulse repetition rates, and means requiring a minimum of three repetitive cycles for generation of an output signal of sufficient strength to activate said output circuit.

3,263,097
REVERSIBLE COUNTER STAGE

Milton L. Noble, Liverpool, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 23, 1964, Ser. No. 362,213
2 Claims. (Cl. 307—88.5)



1. A binary counter comprising:

(a) a first source of electrical pulses which are to be additively accumulated in the counter;

(b) a second source of electrical pulses which are to be subtracted from the accumulation of the counter;

(c) a first transistorized flip-flop circuit;

(d) means for coupling both said sources to both base input circuits of the first flip-flop circuit;

(e) a second transistorized flip-flop circuit;

(f) means including a capacitor and a series-connected diode for coupling the first source to the input circuit of the second transistorized flip-flop circuit;

(g) means including a resistor for connecting one collector of the first transistorized flip-flop circuit to the junction of the series-connected capacitor and diode;

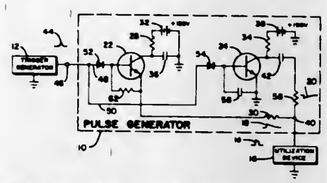
(h) means including another capacitor and series-connected diode for coupling the second source to the input circuit of the second transistorized flip-flop circuit; and

(i) means including another resistor for connecting the other collector of the first transistorized flip-flop circuit to the junction of the said other series-connected capacitor and diode.

3,263,098
TRANSISTOR AVALANCHE MODE PULSE GENERATOR

George E. Marks, Minneapolis, and Raymond H. James, Bloomington, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 4, 1964, Ser. No. 408,918
6 Claims. (Cl. 307—88.5)



4. A pulse generator, comprising:

first and second similar conductivity type transistors, each having avalanche multiplication characteristics and having an emitter electrode, a collector electrode and a base electrode;

an output terminal;

a first capacitor associated with and for coupling the collector electrode of said first transistor to ground potential;

a first resistor coupling the emitter electrode of said first transistor to said output terminal;

a serially arranged second capacitor and second resistor coupling the collector electrode of said second transistor to said output terminal;

means for coupling said second transistor emitter electrode to ground potential; third and fourth resistors for coupling the collector electrodes of said first and second transistors, respectively, to first and second voltage sources, respectively;

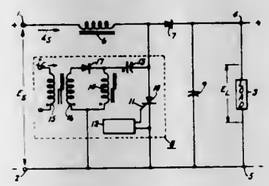
means coupled to the base electrodes of said first and second transistors and adapted to receive a trigger pulse for triggering one of said transistors into an unstable avalanche condition during which avalanche breakdown occurs in the emitter-base-collector junctions of said one transistor to permit its associated capacitor to discharge current therethrough and across its associated resistor in a first direction and after a predetermined time interval for triggering the other of said transistors into an unstable avalanche condition during which avalanche breakdown occurs in the emitter-base-collector junctions of said other transistor to permit its associated capacitor to discharge current therethrough and across its associated resistor in a second and opposite direction;

said opposing directioned currents substantially canceling each other at said output terminal except during said predetermined time interval.

3,263,099
POWER AMPLIFIER CIRCUIT

Burnice D. Bedford, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed May 25, 1962, Ser. No. 197,626
4 Claims. (Cl. 307—109)



1. An electrical power supply circuit comprising a linear inductor, and

a pair of output terminals connected in series circuit relationship in the order named across a pair of input power supply terminals that in turn are adapted to be connected across a source of electric potential, said output terminals adapted to be connected to a load,

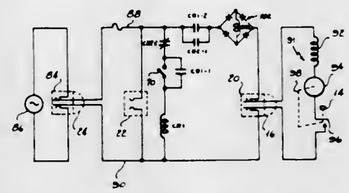
a gate turn-on, nongate turn-off controlled conducting solid state semiconductor device adapted to be alternately conducting and nonconducting for predetermined time intervals, said device being connected in series circuit relationship with said linear inductor in parallel circuit relationship with the output terminals, and

means for gating on said device at a desired frequency to produce the predetermined time intervals of conduction, commutating means for turning off said device after a predetermined interval of conduction, said commutating means including a commutating capacitor and circuit means operatively coupling said commutating capacitor in series circuit relationship with said linear inductor for charging said commutating capacitor to a voltage greater than the supply voltage during non-conducting intervals of the controlled solid state semiconductor device, the ratio of conducting to nonconducting time intervals of the controlled semiconductor device determining the magnitude of a continuous direct current output voltage generated across said output terminals.

3,263,100
TICKET COLLECTOR

Frederick N. Stephens and Joseph R. McBride, Leawood, Kans., assignors, by mesne assignments, to Stephens Industries, Inc., Kansas City, Mo., a corporation of Missouri

Filed Nov. 20, 1962, Ser. No. 238,963
8 Claims. (Cl. 307—116)

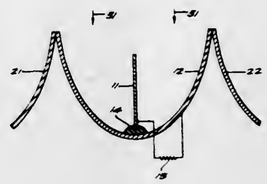


8. Ticket collecting apparatus adapted to connect an output circuit to a source of alternating current including in combination a receiver provided with means through which tickets can be passed into the receiver, a first relay winding having a first normally open switch and a second open switch associated therewith, a second direct current relay winding having a third normally closed switch and a fourth normally open switch associated therewith, means comprising a full wave rectifier for connecting said second relay winding and said first normally open switch to said output circuit, means responsive to the passage of a ticket into the receiver for energizing said first relay winding from said source to said normally closed switch, means connecting said third normally closed switch and said second normally open switch in a holding circuit for said first relay winding and means connecting said fourth switch across said first normally open switch.

3,263,101
PHOTO-CATHODE SOLAR-ENERGY CONVERTER

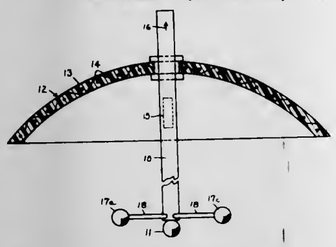
Charles Willard Geer, Los Angeles, Calif., assignor to Hoffman Electronics Corporation, a corporation of California

Filed Jan. 30, 1961, Ser. No. 85,715
14 Claims. (Cl. 310—4)



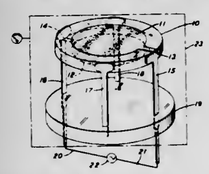
1. A solar energy converter comprising: a plurality of trough-shaped anodes electrically coupled together; a plurality of planar cathodes, each cathode being positioned perpendicular to the bottom of one of said trough-shaped anodes and extending along the length thereof; and insulation means for preventing said cathodes from being electrically short circuited by said anodes, each of said anodes being curved so as to be able to reflect incident solar energy towards its associated cathode while trapping electrons emitted by said associated cathode.

3,263,102
ELECTRICAL THRUST PRODUCING DEVICE
Agnew H. Bahnson, Jr., Winston-Salem, N.C.; Wachovia Bank and Trust Company, executor of said Agnew H. Bahnson, Jr., deceased
Original application May 12, 1958, Ser. No. 734,494, now Patent No. 2,958,790. Divided and this application June 8, 1960, Ser. No. 34,672
6 Claims. (Cl. 310—5)



1. A device for producing thrust in response to the application of electrical potentials to the electrodes thereof comprising a support member, a first main electrode mounted on said support member, a second main electrode having an expanded surface with respect to said first main electrode and which is also mounted on said support member in longitudinal spaced relation to said first main electrode, means for applying a high potential between said first and second main electrodes to develop a thrust on said support member longitudinally thereof, at least three auxiliary electrodes carried by said support member, said auxiliary electrodes being disposed symmetrically about the longitudinal axis of said support member, and means for applying a potential between said second main electrode and at least one auxiliary electrode so selected as to develop an auxiliary thrust upon said support member and having a direction which is asymmetrical in relation to the longitudinal axis of said support member.

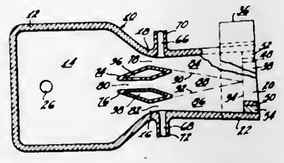
3,263,103
RADIATION INSENSITIVE QUARTZ CRYSTAL DEVICES
David B. Fraser, Berkeley Heights, N.J., and James C. King, Upper Saucon Township, Lehigh County, Pa., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 3, 1963, Ser. No. 249,568
1 Claim. (Cl. 310—9.5)



A piezoelectric device comprising a quartz crystal, said crystal being a Y-cut crystal plate rotated in an angle about the X-axis lying in the range −3° to −13° and +45° to +54°, and electrodes attached to opposing faces of said crystal.

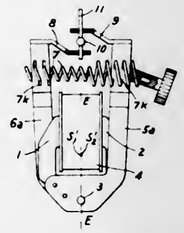
3,263,104
APPARATUS FOR GENERATING ELECTRICAL ENERGY
Edward F. Brill, Brookfield, and Ernst K. Kaeser, West Allis, Wis., assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Feb. 13, 1961, Ser. No. 88,703
4 Claims. (Cl. 310—11)

1. In apparatus for transforming energy in a stream of fluid into electrical energy, in combination, a stream of fluid, electrode means of predetermined length between which said stream of fluid is adapted to move, means for providing a magnetic field through which said stream of fluid is adapted to move, said magnetic field being coextensive lengthwise with said electrode means and having a downstream region of diminishing field strength extending beyond the downstream end of said electrode means, means for introducing seeding material into said stream of fluid to provide an electrically conductive mixture of fluid and seeding material for passage between said elec-



trode means, said means for introducing seeding material into said stream of fluid comprising at least one member for deflecting said seeding material after it enters said stream of fluid to control its dispersion in the stream of fluid, and means for introducing material into the said electrically conductive mixture of fluid and seeding material near the downstream end of said electrode means but upstream of the downstream region of diminishing field strength to render said mixture substantially less conductive.

3,263,105
VIBRATORY MOTORS
Gerhard Heyek, Graz, Styria, Austria, assignor to Carinthia-Elektrogeräte Gesellschaft m.b.H., Klagenfurt, Carinthia, Austria
Filed May 21, 1962, Ser. No. 196,107
Claims priority, application Austria, May 31, 1961, A 4,270/61
10 Claims. (Cl. 310—25)



1. A vibratory motor comprising two oppositely oscillating magnetic limbs, an operating winding to which alternating current is supplied, a return spring mounted between the limbs, said magnetic limbs being mounted to vibrate coaxially, a control lug for each magnetic limb so that the limbs and their lugs have centers of gravity as to the two movable limbs whereby the said centers of gravity at least approximately coincide in the mean position of the oscillation of the limbs and lugs, each oscillating member consisting of a limb of magnetic material which lies on one side of a central plane lying between the magnetic limbs and which is acted upon by a solenoid during use, and an arm on the other side of the central plane from which the vibratory output of the motor is derived.

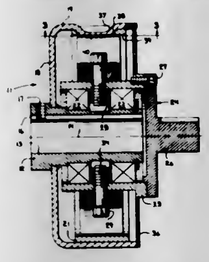
2. A vibratory motor according to claim 1 in which the return spring is formed as a coil spring on a threaded pin engaging the turns of the spring, so that selectable parts of the turns can become ineffective, the pin being guided at one point of the action of the spring so that it can be displaced axially by means of a thread of the same pitch as the spring.

3,263,106
DYNAMOELECTRIC MACHINE
Raymond T. Divers, Camillus, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed May 1, 1963, Ser. No. 277,167
3 Claims. (Cl. 310—54)



1. A dynamoelectric motor construction comprising a power shaft, a rotor member secured to said shaft, a stator member, electric conductor means disposed within said rotor member, expansible means securing said electric conductor means in said rotor and means for supplying cooling medium in heat transfer relation with said motor parts, said means having communication with said expansible means when the latter has been expanded to secure said electric conductor means whereby said expansible means serves as a passageway for the flow of cooling medium.

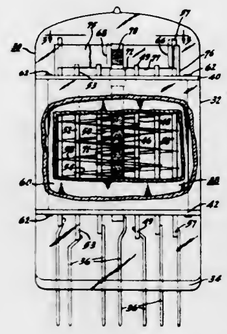
3,263,107
MAGNETIC COUPLING
Chester L. Richards, Jr., Indianapolis, Ind., assignor to Magnetic Devices, Inc., Lawrence, Ind., a corporation of Indiana
Filed Dec. 3, 1962, Ser. No. 241,731
2 Claims. (Cl. 310—106)



1. A magnetic coupling comprising: a circular shell of ferromagnetic material, an annular cylindrical ring of non-magnetic electrically conductive material secured to said shell coaxially therewith and on the inner circumferential cylindrical surface thereof, said ring having front and rear circular marginal edges of equal diameter, a rotor mounted coaxially with said shell for revolution therewithin on an axis colinear with the axes of said rotor and said shell, said rotor having a plurality of permanent magnets therein disposed in closely spaced relation to said ring and establishing flux paths in said ring, said shell and said ring having interengaging portions originally formed as rounded dimples to limit relative movement between said shell and said ring and serving as the only means securing said shell and said ring together, said portions having elliptical cross sections in planes parallel to the said axis of revolution to provide a desired variation of flux paths upon revolution of said shell with respect to said rotor.

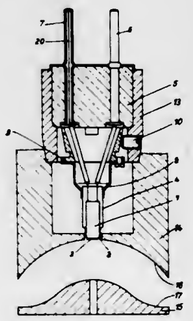
3,263,108
ELECTRON DISCHARGE TUBE HAVING A DIODE BUILT THEREIN
Thomas M. De Muro, New York, N.Y., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 25, 1963, Ser. No. 311,474
6 Claims. (Cl. 313—3)

1. An electron discharge tube comprising a cage assembly including a pair of oppositely disposed spacer plates and a plurality of tubular electrodes mounted between said spacer plates, said electrodes being coaxial and including, in the order named, a centrally disposed cathode, a first control grid, a screen grid, a box-like second control grid having a window in a portion thereof between said spacer plates and lateral wires secured



across said window, and an anode, said cathode having an electron emitting coating over a portion thereof having a length greater than the length of said window, and said first and said screen grids having wires along only the lengths of said two grids within the space defined by said window.

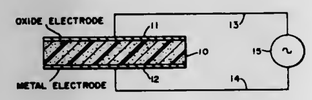
3,263,109
ELECTRON SOURCE FOR CORPUSCULAR RADIATION APPARATUS OPERATING ON A PUMP INCLUDING AN INDIRECTLY HEATED CATHODE
Karl-Heinz Herrmann and Friedrich Thon, Berlin-Zehlendorf, Germany, assignors to Siemens & Halske Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed July 19, 1962, Ser. No. 211,021
Claims priority, application Germany, July 24, 1961, S 75,011
1 Claim. (Cl. 313—83)



In an electron source for use in corpuscular radiation apparatus operating on a pump, the combination of a bushing, a ceramic base disposed in said bushing, a socket within said bushing and supported adjacent said base, a plurality of centering screws extending through walls of said bushing and engaging said socket, a flanged member mounted on said socket, a sleeve supported by said flanged member, a generally pot-like tubular member of noble

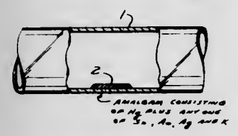
metal supported within said sleeve, the closed end of said member extending from one end of said sleeve and defining a cathode and forming an emission plane, a heater helix disposed in said tubular member and having terminals extending through said socket and said ceramic base, a coating provided on said emission plane which reduces the electron emission work, an electrode secured to said bushing disposed at the same potential as said cathode and having a bore therein receiving the closed end of said cathode, a surface of said electrode and the emission plane each being arcuate and positioned to be complementary with one another, said centering screws disposed for centering said cathode within said bore.

3,263,110
FLEXIBLE ELECTROLUMINESCENT CELL
Daniel Berg, Churchill, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 28, 1963, Ser. No. 254,234
8 Claims. (Cl. 313—108)



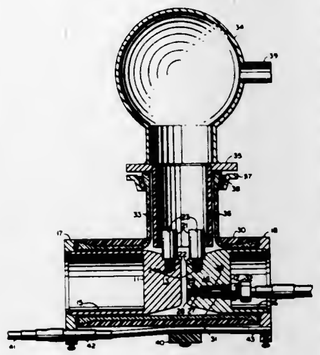
1. A flexible electroluminescent light source comprising, a light-transmitting flexible resin body member of predetermined thickness and having opposing faces, finely divided electroluminescent phosphor embedded in said body member, and electrically conducting electrode layers affixed to the opposing faces of said body member, at least one of said electrode layers composed of at least one material of the group consisting of indium oxide and tin oxide.

3,263,111
FLUORESCENT TUBE WITH MERCURY AMALGAM ON TUBE WALL
Ulrich W. Doering, Ainmillerstr. 37, Munich 13, Germany
Filed Aug. 2, 1962, Ser. No. 214,431
10 Claims. (Cl. 313—109)



1. In a fluorescent tube of the character described, in combination, a tube having an inner surface; incandescent electrodes located in said tube; fluorescent material covering at least the major portion of the inner surface of said tube; a rare gas located in said tube; and a body of one amalgam selected from the group consisting of tin amalgam consisting of tin and up to 10 atomic percent of mercury, gold amalgam consisting of gold and up to 14 atomic percent of mercury, silver amalgam consisting of silver and up to 14 atomic percent of mercury, and potassium amalgam consisting of mercury and between 25 and 33 atomic percent of potassium, adhering to a relatively small portion of said inner surface of said tube spaced from said electrodes, respectively, at a distance of between about 8 and 12 cm., the mercury content of said body of amalgam being such that a temperature of up to about 80° C. the mercury vapor pressure of said amalgam will not exceed about 0.01 mm. Hg.

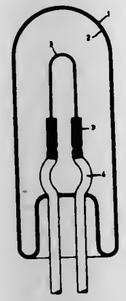
3,263,112
MAGNETIC BLOWOUT SWITCH
Alan C. Kolb, Landover, and William H. Lupton and Leonard J. Melhart, Oxon Hill, Md., and Marvin P. Young, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 8, 1963, Ser. No. 293,566
7 Claims. (Cl. 313—198)



1. A low inductance, spark gap switch adapted to be connected with the conductor lines of an electrical power supply which comprises:
(a) a T-shaped housing,
(b) said housing including a neck portion adjoining axially aligned end portions,
(c) a protective coating on the outer surface of said axially aligned end portions,
(d) first and second elongated, symmetrical, cylindrical, axially aligned electrodes secured in spaced relationship within said axially aligned end portions relative to the axis of said neck portion of said housing,
(e) an aperture in said first electrode off the axis thereof and positioned on the side thereof opposite from said neck portion of said housing,
(f) a trigger electrode,
(g) said trigger electrode passing through said aperture in said first electrode with the inner end thereof even with the end of said first electrode adjacent to said second electrode,
(h) a pair of elongated, cylindrical rails, and
(i) said rails extending into the area confined by said neck portion of said housing in parallelism and secured to adjacent ends of said first and second electrodes in spaced relationship perpendicular to the longitudinal axis of said electrodes with said rail on said first electrode being secured on a side thereof directly opposite from said trigger electrode.

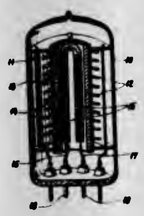
3,263,113
TUNGSTEN FILAMENT LAMP COMPRISING HEXAFLUORIDE GAS AT PARTIAL PRESSURE NOT EXCEEDING 10 TORRS
Johann Schröder, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 2, 1962, Ser. No. 206,865
Claims priority, application Germany, July 26, 1961, N 20,382
5 Claims. (Cl. 313—223)

1. An incandescent lamp comprising a bulb having a gas filling consisting essentially of tungsten hexafluoride at a partial pressure not exceeding 10 Torrs, a tungsten filament having a portion which incandesces when an electric current flows therethrough and a portion which is at a lower temperature than the temperature of the in-



candescent portion, a fluorine-resistant coating on said latter portion of said filament, and a fluorine-resistant coating on the inner wall of said bulb.

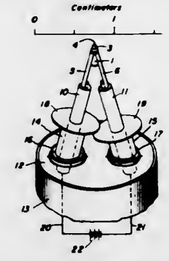
3,263,114
SHOCK AND VIBRATION RESISTANT HEATER FOR INDIRECTLY HEATED CATHODES OF RADIO RECEIVING TUBES
Pál Tury, Budapest, Hungary, assignor to the firm Egyesult Izzolampa es Villamossagi Reszvenytarsasag, Budapest, Hungary, a Hungarian enterprise
Filed Oct. 26, 1960, Ser. No. 65,197
1 Claim. (Cl. 313—346)



As a new article of manufacture, a heater element for indirectly heated cathodes of radio receiver tubes consisting of a wire containing tungsten and from about 0.5% to about 2% by weight of thorium oxide, the physical state of said wire being in the primary recrystallization state, said wire being manufactured by heating said wire to a temperature of from about 1000° C. to a temperature less than the temperature of secondary recrystallization of said wire, said temperature of recrystallization being from about 1900 to about 2200° C.

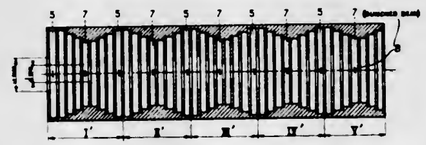
3,263,115
DISPENSER CATHODE AND METHOD OF MANUFACTURE
Homer H. Glascock, Jr., and John M. Houston, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed May 23, 1962, Ser. No. 197,129
6 Claims. (Cl. 313—346)

1. A dispenser cathode comprising a metal body including a recess, a quantity of emitting material in said recess, means providing for egress of said emitting material to the exterior of said body, and a pair of current conducting heating leads secured to said body for carrying current through said body and shaped to confine to said



body the heat generated in said body and to apply to said body the heat generated in said conductors.

3,263,116
WAVEGUIDE STRUCTURE FOR LINEAR PARTICLE ACCELERATORS HAVING AN UNDULATING CONFIGURATION
Guy Azam and Hubert Leboutet, Paris, France, assignors to CSF—Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Mar. 13, 1962, Ser. No. 179,430
Claims priority, application France, Mar. 24, 1961, 856,698
6 Claims. (Cl. 315—3.6)

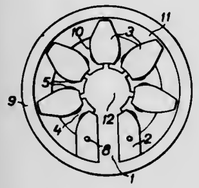


2. A linear particle accelerator comprising a wave guide having a geometrically periodical structure, comprising transverse irises periodically distributed along said guide and having in their center coupling apertures between cavities defined between two successive irises, the size of said apertures varying substantially according to an undulatory law along said guide between a minimum size lower than the cut-out threshold of the TM_{210} mode, and a maximum size higher than the said threshold, a particle beam moving within said guide in inter-action with the travelling wave propagating therein, and the sizes of said cavities being variable in dependence on the sizes of corresponding central apertures, to adjust the phase velocity of the travelling wave propagating within the guide to the velocity of the accelerated particle.

3,263,117
SPARK GAP DEVICE HAVING AN INTERMEDIATE ELECTRODE FORMING TWO SERIES SPARK GAPS
Erland Nilsson, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
Filed June 14, 1961, Ser. No. 127,771
Claims priority, application Sweden, June 18, 1960, 6,000/60
11 Claims. (Cl. 315—36)

1. Spark gap device comprising at least two substantially parallel discs of arc resistant insulating material, each two adjacent discs forming between them a closed arc chamber, metallic electrodes arranged in said arc chamber, said arc chamber comprising a spacious ignition chamber part and a narrow extinction chamber part, electromagnetic means for generating a magnetic

field directed perpendicular to said parallel discs for lengthening and moving each arc in the spark gap device from the ignition chamber to the extinction chamber, each arc chamber containing two outer electrodes and at least one intermediate electrode arranged between said outer electrodes, said electrodes forming at least two series connected spark gaps between them, said spark

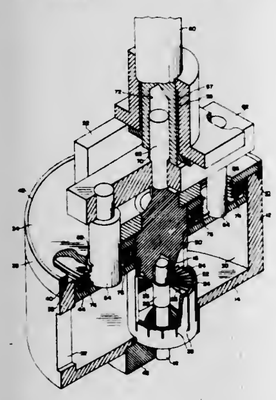


gaps being situated in said arc chamber and each comprising a narrow ignition gap part situated in said ignition chamber, all of said electrodes extending divergently from the ignition gap parts in said ignition chamber to points adjacent the outer edge of said extinction chamber so that said spark gaps also extend substantially to the outer edges of said extinction chamber.

3,263,118
MAGNETRON HAVING CONCENTRIC ANNULAR TUNABLE RESONATOR UTILIZING AXIAL PLUNGER AND VACUUM SEALING BELLOWS MOUNTED INSIDE PRINCIPAL ENVELOPE WALL

Howard P. Peasley, Horseheads, and Allan J. Bamford, Big Flats, N.Y., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 30, 1963, Ser. No. 298,775
5 Claims. (Cl. 315—39.55)

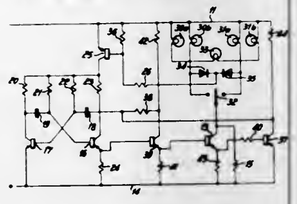


1. A coaxial magnetron comprising a centrally disposed cathode, a cylindrical anode including a plurality of anode resonators circularly positioned about said cathode, a cylindrical wall concentric with and spaced from said cylindrical anode, said cylindrical wall and said anode defining an outer cavity resonator of substantially annular cross-section, an annular member of electrically conductive material disposed and axially movable within said outer cavity resonator, end plate means vacuum sealed to said cylindrical wall, operating means extending through said end plate means and connected in an operative relationship with said annular member to effect said axial movement thereof, and hollow means comprising a first ring-shaped member of lossy material extending between and vacuum sealed to the outer periphery of said annular member and said end plate means and a second ring-shaped member of lossy material extending between and vacuum sealed to the inner periphery of said annular member and said end plate means, said operating means connected to said annular member between said first and second ring-shaped members.

3,263,119
BLINKING LIGHT ARRANGEMENT

Hermann Scholl, Stuttgart, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Nov. 6, 1963, Ser. No. 321,864
Claims priority, application Germany, Nov. 21, 1962, B 69,706
5 Claims. (Cl. 315—77)



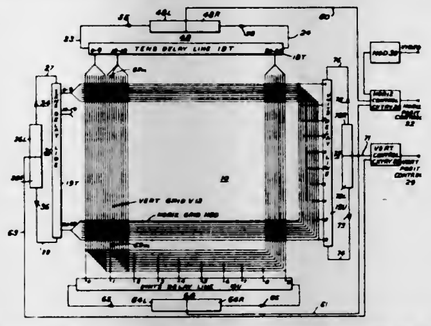
5. Blinking light arrangement, particularly for turn indicators on motor vehicles, comprising, in combination, at least two groups of electric lamp means; circuit means connected between a source of electric energy and said groups of lamp means and comprising switch means for alternatively energizing any one of said groups of lamp means, said circuit means further including control transistor means changeable between conductive and non-conductive condition for closing and interrupting the current supply to said lamp means depending upon said conditions, and voltage divider means connected in parallel with said groups of lamp means; astable multivibrator means connected with said circuit means and cooperating with said control transistor means for periodically changing the latter between said conductive and non-conductive conditions; and protective transistor means connected in said circuit means with its emitter-collector circuit between one terminal of said course and said multivibrator means and with its emitter-base circuit to an intermediate point of said voltage divider for remaining conductive only as long as the current flow through the circuit entering said lamp means remains in a predetermined normal range, but interrupting said circuit means when said current flow across said circuit increases beyond a predetermined maximum.

3,263,120
SOLID STATE DISPLAY PANEL HAVING DELAY LINE CONTROL OF PANEL ELEMENTS

William Ross Aiken, Los Altos, Calif., assignor, by mesne assignments, to Kaiser Aerospace & Electronics Corporation, Oakland, Calif., a corporation of Nevada

Filed Nov. 13, 1962, Ser. No. 237,226
14 Claims. (Cl. 315—169)

1. In a display device having a crossed grid structure for energizing different points of a light emitting media including a first and a second set of conductors disposed in circuit controlling relation with each other and said light emitting media, switching means for each of said conductor sets, each of which includes a first and a second transmission line, a plurality of taps on each line, means for connecting the conductors of each set in groups, each group in a set being connected to a different tap on the first transmission line for the set, means connecting each conductor in a group of a set to a different tap on the second line for the set, and means for selectively and simultaneously energizing one tap on each of said

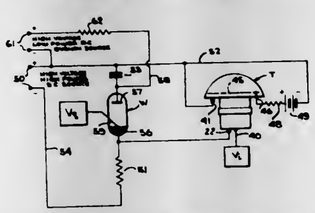


four lines to thereby selectively energize a corresponding conductor in each of said sets and the light emitting media controlled by the energized conductors.

3,263,121
HIGH CURRENT DISCHARGE TUBES

Jerome V. White, Hinsdale, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 3, 1963, Ser. No. 306,216
17 Claims. (Cl. 315—208)



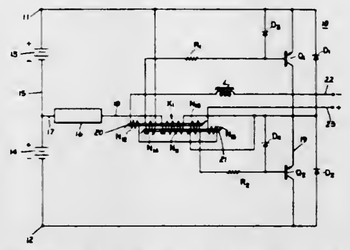
1. A mercury electrical circuit controlling tube system comprising partially insulating walls providing a cathode pool and an anode pool at a level above the cathode pool, shield means for controlling the movement of mercury vapor and liquid between the cathode pool and the anode pool, a screen located close to and spaced from the anode pool and in the path of ions from the cathode pool, and electrical potential means having a positive terminal coupled to said screen and a negative terminal coupled to said anode pool for maintaining said screen positive with respect to said anode pool.

14. A discharge tube system including an enclosure providing walls for anode and cathode mercury pools, means for directing the stream of mercury vapor and electrodes from the cathode pool during current flow through the system, said enclosure including walls for condensing the vapor and directing the condensate to the anode pool, a grid screen and means to support the same in spaced relation and close to the surface of the anode pool and in the path of said stream, insulated connections from said pools and screen, electrical potential means having a positive terminal coupled to said screen and a negative terminal coupled to said anode pool for maintaining said screen positive with respect to said anode pool, an igniter communicating with said cathode pool, a source of starting pulses connected to said igniter, a quenching tube having an anode, a cathode and an igniter, a source of quenching pulses connected to the igniter of the quenching tube, a capacitor, a resistor connected to the capacitor for limiting the current flow to said quenching tube, a load, means for supplying direct current, and circuit means for connecting said supplying means to said load in series with the anode and cathode pools with the said stream therebetween, and also connecting said capacitor through said resistor with the anode and cathode of the quenching tube whereby to limit the energy flow through the quenching tube after ignition thereof.

3,263,122
CURRENT LIMITING INVERTER CIRCUITS AND APPARATUS FOR OPERATING ELECTRIC DISCHARGE LAMPS AND OTHER LOADS

Luther L. Genuit, Danville, Ill., assignor to General Electric Company, a corporation of New York

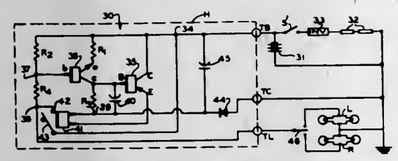
Filed May 1, 1963, Ser. No. 277,354
11 Claims. (Cl. 315—209)



1. An apparatus for operating an electric discharge lamp with an alternating potential comprising: a pair of input leads for connection in circuit with a D.C. supply means, first and second unilateral semiconductor switching devices operable between a high and a low impedance condition, said first semiconductor switching device being connected in circuit with said first input lead, said second semiconductor switching device being connected in circuit with the other of said input leads, said first and second semiconductor switching devices being joined in series circuit relation, a saturating reactor having a first and a second saturable core, a first bias means associated only with said first saturable core, a second bias means associated only with said second saturable core, a first auxiliary winding wound on both of said saturable cores and coupled with said first semiconductor device, a second auxiliary winding wound on both of said cores and coupled with said second semiconductor switching device, said first auxiliary winding causing the first semiconductor switching device to be driven to a high and low impedance condition in response to the condition of saturation of said first saturable core and said second auxiliary winding causing the second semiconductor switching device to be driven to a high and low impedance condition in response to the condition of saturation of said second saturable core, a main winding wound on both of said saturable cores and having one end connected in circuit with said first and second switching devices, circuit means for joining the other end of said main winding in circuit with one end of the electric discharge lamp and for connecting the other end thereof in circuit with the D.C. supply means thereby to cause current to flow from the supply means in one direction when one of said semiconductor switching devices is driven to a low impedance condition and to cause current to flow through said main winding in the opposite direction when said other switching device is driven to the low impedance condition, a first unidirectional conducting device connected across said first semiconductor switching device to provide a path for reverse current flow thereacross, a second unidirectional conducting device connected across said second semiconducting switching device to provide a path for reverse current flow thereacross, said first saturable core being rendered active in response to the flow of current through said main winding in one direction and inactive in

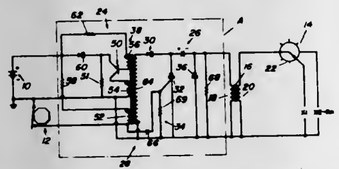
response to the flow of current in the reverse direction during a portion of the positive half cycle to hold the current at a substantially constant level and the second saturable core being rendered active in response to the flow of current through said winding in said reverse direction and inactive in response to flow of current in said one direction during a portion of the negative half cycle to maintain the current substantially constant.

3,263,123
FLASHER CIRCUIT FOR VEHICLES HAVING FLUORESCENT LIGHTS
Harry A. Leeder, Jr., Skaneateles, N.Y., assignor to R. E. Dietz Company, Syracuse, N.Y., a corporation of New York
Filed Feb. 25, 1964, Ser. No. 347,138
4 Claims. (Cl. 315—209)



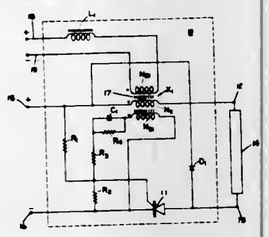
4. A transistor oscillator circuit for vehicles having a battery which powers auxiliary electrical equipment causing severe pulsations in the battery voltage, comprising: a first series combination of the collector and emitter electrodes of a transistor, a relay, the cathode and anode of a rectifier diode connected across the battery, the anode being connected to the positive battery terminal; a parallel combination of a resistor and a first capacitor connecting the base of the transistor to the diode cathode; a second series combination of a load, a switch, and a normally open relay contact connected across the battery; and means for applying charging current from the negative terminal of the battery to the base of the transistor when said relay contact is open, and to discharge said first capacitor when the relay contact is closed; and a second capacitor connecting said diode cathode to the negative terminal of the battery for flattening out the battery voltage pulsations.

3,263,124
SOLID STATE CAPACITOR DISCHARGE IGNITION SYSTEM
Karl Stuermer, 6420 Tyler St., Mentor, Ohio
Filed Aug. 14, 1963, Ser. No. 302,048
3 Claims. (Cl. 315—212)



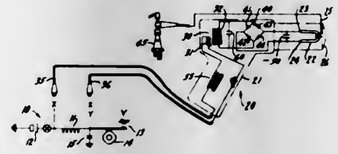
2. In combination with an ignition system including:
(a) a power supply;
(b) distributor means having a first switching means and a multiple contact second switching means;
(c) induction coil means having primary and secondary windings with the secondary winding connected to said multiple contact second switching means to feed voltages induced in said secondary winding to said second switching means; and,
(d) a plurality of spark-producing means connected to respective contacts of said second multiple contact switching means to sequentially receive voltages fed thereto;
the improvements comprising:
(e) oscillator means connected to said power supply for producing at least one voltage pulse in response to operation of said first switching means;
(f) condenser means for storing a voltage thereon;
(g) transformer means for supplying amplified voltage pulses in response to pulses produced by said oscillator means;
(h) transfer and blocking means for transferring amplified voltages from said transformer means to said condenser means and for blocking such voltages thereon;
(i) gate means connected between said condenser means and said primary winding of said induction coil, said gate means normally preventing discharge of said condenser means through said primary winding but being activatable to permit discharge of said condenser means through said primary winding;
(j) means connecting said gate means with said first switching means for activation of said gate means in response to operation of said first switching means; and,
(k) clamping means for limiting shock excited oscillation of said primary winding to a single half cycle of voltage during discharge of said condenser means therethrough, said clamping means being coupled in parallel with said induction coil means and in series with said condenser means;
wherein said oscillator means comprises a blocking oscillator circuit for producing a series of voltage pulses only until the voltage stored on said condenser means reaches a predetermined level; wherein said blocking oscillator circuit comprises a main electronic oscillating valve network, a sensing electronic valve network and a shunting electronic valve network activatable to shunt said main electronic oscillating valve network, said main oscillating valve network being connected with said transformer means to feed pulses produced thereby to and through said transformer means, said sensing electronic valve network being connected to said condenser means for sensing when the voltage level on said condenser means reaches a predetermined value, said sensing electronic valve network being connected with said shunting electronic valve network to activate the same and render said shunting electronic valve network effective as a shunt across said main electronic valve network whereby said main eelctronic valve network ceases to oscillate when the level of voltage on said condenser means reaches said predetermined level.

3,263,125
CURRENT LIMITING CIRCUITS AND APPARATUS FOR OPERATING ELECTRIC DISCHARGE DEVICES AND OTHER LOADS
Luther L. Genuit, Danville, Ill., assignor to General Electric Company, a corporation of New York
Filed May 1, 1963, Ser. No. 277,355
20 Claims. (Cl. 315—219)



19. In an apparatus for supplying operating current to an electric discharge lamp, the combination of a saturable reactor and a semi-conductor device arranged for connection in series with said lamp across a source of operating potential, bias means including an inductive element coupled with said reactor to produce a flux to saturate said reactor in one direction when the device is nonconducting, means responsive to application of said operating potential to said series connection to produce a flux in said reactor over a predetermined interval until saturation occurs in an opposite direction, and means responsive to saturation of the reactor to render said device conducting when the reactor saturates in said one direction and to render said device nonconducting when the core saturates in said opposite direction.

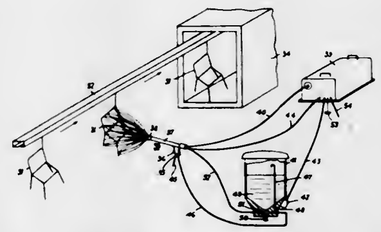
3,263,126
DEVICE FOR PRODUCING STROBOSCOPIC LIGHT FOR TIMING ENGINES
Vernon C. Westberg, 520 E. Haven St., Arlington Heights, Ill.
Filed July 11, 1962, Ser. No. 209,206
3 Claims. (Cl. 315—241)



1. In a device for producing stroboscopic light for timing an engine having a spark ignition system including a battery and ignition coil, the latter having in its primary circuit breaker points shunted by a condenser, the combination comprising a step-up transformer having a primary and secondary, a rectifier connected to the secondary for producing a high voltage D.-C. output, a flash tube having supply terminals and a triggering terminal with the supply terminals being connected to the output of the rectifier, means for connecting the transformer primary to the ignition coil primary for periodic energization of the transformer by release of energy stored in the coil as the breaker points are opened, a storage capacitor connected in parallel with the supply terminals of the flash tube for progressive buildup of voltage thereacross upon successive closure of the ignition points during a complete firing cycle of the engine, and means for connecting the triggering terminal of the flash tube to one of the spark plugs for firing of the tube once during said cycle coordinated with the buildup of voltage across the storage capacitor to a predetermined level.

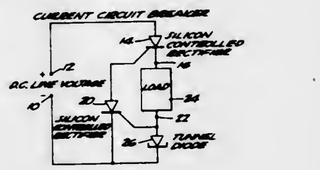
3,263,127
MEANS FOR ELECTROSTATIC COATING
Marcel Auguste Roger Point, Grenoble, and Guy Nicolas, Meylan, France, assignors to Societe Anonyme de Machines Electrostatiques, Paris, France, a corporation of France
Continuation of application Ser. No. 186,436, Apr. 10, 1962. This application Mar. 26, 1965, Ser. No. 444,943
Claims priority, application France, Apr. 14, 1961, 858,767, 858,768
6 Claims. (Cl. 317—3)

1. Apparatus for coating an object with powder comprising in combination
a container for storing said powder,
a source of gas under pressure,
a spraying device comprising an inlet and a discharge orifice, and a passage connecting said inlet and discharge orifices,
a gas tube connecting said gas source to said powder container and a suspension-delivery tube connecting said container and gas tube to said inlet, whereby gas arriving through said gas tube will draw powder into said suspension-delivery tube and deliver it as a suspension to said spraying device,
valve means controlling the flow of gas in said gas tube, said suspension-delivery tube forming with the passage in said spraying device a valveless substantially obstruction-free passageway leading from said powder container to said discharge orifice,
said discharge orifice including a terminal edge and means to confine fluid flowing therethrough into a thin sheet having a large dimension coextensive with



said terminal edge and a small dimension in a plane normal to the direction of flow,
an elongated electrode for ionizing said powder as it is discharged by said spraying device, said electrode being substantially coextensive with the large dimension of said thin sheet and with said terminal edge,
and a source of high voltage having one pole connected to said electrode, while its other pole is adapted to be connected to said object.

3,263,128
CIRCUIT BREAKER
Richard L. White, 432 W. Sierra Madre Ave., Glendora, Calif.
Filed July 23, 1962, Ser. No. 211,790
19 Claims. (Cl. 317—33)



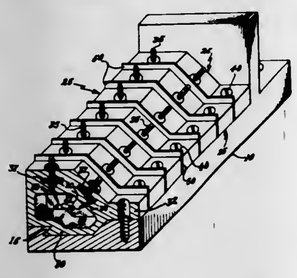
5. A circuit for interrupting the electrical current from a direct-current source through a load in response to an overload condition, comprising:
a pair of input terminals adapted to be connected to said source;
a pair of output terminals adapted to be connected to said load;
first and second translating means, each having a first element, a second element, and a control element;
a sensing element responsive to an overload condition;
means coupling said input terminals, said first and second elements of said first translating means, said sensing element, and said output terminals in a series circuit;
means coupling said control element and said second element of said second translating means across said sensing element; and
means coupling said control element of said first translating means with the first element of said second translating means.

3,263,129

MODULAR TERMINAL BOARD WITH PROVISIONS TO INCORPORATE COMPONENT PARTS AS APPLICABLE

Alex Glassman, Denver, Colo., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Aug. 19, 1963, Ser. No. 303,192
4 Claims. (Cl. 317—101)



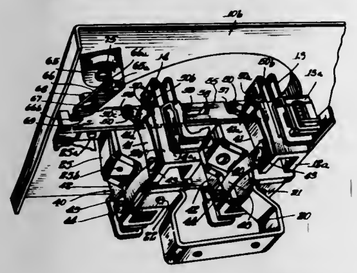
1. A modular electrical terminal board for housing component parts, comprising: a retaining structure including a base with a mounting trackway therealong; a plurality of contiguous modules, each having an open side with an internal cavity housing a component part therein and also a closed side opposite thereto, said modules each conformed at an edge to match said trackway for alignment therealong, respectively, open side by closed side with each cavity insulated from another by a closed side of said modules; an external terminal on each of said modules, said terminal having means including an insert extending into said cavity for connection with said component part; means to isolate said external terminal from another of an adjoining module; a tab at each of said modules opposite said conformed edge, and removable fastener means in engagement with said tab and said base for affixing each module on said structure.

3,263,130

MANUAL BY-PASS SWITCH FOR METER RECEPTACLE ASSEMBLY

Harold A. Duvall, Pasadena, Calif., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Nov. 21, 1963, Ser. No. 325,261
6 Claims. (Cl. 317—107)



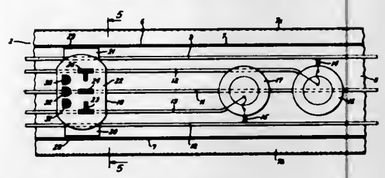
1. A meter receptacle assembly for a watt-hour meter having two pairs of contact blades extending outwardly therefrom, said meter receptacle assembly comprising an enclosure including a front cover portion having an opening therein, two pairs of spring-jew sockets mounted in said enclosure in alignment with said opening in said front cover portion and respectively adapted to receive the contact blades of the meter, and by-pass switching means operable to provide continuous electrical service when the meter is removed from said meter receptacle assembly and said contact blades are removed from said spring-jaw sockets, said by-pass switching means including a pair of electrically conductive contact members mounted in said enclosure respectively adjacent the spring-jaw sockets of one of said pairs thereof and having portions movable into and out of engagement respectively therewith, means in said enclosure electrically connecting said contact members respectively with the spring-jaw sockets of the other of said pairs thereof, a pair of cam means respectively disposed between said contact members and said spring-jaw sockets of said one pair thereof and turnable while therebetween to one position to effect engagement of said contact members respectively with said spring-jaw sockets of said one pair thereof and to another position to effect disengagement of said contact members respectively from said spring-jaw sockets of said one pair thereof, and operating means mounted on said front cover portion and operatively connected to said cam means, said operating means being operable from the front of said front cover portion to turn said cam means.

3,263,131

ELECTRIC POWER BUSWAY WITH PLUG-IN BRANCH CIRCUIT TAKEOFF

Raymond N. Rowe, Wakefield, R.I., assignor to General Electric Company, a corporation of New York

Filed Dec. 11, 1963, Ser. No. 329,711
7 Claims. (Cl. 317—116)



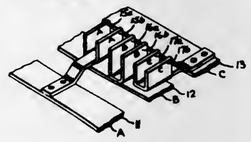
1. In a busway distribution system
(a) a bus bar housing,
(b) a plurality of continuous main feeder bus bars within said housing,
(c) a branch bus bar having a plurality of separate sections mounted within said housing in spaced apart end to end relationship,
(d) an electrical connection from each of said sections to one of said main feeder bus bars, and
(e) a circuit protective device included in each of said electrical connections and mounted on said housing and
(f) a plurality of plug-in receptacles each mounted on said housing and having electrical connections to one of said branch bus bar sections and to a second one of said main feeder bus bars thereby to provide a plurality of plug-in connections for a plurality of external branch circuits.

3,263,132

CIRCUIT BREAKER LOAD CENTER

Charles Bangert, Jr., West Hartford, Conn., assignor to General Electric Company, a corporation of New York

Filed Dec. 24, 1964, Ser. No. 420,877
11 Claims. (Cl. 317—119)



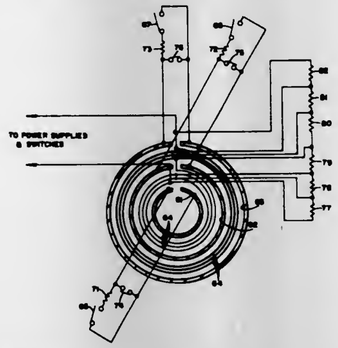
1. An electric circuit control device panel board comprising a generally planar base, insulating means mounted on said base, and a plurality of electrical contacts supported on said insulating means, each said electrical contact including at least one pair of parallel joined blade members extending generally normal to the plane of said base, the spacing between said pairs of blade members being equal and said blade members being centrally positioned on said panel board in parallel alignment with the spacing between adjacent blade members of adjacent electrical contacts substantially equal to the spacing between said pairs of blades.

3,263,133

SUPERCONDUCTING MAGNET

Zdenek J. J. Stekly, Topsfield, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Aug. 27, 1962, Ser. No. 220,237
9 Claims. (Cl. 317—123)



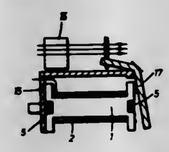
1. In a superconductive coil the combination comprising:
(a) a winding comprising a plurality of turns forming a plurality of layers of superconductive wire having effectively zero resistance in the superconductive state and a high resistance in the normal state;
(b) means for providing a plurality of electrical shunts across respectively different turns of said winding, said shunts comprising exterior of said winding shunting resistances having a resistance that is low compared to the resistance of said wire in the normal state; and
(c) electrically nonconductive means disposed between said turns and said layers of said wire.

3,263,134

MAGNETIC LATCHING RELAY

Wolfgang Grobe, Ludwigsburg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 20, 1963, Ser. No. 332,179
Claims priority, application Germany, Jan. 12, 1963, St 20,168
9 Claims. (Cl. 317—172)



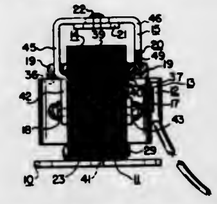
1. A magnetic latching relay comprising a permanent magnet composed of a plurality of overlapping parts, said permanent magnet establishing a magnetic flux in a predetermined path, a moving armature adjacent an end of said magnet, said path including at least one air gap adapted to be bridged by said moving armature, electromagnetic means for generating flux including first and second windings, said permanent magnet being shaped along longitudinal and transverse directions to support said first and second windings, the first winding being wound as a coil in a direction perpendicular to the longitudinal direction of the permanent magnet to produce a magnetic flux along the longitudinal direction of said magnet and through said predetermined path to move said armature to bridge the associated air gap, the said permanent magnet flux holding said armature in its operated position, the second winding being wound as a coil in a direction parallel to the longitudinal direction of the permanent magnet to produce a magnetic flux directed substantially in the transverse direction, the second winding serving as a release winding through operation of its magnetic flux in the transverse direction, said transverse magnetic flux altering the direction of flux from said permanent magnet by cross-magnetization causing it to release said operated armature.

3,263,135

SHOCK ABSORBER SOLENOID

Michael J. Dobes, Cleveland Heights, Ohio, assignor to The National Acme Company, a corporation of Ohio

Filed Oct. 14, 1963, Ser. No. 315,975
15 Claims. (Cl. 317—195)



1. In combination, a solenoid comprising a laminated core assembly, including a pair of parallel arms and a member joining a corresponding pair of the ends thereof, a coil assembly including a coil between said arms and having a plunger aperture therein, a coil liner mounted on the interior of said coil, said coil liner having projections on one end thereof extending beyond said coil and having a pair of ears struck from said projections and engaging said coil, retainer means secured to said core assembly and including leg portions connected to said arms and connecting means connecting a pair of said leg portions, said retainer means including resilient means mounted on said connecting means between said leg portions and engaging said coil assembly and said ears to prevent transverse and longitudinal movement of said coil and liner relative to said retainer means, and a T-shaped plunger assembly having a stem portion slidably disposed within said coil assembly aperture and between said arms and a head portion wider than the opening between the ends of said arms.

3,263,136

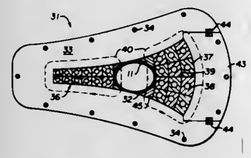
HIGH ENERGY ACCELERATOR MAGNET STRUCTURE

Hayden S. Gordon, Orinda, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed Jan. 20, 1964, Ser. No. 339,043
11 Claims. (Cl. 317—200)

1. In a magnet for guiding a charged particle beam within a particle accelerator, the combination comprising a ferromagnetic core having spaced apart pole pieces forming a gap through which said beam passes, said gap having a differing depth at opposite sides of the beam trajectory whereby the magnetic flux between said pole pieces is bowed with respect to said beam trajectory,

and an excitation coil having sections extending along opposite sides of said gap, said sections being of differing height corresponding to said difference in depth of op-



posite sides of said gap and having surfaces which are bowed in correspondence with the curvature of said magnetic flux in the region of said surfaces.

3,263,137
ELECTROLYTIC CAPACITOR HAVING FILMED-ELECTRODE OF SPACED LAYERS

Heinrich Naumann and Fritz Müller, Berlin-Wilmersdorf, Germany, assignors to Hydrawerk Aktiengesellschaft, Berlin, Germany

Filed Nov. 15, 1961, Ser. No. 152,525
Claims priority, application Germany, Nov. 17, 1960, H 40,970; Nov. 30, 1960, H 36,760
10 Claims. (Cl. 317—230)

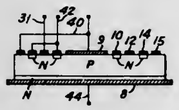


1. A low-loss electrolytic capacitor having a high capacitance-to-volume ratio, said capacitor including at least two porous electrodes and a mass of electrolyte, at least one of said electrodes being coated, at those places where it comes into contact with the electrolyte, with a metal oxide film which constitutes a dielectric and which renders said one of said electrodes a valve metal electrode, said one electrode being a composite electrode comprising: a plurality of superposed individual electrode strips of matched surface configuration whose active surface areas are artificially enlarged to a liquid-permeable condition; and a porous layer interposed between each adjacent pair of said strips for causing dielectric to be completely covered with the electrolyte.

3,263,138
MULTIFUNCTIONAL SEMICONDUCTOR DEVICES

Thomas P. Nowslk, Youngwood, and Herbert Walter Henkels, Rockwood, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 29, 1960, Ser. No. 11,686
1 Claim. (Cl. 317—235)

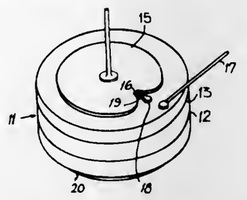


A transistor comprising a unitary body of semiconductor material of one conductivity type having spaced major surfaces, a collector electrode containing opposite type conductivity determining impurities fused to one of said major surfaces and producing in said body a fused P-N junction, a first base electrode fused in non-rectifying contact with the other of said major surfaces of said semiconductor body, a first ring-shaped emitter electrode containing opposite type conductivity determining impurities spaced from and surrounding said first base electrode and fused to and producing in said body at P-N junction, a first ring-shaped base electrode spaced about said first emitter electrode and fused to said semiconductor body in non-rectifying contact, a second ring-shaped emitter electrode containing opposite type conductivity determining impurities spaced about said first ring-shaped base electrode and fused to said semiconductor body and producing said body a P-N junction, a second ring-shaped base electrode spaced about said second emitter electrode and fused to said semiconductor body in non-rectifying contact, a first lead bridged to said first base electrode and said second ring-shaped base electrode, a second lead bridged to said first and second emitter electrodes, a third lead to said first ring-shaped base electrode, said third lead being separate from said first lead and a fourth lead to said collector electrode to provide a tetrode transistor.

3,263,139
FOUR-REGION SWITCHING TRANSISTOR COMPRISING A CONTROLLED CURRENT PATH IN THE EMITTER

Peter Arthur Turner, Rugby, England, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Aug. 20, 1962, Ser. No. 217,795
Claims priority, application Great Britain, Aug. 29, 1961, 31,072/61
4 Claims. (Cl. 317—235)



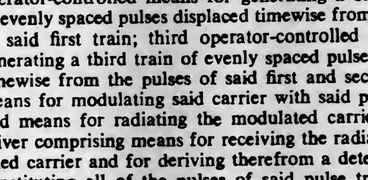
1. A controlled rectifier comprising a wafer of semiconductor material having a region of one conductivity characteristic and two end regions of opposite conductivity characteristic with the regions arranged to provide two PN junctions in the wafer, a further region which serves as the emitter region to said rectifier extending over a substantial part of the surface of one of said end regions and forming a PN junction therewith, an electrode in ohmic contact with said further region, a trigger electrode in ohmic contact with said end region and a base electrode in ohmic contact with the surface of the other end region of the wafer, with said further region being shaped to provide a narrow finger which extends towards the trigger electrode and is the part of the region closest thereto, whereby substantially all of the current which flows between said trigger electrode and the further region passes through the PN junction between the finger and the end region.

3,263,140
TRIMMER CAPACITOR WITH DIRECT TRAVEL MECHANISM

Matthew A. Lafer, Teaneck, N.J., and Saul Levinson, New York, N.Y., assignors to JFD Electronics Corporation, Brooklyn, N.Y., a corporation of New York

Filed July 24, 1963, Ser. No. 297,330
1 Claim. (Cl. 317—249)

A trimmer capacitor comprising, in combination, a conductive bushing, a dielectric cylinder secured to said bushing and extending from one surface thereof, a rotatable adjustment screw having one end captured in said conductive bushing and extending into said dielectric cylinder, an electrode on said dielectric cylinder, a conductive piston positioned within said dielectric cylinder and threadably connected to said adjustment screw, and a direct travel adjustment mechanism for moving said piston; said direct travel mechanism comprising a piston guide means composed of a metal stamping having a disk shaped central portion and first and second arms extending outwardly in opposite directions from one another from opposite peripheral portions of said central disk; said first and second arms bent substantially perpendicular to said disk and diverging slightly outwardly from one another; said central portion of said guide rod member secured to said bushing; said extending arms of said guide rod member sym-

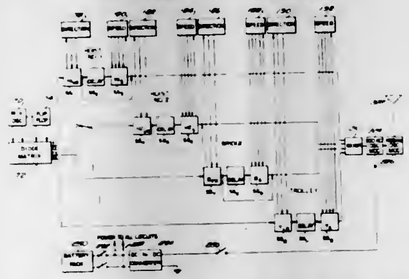


metrically disposed on opposite sides of said adjustment screw; said piston having first and second openings in a wall thereof perpendicular to the axis of said piston; said first and second extending arms of said metal stamping extending through said first and second openings respectively; said extending arms preventing rotation of said piston with respect to said bushing when said adjustment screw is rotated; said outwardly diverging first and second arms biased into engagement with a side of their said respective first and second openings in said piston.

3,263,141
RADIO CONTROLLED PLURAL MOTOR CRANE CONTROL SYSTEM

Renato N. Nicola, Manchester, Conn., assignor, by mesne assignments, to Kaman Aircraft Corporation, Bloomfield, Conn., a corporation of Connecticut

Filed Feb. 26, 1963, Ser. No. 261,029
20 Claims. (Cl. 318—16)

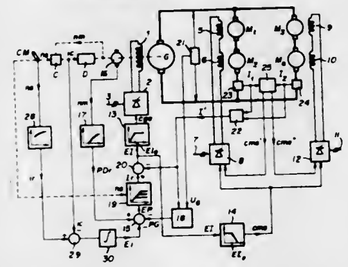


1. In combination with a crane having three operating motors, a system for remotely controlling said motors comprising an operator-controlled transmitter located away from said crane and a receiver mounted on said crane; said transmitter comprising means for generating a carrier signal, first operator-controlled means for generating a first train of evenly spaced pulses, a second operator-controlled means for generating a second train of evenly spaced pulses displaced timewise from the pulses of said first train; third operator-controlled means for generating a third train of evenly spaced pulses displaced timewise from the pulses of said first and second trains, means for modulating said carrier with said pulse trains, and means for radiating the modulated carrier; said receiver comprising means for receiving the radiated modulated carrier and for deriving therefrom a detected signal constituting all of the pulses of said pulse train, means responsive to all of said pulses in said detected signal to generate a control pulse train, means responsive to all of said pulses in said detected signal to generate first, second and third pulsed timing signals, means responsive to both said control pulse train and said first, second and third pulsed timing signals for extracting pulses according to said original first, second third transmitted pulse trains, means responsive to extracted first train pulses for controlling one of said motors, means responsive to extracted second train pulses for controlling a second one of said motors, and means responsive to extracted third train pulses for controlling a third one of said motors.

3,263,142
DIESEL ELECTRIC TRACTION SYSTEM

Roland Adoutte, Karl Schneider, and Max Baumgartner, all of 7 Rte. de Drize, Geneva, Switzerland

Filed Nov. 1, 1965, Ser. No. 505,937
3 Claims. (Cl. 318—99)



1. A diesel-electric power system for vehicle traction, comprising a separately excited, diesel-driven D.C. generator adapted to supply current to the armature windings of a plurality of separately excited D.C. traction motors having their armature windings disposed in at least two branches connected in parallel to said generator, an A.C. source connected respectively by means of controlled rectifiers to the field windings of said generator and of the motors in each of said branches, power error signal generating means adapted to continuously deliver a signal proportional to a difference between the predetermined value of the diesel engine power corresponding to the measured speed of said engine and the electric power delivered by the generator, control signal generating means for producing signals controlling the current delivered by each of said rectifiers, said means comprising a first function generator delivering a first control signal for the rectifier supplying the generator field winding, and said first control signal being substantially proportional to said error signal up to predetermined value thereof and remaining constant at higher values of said error signal, said means further comprising a second function generator delivering a second control signal for the rectifiers supplying the field windings of the motors of said branches, said second control signal being at a constant value thereof until said first control signal attains said predetermined value and thereafter decreasing linearly with increase in said error signal, and said system further comprising means for maintaining the currents passing through said parallel branches at values substantially equal to one another.

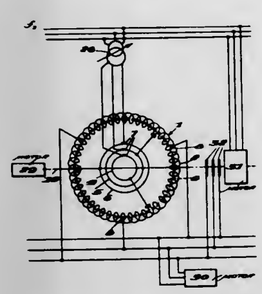
3,263,143
FREQUENCY CONVERTER

Georges Moressee, Neuilly-sur-Seine, and Robert Dechet, Boulogne-sur-Seine, France, assignors to Cie Electro-Mecanique, Paris, France, a body corporate of France

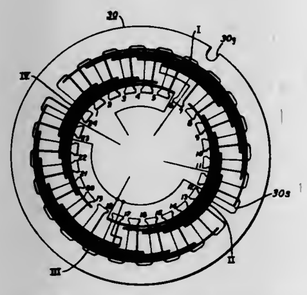
Filed Feb. 26, 1962, Ser. No. 175,627
Claims priority, application France, Mar. 9, 1961, 855,090, Patent 1,291,002
3 Claims. (Cl. 318—197)

1. In a frequency converter, the combination comprising a disk-shaped rotor including on opposite faces thereof a flat winding and rotatable in a plane axial gap, a

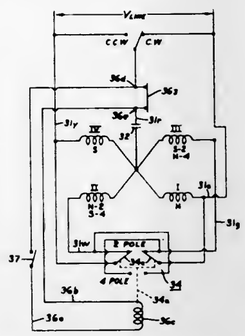
stator, magnetic members located on said stator at opposite faces of said rotor disk and delimiting said planar axial air gap, said magnetic members being parts of a yoke which closes the magnetic circuit, slip rings on said rotor in the form of concentric circular conductive tracks, connections between said slip rings and selected points on that part of said rotor winding which lies on one face of said rotor disk, a first set of brushes engaging said slip rings and through which an alternating current input at a given frequency is applied to said rotor winding from a network, and a second set of brushes slidably engaging bare conductor portions of that part of said rotor winding which lies on the opposite face of said rotor disk, the brushes of said second set acting as collectors for taking off current at a different frequency dependent upon the frequency of rotation of said rotor.



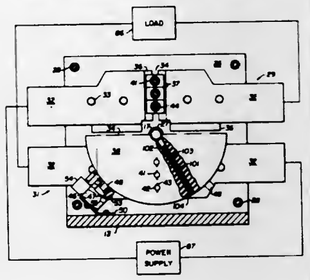
3,263,144
SINGLE-PHASE MOTOR AND OPERATING METHOD
George A. Neyhouse, Jack W. Savage, and Ralph K. Shewmon, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original applications Mar. 12, 1962, Ser. No. 178,803, now Patent No. 3,211,982, dated Oct. 12, 1965, and July 16, 1962, Ser. No. 210,258, now Patent No. 3,229,180, dated Jan. 11, 1966. Divided and this application July 19, 1965, Ser. No. 472,871
5 Claims. (Cl. 318—224)



1. A dynamoelectric machine, stator means and operating connections comprising, a magnetic core having slots therein, a winding including at least four conductive coil portions positioned in the slots in at least two layers and each wound to span a predetermined number of slots, double-pole double-throw switching means to reverse instantaneous polar polarity generated by series connection of said coil portions such that duration of current flow in at least a portion of said coil portions results in flux for operation including both starting and running under differing numbers of poles, a phase shifting means joined effectively for use in parallel across a predetermined number of said coil portions of said winding that is totally active at all times, means for removing said phase shifting means from effective use with said predetermined number of said coil portions, and single-pole double-throw switching means movable into first and second positions and adapted to connect said phase shifting means for use with said predetermined number of said coil portions when said single-pole double-throw switching means is in the one position, said single-pole double-throw switching means when in the second position being adapted to connect said phase shifting means for use with remaining coil portions other than said predetermined number of coil portion of said single winding for reversible operation of said dynamoelectric machine at multiple speeds with said winding.

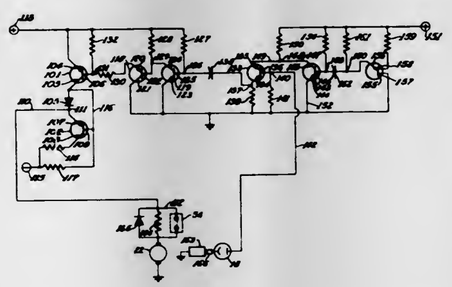


3,263,145
HIGH CURRENT REVERSING SWITCH
Warren L. Dexter, Orinda, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 26, 1964, Ser. No. 370,388
10 Claims. (Cl. 318—266)



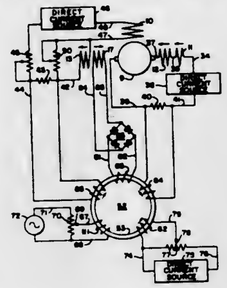
9. A compact high current switch for reversing the direction of current through a load, comprising said switch being of the class having:
(a) a threaded shaft,
(b) a reversible motor coupled to said shaft, said switch comprising:
(c) a set of four stationary contacts each disposed in separate quadrants around said shaft and in transverse relationship thereto, each of said stationary contacts being separated from adjacent stationary contacts by a gap whereby two gaps at 90° spacings are provided around said shaft,
(d) a first and a second insulative panel threaded to said shaft,
(e) a first set and a transverse second set of bridging contacts resiliently affixed to said first and second panels respectively and aligned with said gaps and each having a width exceeding that of said gaps, each of said sets including at least two bridging contacts disposed on directly opposite sides of said shaft,
(f) means preventing rotation of said panels,
(g) a motor control circuit coupled to said motor and adapted to selectively control the direction of rotation of said motor during switching, and
(h) position detecting means coupled to said control circuit whereby alternate extremes of position of said panels may be detected and said motor de-activated.

3,263,146
TRANSISTORIZED MOTOR REVERSING SYSTEM
Daniel R. Brosious, Bethlehem, Pa., and David D. Doran, Westport, Conn., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
Original application May 1, 1961, Ser. No. 154,083. Divided and this application Feb. 7, 1963, Ser. No. 256,923
4 Claims. (Cl. 318—293)



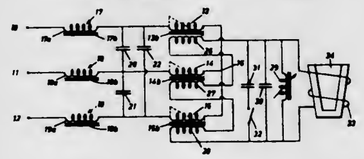
4. A motor control system comprising:
(a) switching means comprising first and second transistors of like conductivity type, each of said transistors having an emitter, base and collector electrode,
(b) said switching means including means connecting the collector of said first transistor to said second transistor whereby saturated conduction of said first transistor cuts off said second transistor, means biasing said second transistor in saturated conduction when said first transistor is cut off, and control means connected to the base of said first transistor,
(c) said control means comprising a third transistor, the state of conduction of which controls the state of conduction of said first transistor, and means including a resistor connected to the base of said third transistor biasing said third transistor in saturated conduction,
(d) a source of direct voltage connected to the emitter of said first transistor,
(e) a source of opposite polarity, equal amplitude, direct voltage connected to the collector of said second transistor,
(f) reversible motive power means having one side at ground potential and the other side connected in circuit with the collector of said first transistor and the emitter of said second transistor,
(g) input control signal means producing a signal the amplitude of which varies from a reference level as a condition to be controlled varies,
(h) circuit means connected to said input control signal means producing periodic unidirectional signals the amplitude of which is proportional to the amplitude of said input control signal, and
(i) a capacitor coupling said circuit means to the base of said third transistor whereby said third transistor is periodically cut off for a time proportional to the amplitude of said unidirectional signal.

3,263,147
CONTROLLED DIFFERENTIAL AUXILIARY COMMUTATOR WINDING
Max J. Robinett, Rochester, Minn., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 7, 1963, Ser. No. 286,393
16 Claims. (Cl. 318—353)



1. A variable speed direct current motor including an armature, a shunt type field winding, field winding excitation circuit means for varying the excitation of said shunt type field winding over a considerable range, a compensating winding, a commutating winding, armature circuit means including energizing means connecting said armature, said compensating winding and said commutating winding in series, a cumulative auxiliary commutating winding, means for energizing the cumulative auxiliary commutating winding from the excitation circuit means of the shunt type field winding, a differential auxiliary commutating winding, and means including saturable magnetic means operatively connected to the field winding circuit means and to the armature circuit means and responsive to changes in current in both the field winding and the armature for variably exciting the differential auxiliary commutating winding.

3,263,148
STATIC FREQUENCY MULTIPLYING SYSTEM
Paul Peter Biringer, Toronto, Ontario, Canada, assignor to Ajax Magnethermic Corporation, Youngstown, Ohio, a corporation of Ohio
Filed May 21, 1962, Ser. No. 196,341
3 Claims. (Cl. 321—7)



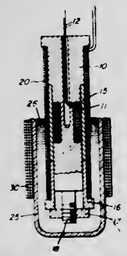
3. In a multiphase system, a source of low frequency current, a primary structure for each phase of said source energizable by the latter having a current voltage relationship which is non-linear, a reactance having a current voltage relationship which is linear providing a high impedance path for harmonic components of said frequency reflected by each said primary structure, each reactance being electrically introduced between its respective primary and the source, a capacitance, each capacitance being electrically interposed between the separate

primaries for providing a low impedance path for harmonic currents passing non-sinusoidal current to said primary structures, the relationship between inductive reactance and capacitive reactance as determined at the source frequency being maintained in the ratio of the ohmic values of

$$\frac{X_L(\text{inductive reactance})}{X_C\ (\text{capacitive reactance})}$$

within specified numerical limits, dependent upon the number of phases of the sources resulting in a symmetrical circuit, the said reactances being maintained within the stated relationship eliminating resonance at the second harmonic current and eliminating resonance at the first odd harmonic current characteristic of the number of phases which would appear at the source.

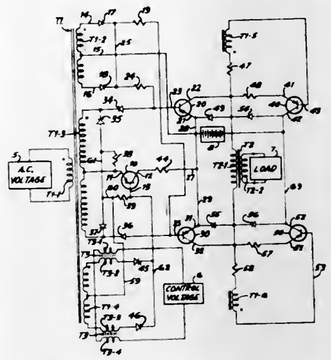
3,263,149
SUPERCONDUCTIVE D.-C. TO A.-C. CONVERTER
William H. Meiklejohn, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed July 5, 1961, Ser. No. 121,940
4 Claims. (Cl. 321—44)



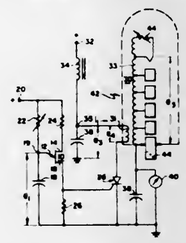
2. An apparatus for converting direct current to alternating current comprising, an A.-C. output coil including an inductive winding and a core, a sleeve constructed of a material capable of being rendered superconductive operatively enclosing said A.-C. output coil to prevent magnetic flux from reaching said A.-C. output coil which is not in excess of the amount required to render said superconductive sleeve normally conductive, a D.-C. input coil operably surrounding said superconductive sleeve to subject it to a magnetic field, and an A.-C. excitation coil operatively enclosing said D.-C. input coil, the magnetic field created by said A.-C. excitation coil combining with the magnetic field of said D.-C. coil to control the conductive state of said sleeve.

3,263,150
CONTROL ARRANGEMENT FOR STATIC INVERTERS
Harold H. Britten and John H. Cutler, Waynesboro, Va., assignors to General Electric Company, a corporation of New York
Filed Apr. 21, 1961, Ser. No. 104,681
13 Claims. (Cl. 321—45)

13. An inverter circuit comprising a plurality of transistors in a bridge circuit, said transistors having emitter, base, and collector electrodes, unidirectional current conducting means connected between the emitter and collector of each said transistors and polarized to conduct current from collector to emitter, a source of direct current connected across one diagonal of said bridge circuit, output means connected across the other diagonal of said bridge circuit, a source of input voltages of alternate polarity, first voltage responsive means responsive to said input voltages to normally retain a first and second of said transistors non-conducting, second voltage responsive means selectively operative in response to the polarity of said input voltages to render either a third or a fourth of said transistors conducting, third voltage responsive means selectively operative in response to the polarity of said input voltages to render either said first or said second transistor conducting, said second and third voltage responsive means coincidently rendering conductive transistors in nonadjacent branches of said bridge circuit, and voltage responsive means operative a preselected time after application of each said input signals to render said third voltage responsive means inoperative and thereby terminate conduction in either said first or said second transistor.



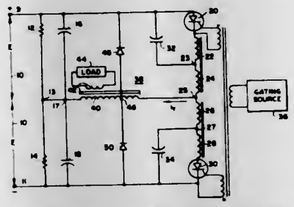
3,263,151
POWER SUPPLY FOR X-RAY APPARATUS
Harold T. Boeker, Brookfield, Wis., assignor to General Electric Company, a corporation of New York
Filed July 2, 1962, Ser. No. 206,989
15 Claims. (Cl. 321—45)



1. In combination with a unidirectional potential source and an end-grounded resonant transformer having primary and secondary elements; gate controlled rectifying means and charge storage means in circuit with said primary element and said source, said primary element and said storage means forming a resonant frequency circuit, a variable frequency oscillator and means for applying the output of said oscillator as gating signals to said gate controlled rectifying means to render said gate controlled rectifying means conductive, said storage means thereby discharging through said primary element and through said rectifying means.

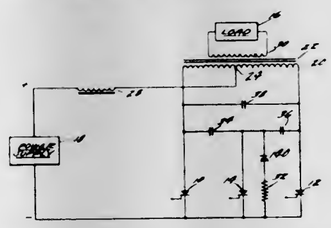
3,263,152
STATIC INVERTER
Loren H. Walker, Waynesboro, Va., assignor to General Electric Company, a corporation of New York
Filed Aug. 21, 1962, Ser. No. 218,276
13 Claims. (Cl. 321—45)

1. Apparatus for converting a unidirectional power source to an alternating current power source comprising, input means for applying a unidirectional potential to said apparatus, saturable transformer means comprising primary and secondary windings, a first switching circuit for enabling current to flow through said primary winding in one direction, said first switching circuit comprising a first series combination of a first pair of substantially like inductors and a first switching element, said first inductor pair in series arrangement forming a junction therebetween and having mutual unity coupling therebetween, a second switching circuit for enabling current to flow through said primary winding in a direction opposite to said one direction, said second switching circuit comprising a second series combination



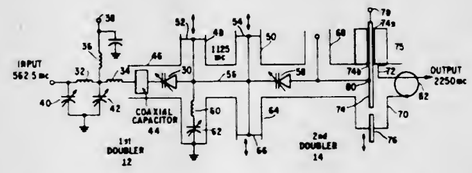
of a second pair of substantially like inductors and a second switching element, said second inductor pair in series arrangement forming a junction therebetween and having mutual unity coupling therebetween, a first capacitor connected between said junction of said first inductor pair and said input means, a second capacitor connected between said junction of said second inductor pair and said input means, and switching means for controlling said switching elements, said switching means including gating means for alternately rendering said switching elements conductive and said saturable transformer means operative to alternately render said switching elements non-conductive.

3,263,153
INVERTER COMMUTATING CAPACITOR CHARGING SYSTEM
Francis Lawn, Windsor, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Oct. 30, 1962, Ser. No. 234,119
9 Claims. (Cl. 321—45)



2. In a pulse width modulated inverter having a pair of controlled rectifiers adapted to be controlled by a third rectifier and means for cyclically and alternately firing said controlled rectifiers, the improvement comprising:
- a source of direct current having an active terminal and a return terminal,
- a transformer having a secondary and a primary winding,
- said primary winding split into a first primary winding portion and a second primary winding portion, said winding portions having a common center point,
- a first controlled rectifier connected in a series circuit relationship between said first winding portion and said return terminal,
- a second controlled rectifier connected in a series circuit relationship between said second winding portion and said return terminal,
- a first inductor electrically conected to said common center point and said active terminal,
- a comutator capacitor combination having a first and second capacitor connected in series circuit relationship,
- said capacitor combination electrically connected across said transformer primary winding,
- a third controlled rectifier electrically connected to said return terminal and the point electrically common to said first and second capacitors,
- a series circuit combination comprising a diode and an impedance electrically connected in series, and
- said series circuit combination electrically connected to said return terminal and said point common to said first and second capacitors.

3,263,154
CASCADED HARMONIC MULTIPLIERS
Kenneth P. Steele, Eden, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 25, 1962, Ser. No. 204,937
11 Claims. (Cl. 321—69)

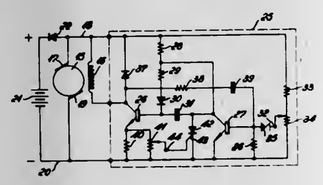


5. In frequency multiplying apparatus operative at microwave frequencies, a section of coaxial transmission line having inner and outer conductors, first and second varactor diodes connected in the inner conductor of said transmission line and each operative when biased to generate harmonics of an input signal frequency, said varactors being in series, coaxial cavities, one following each varactor, and each cavity having end walls and each including a central stub resonant at a selected one of said harmonics and operative to trap frequencies other than said selected harmonic produced by the preceding varactor diode, means connecting the inner conductor of said transmission line to a point on the stub of said first coaxial cavity, selected to provide resistance matching of said first varactor diode to the output of said first cavity, a coaxial stub of a length equal to approximately a quarter wavelength at said input frequency connected in branch relationship with said transmission line at a point between said second varactor and said second coaxial cavity, said coaxial stub being operative to provide a reactive match between said second varactor diode and the output load of said second cavity, a source of direct current biasing voltage for said second varactor diode connected to the central stub of said second cavity, and means for coupling said selected harmonic from said second cavity.

3,263,155
VOLTAGE REGULATOR FOR GENERATORS
Franz Dietl, Stuttgart, Germany, assignor to Robert Bosch, G.m.b.H., Stuttgart, Germany
Filed Apr. 1, 1963, Ser. No. 269,361
Claims priority, application Germany, Apr. 7, 1962, B 66,709
4 Claims. (Cl. 322—28)

1. Voltage regulator for a self-excited generator having a shunt exciter winding and being operable at greatly varying speeds, comprising, in combination, main transistor means having collector, emitter and base electrodes,

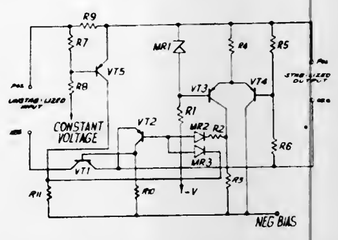
respectively, for controlling the exciter current of the generator, the collector-emitter circuit of said transistor means being connected in series with one end of the shunt exciter winding; base resistor means connected between said base electrode and the other end of said shunt exciter winding for assuring excitation upon starting the generator from standstill, control transistor means having collector, emitter and base electrodes, respectively, for alternatively rendering said main transistor means non-conductive when the output of voltage of the generator is superior to a predetermined value, and for rendering said main transistor means conductive when said output voltage is inferior to said predetermined value, said collector electrode of said control transistor means being connected both with a junction point between said base resistor means and said base electrode of said main transistor means, said base electrode of said control transistor means being connected with one output of the generator so as to carry a potential proportional to said output voltage; series-resistor means



connected at one of its ends in series with said emitter electrode of said main transistor means for producing a voltage drop depending upon said exciter current flowing through said main transistor means; and controllable semiconductor rectifier means having a control electrode and an anode-cathode circuit, the latter being connected between a junction point located between said base resistor means and said base electrode of said main transistor means, on one hand, and the other end of said series resistor means, on the other hand, said control electrode of said semiconductor rectifier means being connected with said series-resistor means for causing said voltage drop thereacross to control said semiconductor rectifier means, in such a manner that said control transisitor means is short-circuited and said main transistor means is rendered non-conductive when said exciter current through said main transistor means exceeds a predetermined maximum, even when the generator output voltage is inferior to said predetermined value thereof.

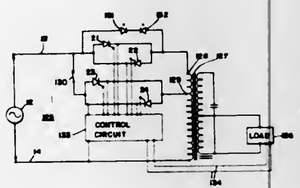
3,263,156
STABILISED POWER SUPPLY CIRCUITS
Anthony Leonard Isaacs, London, England, assignor to Ferguson Radio Corporation Limited, London, England, a British company
Filed Aug. 2, 1962, Ser. No. 214,310
5 Claims. (Cl. 323—9)

5. A stabilised power supply capable of protecting against excessive load current, said circuit comprising, first and second input terminals and first and second output terminals, a series regulating transistor connecting said first input terminal and said first output terminal, means connecting said second input terminal to said second output terminal and to a source of positive potential, a driver transistor, means connecting the emitter of said series transistor to the emitter of said driver transistor, means connecting the collector of said driver transistor to the base of said series transistor and also through a resistor to a source of negative biasing potential, a differential amplifier connected between said source of positive potential and said source of negative potential and having two input circuits and an output circuit, a voltage divider connected across said first and second output terminals and connected to one input circuit of said differential amplifier, a constant voltage source including a Zener diode connected to the other input circuit of said differential amplifier, means connecting the output of said differential amplifier to the base of said driver transistor,



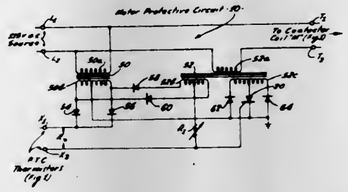
a further transistor connected between said source of positive potential and said source of negative potential, means for applying a portion of said load current to the base of said further transistor, and diode means connecting the collector of said further transistor to the base of said driver transistor.

3,263,157
REGULATOR CIRCUIT
Richard J. Klein, Canandea, N.Y., assignor to Acme Electric Corporation, Cuba, N.Y., a corporation of New York
Filed Apr. 17, 1962, Ser. No. 188,041
9 Claims. (Cl. 323—22)



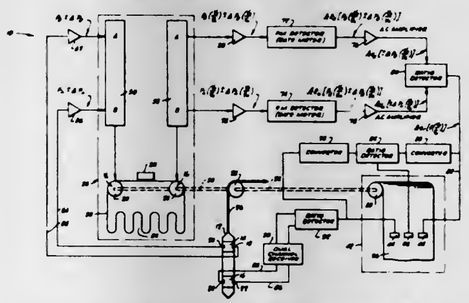
5. A regulator for operation of a load from an alternating voltage source comprising, in combination, means including zener diode impedance means for deriving a first voltage from said voltage source,
means for deriving second and third voltages from said voltage source of different magnitudes from said first voltage,
a constant voltage transformer,
first and second pairs of opposedly connected controlled rectifiers,
means including said transformer to connect said first voltage to said source and to a load,
means including said transformer and said first pair of rectifiers to connect said second voltage to said source and to a load,
means including said transformer and said second pair of rectifiers to connect said third voltage to said source and to said load,
and control circuit means for establishing conduction of said first pair of rectifiers prior to conduction of said second pair of rectifiers and to establish conduction of said second pair of rectifiers partway through each respective positive and negative half cycle.

3,263,158
SATURABLE REACTOR VOLTAGE CONTROL CIRCUIT
David W. Bargen, Scottsdale, and Bradford O. Van Ness, Phoenix, Ariz., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 15, 1963, Ser. No. 302,409
7 Claims. (Cl. 323—44)



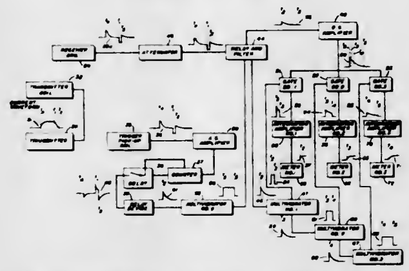
1. An electric control circuit including in combination: input terminal means for connecting the control circuit to a source of alternating-current voltage; output terminal means, a first transformer having a primary winding connected to said input terminal means and having a secondary winding; a second transformer having a primary winding and having a secondary winding; circuit means including the primary of said second transformer connecting said input terminal means to said output terminal means; switching means connected to said secondary winding of said second transformer for selectively reducing the impedance of the primary winding of said second transformer so as to increase the current flow therethrough; a pair of control terminals for connecting the control circuit across a variable impedance sensing element; means for connecting the secondary winding of said first transformer to one of said control terminals; and means for connecting the other of said control terminals to said switching means to actuate said switching means in response to a variation in the impedance of said sensing element.

3,263,159
METHOD AND APPARATUS FOR RECORDING AND REPRODUCING ANALOG FM DATA WITHOUT DISTORTION
James C. Albright, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
Filed Oct. 26, 1962, Ser. No. 233,349
18 Claims. (Cl. 324—1)



1. A method for recording and reproducing an FM data signal without distortion of the data due to variations in the velocities of the recording and playback device comprising the steps of:
simultaneously recording the FM data signal and an FM reference signal by moving a recording medium past a pair of recording heads at a first velocity Vi;
simultaneously reproducing the FM data signal and the FM reference signal by moving the recording medium past a pair of reproducing heads at a second velocity Vo such that the frequencies of the FM data signal and FM reference signal will be multiplied by the velocity factor Vo/Vi;
demodulating the reproduced FM data signal to produce a demodulated electrical singal representative of the data carried by the FM data signal multiplied by the velocity factor Vo/Vi;
demodulating the reproduced FM reference signal to produce a similar demodulated electrical signal representative of the FM reference signal multiplied by the velocity factor Vo/Vi; and,
dividing one of the demodulated signals by the other demodulated signal to eliminate the velocity factor and thereby provide an electrical signal proportional to the data carried by the FM data signal.

3,263,160
TIME DOMAIN ELECTROMAGNETIC INDUCTION METHOD AND APPARATUS FOR DETECTION OF MASSIVE SULFIDE ORE BODIES UTILIZING PULSES OF ASYMMETRIC WAVEFORM
William M. Dolan and George H. McLaughlin, Danbury, and Arthur A. Brant, Ridgefield, Conn., assignors to Newmont Mining Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 28, 1962, Ser. No. 240,639
15 Claims. (Cl. 324—6)

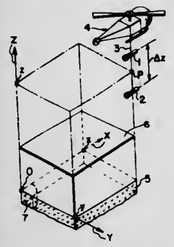


1. An electromagnetic method of detecting the presence of a deep-seated conducting ore body situated in an environment exhibiting the order of $1/100$ the conductivity of the ore, comprising,
(a) applying to a selected region of ground spaced magnetic field pulses of asymmetric form, the leading edge of each pulse being rounded and the trailing edge being a ramp of 2–15 milliseconds time duration, and
(b) obtaining curves of the voltages induced in a nearby receiver coil immediately after the termination of each pulse, the rate of decay of the induced voltage curves being taken as indicative of the presence or absence of a sub-surface conducting ore body.

3,263,161
METHOD FOR DETERMINING DEPTH AND FALL-OFF RATE OF SUBTERRANEAN MAGNETIC DISTURBANCES UTILIZING A PLURALITY OF MAGNETOMETERS
Kenneth A. Ruddock, Palo Alto, Calif., Howard A. Slack, Crystal Lake, Ill., and Sheldon Breiner, Mountain View, Calif.; said Slack assignor to The Pure Oil Company, Palatine, Ill., a corporation of Ohio, and said Ruddock and said Breiner assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Mar. 26, 1963, Ser. No. 268,000
10 Claims. (Cl. 324—8)

1. The method of determining the depth z and fall-off rate n of a subterranean magnetic disturbance below an area to be surveyed, comprising: determining the magnetic intensity H and the vertical gradient $\partial H/\partial z$ of the

earth's magnetic field for at least two points of substantially constant elevation lying within the area to be surveyed; locating the horizontal coordinates x, y of said points with respect to the center of said subterranean disturbance; constructing at least one profile of the total field H; determining the horizontal space derivatives $\partial H/\partial x$, $\partial H/\partial y$ from the slope of said profiles at said



points, substituting the values of x, y, H, $\partial H/\partial x$, $\partial H/\partial y$, $\partial H/\partial z$ for said points in the equation

$$x\frac{\partial H}{\partial x}+y\frac{\partial H}{\partial y}+z\frac{\partial H}{\partial z}=-nH$$

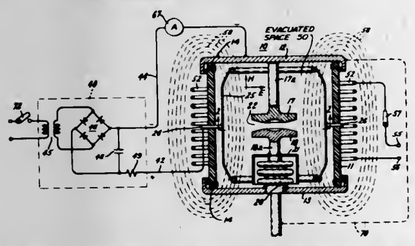
to thereby obtain at least two linear equations containing the unknowns z and n, and solving said linear equations to determine the values of z and n for said disturbance.

3,263,162

APPARATUS AND METHOD FOR MEASURING THE PRESSURE INSIDE A VACUUM CIRCUIT INTERRUPTER

John R. Lucek, Pittsfield, Mass., and Willard J. Pearce, King of Prussia, Pa., assignors to General Electric Company, a corporation of New York

Filed Apr. 20, 1962, Ser. No. 188,991
6 Claims. (Cl. 324—33)



4. In an arrangement for measuring the pressure inside a vacuum circuit interrupter of the type comprising an evacuated envelope, a tubular vapor-condensing shield located inside the envelope adjacent the inner periphery of the envelope for protecting the envelope against vapor condensation, and inner structure disposed internally of the tubular shield comprising a pair of electrodes between which arcs are established during interrupter operation, a portion of said inner structure normally being electrically isolated from the shield by an evacuated space enclosed by said shield and surrounding said inner structure portion, the combination of:

(a) means comprising an external circuit having a pair of terminals adapted to be electrically connected to said shield and said inner structure portion, respectively, for applying a unidirectional voltage between said shield and said inner structure portion of such a polarity that said shield acts as an anode and said inner structure portion acts as a cathode,

(b) means located externally of said envelope for establishing a magnetic field having its lines of force extending longitudinally of said tubular shield through the space enclosed by said shield surrounding said inner structure portion,

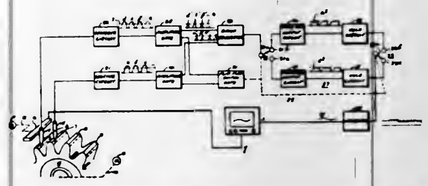
(c) and means for measuring the current in said external circuit when said unidirectional voltage is applied with said magnetic field present.

3,263,163

SYSTEM FOR MEASURING THE LEADING EDGE PROFILE OF TEETH IN A GEAR STRUCTURE

George B. Foster and Hall Cary, Worthington, Ohio, assignors, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 8, 1962, Ser. No. 228,898
1 Claim. (Cl. 324—34)



A system for measuring the leading edge profile of the teeth in a gear structure comprising, means for fixedly positioning a first distance probe to develop a voltage representative of the contour of each tooth in the structure at the leading edge profile, means for positioning a second distance probe from said first probe with a spacing approximating that of the spacing between one or more succeeding teeth, means for scanning said second probe to and fro along the horizontal dimension of said teeth, said second probe operative to develop a voltage representative of movement of said probe across the contour of each tooth in the structure at the point of traversing the leading edge profile; a first and a second sensing oscillator circuits, means for connecting the output voltage of said first probe to said first oscillator to modulate the output thereof and means for connecting the output voltage of said second probe to said second oscillator to modulate the output thereof, a first and second pulse forming circuit having said first and second oscillator outputs respectively connected thereto and each operative to generate a pulse each time said output voltage goes through a predetermined amplitude level; a ramp generator for developing a rise time voltage from a zero level, a control means, means for alternately connecting the pulse outputs from said pulse forming circuits to said ramp generator to respectively initiate and terminate repetitively said rise time voltage and simultaneously alternately connecting said pulses to said control means, a first and second hold circuit, an integrating means, means responsive to said control means output for alternately connecting one hold circuit to said ramp generator to maintain the peak value voltage while connecting the other hold circuit to said integrating means to read out the previous peak voltage of said ramp generator, and means connected to said integrating means for indicating the variations in successive ones of said peak readings as representative of the average leading edge profile of the teeth in said gear structure.

3,263,164

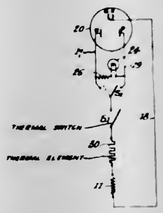
ELECTRICAL GROUND AND POLARITY TESTER WITH THERMALLY CONTROLLED SWITCH MEANS

Louis G. Solgere, 1410 Weyler Ave., Louisville 15, Ky.

Filed Oct. 10, 1961, Ser. No. 144,273
2 Claims. (Cl. 324—51)

2. An electrical circuit tester for testing continuity and polarity of an unloaded electrical convenience outlet receptacle in a grounded neutral circuit comprising connector means including a plurality of terminal members,

indicating means connected between a pair of said plurality of terminal members, a first switch means for selective and alternate separate connection to each of one of said pair of terminal members, thermally controlled timed switch means for breaking circuit continuity when energized to demonstrate proper ground and phase connection and electrical circuit loading means serially connected between said first switch means and a terminal



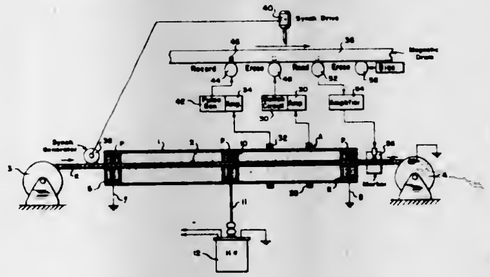
member on said connector means other than said pair of terminal members whereby upon connection of said connector means to an energized electrical receptacle accommodating said terminal members said thermal switch breaks circuit continuity by operating in predetermined time responsive to current flow determined by said resistive load and the phase relation of conductors connected to said energized receptacle and continuity thereof may be determined.

3,263,165

APPARATUS AND METHOD UTILIZING NON-CONDUCTIVE TUBE MEANS CONTAINING AN IONIZED GAS FOR CORONA TESTING OF INSULATED ELECTRICAL CABLES

David Eigen, Passaic, N.J., assignor to The Okonite Company, Passaic, N.J., a corporation of New Jersey

Filed Oct. 16, 1962, Ser. No. 230,807
5 Claims. (Cl. 324—54)



4. The method of locating a defect in the insulation of an insulated electric cable that comprises:

advancing a cable, the conductor of which is at a reference potential, through a volume of an ionized gas that is contained within the bore of an electrically non-conductive tube that has a cable entering end and a cable exiting end;

maintaining within the tube an alternating current voltage that has a maximum voltage differential at a zone within the tube and a voltage progressively decreasing to said reference potential in both directions from the high voltage zone toward the ends of the tube, whereby a defect in the insulation can result in corona;

detecting electric corona impulses exterior of the tube at a point along its length intermediate the high voltage zone and the cable exiting end of the tube, and

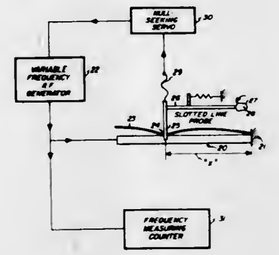
utilizing the detected impulses to locate the defect.

3,263,166

PRECISION MOVEMENT MEASURING APPARATUS USING STANDING WAVES

Carroll F. Augustine, Farmington, and Carl P. Treuselt, Detroit, Mich., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware

Filed Aug. 13, 1962, Ser. No. 216,592
3 Claims. (Cl. 324—58.5)



1. A measuring gauge for measuring object displacement between a reference position and a position to be measured comprising

generating means for generating a variable high frequency electromagnetic signal,

conductor means for receiving said high frequency electromagnetic signal at one end thereof,

means for terminating the other end of said conductor means to produce an electromagnetic standing wave therein,

probe means,

means for providing movement of said probe means along said conductor means in response to the object displacement between a reference position and a position to be measured,

said probe means being sensitive to the amplitude of said electromagnetic standing wave,

null indicating means being connected to said probe means to indicate a null of the standing wave when the frequency of the variable frequency generating means has been properly adjusted,

means for indicating the change in frequency of the standing wave which occurs during the adjustment of the variable frequency generating means thereby indicating the position of the probe means along said conductor means.

3,263,167

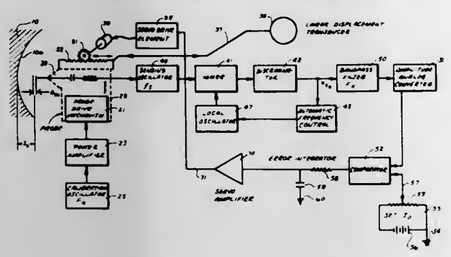
APPARATUS FOR MEASURING THE NON-LINEAR DIMENSION OF A WORKPIECE

George B. Foster and Hall Cary, Worthington, Ohio, assignors, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 4, 1962, Ser. No. 228,436
7 Claims. (Cl. 324—61)

1. A system for measuring the dimensions of a workpiece comprising, a non-contacting sensor having an electrical parameter variable in accordance with the distance from a workpiece in one direction, positioning means for said sensor, a sensing oscillator producing a frequency shift with respect to displacement of said sensor, means connecting said variable electrical parameter of said sensor to said oscillator to frequency modulate the same in accordance with any variation in distance between said sensor and said workpiece, a local oscillator, means for beating the output of said sensing oscillator with said local oscillator signal, means for discriminating the beat signal, and means for connecting the discriminated output in a closed loop circuit to said local oscillator for maintaining a reference level with respect to the frequency

shift of said sensing oscillator; means also connected to the output of said discriminator for converting said beat signal to an analog signal, a reference analog signal producing means, means for comparing said two analog



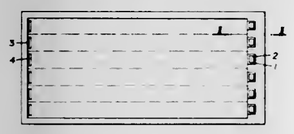
signals to produce a difference analog signal, and means for connecting the difference analog signal to said positioning means for said sensor for repositioning the same to a reference distance.

3,263,168

STOPPING DEVICE FOR A TIME MEASURING APPARATUS, PARTICULARLY FOR SWIMMING RACES

Walter Rainer, Dornbirn, Vorarlberg, Austria, assignor to Wilhelm J. Hanhart, Vernate, Ticino, Switzerland

Filed Oct. 5, 1962, Ser. No. 228,675
4 Claims. (Cl. 324—70)



1. A stopping device for a time measuring apparatus, particularly for swimming races for a plurality of swimming lanes, comprising

a time measuring means,

means for starting and stopping, respectively, said time measuring means,

said starting means being disposed at the start of said swimming lanes comprising a first circuit including in series said time measuring means, a circuit closing switch adapted to be closed to initiate the operation of said time measuring means and a relay responsive switch normally in closed position, and

a second circuit including in series a voltage source, a rheostat, a relay opening said relay responsive switch, a fixed electrode and a movable electrode being adapted to engage said fixed electrode at the end of the time period to be measured, said stopping means being disposed at the end of said swimming lanes opposite the start thereof,

said voltage source establishing a predetermined potential difference between said electrodes,

a body of water,

said electrodes being at least partly submerged in said body of water and spaced apart from each other at a distance sufficient to prevent a closing of said second circuit at the given voltage from said voltage source,

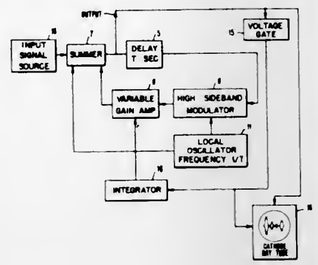
said relay cooperating with said relay responsive switch of said first circuit, so that said relay is rendered operative upon contact between said electrodes, thereby operating said relay responsive switch and opening said first circuit.

3,263,169

AUTOMATIC GAIN CONTROL FOR RECIRCULATING LOOP SPECTRUM ANALYZER

Winslow R. Remley, Bethesda, Md., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 31, 1962, Ser. No. 234,344
6 Claims. (Cl. 324—77)



1. An automatic gain control circuit for a spectrum analyzer comprising:

generating means for generating a control signal having an amplitude greater than the amplitudes of frequency components in a signal to be analyzed;

a signal circulating loop including in series relationship a delay line element, a heterodyning circuit, a variable gain amplifier, and summing circuit means for combining the signal to be analyzed and said control signal with signals circulating in said loop, said generating means connected to said summing circuit means for injecting said control signal into said circulating loop;

gating means connected to said loop for passing signals circulating in said loop exceeding a predetermined threshold; and

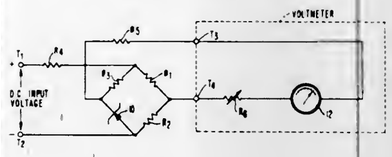
amplifier control means responsive to changes in the signals passing through said gating means for correcting the gain of said amplifier in a manner inverse to the change of said signals passing through said gate.

3,263,170

EXPANDED SCALE VOLTMETER BRIDGE CIRCUIT HAVING EQUAL VALUE LINEAR AND NON-LINEAR IMPEDANCE ARMS AT BALANCE

Kurt H. Schneider, Maspeth, N.Y., assignor, by mesne assignments, to A & M Instrument, Inc., Long Island City, N.Y., a corporation of Delaware

Filed Aug. 2, 1961, Ser. No. 128,736
6 Claims. (Cl. 324—131)



1. An expanded scale voltmeter circuit comprising three resistors and a Zener diode coupled together to form a bridge circuit having three linear branches and one non-linear branch, said bridge circuit further including a pair of input terminals for receiving a voltage from a source of voltage to be measured and also including a pair of output terminals, a meter connected between said pair of output terminals and having an indicator which is at rest position when said bridge is balanced, said Zener diode being of the alloyed junction type, said Zener diode further

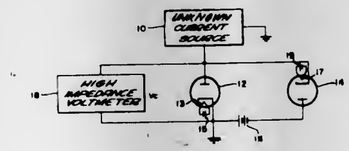
having a relatively low value of back current in the non-Zener region of its characteristic curve and a relatively sharp transition between the non-Zener and Zener regions of its characteristic curve, each of said resistors being approximately equal to each other in resistance value, said resistors further having a resistance value equal to the back impedance of said Zener diode when said meter indicator is in said rest position, whereby there is provided an expanded scale voltmeter having an improvement in sensitivity by a factor of approximately 10, and also having significantly reduced error due to temperature changes.

3,263,171

MICRO CURRENT MEASURING DEVICE USING PLURAL LOGARITHMIC RESPONSE HEATED FILAMENTARY TYPE DIODES

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Conrad S. Josias

Filed Mar. 5, 1962, Ser. No. 180,392
2 Claims. (Cl. 324—132)



1. A bipolar current measuring apparatus for measuring currents in the micro-micro ampere range comprising, a first and a second diode of a type having an anode and a heated filamentary cathode, whereby a current flow may be established through the diodes in response to filamentary cathode heating in the absence of anode potential, said diodes being further characterized in that each possess a logarithmic response characteristic, means connecting the anode of said first diode directly to the cathode of said second diode, a potential source means directly connected between the cathode of said first diode and the anode of said second diode for reducing to a preselected value in the micro micro ampere range a flow of current established through the diodes in response to filamentary cathode heating, a source of input current of a value to be measured, means directly connecting said source of input current in series with the anode and the cathode of said first diode, and a high impedance voltage measuring means having the junction terminals thereof directly connected to the anode and cathode of said first diode, whereby the high impedance voltage measuring means may be employed as an indicator in measuring the value of the input current.

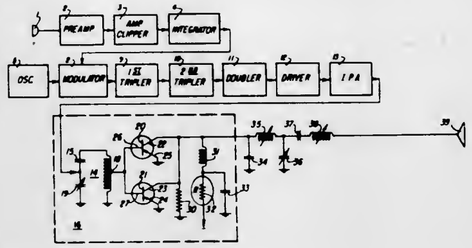
3,263,172

TRANSISTOR TRANSMITTER OUTPUT AMPLIFIER PROTECTION MEANS

David L. Gunn, Lombard, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed June 20, 1963, Ser. No. 289,304
3 Claims. (Cl. 325—151)

1. A transistor output circuit including in combination a transistor having input and output circuit means, antenna circuit means, said output circuit means applying first signals to said antenna circuit means for radiation thereby, said antenna circuit means being susceptible to picking up second signals from other transmitters which may be present and applying said second signals to said output circuit means, whereby said first and second signals add to produce a voltage greater than the breakdown voltage of said transistor causing said transistor to break down and power supply means including transistor protecting means for applying energy to said transistor, said transistor protecting means including an electric lamp through which



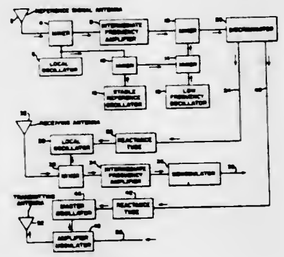
current flows to said transistor, said lamp operating to limit the current supplied to said transistor whereby said output circuit means continues to apply said first signal to said antenna circuit means without damage to said transistor.

3,263,173

DOPPLER EFFECT COMPENSATION

Harold B. Collins, Jr., Wayne, and Orvil R. Jones, Berwyn, Pa., and Andrzej Dobrowolski, Pacific Palisades, Calif., assignors to General Electric Company, a corporation of New York

Filed July 31, 1961, Ser. No. 171,324
2 Claims. (Cl. 325—420)



2. A radio station adapted to compensate automatically for Doppler frequency shift in transmission from a remote transmitting apparatus, moving relatively to the said station, of communications signals received at the said station from the said remote transmitting apparatus, comprising:

Means for receiving a pilot signal transmitted at a predetermined known first frequency from the said remote transmitting apparatus, the said pilot signal being shifted by the Doppler effect during transmission so that upon its arrival at the said station it has a second frequency different from the said first frequency and for deriving from the said pilot signal as received at the said station at the said second frequency a control signal representative of the algebraic difference between the said known first frequency and the said second frequency;

Communication signal receiving means tuned to receive band of frequencies different from the said first frequency and the said second frequency and having a center frequency, and tunable by application of a control signal to displace, in frequency, the said band of frequencies;

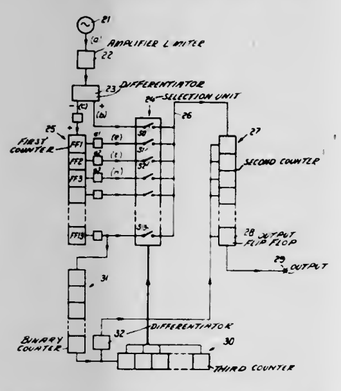
Means for applying the said control signal to the said communication signal receiving means to tune that means to displace the said band of frequencies by an amount bearing the same ratio to the center frequency of the undisplaced said band that is borne by the difference between the said first and second frequencies to the said first frequency, and of the same algebraic sign.

3,263,174

DEVICE FOR DERIVING FROM A CONTROL A.C.-VOLTAGE OF RELATIVELY HIGH FREQUENCY AN A.C.-VOLTAGE OF LOWER FREQUENCY AND WITH A PREDETERMINED PHASE POSITION IN TIME

Bengt Harry Bjorkman, Sollentuna, and Nils Sture Nilsson, Solna, Sweden, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 3, 1963, Ser. No. 305,998
Claims priority, application Sweden, Sept. 5, 1962, 9,610/62
4 Claims. (Cl. 328—25)



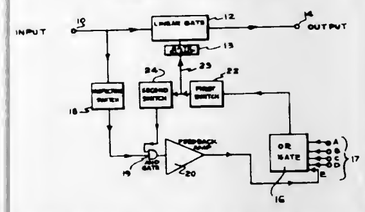
1. A digital frequency synthesis device for producing an output voltage of adjustable frequency, comprising means for generating a series of input pulses, a first pulse counter connected to said means for receiving said input pulses, said first pulse counter comprising a plurality of bistable stages connected in cascade, means connected to each of said stages for deriving an intermediate pulse indicative of a change of state of each of said stages, selectively operable connecting means having provision for input and output, means connected to the input of said selectively operable connecting means for supplying thereto said intermediate pulses from said first pulse counter, a second pulse counter comprising a plurality of cascaded bistable stages including an input stage and an output stage, means connecting the output of said selectively operable connecting means to the input stage of said second pulse counter, the output stage of said second pulse counter alternating states at the end of each cycle of said second counter thereby generating the output voltage of adjustable frequency, a cyclically operating phase checking pulse counter chain comprising the said first pulse counter serially connected to a further pulse counter, said further pulse counter having the same number of counting stages as the said second pulse counter, means connected to said further pulse counter for deriving a further pulse at each operation cycle of the said counter chain, and means connecting said means for deriving to said second pulse counter for restoring all stages of said second counter to a starting position upon the introduction of said further pulse thereto in order to maintain predetermined phase conditions for various output frequencies.

3,263,175

PULSE GATE CIRCUIT INHIBITING TRANSMISSION WHEN BLOCKING SIGNAL COINCIDES WITH INPUT SIGNAL

William D. Stahl, Northfield, Ill., assignor to Radiation Instrument Development Laboratory, division of Nuclear-Chicago Corporation, Melrose Park, Ill., a corporation of Delaware

Filed Apr. 2, 1964, Ser. No. 356,849
2 Claims. (Cl. 328—99)



1. A pulse gating circuit of the type which is interposed between a source of data pulse signals and pulse signal utilization apparatus for selectively blocking passage of undesired data pulses, comprising:

gate circuit means having an input terminal for connection to said source and an output terminal for connection to said utilization apparatus, and having a control circuit operative to perform said selective blocking in response to an applied control signal;

means for supplying said control signal to the control circuit in response to one or more externally supplied logic signals representative of signal processing functions in said utilization apparatus;

sensing means responsive to said data pulse signals and coupled to said gate circuit means input terminal for providing an auxiliary control effect whenever said data pulse signals from the source are at any level other than a reference level corresponding to complete absence of data pulses;

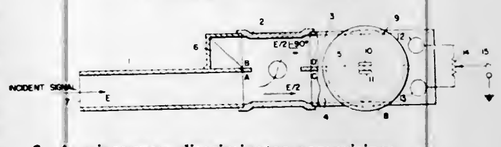
means intercoupling said sensing means and said control signal supply means for applying a blocking control signal to said control circuit in response to the simultaneous presence of said auxiliary control effect with any one or more of said logic signals and for maintaining the application of said blocking control signal thereafter until the simultaneous absence of said auxiliary control effect and all of said logic signals.

3,263,176

MICROWAVE FREQUENCY DISCRIMINATOR USING A CAVITY RESONATOR

Henry J. Riblet, 35 Edmunds Road, Wellesley, Mass.

Filed Nov. 4, 1963, Ser. No. 321,029
4 Claims. (Cl. 329—116)



3. A microwave discriminator comprising:

waveguides constituting two parallel wave energy transmission channels;

a power dividing 90° phase shift coupler arranged to couple an input signal to the two transmission channels;

a cavity resonator;

first and second slots for respectively coupling each transmission channel to the cavity resonator;

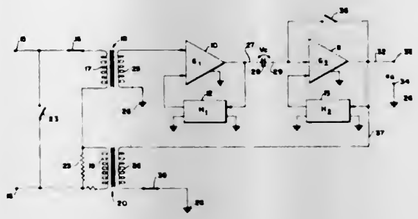
and each transmission channel having means for detecting the wave energy therein.

3,263,177

A.C. COUPLED AMPLIFIER OFFSET STORAGE AND RESET CIRCUIT

Richard L. Durrett, Los Angeles, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed June 26, 1963, Ser. No. 290,780
3 Claims. (Cl. 330—9)



1. In a potentiometric feedback amplifier including a preamplifier having first and second input and first and second output terminals and having a feedback network connected between said input and output terminals, a post amplifier having first and second input and first and second output terminals and a feedback network connected between said second input and first output terminals of said post amplifier, the input terminals of said preamplifier serving as the input terminals of the potentiometric feedback amplifier, and the output terminals of said post amplifier serving as the output terminals of said potentiometric feedback amplifier, the improvement comprising

a capacitor connected in series between an output terminal of said preamplifier and said first input terminal of said post amplifier, and

a switch connected between said first output terminal of said post amplifier and said first input terminal of said post amplifier, whereby said capacitor serves to store offset voltages in said potentiometric feedback amplifier to cause the output voltage across the output terminals thereof to equal substantially zero when said switch is closed.

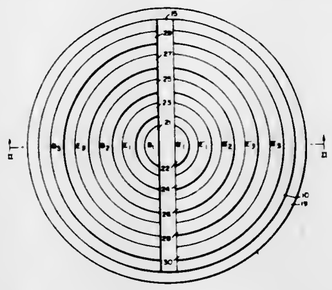
3,263,178

UNITARY SEMICONDUCTOR DEVICE PROVIDING FUNCTIONS OF A PLURALITY OF TRANSISTORS

Thomas P. Nowalk, Irwin, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 31, 1962, Ser. No. 220,674
5 Claims. (Cl. 330—30)

1. A semiconductor power amplifier comprising: a substrate of semiconductive material of a first type of semiconductivity and having opposed major surfaces; at least two electrodes in rectifying contact with the first of said major surfaces; at least two electrodes in ohmic contact with said first major surface; at least one electrode in rectifying contact with the second of said major surfaces; said electrodes in rectifying contact with said first major surface being oppositely disposed from said at least one electrode in rectifying contact with said second major surface; said electrodes on said first major surface having an elongated configuration and disposed in a pattern comprising a first rectifying contact and a first ohmic contact in an electrically interacting relationship and a second rectifying contact and a second ohmic contact in an electrically interacting relationship; said first rectifying contact and said first ohmic contact being symmetrical with said second rectifying contact and said second ohmic contact about a line substantially through the center of said first major surface; said substrate having an isolating barrier extending along said line in said first major surface to provide a structure capable of operation as at least two matched transistor amplifiers having a common rectifying contact.

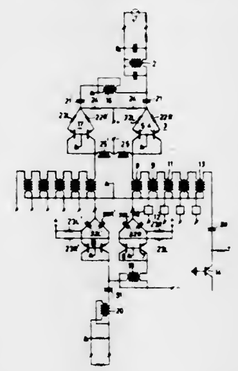


3,263,179

DISTRIBUTION AMPLIFIER FOR ELECTRICAL SIGNALS

Raphael Isidoor Gabriel Bosselaers and Cornelis Arie Schipper, Hilversum, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 22, 1963, Ser. No. 267,098
Claims priority, application Netherlands, May 11, 1962, 278,386
4 Claims. (Cl. 330—54)

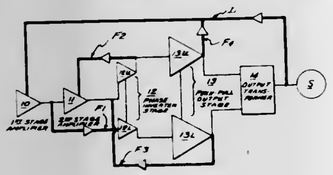


1. A distribution amplifier suitable for use in a community antenna distribution system comprising a source of signals, a plurality of amplifiers each having input, output and reference terminals, a plurality of transformers each having bifilar wound primary and secondary windings, means connecting one of said primary windings between said source of signals and the input terminal of one of said amplifiers, means connecting one end of each of the remaining primary windings to the input terminal of a different amplifier and the other end to one end of a different secondary winding, means connecting the other end of the secondary windings and the reference terminal of each of said plurality of amplifiers to a point of reference potential, and means connected to the remaining end of the remaining secondary winding for providing a reflection free termination thereof.

3,263,180
AUDIO POWER AMPLIFIER UTILIZING MULTIPLE FEEDBACK LOOPS

Gunther Christian Dencker, 1905 Jenks St., Evanston, Ill.

Filed June 25, 1963, Ser. No. 290,504
4 Claims. (Cl. 330—81)

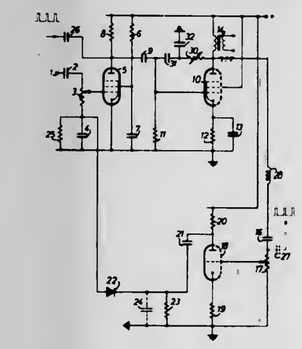


1. A power amplifier of high fidelity for driving a speaker through an output transformer having a secondary for connection to said speaker, said amplifier including successively connected tube stages comprising a first stage of amplification, a second stage of amplification, a phase inverter third stage, and a push-pull output stage connected to said output transformer, said amplifier having a main feedback loop connected from the secondary of said transformer to a control point within the first stage to supply 40 dbs of negative feedback, and said amplifier including stage inter-connection means maintaining the overall low frequency phase shift due to all of said stages within a range that is substantially smaller than the low frequency phase shift contributed by said output transformer, means providing a negative feedback loop responsive at 5000 kc. and above connecting the output from one section of the push-pull stage to the output from the second stage, means providing a negative feedback loop responsive at 1000 kc. and above connecting the output from another section of the push-pull stage to said main feedback loop, and means providing a negative feedback loop responsive at 20 kc. and above connecting the output from the phase inverter stage to a control point within the second stage.

3,263,181
CIRCUIT FOR ADJUSTING VOLUME AND COMPRESSION OF A SIGNAL

Hans-Jürgen Bobzin, Hamburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 28, 1962, Ser. No. 206,047
Claims priority, application Germany, July 10, 1961, P 27,506
6 Claims. (Cl. 330—130)

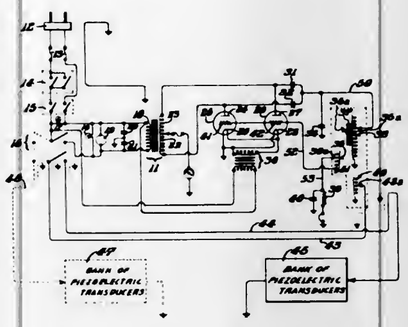


1. A system for the control of amplitude and compression of a signal with a single potentiometer, comprising a source of signals to be controlled, an amplifier stage having an input circuit, an output circuit, and control terminal means, whereby the amplification of said amplifier stage is dependent upon potential at said control terminal means, means applying said signals to said input circuit, a source of alternating voltage having substantially no frequency components within the frequency range of said signal and having an amplitude independent of said amplifier stage, a potentiometer, means connecting one end of said potentiometer to a point of reference potential, means applying said alternating voltage and the output signals of said amplifier stage to the other end of said potentiometer, rectifier means, means connecting the movable arm of said potentiometer means to said rectifier means, and means connecting said rectifier means to said control terminal means, whereby the volume compression and amplitude of signals are simultaneously varied in said amplifier stage by said potentiometer means.

3,263,182
PULSED RADIO-FREQUENCY GENERATOR

Frank J. Opolski, Dearborn, George O'Neal, Jr., Detroit, and Carroll B. Range, Livonia, Mich., assignors to Detrex Chemical Industries, Inc., Detroit, Mich., a corporation of Michigan

Continuation of application Ser. No. 36,796, June 17, 1960. This application Feb. 12, 1965, Ser. No. 436,712
2 Claims. (Cl. 331—71)

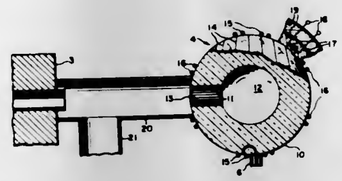


1. A radio-frequency generator comprising: an oscillator including a pair of amplifier devices each having two input connections and two output connections one of which is common; a common tank circuit comprising an inductance coil and a capacitance connected across the output connections of both amplifier devices; a common input circuit connected across the input connections of both amplifier devices, said input circuit including a feedback coil mutually coupled to the inductance coil of said tank circuit; a high-voltage step-up transformer having a primary and a center-tapped high-inductance secondary, the impedance of said secondary at the frequency of said oscillator being sufficiently high to allow said secondary to function as a radio-frequency choke; means for applying a low-frequency alternating-current voltage across the primary of said transformer; means for coupling one section of said center-tapped secondary across the output connections of one of said amplifier devices and the other section of said center-tapped secondary across the output connections of the other of said amplifier devices, thereby to pulse said amplifier elements alternately at a pulse repetition frequency which is low relative to the oscillation frequency of said tank circuit for developing a series of pulsed radio-frequency oscillations; and an output coil mutually coupled to the inductance coil of said tank circuit for developing a pulsed oscillation output; said inductance coil, feedback coil and output coil comprising a mutually-coupled oscillator-coil assembly having a plurality of spaced-apart outer spacers and a plurality of spaced-apart inner spacers; a rotatable ferrite tuning core within the area bounded by said inner spacers; a plurality of spaced-apart ferrite bars outside of said ring of outer spacers, a portion of the windings of said inductance coil, feedback coil and output coil being wound about said inner spacers, the remaining portion of said windings being wound about said outer spacers, said spaced-apart ferrite bars functioning to restrain the radio-frequency field of the oscillator inductance coil within the coil assembly.

3,263,183
COMPOSITE ATOM STORAGE CELL AND CAVITY RESONATOR STRUCTURE FOR AN ATOMIC HYDROGEN MASER

Robert F. C. Vessot, Marblehead, Mass., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Sept. 24, 1962, Ser. No. 225,690
7 Claims. (Cl. 331—94)

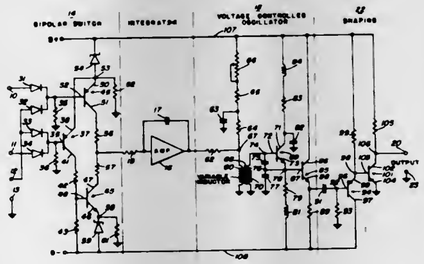


1. A storage cell for an atomic hydrogen maser comprising: a chamber with an entrance tube for receiving a collimated beam of particles directed therethrough; and a beam collimator disposed in said entrance tube substantially at the point of entrance of said tube into said chamber, said collimator comprising a bundle of small, thin tubes made from a material with a non-relaxing surface.

3,263,184
DIGITAL CONTROLLED VARIABLE FREQUENCY OSCILLATOR

Richard D. French, Linthicum, and William H. Austin, Odenton, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 26, 1964, Ser. No. 347,634
3 Claims. (Cl. 331—181)

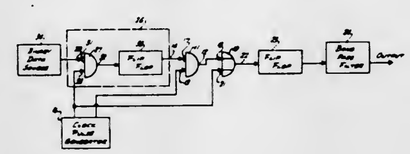


3. In a variable frequency oscillator circuit having an output frequency that is dependent upon digital logic input information, the combination comprising:
a plurality of input means;
polarity shifting means electrically connected to said plurality of input means and having first, second, third and fourth diode means having cathode and anode electrodes;
first, second and third bistable means, said first bistable means coupled to the respective cathodes of said first and second diode means and said second bistable means coupled to the respective cathodes of said third and fourth diodes and the base of the third bistable means, said bistable means responsive to receive a plurality of predetermined combinations of digital voltage input signals for shifting the output signal polarity in a predetermined manner responsive to each combination of digital input voltages;
integrator means responsive to the signal polarity of said polarity shifting means; and
voltage control oscillator means coupled to said integrator means and responsive to the polarity and magnitude of a signal from said integrator means.

3,263,185
SYNCHRONOUS FREQUENCY MODULATION OF DIGITAL DATA

Adam Lender, Palo Alto, Calif., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware

Filed Feb. 6, 1964, Ser. No. 342,891
11 Claims. (Cl. 332—9)

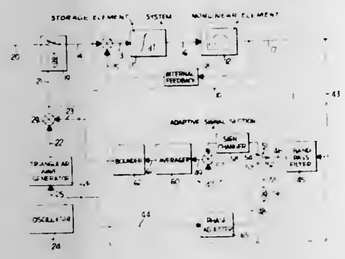


1. A method of synchronously converting a digital waveform having a series of pulses of two discrete amplitude levels and a given bit rate to frequency modulated pulses indicative of said digital waveform, comprising digitally differentiating said digital waveform and a series of associated clock pulses having a clock rate equal to the bit rate of the pulses of said waveform to thereby produce a digital differential of said waveform including a series of pulses varying between two discrete amplitude levels, digitally combining said digital differential with a second series of clock pulses at the same clock rate as said first series of clock pulses and shifted 180° in phase relative thereto to generate output pulses in time correspondence with said second series of clock pulses when same coincide in time with portions of the pulses of said differential at one of the amplitude levels thereof and to generate no output pulses when the second series of clock pulses coincide in time with portions of the pulses of said differential at the other of the amplitude levels thereof, and complementing said output pulses and said first series of clock pulses to thereby produce frequency modulated pulses changing between an upper frequency numerically equal to said clock rate and a lower frequency numerically equal to one-half said clock rate, and passing frequency components of said frequency modulated pulses in a band defined between said upper and lower frequencies while suppressing frequency components outside of said band to produce a sinusoidal frequency modulated wave wherein a frequency midway between said upper and lower frequencies is representative of said first amplitude level of said digital waveform and said upper and lower frequencies are representative of said second amplitude level of said digital waveform.

3,263,186
ADAPTIVE CONTROL WITH PULSE WIDTH MODULATION

Panait Paul Calcai, Madison, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Sept. 12, 1963, Ser. No. 308,448
10 Claims. (Cl. 332—14)



1. A control for a system having an input and an output and a control device operable between ON and OFF states to modulate the system input to adjust the value of the output, comprising,

means for providing a periodic signal for switching the control device between its two states at two points in each period of said signal, said period being invariant and being appropriate to produce an average term and a ripple in the value of the input and in the value of the output,

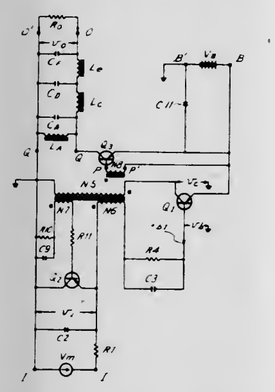
means responsive to the phase of the ripple in the output with respect to the phase of the ripple of the input and operable to produce a second signal indicating the direction to change the average value of the input for a desired output, and

means responsive to said second signal to vary the periodic signal to adjust the ON time of said control device to adjust the average value of the input to the system in the appropriate direction for the desired output.

3,263,187
FREQUENCY MODULATOR WITH BLOCKING OSCILLATOR

William H. Swain, Sarasota, Fla., assignor to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut

Filed Aug. 25, 1960, Ser. No. 51,938
2 Claims. (Cl. 332—16)

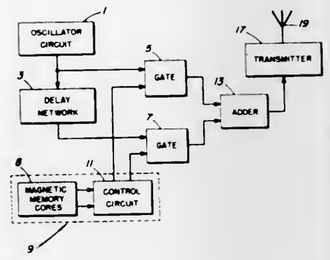


1. A frequency modulator comprising a blocking oscillator, a parallel resistance-capacitance timing network for determining the length of the periodically alternating "on" periods and "off" periods of said oscillator, a main winding in the output circuit of said oscillator, a feedback winding coupled to said main winding and connected to said timing network, a control winding coupled to said main winding, a source of modulating signals, integrating means for integrating said modulating signals, and chopper means being connected in parallel with said integrating means and being energized by said control winding for transferring said signals from said source to said feedback winding during said "off" periods and for short circuiting said integrating means during said "on" periods.

3,263,188
PHASE MODULATOR

Roy F. Sloan, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 10, 1963, Ser. No. 308,043
3 Claims. (Cl. 332—23)



1. A phase modulator for symmetrically phase modulating a carrier frequency signal to be transmitted comprising,

an oscillator source for generating an output signal of predetermined frequency,

a first gate circuit connected to receive said oscillator output signal as an input and being operable selectively to opened and closed conditions for passing and blocking respectively said input signal,

a delay circuit connected in circuit parallel with said first gate circuit to also receive said oscillator output signal as an input and being effective to cause a predetermined delay of said input signal,

a second gate circuit connected to receive said delayed signal from said delay circuit as an input and being operable selectively to opened and closed conditions for passing and blocking respectively said delayed input signal,

adding means connected to receive and add together the outputs of said first and second gate circuits to derive said carrier frequency signal to be transmitted, and

control means responsive to the information to be phase modulated on said carrier frequency signal for selectively opening and closing said first and second gate circuits in such a manner that both of said first and second gate circuits are concurrently opened to represent the unmodulated state of said carrier frequency signal,

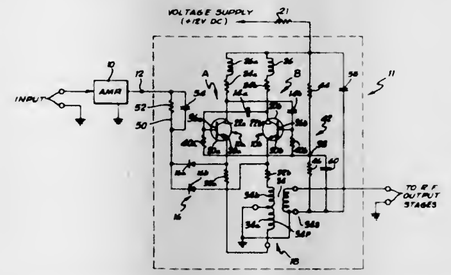
whereas each of said first and second gate circuits are opened individually in succession for each bit of said information to cause equal phase advance and phase delay respectively of said carrier frequency signal during modulation for each information bit,

whereby the integrated phase shift of said carrier frequency signal over the time interval of each information bit is minimized.

3,263,189
MULTIVIBRATOR FREQUENCY MODULATOR

Grant M. Smith, Cupertino, and Emil A. Trojak, Palo Alto, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Dec. 16, 1963, Ser. No. 331,012
4 Claims. (Cl. 332—24)



1. A multivibrator frequency modulator for accepting modulating input signals and supplying a frequency modulated output in response to the modulating input signals, the combination comprising:

a pair of switching means for alternately generating an output when energized, and including a pair of input electrodes;

cross-coupling means for cross-coupling one switching means to the other switching means;

power source means operatively coupled to the pair of switching means to alternately energize same at a predetermined rate;

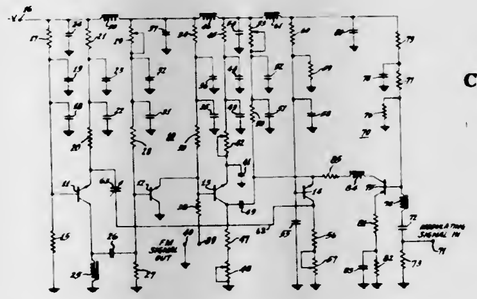
decoupling means connected between said pair of input electrodes and the modulating input signals for selectively decoupling the switching means one from the other, and for alternately coupling the switching means to said modulating input signals upon energization of the respective switching means;

output means coupled to said input electrodes to provide said frequency modulated output, wherein the predetermined rate of energizing the switching means and thus said frequency modulated output is varied in response to the modulating input signals.

3,263,190
FREQUENCY MODULATED OSCILLATOR

Adam Lochanko, Cherry Hill, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 19, 1963, Ser. No. 324,706
9 Claims. (Cl. 332—29)



1. A frequency modulated oscillator comprising, in combination,

a transistor device having base, emitter and collector electrodes,

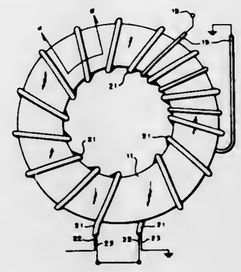
means connected to said electrodes to form a phase shift loop which has unity gain and a 360 degree phase shift at a given frequency, said transistor's base to emitter impedance contributing a portion of said 360 degree phase shift,

and means to vary said frequency by controlling the base-to-emitter impedance of said device to change said portion of phase shift in accordance with said base-to-emitter impedance change.

3,263,191
BROAD BAND TOROID R.F. TRANSFORMER

Edward N. Arvonio, Watson and Almshouse Roads, P.O. Box 193, Jamison, Pa.

Filed June 30, 1964, Ser. No. 379,424
5 Claims. (Cl. 333—24)



1. A broad band radio frequency transformer for operation at a predetermined frequency range and at high power levels and high input to output impedance ratios comprising:

a toroid core;

a first winding wound on said core;

a second winding electrically in series with said first winding and wound directly on said core in close parallel relationship with said first winding, said first and second windings being adjusted with respect to each other around said core to resonate at the center of said frequency range and comprising the primary of said transformer;

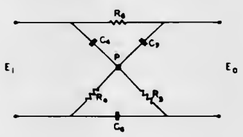
the inductance and capacitance of said first and second windings being selected to appear as an electrical quarter wave transformer at said frequency range; and

a third winding wound over said first and second windings and comprising the secondary of said transformer.

3,263,192
ONE REACTANCE-KIND TRANSMISSION NETWORKS

Charles F. White, 6810 Bock Road SE., Oxon Hill, Md.

Filed Jan. 30, 1964, Ser. No. 341,468
6 Claims. (Cl. 333—70)



1. A parallel-pi transmission network comprising:

a pair of input terminals M and N;

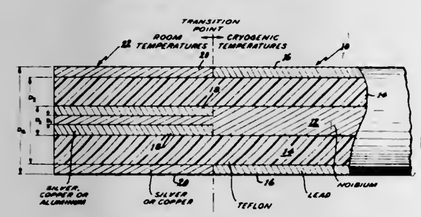
a pair of output terminals Q and R;

a point of connection P;
first impedance means connecting input terminal M with output terminal Q;
second impedance means connecting input terminal N with output terminal R;
third impedance means connecting input terminal M with said point of connection P;
fourth impedance means connecting said point of connection P with said output terminal R;
fifth impedance means connecting said input terminal N with said point of connection P;
sixth impedance means connecting said point of connection P with said output terminal Q, wherein said second, third and sixth impedance means are capacitors C_1, C_2 and C_3, respectively, and wherein said capacitors are proportioned to provide maximum transmission loss at a preassigned frequency, such that

$$C_1=\frac{X}{X+1};\ C_2=X \text{ and } C_3=1$$

where $0.1<X<10$.

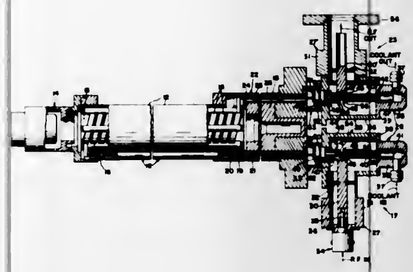
3,263,193
SUPERCONDUCTING TO NORMAL CONDUCTING CABLE TRANSITION
Richard J. Allen and Alfred J. Cummings, Baltimore, Md., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 19, 1964, Ser. No. 404,995
4 Claims. (Cl. 333—96)



1. A coaxial transition line having one portion operable at cryogenic temperatures, and a second portion at relatively elevated temperatures comprising, a stepped center conductor having a larger diameter at said portion operable at cryogenic temperatures and a smaller diameter at said second portion at relatively elevated temperatures, said center conductor being of a material having substantially zero D.C. resistance at cryogenic temperatures, and an overcoating to the dimension of said larger diameter on said smaller diameter of a metal having normally good resistivity at temperatures above cryogenic temperatures, a coaxial outer conductor spaced from said inner conductor, said outer conductor being of a material exhibiting substantially zero resistivity at cryogenic temperatures at said portion operable at cryogenic temperatures and of a material having normally good resistivity at temperatures above cryogenic temperatures along said second portion, and a dielectric material between said outer and said inner conductor.

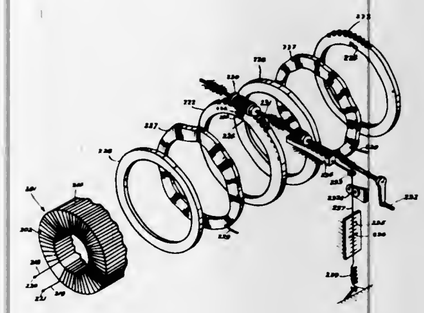
3,263,194
COUPLING MEANS
John W. Sullivan, Los Altos, and Robert J. Twiggs, Sunnyvale, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Aug. 24, 1964, Ser. No. 391,722
8 Claims. (Cl. 333—97)

1. A coupling means comprising: a hollow T-shaped member forming an outer conductor; said T-shaped member having a pair of arms and a leg; a hollow inner conductor along which radio frequency energy may travel and through which a fluid coolant may flow disposed within one of said arms; a dielectric pipe through which a fluid coolant may flow disposed within the other of said arms and being in fluid communication with said hollow



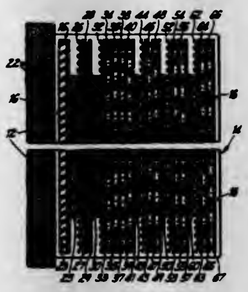
inner conductor; and, a second inner conductor along which radio frequency energy may travel disposed within said leg and being in radio frequency coupling relation to said hollow inner conductor, whereby radio frequency energy and fluid coolant may be separated within said coupling means with minimum perturbation.

3,263,195
AUTOTRANSFORMER
Carroll B. Vaughan, East Orange, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Original application Jan. 15, 1962, Ser. No. 166,224. Divided and this application Aug. 6, 1963, Ser. No. 300,312
2 Claims. (Cl. 336—45)



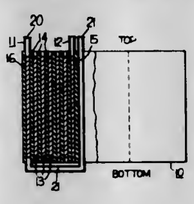
1. A multi tap auto transformer comprising a toroid core of magnetic material; a wire winding on said core of a commutator type; a plurality of adjacently placed brush groups each including a rotatably positionable ring gear mounted concentrically on the toroid; a conducting wrinkle ring washer mounted concentrically on the toroid and adjacent to and in electrical contact with the ring gear; an insulating ring washer mounted concentrically on the toroid and adjacent to the wrinkle ring washer; a brush carried on the ring gear and extending radially on said gear to make contact with the commutator surface on the wire winding; and operator-operative positioning means for rotating said ring gear about the toroid to adjustably position the brush carried by said ring gear relative to said commutator surface on the wire winding.

3,263,196
ENCAPSULATED ELECTRICAL COIL HAVING MEANS TO AID IMPREGNATION
Hubert Reber, Zanesville, Ohio, assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed July 16, 1963, Ser. No. 295,372
4 Claims. (Cl. 336—96)



2. An electrical coil including a plurality of concentric cylindrical layers of conductor, solid insulation sheets possessing high dielectric puncture strength and being permeable to a polymerizable resin in liquid form disposed between said conductor layers, woven fabric insulation sheets capable of passing air and said resin in liquid form therethrough disposed between said conductor and solid insulation layers with a fabric sheet adjacent to each conductor layer and to given solid insulation layers, and a polymerized infusible resin enveloping said coil and filling openings within said fabric and space between said conductor layers and said insulation sheets, whereby air voids are substantially eliminated within said coil and the radio influence noise generated by said coil is reduced.

3,263,197
COIL CONNECTION FOR REDUCTION OF STRAY LOSSES
Earl E. Lewis, Pittsburgh, Pa., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 18, 1963, Ser. No. 331,521
6 Claims. (Cl. 336—192)



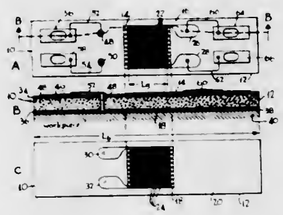
1. An inductive winding comprising,
a generally cylindrical coil having a plurality of turns of conductive sheet material wound to form a single electrical turn per layer and having a first end and a second end, and
a first lead connected to said first end and a second lead connected to said second end whereby an axially nonuniform axial current flow region is established near each said ends,
at least said first lead having a first part extending from the top of said coil and a second part extending from the bottom of said coil whereby the axial current flow along said first end is divided between said parts and the stray losses in the region of said first end are reduced,
one of said parts being positioned to extend axially along said second coil end to oppose the magnetic field associated with axial current flow along said second end to reduce the stray losses in the region of said second end.

3,263,198
POSITIONING TRANSFORMER STRUCTURE
Richard C. Rothweiler, Wauwatosa, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Mar. 27, 1964, Ser. No. 355,243
5 Claims. (Cl. 336—192)



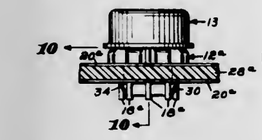
5. A primary structure of an air-core positioning transformer, said structure comprising an externally-threaded, elongated, cylindrical tube formed of insulating material, a wire wound in the threads to form a primary winding, holes extending through the wall of said tube at spaced intervals axially of the tube and opening into the base of selected ones of said threads, respectively, U-shaped pins received in said holes, respectively, with their bight portions surrounding said wire in the region of their associated holes, lead-in wires each having an end received within the bight portions of said pins, respectively, and soldered connections between said pins and said ends of the lead-in wires, respectively, and between said pins and the wire of said winding.

3,263,199
BENDING-STRAIN TRANSDUCER
Felix Zandman, Rosemont, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 25, 1960, Ser. No. 64,757
2 Claims. (Cl. 338—2)



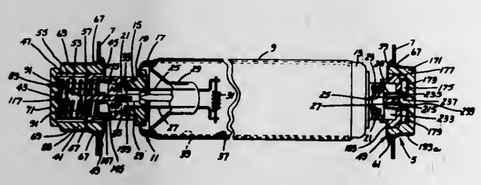
1. A bending strain transducer for the investigation of strain gradients imposed upon a workpiece, said transducer comprising first and second similar bonded resistance strain gauges having equal gauge lengths, an elongated base separator strip of a plastic material having a modulus of elasticity less than the modulus of elasticity of the workpiece, said plastic material having a dispersion of metal particles therein, said base strip having a uniform thickness and a predetermined base length exceeding said gauge lengths by at least ten times said thickness, said gauges being bonded symmetrically upon opposite surfaces of said base strip with their respective gauge lengths paralleling said base length and subtending the same portion of said base strip, and means substantially coextensive with a gauged surface of said transducer bonding said transducer to said workpiece throughout the area of one surface of the workpiece subtended by said base strip.

3,263,200
MICRO-LOGIC PACKAGE SPACER
Donald O. Kocmich, Hillsborough, Calif., assignor to United-Carr Fastener Corporation, Boston, Mass., a corporation of Delaware
Original application Jan. 30, 1963, Ser. No. 255,013. Divided and this application July 6, 1965, Ser. No. 472,395
1 Claim. (Cl. 339—17)



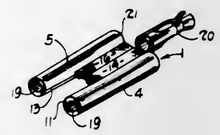
A combination of an electrical element having at least two leads extending therefrom, a mounting associated with said electrical element and a circuit board having an inner wall defining an aperture therethrough, said mounting comprising a tubular flexible body portion and a flange integral with and extending radially from one end of said body portion and a collar spaced from said flange and integral with and extending radially from said body portion at the other end thereof, said flange having a series of peripheral projections spaced from each other to provide a series of grooves and said collar having a series of slits formed on the periphery thereof, each of said slits being aligned with a corresponding groove on said flange, each of said grooves having a lead positioned therein and also positioned in the aligned slot formed on said collar, said electrical element being in superposed, abutting relation to said flange and said flange in superposed, abutting relation to said support and a portion of said body portion circumscribed by said inner wall and said collar underlying in abutting relationship said support and each of said leads electrically engaging one of the circuits on said printed circuit board.

3,263,201
FLUORESCENT LAMPHOLDER WITH QUICK-CONNECT TERMINALS
John M. Pistey, Fairfield, Conn., assignor to General Electric Company, a corporation of New York
Original application Mar. 12, 1962, Ser. No. 179,135. Divided and this application June 18, 1965, Ser. No. 465,114
6 Claims. (Cl. 339—52)



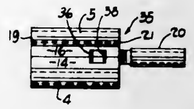
4. A lampholder for a fluorescent lamp comprising an insulating body with at least one chamber therein, at least two opposed conductor-receiving apertures extending into said chamber through respective opposite sides of said body, at least one resilient contact disposed within said chamber, said contact including an elongated strip section of U-shaped configuration and a looped strip section for resiliently engaging an associated contact pin of said lamp, the elongated strip section of said contact including a pair of opposed arms, said arms having their ends positioned angularly across the opposed inner ends of said apertures and being arranged for resilient movement in first and second opposite directions respectively to provide a pair of pressure-locking terminals for external leads pushed through said apertures, said looped strip section being disposed between the ends of said elongated strip section and arranged for resilient movement in a third direction transverse to said first and second directions thereby to engage the pin of said lamp, and structural means formed in said body between said apertures for engagement with said contact to substantially segregate the resilient movement of each of the arms of said contact from that of the other.

3,263,202
ONE-PIECE DUAL-BARREL ELECTRICAL CONNECTOR
Russell N. Dean, Edward R. Meeks, and Charles A. Kelley, Elyria, Ohio, assignors to EMTEC, Inc., Elyria, Ohio, a corporation of Ohio
Filed May 22, 1963, Ser. No. 282,363
14 Claims. (Cl. 339—150)



1. A connector for electronic circuits and the like comprising a unitary, one piece structure formed from a single blank and having two longitudinally extending hollow barrels each for the reception of at least one connector pin, and a flat continuous web extending between and interconnecting said barrels, said barrels having parallel axes, said web being substantially at the plane defined by said axes, each said barrel having a meeting line extending longitudinally for its full length at the junction with said web, said connector also comprising tab means extending from the free edge of each said barrel at said meeting line, said tab means extending parallel with and in engagement with said web, said engagement between and each said barrel having at least one mouth for the reception of a said connector pin.

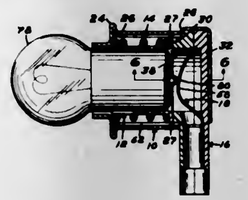
3,263,203
ONE-PIECE DUAL-BARREL ELECTRICAL CONNECTOR
Russell N. Dean, Los Angeles, Calif., and Edward R. Meeks and Charles A. Kelley, Elyria, Ohio, assignors to EMTEC, Inc., Elyria, Ohio, a corporation of Ohio
Original application May 22, 1963, Ser. No. 282,363. Divided and this application Oct. 18, 1965, Ser. No. 496,951
7 Claims. (Cl. 339—150)



1. A connector for electronic circuits and the like formed from a single piece of conductive metal and having two longitudinally extending barrels, having parallel

axes and being spaced apart a predetermined distance and interconnected by a flat web, said barrels having longitudinally extending meeting lines at their respective junctures with said web, tab means extending from the free edge of each said barrel at said meeting line, parallel with and in frictional engagement with said web, the ends of said tab means extending from said barrels, respectively, meeting in abutting relationship intermediate said barrels, and integral, unitary stop means comprising a projection extending laterally from said connector for positioning the connector in a terminal block means.

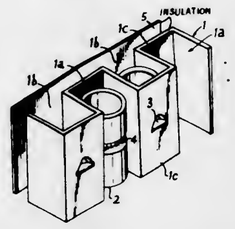
3,263,204
SPRING LOADED SOCKET AND FLEXIBLE CONTACT
Robert E. FitzGerald, Quincy, Mass., assignor to United-Carr Incorporated, Cambridge, Mass., a corporation of Delaware
Filed May 21, 1964, Ser. No. 369,164
1 Claim. (Cl. 339—154)



A lamp socket, including a tubular outer shell open at both ends, an inner tubular shell, also open at both ends, said inner shell having an integral circumferential flange, extending therefrom adjacent one of said openings, said flange having at least one tab extending therefrom and means formed on said outer shell for engaging said tabs, a helical compression spring engaged with said inner shell aligned between said inner shell and said outer shell and in abutting relation with said flange, an insert engaged with said outer shell at one of its open ends, said insert including an insulating housing having a circular portion of at least two integral extensions extending therefrom, one of said extensions being shorter than the other, and two contacts, each of said contacts having a tubular portion and an integral flexible leaf spring extending therefrom, each of said tubular portions of said contacts being circumscribed by at least a portion of one of said extensions and each of said flexible leaves extending partially within a component, formed in a circular portion by at least one rib, and a portion of each of said leaves extending above the plane of said housing and within the area defined by said outer shell.

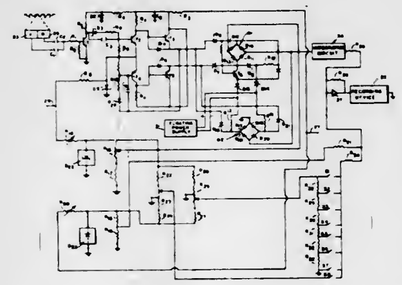
3,263,205
SOCKET UNITS FOR PLUG-AND-SOCKET CONNECTORS
Walter Chandler, Theydon Bois, England, assignor to Plessey-U.K. Limited, a British company
Filed Nov. 18, 1963, Ser. No. 324,586
Claims priority, application Great Britain, Nov. 30, 1962, 45,368/62
5 Claims. (Cl. 339—198)

1. A plug-in-type electrical connector member, which comprises an insulating body including a first strip of dielectric material, bent in alternate directions to form undulations, the spaces between individual undulations constituting contact-accommodating chambers, and a second strip having flat portions and being so secured to the first strip that adjacent undulations of the first strip are rigidly interconnected by such flat portions of the second strip, each said flat portion being attached to the apices of two adjacent undulations of the first strip so as to prevent opening of the undulations, at least some of the chambers including a wall portion formed with an integral element resiliently projecting into the chamber; and a plurality of plug-in-type contacts each having a



generally cylindrical portion accommodated in one of the chambers equipped with such projecting element, and each having at the outer side of said generally cylindrical portion a circumferential groove co-operating with the projecting element of said chamber.

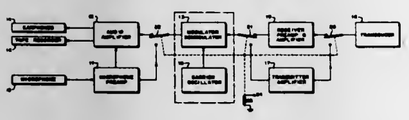
3,263,206
METHOD FOR DETERMINING TIME-AVERAGED DEPTH
James H. Brown, Severna Park, and Thomas A. Priscilla, Ferndale, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 26, 1963, Ser. No. 326,306
2 Claims. (Cl. 340—3)



1. Apparatus for determining the depth of a vessel in a fluid medium said apparatus comprising:
(a) a sonar transmitter;
(b) a sonar receiver;
(c) an integration circuit;
(d) a direct current floating reference voltage;
(e) a diode bridge circuit having four corner terminals with a diode between each pair of adjacent terminals, the diodes being oriented so as to provide a pair of parallel low resistance paths between a pair of opposite corners of the bridge circuit;
(f) a circuit, including the pair of low resistance paths of the diode bridge circuit, coupled to the reference voltage;
(g) means for charging the integration circuit through a circuit that includes the parallel paths between the other pair of terminals of the bridge circuit when the low resistance paths across the bridge circuit are energized by the reference voltage;
(h) and means responsive to reception of an echo pulse in the receiver for blocking flow of current from the reference voltage through the low resistance paths of the bridge circuit;

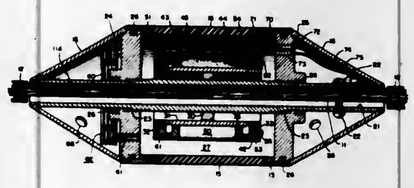
(i) and means including a pitch potentiometer for modifying the charge developed across the integration circuit and converting slant depths of the vessel into vertical depths.

3,263,207
TRANSISTOR UNDERWATER TELEPHONE SYSTEM
Vernon W. Kroamer, deceased, late of Sellersville, Pa., by Herbert L. West, administrator, Doylestown, Pa., and Herbert L. West, Doylestown, and Francis E. Huff, Hatboro, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Mar. 27, 1964, Ser. No. 356,015
5 Claims. (Cl. 340—5)



1. A helicopter-borne underwater telephone system wherein a transducer is carried under water on a cable extending from the helicopter, said system comprising:
a transmitter-receiver contained in said helicopter;
a transducer means for transmitting an acoustic signal in a water-transmissive frequency band in response to an electrical signal in said band from said transmitter-receiver and for passing to said transmitter-receiver an electrical signal in said band in response to a received acoustic signal in said band;
said transmitter-receiver comprising:
means for providing a carrier frequency which is the difference between said water transmissive frequency band and a common telephone pass band;
first means for receiving an electrical signal in the telephone band converting it to an acoustic signal in the telephone band;
second means for receiving an acoustic signal in the telephone band and converting it to an electrical signal in the telephone band;
modulator-demodulator means for adding said carrier frequency to said electrical signal from said second means and passing it to said transducer and for subtracting said carrier frequency from said electrical signal received from said transducer and passing it to said first means;
reactive means in said helicopter between said transmitter-receiver and said transducer for causing said transducer to be resonant at the center of said water transmissive frequency band;
a transmitter amplifier for passing an electrical signal from said modulator to said transducer after increasing the power level of said signal;
said transmitter amplifier comprising:
a first transformer;
transistor amplifier means for boosting said signal from said modulator and passing it to said first transformer;
a pair of transistors having a first set of common ends joined together to a voltage supply, said first transformer being joined to the bases of said pair of transistors;
a second transformer, said second transformer being connected to a second set of common ends of said transistors;
a two-way voltage limiting means connected in parallel with said second transformer across said second set of common ends of said transistors, said first transformer being center tapped to a voltage supply;
a receiver amplifier for receiving a signal from said reactive means and said transducer and boosting it and passing it to said demodulator, said receiver amplifier comprising:
a pair of transistor amplifier stages for receiving a pair of electrical signals from said transducer 180° out of phase with each other, one of said transistor amplifier stages having two transistors in series for reversing the phase of said signal 360° and the other transistor amplifier having one transistor stage for reversing the phase of said signal 180° so as to be in phase with the other of said signals;
means for passing the signals from both said amplifier stages to a third amplifier stage;
a third transformer;
means for applying the signal from said third amplifier stage to said third transformer;
a pair of transistor amplifiers having a first set of common ends joined together to a voltage supply, the bases of said pair of transistors being joined to said third transformer;
a fourth transformer, a second set of common ends of said pair of transistors being joined to said fourth transformer, said transformer being center tapped to ground and having means to pass a signal to said demodulator; and
a two-way voltage limiting means connected in parallel with said fourth transformer across said second set of common ends of said transistors.

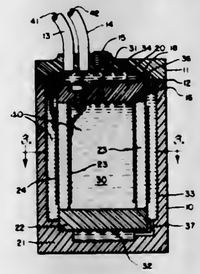
3,263,208
PRESSURE COMPENSATED TRANSDUCER
George R. Douglas and John H. Thompson, Pittsburgh, and Robert H. Whittaker, Export, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Sept. 12, 1963, Ser. No. 308,600
5 Claims. (Cl. 340—8)



1. An improved pressure compensated transducer positionable along a support cable having mounted therealong electrical signal transmission means, comprising:
(a) a first hollow cylindrical member positioned about said cable;
(b) first and second sets of set screws to position said first member in acoustical balance about said support cable;
(c) first and second end members adjustable along said first cylindrical member;
(d) a second hollow cylindrical member supported by said end members and defining herewith a first closed volume;
(e) an annular support member positioned about said first cylindrical member midway between said first and second end members;
(f) a third hollow cylindrical member supported at its midway point by said annular member;
(g) third and fourth end members supported on said third cylindrical member;
(h) a fourth hollow cylindrical member capable of producing electrical signals upon receipt of acoustical signal supported by said third and fourth end members and defining therewith a second closed volume within said first closed volume;

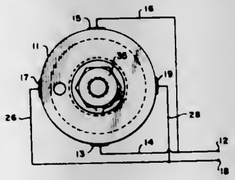
(i) a hollow resilient member defining a third closed volume positioned outside of said first closed volume;
(j) a plurality of capillary tube means connecting said first and second volumes, and said first and third volumes;
(k) pressure transmissive liquid filling said first, second and third volumes;
(l) acoustical windows in said second cylindrical member capable of transmitting acoustical signals; and
(m) means, connecting said fourth cylindrical member to the electrical transmission means mounted on said support cable.

3,263,209
PRESSURE COMPENSATED HYDROPHONE
Theodore C. Madison, Liverpool, N.Y., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 29, 1964, Ser. No. 341,152
6 Claims. (Cl. 340—10)



4. The hydrophone of claim 3 wherein said element generates signals in response to acoustical signals received through said housing.

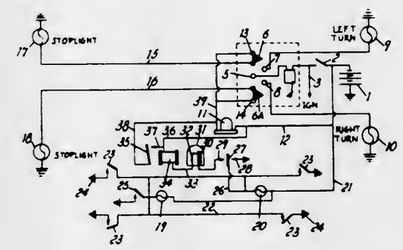
3,263,210
WIDE BAND HYDROPHONE
Fred Schloss, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 24, 1964, Ser. No. 377,779
8 Claims. (Cl. 340—10)



1. An omnidirectional hydrophone comprising:
a first cylindrical piezoelectric crystal; and
a tangentially polarized cylindrical piezoelectric crystal, said first cylindrical piezoelectric crystal being concentrically mounted within said tangentially polarized cylindrical piezoelectric crystal.

3,263,211
AUTOMATIC SAFETY FLASHER SIGNAL FOR AUTOMOBILES
William A. Heidman, Jr., 1139 Lakeside Drive, Grand Rapids, Mich.
Filed June 24, 1963, Ser. No. 289,868
5 Claims. (Cl. 340—81)

1. A warning flasher attachment for automobiles having a battery grounded on one side and brake switch operated stop light circuits and an interior courtesy light actuated by a door switch controlled ground circuit and a turn signal flasher and control connectable to the stop lights,
said attachment including a bracket attachable to the instrument panel of the automobile in place of an interior courtesy light switch,
a current interrupter mounted on said bracket and having a light emitting filament visible from the front of the bracket,
a single pole double throw switch on said bracket and having a neutral open position,
a solenoid including a coil and a normally open switch closed by energization of the coil mounted on said bracket,
a ground terminal engageable in one position of said single pole switch,
one end of said coil being connected to one side of said current interrupter,



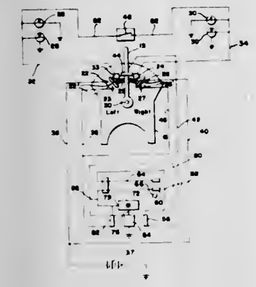
first and second lead wires extending from the opposite sides of said coil and said interrupter,
third and fourth lead wires extending from the opposite sides of said solenoid operated switch,
fifth and sixth lead wires extending from the pole and other terminal of said manual switch,
said lead wires being selectively connectable to each other and to said stop light circuits and to said door switch controlled ground circuit to connect said coil and interrupter in series between the other terminal of said double throw switch and one side of said double throw switch and the ungrounded side of said battery ahead of said brake switch, and to connect the other side of said solenoid operated switch to said brake light circuits, and to connect said pole of said double throw switch to said courtesy light and door operated switch circuit.

3,263,212
MOTOR DRIVEN FLASHER SYSTEM
Joseph E. Baader, 333 Holiday Drive, Springfield, Ohio
Filed Apr. 22, 1964, Ser. No. 361,773
1 Claim. (Cl. 340—81)

In an electrical system of the type employing a source of electrical energy, together with a first turn signal lamp circuit and a second turn signal lamp circuit connected with said source of energy, the combination of:
(A) a circuit breaker means interposed between said source and said first and said second circuits, said circuit breaker further including:
(i) a mtor means,
(ii) a single cam means operated by said motor means
(iii) a pair of leaf spring contacts, each supported at one end of their ends and normally biased apart at their free ends, said cam means being engageable with one of said spring leaves so as to periodically close together said spring leaf contacts
(iv) a quick disconnect plug means operably connected to said circuit breaker means;

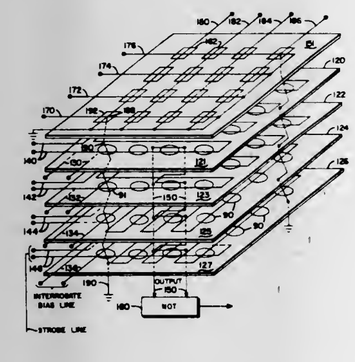
(B) a manually operable selector switch interposed between each of said circuits and said circuit breaker and between said source and said motor,

said switch including first and second contact means, connecting respectively said first lamp circuit or said second lamp circuit with said circuit breaker means to cause flashing of the connected circuit; and



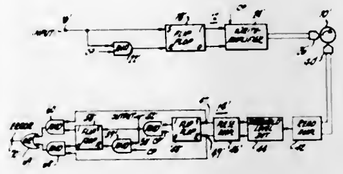
(C) an emergency contact switch connected between said first and second lamp circuits, said emergency contact switch being closable to cause simultaneous flashing of both the first and second circuit upon closure of said selector switch, notwithstanding which contact means of said switch is closed.

3,263,213
SEARCH MEMORY INCORPORATING NON-DESTRUCTIVE SENSING
Arthur V. Pohm, Ames, Iowa, assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Original application Nov. 24, 1959, Ser. No. 855,220, now Patent No. 3,070,783, dated Dec. 25, 1962. Divided and this application Apr. 23, 1962, Ser. No. 189,513
10 Claims. (Cl. 340—146.1)



8. Apparatus for comparing a stored memory binary word to a test binary word comprising: a plurality of magnetic elements each comprising a bistable ferromagnetic film having a magnetization axis and a rotatable magnetization vector which is substantially aligned with said axis in the absence of an external magnetic biasing field and having a plurality of states of magnetic stability for storing parallel groups of binary words in corresponding bit order positions; a word sense line magnetically coupled to all of said magnetic elements; means for establishing a test word composed of a plurality of binary bits; means adapted to receive signal representations of the values of the bits in said test word for applying a first biasing magnetic field to said parallel groups of memory elements in accordance with the respective test word bit values; and means for further applying a second magnetic field to momentarily change the magnetic state of the elements in one of said groups which do not store bits corresponding to the respective bits of the test word; and word identity detecting means connected to said sense line for providing indications of a word mismatch by sensing the momentary change in the magnetic state of the elements.

3,263,214
DATA STORAGE SYSTEMS
Abraham Harel, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 14, 1962, Ser. No. 237,578
9 Claims. (Cl. 340—146.1)



1. An electrical circuit,

comprising in combination,

a polarizable storage medium having phase modulated signals stored therein by a change in polarization of said medium from a first direction to a second direction for an information signal of one value and a change in polarization from said second direction to said first direction for an information signal of another value,

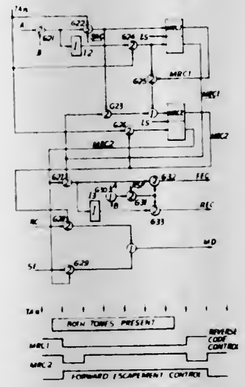
means coupled to said storage medium for generating a playback signal having peaks of opposite polarity corresponding to said changes in polarization of said medium,

said playback signal exhibiting a greater magnitude at peaks corresponding to the first signal of any groups of stored information signals of the same value and a lesser magnitude at peaks corresponding to the other signals in said groups, and

means coupled to said generating means for detecting only said peaks of greater magnitude.

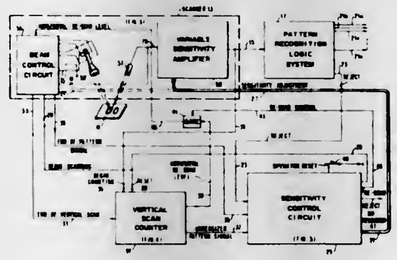
3,263,215
ERROR CORRECTING ARRANGEMENT FOR PUNCHED TAPE ELECTRICAL SIGNALLING SYSTEM
Raymond Brooke, Ile Perrot, Quebec, Canada, assignor to British Telecommunications Research Limited, Taplow, England, a British company
Filed Dec. 7, 1962, Ser. No. 243,064
Claims priority, application Great Britain, Dec. 8, 1961, 44,066/61; Aug. 16, 1962, 31,500/62
11 Claims. (Cl. 340—146.1)

1. In a system for reproducing at a receiving point a punched tape located at a remotely situated transmitting point, a signalling channel connecting the transmitting and receiving points, a reversible tape reader at the transmitting point, means for stepping said tape reader forward to transmit signals over said channel in accordance with the punchings in said tape, a punch at the receiving point, error detecting means responsive to the incorrect receipt of a character transmitted over said channel, means controlled by said error detecting means for arresting the operation of said punch, signalling means also controlled by said error detecting means for transmitting a signal back to said tape reader, means responsive to said signal for stepping said tape reader



backward beyond the character which was incorrectly received while still transmitting signals over said channel, means for thereafter causing said tape reader to resume forward stepping and means for causing said punch to resume its punching operation as soon as the said character is again received.

3,263,216
PATTERN RECOGNITION ERROR CORRECTION SYSTEM EMPLOYING VARIABLE PARAMETER INPUT DEVICES
Maxwell C. Andrews, Bethesda, Md., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 20, 1964, Ser. No. 353,329
11 Claims. (Cl. 340—146.3)

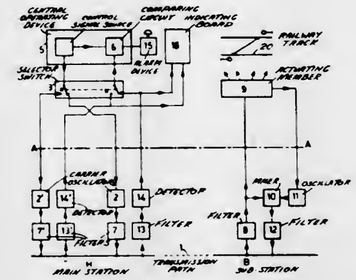


1. A pattern recognition system for identifying an applied input pattern and providing a reject indication when said pattern is not identified, in combination with:

a scanner having variable parameters for illuminating selected portions of said pattern and developing a signal representative of said pattern for application to said pattern recognition system; and

control means for varying a parameter of said scanner in response to said reject indication and for causing said scanner to develop a signal representative of said pattern altered to improve the ability of said character recognition system to identify said pattern.

3,263,217
REMOTE CONTROL SYSTEM
Herman Bernard Rudolf Boosman, Bunnink, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 22, 1961, Ser. No. 97,626
Claims priority, application Netherlands, Apr. 5, 1960, 250,153
1 Claim. (Cl. 340—163)

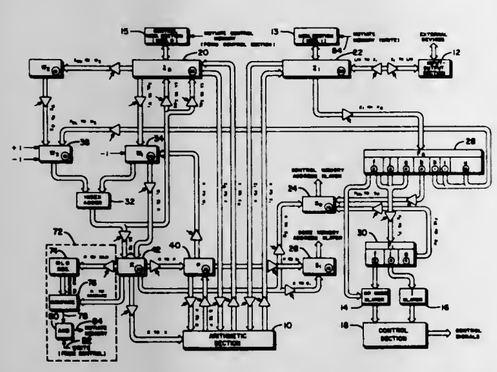


A remote control system comprising a main station, a plurality of sub-stations, and common transmission path means extending between said main station and each of said sub-stations, said main station comprising a source of control signals, a plurality of sources of carrier oscillations of different frequency, means for selectively modulating said carrier oscillations, means for applying said modulated carrier oscillations to said transmission path means, each of said sub-station means comprising filter means connected to said transmission path for selecting a different carrier oscillation frequency, actuating means connected to the respective filter means for executing commands in response to said control signals, a source of auxiliary oscillations, means for modulating said auxiliary oscillations with the modulated carrier frequency output of said respective filter means independently of the execution of commands by said actuating means, and means for applying said modulated auxiliary oscillations to said transmission path means, said main station further comprising means for receiving and detecting said modulated auxiliary oscillations, means for comparing said control signal and detected modulated auxiliary oscillations, and alarm means responsive to differences between said control signal and detected modulated auxiliary oscillations.

3,263,218
SELECTIVE LOCKOUT OF COMPUTER MEMORY
Duane H. Anderson, Roseville, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 22, 1962, Ser. No. 204,411
6 Claims. (Cl. 340—172.5)

1. For a digital computer of the internally stored program type, the improvement comprising the combination of: a memory section for storing manifestations indicative of machine instruction words and operands in a multiplicity of addressable memory registers, some of the instruction words comprising at least a coded operation portion and a coded memory-address designating portion; writing circuit means for selectively altering the stored contents of the memory section; program control means for calling out certain of the instruction words from the memory section in a predetermined program sequence; function register means coupled to said memory section for receiving each called out instruction word and for holding said words for at least an instruction cycle; decoding means coupled to said function register for translating the coded operation portion of each instruction word, said decoding means including means for

developing a first signal output when the operation portion is of a first predetermined code and a second signal output when the operation portion is of a code which designates alteration of the memory contents; a memory lockout storage register for storing manifestations indicative of selected memory address ranges in which alteration of the stored data manifestations will be prohibited; means coupled to said decoding means and responsive in part to said first signal for enabling the transmission of the memory-address designating portion of the corresponding instruction word to said storage register; means coupled to said storage register and said function

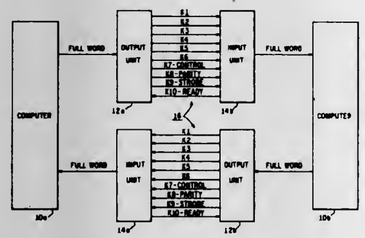


register means for comparing at least in part the memory-address designating portion of each instruction word received by said function register to the contents of said memory lockout storage register, said comparing means including means for developing an inhibit signal output when said compared values have a certain predetermined relationship; gated circuit means electrically coupled intermediate said decoding means and said writing circuit means for initiating said writing means in response to said second signal output from the decoding means; and means coupled to said comparing means for disabling said gated circuit means in response to said inhibit signal.

3,263,219
ELECTRONIC DATA PROCESSING EQUIPMENT

Herbert Brun, Newton, and Pascal B. Greene, Ashland, Mass., Watts S. Humphrey, Jr., Chappaqua, N.Y., and John Terzian, Winchester, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Jan. 3, 1963, Ser. No. 249,247
11 Claims. (Cl. 340—172.5)

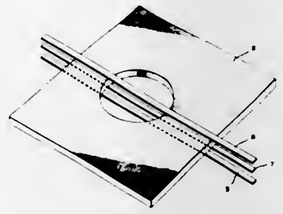


1. In an electronic data processing system, a real time subsystem capable of processing control and data information and comprising: a first signal shifting buffer register for storing any one of several classes of multi-bit information words each class being characterized by a different word length; means for successively transferring groups of binary signal bits out of said register and shifting the remaining groups within said register; a first means for sensing at least some of said signal bits to characterize the type of information stored and to stop said shifting and transferring actions after a full word has been emitted; means for generating a parity signal for each of said groups; a second signal shifting buffer register for storing said groups; means for checking parity for each group; a communications means connecting said first register and said parity generator to said second register and said parity checker; means for successively transferring one of said groups from said communications means into said second register and shifting the groups within said second register; and, a second means for recognizing the type of information and stopping said transfer and shifting actions in said second register when a full word has been stored.

3,263,220
TRAPPED-FLUX MEMORY

James W. Crowe, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 15, 1956, Ser. No. 615,830
24 Claims. (Cl. 340—173.1)



1. A storage cell including a body comprising a film of material in the superconductive state having an aperture therein, a narrow member of material in the superconductive state mounted over the aperture in abutting relationship with said material, drive means associated with said narrow member for inducing therein a first persistent current having magnitude and direction in response to a first operating condition of said drive means and a second persistent current having magnitude and direction in response to a second operating condition of said drive means, said first persistent current differing from said second persistent current, and means associated with said narrow member for detecting a change from said first to said second persistent current.

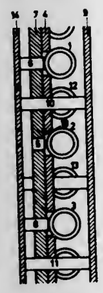
3,263,221
MAGNETIC CORE MATRIX

Evert van der Hoek, Hengelo, Overijssel, Netherlands, assignor to N.V. Hollandse Signaalapparaten, Hengelo, Overijssel, Netherlands, a firm

Filed Jan. 21, 1963, Ser. No. 252,934
Claims priority, application Netherlands, Jan. 22, 1962, 273,833
5 Claims. (Cl. 340—174)

1. In combination: a plurality of magnetic storage cores constituting a matrix having an upper side and a lower side, a plurality of permanent magnets each of which co-acts with a selected core, each co-acting permanent magnet being located near the upper side of the matrix with one pole in close proximity to a selected core, at least one soft magnetic plate extending along

the lower side of the matrix, a plurality of soft magnetic rods, each rod being located in a space in the matrix

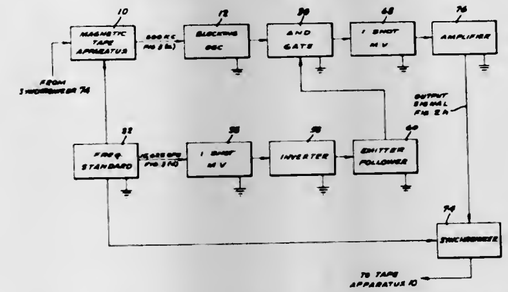


between a plurality of cores with one end in close proximity to said plate and extending from the plate to the upper side of the matrix.

3,263,222
SIGNAL PROCESSING MEANS

Charles H. Coleman, Jr., Belmont, and Richard W. Palthe, San Carlos, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed July 10, 1961, Ser. No. 122,960
9 Claims. (Cl. 340—174.1)



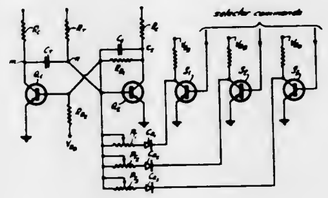
1. A gating circuit comprising: means for changing a timing waveform signal of a first frequency having timing information to a series of sharp unipolar pulses, said unipolar pulses having said timing information; means for applying said unipolar pulses to an "AND" gate; means for applying a synchronizing pulse signal of a second frequency lower than the first frequency and having a pulse duration that encompasses a number of said unipolar pulses to said "AND" gate, whereby the coincidence of said applied synchronizing and unipolar pulse signals opens the gate; and means for developing a synchronizing signal of predetermined pulse duration having said timing information and of the same frequency as said applied synchronizing pulse signal in response to the output from said gate whereby said developed synchronizing pulse signal having such timing information may be employed for synchronization.

3,263,223
GAP SCATTER CORRECTION APPARATUS

George E. Zenzefilis, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.J., a corporation of New York

Filed Oct. 31, 1961, Ser. No. 149,090
9 Claims. (Cl. 340—174.1)

1. A magnetic tape information storage system comprising head means adapted for a transfer of information-representing pulses between said head means and a plurality of tracks on a magnetic tape when in juxtaposition therewith, magnetic pulse-sensing means on said head means to detect an information-representing magnetic pulse in predetermined tracks of a multi-track magnetic tape, a plurality of monostable multivibrator circuits equal to the number of tracks and each circuit

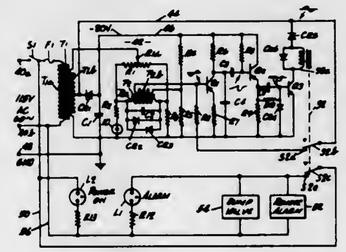


being connected to be responsive to information-representing magnetic pulses in each of said plurality of tracks, and each of said monostable multivibrator circuits having a width of output pulses pre-selectable from a plurality of predetermined widths so that the trailing edges of all pulses in a particular character are aligned in a predetermined manner.

3,263,224
SALINITY MONITOR

Maxwell Berman, Los Angeles, and Winslow B. M. Clark, Van Nuys, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Filed June 25, 1963, Ser. No. 290,346
9 Claims. (Cl. 340—236)



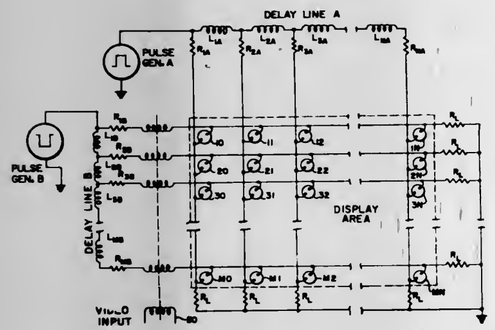
1. A salinity monitor, comprising:
a bridge circuit including a probe adapted to sense the conductivity of a fluid, said bridge circuit being unbalanced in first and second directions according to the conductivity of said fluid being respectively below and above a predetermined level of conductivity, and producing a bridge output signal having a first phase condition when said bridge circuit is unbalanced in said first direction and a second phase condition when said bridge circuit is unbalanced in said second direction;
means for amplifying said bridge output signal; and
relay means connected to said amplifying means and responsively actuated in a first condition for an amplified bridge output signal of said first phase condition and in a second condition for an amplified bridge output signal of said second phase condition, said relay means applying a reference signal of said second phase condition to said amplifying means when actuated in said first condition for vectorial

combination with said bridge output signal whereby said reference signal can oppose said bridge output signal of said first phase condition and aid said bridge output signal of said second phase condition.

3,263,225
MATRIX DISPLAY HAVING A DELAY LINE FOR SEQUENTIAL ENERGIZATION OF THE MATRIX INPUT LINES

Herbert W. Headle, Rome, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 18, 1961, Ser. No. 160,375
2 Claims. (Cl. 340—324)



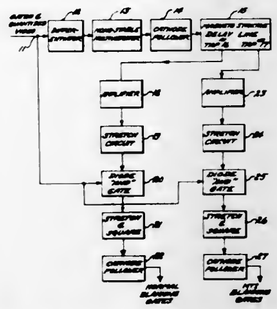
1. In an intelligence transmission system, scanning means including a display matrix having an input of pulse signals for one selected direction, said scanning means comprising pulse delaying means connected to said input, said delaying means consisting of a plurality of passive means connected in series, said delaying means having an effective length equal to or greater than the pulse repetition time of said input of intelligence representing signals, and means including a plurality of parallel conductive lines tapping said delaying means for establishing an informational pattern of signal displays having a predetermined relationship to the signal input achieved by said delaying means, said tapping means being equally spaced such that the pulse width of said input of said intelligence representing signals is less than the delaying time between said tapping means, said plurality of parallel conducting lines tapping said delaying means consisting of a first resistive means and a second resistive means connected in series, said parallel tapping means being arranged such that the first resistive means of the first plurality of first resistive means is higher in resistance value than the succeeding corresponding first resistive means, and the second plurality of second resistive means consists of second resistive means, all equal in resistance value.

3,263,226
MAGNETOSTRICTIVE PULSE INTERFERENCE DETECTOR

August E. Munich, Babylon, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Dec. 17, 1964, Ser. No. 419,257
3 Claims. (Cl. 343—17.1)

1. A system for removing interference from a radar display, comprising a source of video pulses, two signal paths fed in parallel from said pulse source, means for standardizing the pulse width of said video pulses in one of said paths, means for delaying said standardized pulse, two coincident gates fed in parallel in the other of said signal paths, means for feeding each coincident gate with

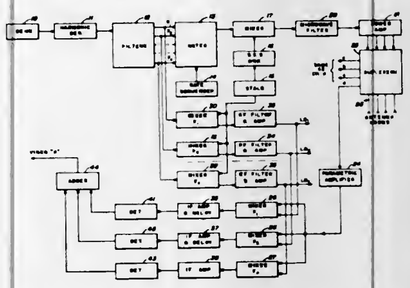


a delay pulse from said delay means to provide output pulses for blanking out interference.

3,263,227
PULSE COMPRESSION RADAR TRACKING SYSTEM

John B. Ferry, Commack, and Angelo F. Orazio, New Hyde Park, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed June 10, 1964, Ser. No. 374,210
4 Claims. (Cl. 343—17.2)



1. A pulse radar system for providing pulse compression comprising:
an oscillator producing an output at a fundamental frequency;
harmonic generating means receiving the oscillator output, the harmonic generating means having an output containing the fundamental frequency and at least one harmonic frequency of the fundamental frequency;
filter means receiving the output of the harmonic generating means, said filter means functioning to separate the fundamental frequency and each of the harmonic frequencies from one another and to deliver each of these frequencies to a separate output;
gate means receiving each of the outputs of the filter means, said gate means having a single output and operating to connect consecutively and for an equal duration of time each of the filter means outputs, in sequence from the fundamental frequency to the highest order harmonic frequency, to the gate means output, whereby the sequence of output frequencies forms a composite pulse at a desired frequency, each of the component frequencies being a pulse segment of this composite pulse, none of these component frequencies being in the microwave region;
a second oscillator producing an output signal at a desired microwave frequency;

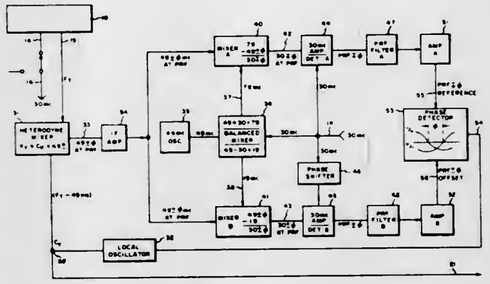
mixer means receiving the composite pulse output of the gate means and the microwave output signal from said second oscillator and combining these inputs;
microwave filter means receiving the output of the mixer means and permitting passage only of those frequencies in the microwave region;
power amplifier means accepting the output of the microwave filter means and amplifying this output to a level suitable for radar transmission;
radar receiver means for receiving a target return pulse which is a reflection of the transmitted pulse from an object to be detected, said receiver means including:
a plurality of channels equal in number to the number of outputs of said filter means, whereby there is provided a receiver having a channel for each of the pulse segments that comprises the composite pulse, the target return signal being supplied to the input of each channel;
local oscillator source;
receiver mixer means in each of the channels, each of the receiver mixer means receiving the target return signal and a signal from a local oscillator source, the frequencies of each of the local oscillator signals being chosen to produce a predetermined intermediate frequency output signal when mixed with the pulse segment associated with a particular channel;
intermediate frequency amplifier means in each of the channels, the intermediate frequency output of the receiver mixer means in each channel being supplied to and amplified by the intermediate frequency amplifier means in that channel;
delay means in each of the channels except for that channel corresponding to the last-transmitted pulse segment in the composite pulse, the delay periods introduced in these channels by the delay means differing from one another and being chosen so that the pulse segments of the target return pulses exit their respective delay means simultaneously and coincident with said last-transmitted pulse segment;
detector means in each channel receiving the respective pulse segments at a time of coincident occurrence, each detector means delivering at its output a video pulse segment; and
adding means receiving the output of all of the detector means and delivering an output which is a summation of the coincident video pulse segments received whereby the output of the adding means constitutes a video pulse of reduced width relative to the composite pulse.

3,263,228
AUTOMATIC FREQUENCY LOCK-ON CONTROL SYSTEM

Richard L. Abrahams, Bronxville, and Theodore Hubka, Briarcliff Manor, N.Y., assignors to General Precision, Inc., a corporation of Delaware

Filed June 3, 1964, Ser. No. 372,240
12 Claims. (Cl. 343—17.7)

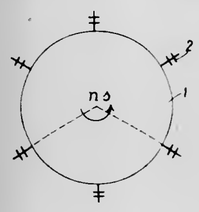
10. A system for testing response of a microwave radiant energy responsive device including;
a microwave radiant energy responsive device for generating pulsed, coherent microwave radiant energy signals and including
means for radiating said pulsed, coherent microwave energy signals and for receiving and responding to reflected radiated energy signals, from a remote source,
test means for generating and radiating microwave radiant energy to simulate reflected radiated energy for testing response of said microwave radiant energy responsive device,
a remote control-circuit for providing a continuous control signal of microwave energy synchronized with the carrier wave frequency of said pulsed, coherent radiated energy signals and locked-on to the carrier wave, said control-circuit including;
microwave energy mixing means for mixing said pulsed, coherent microwave radiated energy signals and said continuous control signal for providing a difference signal having frequency and phase shift characteristics proportional to the frequency and phase difference between said carrier wave and said control signal and pulsed at a rate of said pulsed, coherent radiated energy signals,
means for generating a continuous fixed frequency signal, the frequency of which is substantially equal to the frequency of said difference signal,
a source for providing a continuous reference frequency signal,
balanced mixer means for receiving said fixed frequency signal and said reference frequency signal and for providing a first output signal the frequency of which is a function of the sum frequencies of said fixed frequency and said reference frequency signals and for providing a second output signal the frequency of which is a function of the difference frequency between said fixed frequency and said reference frequency,



means for mixing said first output signal and said difference signal for providing a first pulsed signal the frequency of which is substantially equal to the frequency of said reference signal having phase shift characteristics directly proportional to the phase difference between said carrier wave and said control signal and pulsed at the rate of said microwave radiant energy,
means for mixing said second output signal and said difference signal for providing a second pulsed signal, the frequency of which is substantially equal to said reference signal having phase shift characteristics inversely proportional to the phase difference between said carrier wave and said control signal and pulsed at the rate of said microwave radiant energy,
first filtering means for filtering the reference frequency component from said first output signal for providing a first pulsed signal having phase shift characteristics directly proportional to said phase difference and pulsed at said pulse rate,
second filtering means for filtering the reference frequency component from said second output signal for providing a second pulsed signal having phase shift characteristics inversely proportional to said phase difference and pulsed at said pulse rate,
means for effectively measuring the phase shift difference between said first pulsed signal and said second pulsed signal and for providing an output signal proportional to such phase difference,

means for generating said continuous control signal,
means coupling the last mentioned output signal to the last mentioned generating means for controlling the phase of said continuous control signal in accordance with the value of said output so that the control signal will be in phase with said carrier wave,
means coupling said continuous control signal to said microwave energy mixing means, and
means coupling said control signal to said test means for controlling said test means so that said test means may be controlled by a continuous signal positively referenced to the carrier wave of the pulsed coherent microwave radiant energy signal generated by the said microwave radiant energy responsive device.

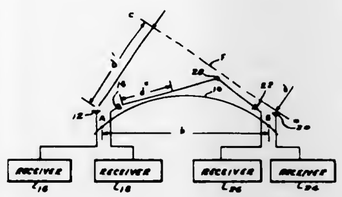
3,263,229
RADIO TRANSMISSION RELAY STATIONS
Jean-Claude Simon and Victor Biggi, Paris, France, assignors to C.S.F.—Compagnie Générale de Télégraphie Sans Fil, a corporation of France
Filed Sept. 12, 1962, Ser. No. 223,232
Claims priority, application France, Sept. 18, 1961, 873,486
2 Claims. (Cl. 343—100)



1. A radio link relay for ultra short waves, for an artificial satellite launched from a point located in the vicinity of the Equator, following orbits situated in the equatorial plane of the terrestrial globe and having stabilizing means to keep constantly its axis parallel to the polar axis of the globe, said relay comprising a plurality of directive simultaneously transmitting and receiving antennas, equally spaced from each other and all arranged in the equatorial plane of the satellite, said aerials having respective radiation patterns overlapping each other in said equatorial plane at a predetermined level below their maximum level, the aperture angle of said patterns being equal to the angle under which the terrestrial globe is viewed from the satellite.

3,263,230
DATA COLLECTION SYSTEM EMPLOYING CELESTIAL RADIATION AS A REFERENCE
Joel S. Greenberg, Trenton, N.J., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Oct. 25, 1963, Ser. No. 319,083
3 Claims. (Cl. 343—100)

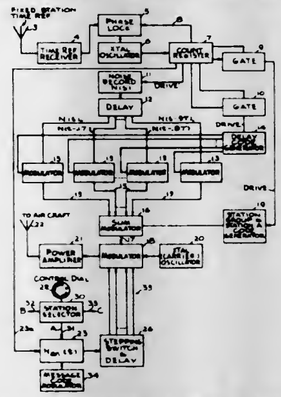
1. Apparatus for generating a representation of a time interval in the form of a signal synchronizing two ground locations separated geographically an extent preventing line-of-sight transmission between the locations, said apparatus comprising: first and second signal receiving means disposed at one of the locations, the former to receive target radiation signals from aerial targets in the region between the locations and the latter to receive radiation from a predetermined celestial body visible from both locations, third and fourth signal receiving means disposed at the other location, the former to receive radiation signals from said target and the latter to receive celestial radiation from said celestial body, said first and third receiving means being sufficiently directive so as to have effectively no interaction with celestial radiation, said second and fourth receiving means having a band pass rejecting incoming energy at target signal frequencies, said first and second receiving means when the target is nearer said one location being arranged and constructed to provide time-coincident target and celestial radiation signals referenced to zero time, said third and fourth receiving means when the target is nearer said one location being arranged and constructed to provide target and celestial radiation signals displaced from zero time by different amounts thereby defining first and second time intervals expressing the delays between the particular pairs of target and celestial radiation signals, first dual-channel recording means coupled to said first and second receiving means for recording the time coincidence of the signals emerging therefrom, second dual-channel recording means coupled to said third and fourth receiving means for recording the time displacement of the signals



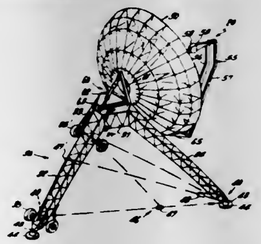
emerging therefrom, means for transferring the dual-channel output of said second recording means to said one location whereby following completion of the transfer the target and celestial radiation signals initially emerging from said third and fourth receiving means are further delayed with respect to zero time an amount defining a third time interval, correlation detection means receiving the dual-channel output of said first recording means and the further-delayed dual output of said second recording means for time shifting a predetermined one of the target radiation signals an amount which reduces the time interval therebetween to an amount defining a fourth time interval proportional to the difference between said first and second time intervals, means coupled to the output of said correlation detection means for time shifting a predetermined one of the target radiation signals emerging from said correlation detection means by an amount which reduces the time interval between the target radiation signals to that amount equal only to said first time interval, and utilization means receiving said target radiation signals as corrected to only said first time interval.

3,263,231
QUANTIZED HYPERBOLIC NAVIGATION AND COMMUNICATION SYSTEM
Lee D. Smith, Northridge, and Albert S. Fulton, Thousand Oaks, Calif., assignors to Thompson Ramo Wooldridge Inc., Canoga Park, Calif., a corporation of Ohio
Filed May 19, 1960, Ser. No. 30,170
20 Claims. (Cl. 343—105)

10. A system for providing vehicle control information comprising: three transmitting stations disposed in triangular positions with respect to each other; one of said transmitting stations being a master station with the remaining two transmitting stations being slave stations; radiating means for each of said transmitting stations; first means coupled to said radiating means for generating at each station one of a plurality of cooperating signals having mutually coherent components; second means connected to said first means for intelligence modulation of one of said generated signals; third means for selecting the time of transmission for each of said signals for substantial correlation of signal arrival from said three stations at a selected location; said third means including controllable delay means for each station.

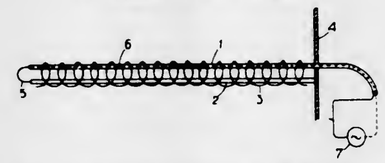


3,263,232
ANTENNA TRANSPORTABLE SYSTEM
Neil W. Burwell, Southampton, and Charles Fassnacht, Philadelphia, Pa., assignors, by mesne assignments, to Washington Aluminum Co., Inc., Baltimore, Md., a corporation of Delaware
Filed May 24, 1962, Ser. No. 197,477
13 Claims. (Cl. 343—713)



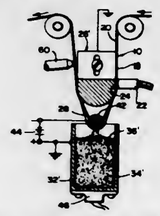
3. In a mobile antenna system a support structure comprising: a first, second and third leg; a first means constructed to fasten said legs directly to one another in spaced parallel relationship along the length thereof to form a trailer chassis; each of said legs having longitudinally extending top, bottom and side surfaces; said first means fastening side surfaces of adjacent legs in face-to-face relationship, with a side surface of said first leg facing a side surface of said second leg, and a side surface of said third leg facing the opposed side surface of said second leg; wheel axle transport means directly securable to the bottom surface of at least one of said legs for movement of said leg-formed trailer chassis; and a second means constructed to fasten said legs in a tripod manner about a central hub; said central hub constructed to receive an antenna reflector, feed, and reflector positioning means.

3,263,233
DIRECTIVE HELICAL ANTENNA HAVING INTEGRAL BALUN-FEED
Erich Spitz, Paris, France, assignor to CSF—Compagnie Generale de Telegraphie Sans Fil, a corporation of France
Filed May 6, 1963, Ser. No. 278,281
Claims priority, application France, May 7, 1962, 896,631
2 Claims. (Cl. 343—895)



1. A directive antenna comprising: a two-wire line including two wires; a helix wound around said line; a coaxial line having an outer and an inner conductor and two ends, said outer conductor serving as one of said wires; an ultra-high frequency source coupled to one of said ends; and means coupling said inner conductor to the other wire.

3,263,234
APPARATUS AND METHOD OF ELECTROSTATIC RECORDING
Herman Epstein, Melrose Park, and Richard S. Howell, King of Prussia, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 4, 1961, Ser. No. 142,834
10 Claims. (Cl. 346—74)



3. In electrostatic recording apparatus having a print head for impressing a surface of a movable record medium with one or more electrostatic charges representative of information, the combination comprising, a single elongate electrode member closely adjacent said print head for guiding a said charged record medium as it is moved past said print head, said member having its longitudinal dimension extending across and at least coextensive in length with the width of said record medium, a container for holding a supply of electrically conductive ink, the level of said ink supply spaced from and forming a gap with said member and with the portion of said record medium guided thereby, and a single means in circuit with said ink for charging said ink and for simultaneously applying a voltage of the same polarity as said electrostatic charges to said member to obtain a substantial difference in potential between said member and said electrically conductive ink, to cause particles of said ink to flow from said level to bridge said gap and adhere to said electrostatic charges on the guided portion of said record medium.

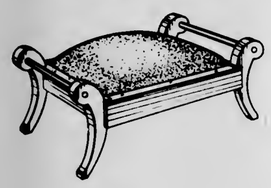
DESIGNS

JULY 26, 1966

205,339
PIN CUSHION
Garvie J. Noe, 11300 St. Charles Rock Road, Bridgeton, Mo.
Filed Feb. 1, 1966, Ser. No. 820
Term of patent 7 years
(Cl. D3—19)



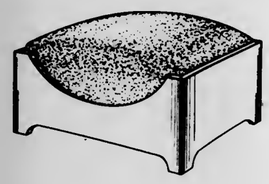
205,340
PIN CUSHION
Garvie J. Noe, 11300 St. Charles Rock Road, Bridgeton, Mo.
Filed Feb. 1, 1966, Ser. No. 839
Term of patent 7 years
(Cl. D3—19)



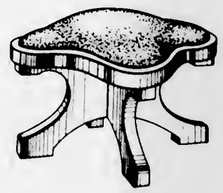
205,341
PIN CUSHION
Garvie J. Noe, 11300 St. Charles Rock Road, Bridgeton, Mo.
Filed Feb. 1, 1966, Ser. No. 845
Term of patent 7 years
(Cl. D3—19)



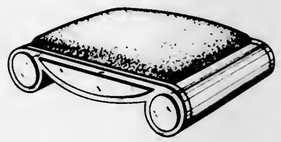
205,342
PIN CUSHION
Garvie J. Noe, 11300 St. Charles Rock Road, Bridgeton, Mo.
Filed Feb. 1, 1966, Ser. No. 846
Term of patent 7 years
(Cl. D3—19)



205,343
PIN CUSHION
Garvie J. Noe, 11300 St. Charles Rock Road, Bridgeton, Mo.
Filed Feb. 1, 1966, Ser. No. 850
Term of patent 7 years
(Cl. D3—19)



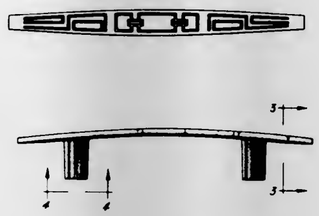
205,344
PIN CUSHION
Garvie J. Noe, 11300 St. Charles Rock Road, Bridgeton, Mo.
Filed Feb. 1, 1966, Ser. No. 851
Term of patent 7 years
(Cl. D3—19)



205,345
PIN CUSHION
Garvie J. Noe, 11300 St. Charles Rock Road, Bridgeton, Mo.
Filed Feb. 1, 1966, Ser. No. 870
Term of patent 7 years
(Cl. D3—19)



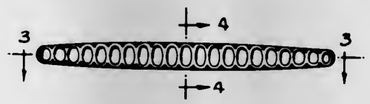
205,346
PULL FOR DOORS, DRAWERS AND THE LIKE
Alfred H. Bottom, 5801 Lawnview St. NW., Canton, Ohio
Filed Jan. 17, 1966, Ser. No. 635
Term of patent 14 years
(Cl. D10—8)



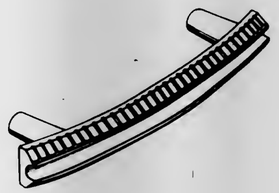
205,347
KNOB
John R. Morgan, Wheeling, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed Jan. 17, 1966, Ser. No. 643
Term of patent 14 years
(Cl. D10—8)



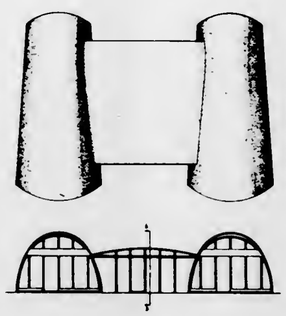
205,348
PULL
La Verne E. Clayton, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed Jan. 17, 1966, Ser. No. 650
Term of patent 14 years
(Cl. D10—8)



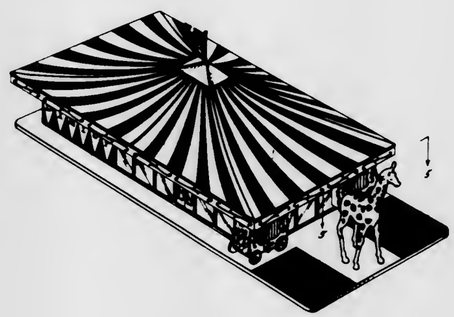
205,349
PULL
La Verne E. Clayton, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed Jan. 17, 1966, Ser. No. 651
Term of patent 14 years
(Cl. D10—8)



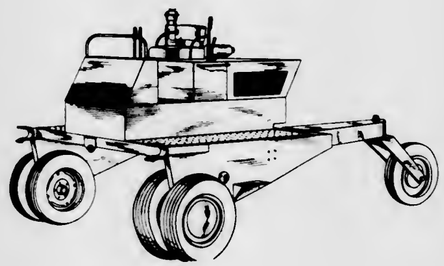
205,350
BUILDING UNIT
Franz Wiesinger, Winnipeg, Manitoba, Canada, assignor to Northwest Design & Fabrication Ltd., Transcona, Manitoba, Canada
Filed June 14, 1965, Ser. No. 85,711
Term of patent 14 years
(Cl. D13—1)



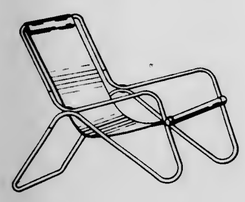
205,351
RESTAURANT BUILDING
William J. Hrabrick, 217 Shawnee Road, Ardmore, Pa.
Filed Aug. 13, 1965, Ser. No. 86,569
Term of patent 14 years
(Cl. D13—1)



205,352
FARM TRACTOR
Vernon John Lundell, Box 171, Cherokee, Iowa
Filed Nov. 5, 1965, Ser. No. 88,015
Term of patent 14 years
(Cl. D14—3)



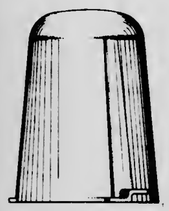
205,353
COMBINATION CHAIR AND HORIZONTAL SWING BAR UNIT
Norma Bigler Masterson, 1207 E. 15th St., Lombard, Ill.
Filed Sept. 17, 1964, Ser. No. 81,760
Term of patent 14 years
(Cl. D15—1)



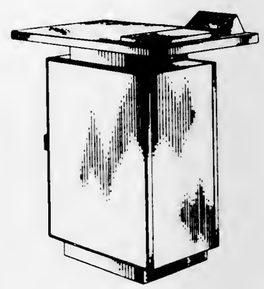
205,354
FACING PANEL FOR A FIRE EXTINGUISHER CABINET
Samuel Shone, 1461 S. Canfield Ave., Los Angeles, Calif.
Filed Apr. 20, 1964, Ser. No. 79,578
Term of patent 14 years
(Cl. D16—2)



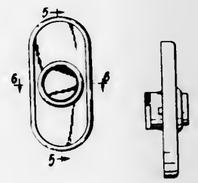
205,355
PROTECTIVE COVER FOR UNDERGROUND ELECTRICAL SERVICE CONNECTIONS
Saul Rosner, 8 Fairfield Terrace, Norwalk, Conn., and Marvin V. McCoy, 108 Pool Road, North Haven, Conn.
Filed Sept. 17, 1963, Ser. No. 76,621
Term of patent 14 years
(Cl. D26—5)



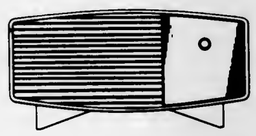
205,356
COMPUTER CONSOLE
Kail R. Peterson, Phoenix, Ariz., and Michael L. Rossman, Chambersburg, Pa., assignors to General Electric Company, a corporation of New York
Filed Nov. 16, 1964, Ser. No. 82,624
Term of patent 14 years
(Cl. D26—5)



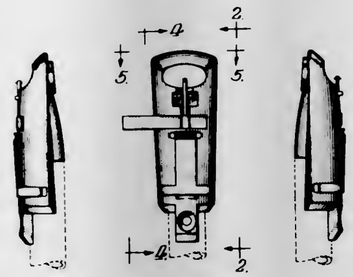
205,357
PUSH SWITCH OR SIMILAR ARTICLE
Norman William Stevenson, Macclesfield, England, assignor to V. & E. Friedland Limited, Macclesfield, England, a British company
Filed Dec. 17, 1963, Ser. No. 77,831
Claims priority, application Great Britain June 18, 1963
Term of patent 14 years
(Cl. D26—13)



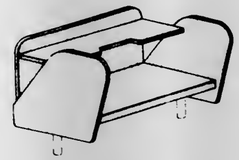
205,358
TAPE REPEATER UNIT
Allan T. Inazu, Palmyra, N.J., assignor to Goodway Printing Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1965, Ser. No. 85,015
Term of patent 14 years
(Cl. D26—14)



205,359
PHONOGRAPH PICK-UP CARTRIDGE OR SIMILAR ARTICLE
Joseph Horzick, West Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed May 20, 1965, Ser. No. 85,367
Term of patent 14 years
(Cl. D26—14)



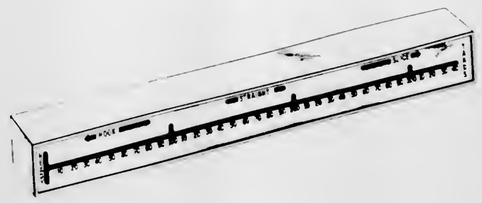
205,360
STUDY CARREL
Albert A. Canfield, Royal Oak, Mich., assignor to Oakland Community College, Union Lake, Mich., a corporation of Michigan
Filed July 23, 1965, Ser. No. 86,271
Term of patent 14 years
(Cl. D33—11)



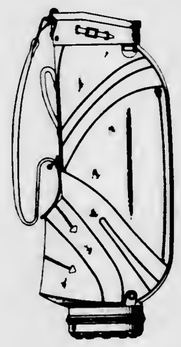
205,361
TABLE PEDESTAL OR THE LIKE
Morris Mark, 1705 W. 134th St., Gardena, Calif.
Filed Mar. 1, 1965, Ser. No. 84,015
Term of patent 7 years
(Cl. D33—14)



205,362
ELECTRICAL SCOREBOARD FOR GOLF PRACTICE APPARATUS
William J. Graham, Johnstown, N.Y., assignor to J. Myer Schine, Gloversville, N.Y.
Filed Dec. 7, 1964, Ser. No. 82,930
Term of patent 14 years
(Cl. D34—5)



205,363
GOLF BAG
Anthony G. Penna, Jupiter Colony, Fla., assignor to Brunswick Corporation, a corporation of Delaware
Filed Mar. 11, 1965, Ser. No. 84,210
Term of patent 14 years
(Cl. D34—5)



205,364
HOOP STICK
Donald W. Schumm, 7204 Riverton, and Doyle C. Shady, 4916 Golfview, both of Fort Wayne, Ind.
Filed Apr. 19, 1965, Ser. No. 84,846
Term of patent 14 years
(Cl. D34—5)



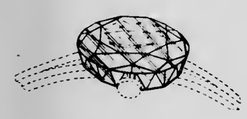
205,365
TOY REVOLVER
Giampiero Ferri and Jori Marinai, both of Via Stoppani 38, Florence, Italy
Filed June 12, 1964, Ser. No. 80,369
Claims priority, application Italy Dec. 13, 1963
Term of patent 14 years
(Cl. D34—15)



205,366
ENCLOSED FERRIS WHEEL TOY
Willis M. Lakin, Slinger, Wis., assignor to Marlin Toy Products, Inc., Horicon, Wis., a corporation of Illinois
Filed Oct. 19, 1965, Ser. No. 87,597
Term of patent 14 years
(Cl. D34—15)



205,367
WATCH CASE
Piero Stefanoni, Galleria Unione 4, Milan, Italy
Filed Sept. 21, 1964, Ser. No. 81,794
Claims priority, application Italy Apr. 10, 1964
Term of patent 7 years
(Cl. D42—8)



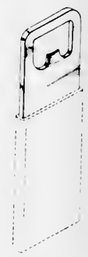
205,368
COMBINED CUP AND BASE THEREFOR
Robert Makara, 29 Orange Drive, Jericho, N.Y.
Filed Mar. 19, 1964, Ser. No. 79,090
Term of patent 14 years
(Cl. D44—9)



205,369
ICE BUCKET
Howard W. Phillips, Nashville, Tenn., assignor to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Aug. 13, 1965, Ser. No. 86,574
Term of patent 14 years
(Cl. D44—15)



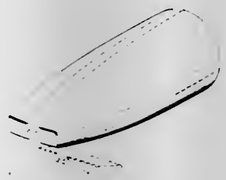
205,370
BOTTLE OPENER
Ronald C. Roeschlaub, Los Angeles, Calif., assignor to Topper Products, Inc., Los Angeles, Calif., a corporation of California
Filed Aug. 26, 1965, Ser. No. 86,732
Term of patent 14 years
(Cl. D44—29)



205,371
NIGHT LIGHT
Lawrence P. Mellyn, Glocester, R.I., assignor to General Electric Company, a corporation of New York
Filed Mar. 4, 1965, Ser. No. 84,093
Term of patent 14 years
(Cl. D48—20)



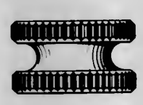
205,372
LAMP
David K. Walz, Doraville, Ga., assignor to Lithonia Lighting Products Company, Conyers, Ga., a corporation of Georgia
Filed June 14, 1965, Ser. No. 85,726
Term of patent 14 years
(Cl. D48—20)



205,373
MEASURING TAPE
Michel Quenot, Besancon, France, assignor to Etablissements Quenot & Cie., Industrielle Les Tilleroyes, Besancon, Doubs, France, a French firm
Original application June 23, 1964, Ser. No. 80,530, now Design Patent No. 203,622, dated Feb. 1, 1966. Divided and this application July 20, 1965, Ser. No. 86,447
Claims priority, application France Feb. 6, 1964
Term of patent 14 years
(Cl. D52—1)



205,374
BATTERY NUT
Sidney B. Mushlin, Rye, N.Y. (% Cornell Mfg. Co. Inc., 21 Saw Mill River Road, Yonkers, N.Y.)
Filed Oct. 9, 1963, Ser. No. 76,915
Term of patent 14 years
(Cl. D54—9)



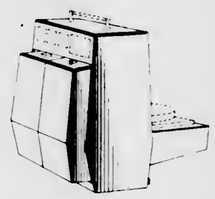
205,375
ELECTRIC WIRING STAPLE
Raymond C. Marotz, 111 15th St., Clintonville, Wis.
Filed Oct. 1, 1965, Ser. No. 87,258
Term of patent 14 years
(Cl. D54—9)



205,376
SPOON OR SIMILAR ARTICLE
Ellen B. Manderfield, Syracuse, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Feb. 15, 1963, Ser. No. 73,613
Term of patent 14 years
(Cl. D54—12)



205,377
PORTABLE PHONOGRAPH OR SIMILAR ARTICLE
James T. Asaki, Batavia, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 82,499
Term of patent 7 years
(Cl. D56—4)



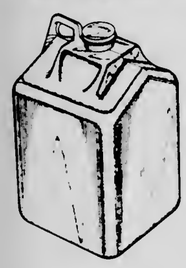
205,378
PAIR OF SUN GLASSES
Michael A. Grisa, Toronto, Ontario, Canada, assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 6, 1965, Ser. No. 95
Term of patent 14 years
(Cl. D57—1)



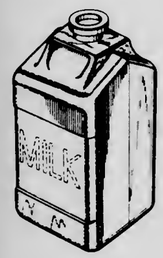
205,379
PAIR OF CLIP-ON SUNGLASSES
Atherton R. Mitchell, Dillon Beach, Calif., assignor to Sea & Ski Corporation, Millbrae, Calif.
Filed Oct. 11, 1965, Ser. No. 87,422
Term of patent 14 years
(Cl. D57—1)



205,380
PLASTIC JUG
Norman A. Kelly, Wayne Township, Koscuisko County, Ind., assignor to Crystal Preforming and Packaging, Inc., Warsaw, Ind., a corporation of Indiana
Filed June 4, 1965, Ser. No. 85,567
Term of patent 14 years
(Cl. D58—5)



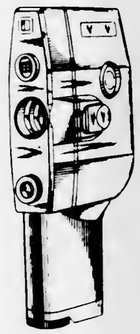
205,381
PLASTIC BOTTLE
Norman A. Kelly, Wayne Township, Kosciusko County, Ind., assignor to Crystal Preforming and Packaging, Inc., Warsaw, Ind., a corporation of Indiana
Filed June 4, 1965, Ser. No. 85,569
Term of patent 14 years
(Cl. D58—6)



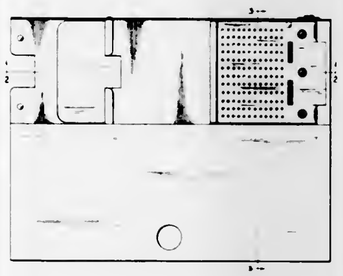
205,382
EGG CARTON LID
Sidney Greatman, Canoga Park, Calif., assignor to A & E Plastik Pak Co., Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 5, 1965, Ser. No. 84,619
Term of patent 14 years
(Cl. D58—13)



205,383
CAMERA OR SIMILAR ARTICLE
Terue Hara, 1206 Mimuro, Urawa-shi, Japan; Shigeo Mizukawa, % Fujica-Ryo, 323 2-chome, Omiya-shi, Japan; and Masahiro Fukuda, 5 of 3134 Nogawa, Kawasaki-shi, Japan
Filed Oct. 13, 1965, Ser. No. 87,462
Term of patent 14 years
(Cl. D61—1)



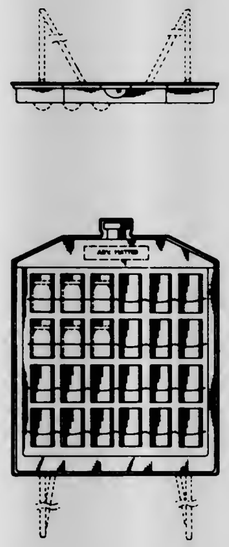
205,384
HOLDER FOR A TEMPLATE AND A PUNCHABLE CARD
John W. Whitson, 120 Cabrini Blvd., New York, N.Y.
Filed Dec. 11, 1964, Ser. No. 82,989
Term of patent 14 years
(Cl. D64—11)



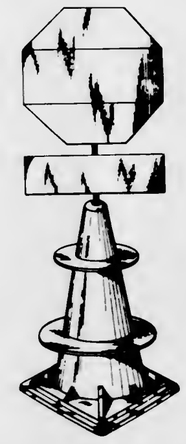
205,385
WATER CRAFT
Walter Andersen, 1443 W. Birchlawn Place, Ottawa, Ill.
Filed Jan. 5, 1966, Ser. No. 475
Term of patent 14 years
(Cl. D71—1)



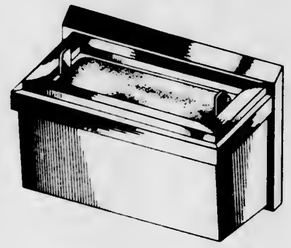
205,386
MERCHANDISE DISPLAY HOLDER
John E. Alexander, Jr., Dearborn, and Robert M. Alexander, Livonia, Mich., assignors to Fre-Bar Inc., Holly, Mich., a corporation of Michigan
Filed Apr. 14, 1964, Ser. No. 79,488
Term of patent 14 years
(Cl. D80—9)



205,387
DISPLAY STAND
Edward L. Fisher, Milwaukee, Wis., assignor to Heller Industries, Inc., Milwaukee, Wis.
Filed Apr. 22, 1965, Ser. No. 84,927
Term of patent 14 years
(Cl. D80—9)



205,388
ASH RECEPTACLE
Miroslav Uroshevich, Cincinnati, Ohio, assignor to The F. H. Lawson Company, Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 28, 1965, Ser. No. 87,950
Term of patent 14 years
(Cl. D85—2)



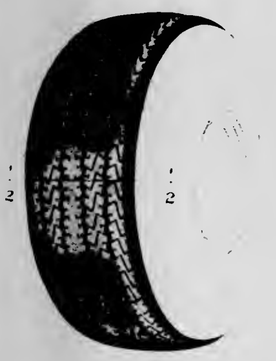
205,389
HAIR DRYER
Edward J. Petrick, Park Ridge, Ill., assignor to Bretford Manufacturing, Inc., Schiller Park, Ill., a corporation of Illinois
Filed Aug. 26, 1965, Ser. No. 86,719
Term of patent 14 years
(Cl. D86—10)



205,390
TIRE
Glen L. Wittenmyer, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 22, 1965, Ser. No. 283
Term of patent 14 years
(Cl. D90—20)



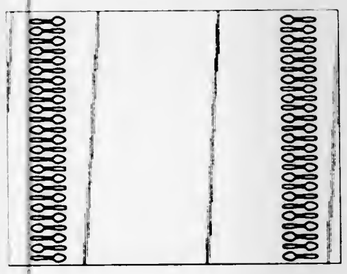
205,391
TIRE
Glen L. Wittenmyer, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed Dec. 22, 1965, Ser. No. 284
Term of patent 14 years
(Cl. D90—20)



205,392
LEAF FOUNTAIN
Robert Mifsud, 42 Westland Drive, Glen Cove, N.Y.
Filed Oct. 21, 1965, Ser. No. 87,693
Term of patent 14 years
(Cl. D91—4)



205,393
PLACE MAT OR THE LIKE
Richard M. Watts, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Nov. 4, 1965, Ser. No. 88,002
Term of patent 14 years
(Cl. D92—26)



LIST OF DESIGN PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 26TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

A & E Plastik Pak Co., Inc.: *See*—
Greatman, Sidney. 205,382.
Alexander, John E., Jr., and R. M. Alexander, to Fre-Bar Inc. Merchandise display holder. 205,386, 7-26-66, Cl. D80—9.
Alexander, Robert M.: *See*—
Alexander, John E., Jr., and R. M. Alexander. 205,386,
Alladdin Industries, Inc.: *See*—
Phillips, Howard W. 205,369.
Amerock Corp.: *See*—
Clayton, La Verne E. 205,348.
Clayton, La Verne E. 205,349.
Morgan, John R. 205,347.
Asaki, James T., to Sylvania Electric Products Inc. Portable phonograph or similar article. 205,377, 7-26-66, Cl. D56—4.
Andersen, Walter. Water craft. 205,385, 7-26-66, Cl. D71—1.
Bausch & Lomb Inc.: *See*—
Griss, Michael A. 205,378.
Bottom, Alfred H. Pull for doors, drawers and the like. 205,346, 7-26-66, Cl. D10—8.
Bretford Mfg., Inc: *See*—
Petrick, Edward J. 205,389.
Brunswick Corp.: *See*—
Penna, Anthony G. 205,363.
Canfield, Albert A., to Oakland Community College. Study carrel. 205,360, 7-26-66, Cl. D83—11.
Clayton, La Verne E. to Amerock Corp. Pull. 205,348, 7-26-66, Cl. D10—8.
Clayton, La Verne E., to Amerock Corp. Pull. 205,349, 7-26-66, Cl. D10—8.
Crystal Preforming and Packaging, Inc.: *See*—
Kelly, Norman A. 205,380.
Kelly, Norman A. 205,381.
Etablissements Quenot & Cie.: *See*—
Quenot, Michel. 205,373.
Ferri, Giampiero, and J. Marinai. Toy revolver. 205,365, 7-26-66, Cl. D34—15.
Fisher, Edward L., to Heller Industries, Inc. Display stand. 205,387, 7-26-66, Cl. D80—9.
Fre-Bar Inc.: *See*—
Alexander, John E., Jr., and R. M. Alexander. 205,386.
Friedland, V. & E., Ltd.: *See*—
Stevenson, Norman W. 205,357.
General Electric Co.: *See*—
Mellyn, Lawrence P. 205,371.
Peterson, Kail R., and Rossman. 205,356.
Goodrich, B. F., Co., The: *See*—
Witteumyer, Glen L. 205,390.
Mittenmyer, Glen L. 205,391.
Goodway Printing Co., Inc.: *See*—
Inasu, Allan T. 205,358.
Graham, William J., to J. M. Schine. Electrical scoreboard for golf practice apparatus. 205,362, 7-26-66, Cl. D34—5.
Greatman, Sidney, to A & E Plastik Pak Co., Inc. Egg carton lid. 205,382, 7-26-66, Cl. D58—13.
Griss, Michael A., to Bausch & Lomb Inc. Pair of sun glasses. 205,378, 7-26-66, Cl. D57—1.
Hara, Terue, S. Misukawa, and M. Fukuda. Camera or similar article. 205,383, 7-26-66, Cl. D61—1.
Heller Industries, Inc.: *See*—
Fisher, Edward L. 205,387.
Horzick, Joseph, to Motorola, Inc. Phonograph pick-up cartridge or similar article. 205,359, 7-26-66, Cl. D26—14.
Hrabrick, William J. Restaurant building. 205,351, 7-26-66, Cl. D13—1.
Inasu, Allan T., to Goodway Printing Co., Inc. Tape repeater unit. 205,358, 7-26-66, Cl. D26—14.
Kelly, Norman A., to Crystal Preforming and Packaging, Inc. Plastic jug. 205,380, 7-26-66, Cl. D58—5.
Kelly, Norman A., to Crystal Preforming and Packaging, Inc. Plastic bottle. 205,381, 7-26-66, Cl. D58—6.
Lakin, Willis M., to Marlin Toy Products, Inc. Enclosed ferris wheel toy. 205,366, 7-26-66, Cl. D34—15.
Lawson, F. H., Co., The: *See*—
Uroshevich, Miroslav. 205,388.
Lithonia Lighting Products Co.: *See*—
Wals, David K. 205,372.
Lundell, Vernon J. Farm tractor. 205,352, 7-26-66, Cl. D14—3.
Makara, Robert. Combined cup and base therefor. 205,368, 7-26-66, Cl. D44—9.
Manderfield, Ellen B., to Oneida Ltd. Spoon or similar article. 205,376, 7-26-66, Cl. D54—12.
Mark, Morris. Table pedestal or the like. 205,361, 7-26-66, Cl. D32—14.
Marlin Toy Products, Inc.: *See*—
Lakin, Willis M. 205,366.
Marotz, Raymond C. Electric wiring staple. 205,375, 7-26-66, Cl. D54—9.
Masterson, Norma B. Combination chair and horizontal swing bar unit. 205,353, 7-26-66, Cl. D15—1.
Mellyn, Lawrence P., to General Electric Co. Night light. 205,371, 7-26-66, Cl. D48—20.
Mifsud, Robert. Leaf fountain. 205,392, 7-26-66, Cl. D91—4.
Mitchell, Atherton R., to Sea & Ski Corp. Pair of clip-on sunglasses. 205,379, 7-26-66, Cl. D57—1.
Morgan, John R., to Amerock Corp. Knob. 205,347, 7-26-66, Cl. D10—8.
Motorola, Inc.: *See*—
Horzick, Joseph. 205,359.
Mushlin, Sidney B. Battery nut. 205,374, 7-26-66, Cl. D54—9.
Noe, Garvie J. Pin cushion. 205,339, 7-26-66, Cl. D3—19.
Noe, Garvie J. Pin cushion. 205,340, 7-26-66, Cl. D3—19.
Noe, Garvie J. Pin cushion. 205,341, 7-26-66, Cl. D3—19.
Noe, Garvie J. Pin cushion. 205,342, 7-26-66, Cl. D3—19.
Noe, Garvie J. Pin cushion. 205,343, 7-26-66, Cl. D3—19.
Noe, Garvie J. Pin cushion. 205,344, 7-26-66, Cl. D3—19.
Noe, Garvie J. Pin cushion. 205,345, 7-26-66, Cl. D3—19.
Northwest Design & Fabrication Ltd.: *See*—
Wiesinger, Frans. 205,350.
Oakland Community College: *See*—
Canfield, Albert A. 205,360.
Oneida Ltd.: *See*—
Manderfield, Ellen B. 205,376.
Petrick, Edward J., to Bretford Mfg., Inc. Hair dryer. 205,389, 7-26-66, Cl. D86—10.
Phillips, Howard W., to Alladdin Industries, Inc. Ice bucket. 205,369, 7-26-66, Cl. D44—15.
Penna, Anthony G., to Brunswick Corp. Golf bag. 205,363, 7-26-66, Cl. D34—6.
Peterson, Kail R., and M. L. Rossman, to General Electric Co. Computer console. 205,356, 7-26-66, Cl. D26—5.
Quenot, Michel, to Etablissements Quenot & Cie. Measuring tape. 205,373, 7-26-66, Cl. D52—1.
Wals, David K., to Lithonia Lighting Products Co. Lamp. 205,372, 7-26-66, Cl. D48—20.
Reynolds Metals Co.: *See*—
Watts, Richard M. 205,393.
Roeschlaub, Ronald C., to Topper Products, Inc. Bottle opener. 205,370, 7-26-66, Cl. D44—29.
Rosner, Saul, and M. V. McCoy. Protective cover for underground electrical service connections. 205,355, 7-26-66, Cl. D26—5.
Sea & Ski Corp.: *See*—
Mitchell, Atherton R. 205,379.
Schine, J. Myer: *See*—
Graham, William J. 205,362.
Shone, Samuel. Facing panel for a fire extinguisher cabinet. 205,354, 7-26-66, Cl. D16—2.
Schumm, Donald W., and D. C. Shady. Hoop stick. 205,364, 7-26-66, Cl. D34—5.
Stefanoni, Piero. Watch case. 205,367, 7-26-66, Cl. D42—8.
Stevenson, Norman W., to V. & E. Friedland, Ltd. Push switch or similar article. 205,357, 7-26-66, Cl. D26—13.
Sylvania Electric Products Inc.: *See*—
Asaki, James T. 205,377.
Topper Products, Inc.: *See*—
Roeschlaub, Ronald C. 205,370.
Uroshevich, Miroslav, to The F. H. Lawson Co. Ash receptacle. 205,388, 7-26-66, Cl. D85—2.
Watts, Richard M., to Reynolds Metals Co. Place mat or the like. 205,393, 7-26-66, Cl. D92—26.
Whitson, John W. Holder for a template and a punchable card. 205,384, 7-26-66, Cl. D64—11.
Wiesinger, Frans, to Northwest Design & Fabrication Ltd. Building unit. 205,350, 7-26-66, Cl. D13—1.
Wittenmyer, Glen L., to The B. F. Goodrich Co. Tire. 205,390, 7-26-66, Cl. D90—20.
Wittenmyer, Glen L., to The B. F. Goodrich Co. Tire. 205,391, 7-26-66, Cl. D90—20.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 26TH DAY OF JULY, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

ACD Bedding Corp.: *See*—
Fasanella, George S. 3,262,135.

AEM Instruments, Inc.: *See*—
Schneider, Kurt H. 3,263,170.

ACF Industries, Inc.: *See*—
Mowatt-Larssen, Rolf, and Sweda. 3,262,402.

Abar Corp.: *See*—
Hill, Charles A. S. 3,263,015.

Abbott, Paul D. Vehicle having selectively fixed or floating steerable wheels. 3,262,715, 7–26–66, Cl. 280—95.

Abbott, William B., and H. Klepper, to Eltra Corp. Main drive mechanism for linecasting machines. 3,262,554, 7–26–66, Cl. 199—11.

Abell, Jerrold J., and R. C. Berry, to Rogers Corp. Waterproof gas-permeable plastic sheet. 3,262,834, 7–26–66, Cl. 161—159.

Abend, Chester J., and W. A. Morrison, to SCM Corp. Display container. 3,262,558, 7–26–66, Cl. 206—45.15.

Aber, Jesse I., to Owens-Corning Fiberglas Corp. Size composition for glass, and treated glass structures and method for manufacturing same. 3,262,809, 7–26–66, Cl. 117—72.

Abraham, Paul P., and R. Metzger. Animated target device. 3,262,704, 7–26–66, Cl. 273—102.1.

Abrahams, Richard L., and T. Hubka, to General Precision, Inc. Automatic frequency lock-on control system. 3,263,228, 7–26–66, Cl. 343—17.7.

Abrams, Irving M., to Diamond Alkali Co. Agglomeration prevention in anion exchange and mixed exchange resins using finely divided bentonite. 3,262,891, 7–26–66, Cl. 260—2.1.

Ackerman, Bernard, to Carlisle Chemical Works, Inc. Vinyl halide resins stabilized with mixtures of zinc salts and potassium salts of monocarboxylic acids. 3,262,896, 7–26–66, Cl. 260—23.

Acme Electric Corp.: *See*—
Klein, Richard J. 3,263,157.

Aconsky, Leonard, and W. J. Riker, to Dorr-Oliver Inc. Rotary drum filters. 3,262,575, 7–26–66, Cl. 210—395.

Adams, John W., and S. J. Nardone, to Ingersoll-Rand Co. Furnace botting and tapping apparatus. 3,262,692, 7–26–66, Cl. 266—42.

Adams, Robert B., and C. B. Moore, to Moore Products Co. Flow control apparatus. 3,262,466, 7–26–66, Cl. 137—561.

Adoutte, Roland, K. Schneider, and M. Baumgartner. Diesel electric traction system. 3,263,142, 7–26–66, Cl. 318—99.

Aerophysics Co.: *See*—
Boehler, Gabriel D., and Foshag. 3,262,656.

Agfa Aktiengesellschaft: *See*—
Winkler, Alfred. 3,262,980.
Jakob, Franz. 3,263,068.
Klockgether, Helfried, Cohnen, and Kruck. 3,262,782.
Winkler, Alfred. 3,262,380.

Aiken, William R., to Kaiser Aerospace & Electronics Corp. Solid state display panel having delay line control of panel elements. 3,263,120, 7–26–66, Cl. 315—169.

Air Products and Chemicals, Inc.: *See*—
Green, Harold A. 3,262,894.

Air-Shield, Inc.: *See*—
Stoner, George H. 3,262,446.

Aisawa, Shiro: *See*—
Carder, Victor H., and Aisawa. 3,262,598.

Ajax Magnethermic Corp.: *See*—
Biringer, Paul P. 3,263,148.

Ajex Hardware Mfg. Corp.: *See*—
Gorton, Howard B., and Arias. 3,262,149.

Albertson, Meredith P., D. N. Owens, C. H. Haas, and H. F. Winnal, to The Budd Co. Method of forming wheel disks. 3,262,191, 7–26–66, Cl. 29—159.01.

Albrecht, Gerd: *See*—
Jung, Reinhold, and Albrecht. 3,262,156.

Albright, James C., to Continental Oil Co. Method and apparatus for recording and reproducing analog F.M. data without distortion. 3,263,159, 7–26–66, Cl. 324—1.

Alcaro, Anthony D. Apparatus for extruding and panning dough. 3,262,470, 7–26–66, Cl. 141—129.

Aldropp, Art. Winch-type camper coach loader and unloader. 3,262 591, 7–26–66, Cl. 214—517.

Alexander, Harvey B., to United States of America, Navy. Extrusion press. 3,262,155, 7–26–66, Cl. 18—12.

Alexander, Robert W., to Crystal-Aire Mfg. Corp. Refrigeration heat exchange process and apparatus. 3,262,281, 7–26–66, Cl. 62—115.

Alfille, Lucien: *See*—
Duret, Georges, and Alfille. 3,262,182.

Alfonsi, Pacifico T. Photographic enlarging easel and mask. 3,262,361, 7–26–66, Cl. 88—24.

Allaben, Charles M., Jr., to Morse Chain Co. Fluid shear coupling. 3,262,527, 7–26–66, Cl. 192—58.

Allegheny Ludlum Steel Corp.: *See*—
Randich, Erasmus A. 3,262,650.

Allen, Carmen: *See*—
Allen, Robert L. 3,262,393.

Allen, Lloyd R., L. R. Koller, and A. E. van Arkel, to National Research Corp. Method of making super-conductive wires. 3,262,187, 7–26–66, Cl. 29—155.5.

Allen, Richard C., to Continental Can Co., Inc. Rotatable dispensing container closure. 3,262,614, 7–26–66, Cl. 222—545.

Allen, Richard J., and A. J. Cummings, to United States of America, Air Force. Superconducting to normal conducting cable transition. 3,263,193, 7–26–66, Cl. 333—96.

Allen, Robert L., deceased; C. Allen, executrix, to Georgia Tech Research Institute. Variable output constant pressure pump. 3,262,393, 7–26–66, Cl. 103—37.

Allied Chemical Corp.: *See*—
Shultz, Andrew. 3,263,010.

Allis-Chalmers Mfg. Co.: *See*—
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Calcal, Panait P. 3,263,186.
Lewis, Earl E. 3,263,197.
Pfianz, Herbert M., and Timmerman. 3,263,050.

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Lindholm, Ingemar. 3,262,816.
Nilsson, Erland. 3,263,117.

Aluminium Laboratories Ltd.: *See*—
Lindsay, James G., and Gailey. 3,262,754.

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Selhost, Dale L. 3,262,491.

American Allsafe Co.: *See*—
Militello, James V. 3,262,638.

American Bosch Arma Corp.: *See*—
Taylor, Marvin. 3,262,324.

American Brake Shoe Co.: *See*—
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American Cyanamid Co.: *See*—
Sedlak, John A., and Matsuda. 3,262,967.
Sedlak, John A., and Matsuda. 3,262,968.

American Machine & Foundry Co.: *See*—
Davidson, Robert W. 3,262,586.
Gamberini, Goffredo. 3,262,457.
Hollenton, Frank, and Reias. 3,262,349.
Johnson, Roly B., and Scerbo. 3,262,522.
Rudd, Wallace C. 3,263,053.

Ampex Corp.: *See*—
Coleman, Charles H., Jr., and Palthe. 3,263,222.
Flowers, Dervin L. 3,262,813.
Smith, Grant M., and Trojak. 3,263,189.

Amsted Industries Inc.: *See*—
Meves, Donald E. 3,262,164.

Amsterdam, Lilly. Coin holder pocketbook. 3,262,478, 7–26–66, Cl. 150—37.

Anastos, William N., to William G. Markos. Process for inhibiting the color change due to ripening in bananas. 3,262,785, 7–26–66, Cl. 99—168.

Andersen, Clifford W., and P. J. Roehrig, to The Wurlitzer Co. Method of making damper lever assemblies, catcher assemblies and like parts for piano actions. 3,262,195, 7–26–66, Cl. 29—411.

Anderson, Alexander S. Device for spiking tobacco. 3,262,587, 7–26–66, Cl. 214—5.5.

Anderson Co., The: *See*—
Martens, Jack E. 3,262,737.

Anderson, Duane H., to Sperry Rand Corp. Selective lockout of computer memory. 3,263,218, 7–26–66, Cl. 340—172.5.

Anderson, Granville W.: *See*—
Krucki, Charles S., and Anderson. 3,263,069.

Anderson, Harry T.: *See*—
Krajewski, John J., and Anderson. 3,262,893.

Anderson, Marvin E., to United States of America, Air Force. Strain gage. 3,262,309, 7–26–66, Cl. 73—88.5.

Anderson, William J.: *See*—
Zaretsky, Erwin V., Parker, and Anderson. 3,262,186.

Andress, Harry J., Jr.: *See*—
Gee, Paul Y. C., and Andress. 3,262,955.

Andrew, Herbert F., and D. Buckley, to Imperial Chemical Industries Ltd. Monoazo stilbene dyestuffs containing a halopyrimidino radical. 3,262,923, 7–26–66, Cl. 260—154.

Andrews, Julian N.: *See*—
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Andrews, Maxwell C., to International Business Machines Corp. Pattern recognition error correction system employing variable parameter input devices. 3,263,216, 7–26–66, Cl. 340—146.3.

Andrsejak, Sigmund L., and R. J. Keene, to United States Steel Corp. Sealing and insulating means for continuous casting starter bars. 3,262,161, 7–26–66, Cl. 22—57.2.

Anglo-Transvaal Consolidated Investment Co.: *See*—
Henderson, Herbert V. 3,262,400.

Angst, Walter, to Kollsman Instrument Corp. Vertical velocity indicator. 3,262,312, 7–26–66, Cl. 73—179.

Angus, George, & Co. Ltd.: *See*—
Balkin, Mark, and Turner. 3,262,826.
Jagger, Ernest T., and Hunter. 3,263,011.

Anker-Holth, Leif. VTOL short hop aircraft. 3,262,657, 7–26–66, Cl. 244—23.

Anspon, Harry D., to General Aniline & Film Corp. Chloroacrylatic polymers containing metal salts of fatty acid. 3,262,895, 7–26–66, Cl. 260—23.

Antelo, Rodolfo B. Heel with replaceable lift. 3,262,221, 7–26–66 Cl. 36—34.

Aoki, Tomoo, ½ to Toyo Cloth Co., Ltd. and ½ to Toyo Rayon Co. Process of coating to make leather substitute and resulting article. 3,262,805, 7–26–66, Cl. 117—11.

Aqua-Mist, Inc.: *See*—
Davidson, Richard M. 3,262,444.

Archer, Donald K.: *See*—
Vukovcan, Rudolph L., Archer, and Barr. 3,262,192.

Arden, Ruth B.: *See*—
Arden, Thomas R. 3,262,205.

Arden, Thomas R., deceased, R. B. Arden, executrix. Scalpel. 3,262,205, 7–26–66, Cl. 30—338.

Argersinger, Sears. Artificial leg with detachable stump supporting sock. 3,262,131, 7–26–66, Cl. 3—17.

Arias, Henry, Jr.: *See*—
Gorton, Howard B., and Arias. 3,262,149.

Armour, Walter B., H. C. Olsen, and M. P. Diamantopoulos, to National Starch and Chemical Corp. Sizing polyolefin yarns with aqueous atactic polypropylene emulsion. 3,262,899, 7–26–66, Cl. 260—29.6.

Armstrong Cork Co.: *See*—
Bolgiano, Nicholas C. 3,262,919.
Herweh, John E., Miller, and Poshkus. 3,262,918.

Aronson, David, to Worthington Corp. Absorption refrigeration system control. 3,262,282, 7–26–66, Cl. 62—141.

Arvonio, Edward N. Broad band toroid R.F. transformer. 3,263,191, 7–26–66, Cl. 333—24.

Arzig, Edward C.: *See*—
Sollenberger, Lester D., and Arzig. 3,262,540.

Aschenbrenner, William E., to Consolidated Papers, Inc. Sheet control device. 3,262,699, 7–26–66, Cl. 271—45.

Aspy, William L., Jr., and J. K. Pannill, to Eastman Kodak Co. Tow treating apparatus. 3,262,178, 7–26–66, Cl. 28—1.

Associated Electrical Industries Ltd.: *See*—
Turner, Peter A. 3,263,139.

Associated Engineering & Equipment Co., Inc.: *See*—
Haley, Orville E. 3,262,320.

Atkinson, William H., to Maromatic Co., Inc. Pin orienting means for vibratory bowl feeders. 3,262,543, 7–26–66, Cl. 198—33.

Atlas Bolt & Screw Co., The: *See*—
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Atomic Energy of Canada Ltd.: *See*—
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Das Gupta, S., and Slobodian. 3,262,882.

Atterbury, Jesse V. Handling device for food pans. 3,262,728, 7–26–66, Cl. 294—16.

Attermeyer, Lawrence A., and L. W. Young, to The Cincinnati Milling Machine Co. Turbine blade milling apparatus. 3,262,368, 7–26–66, Cl. 90—11.

Augustine, Carroll F., and C. P. Tresselt, to The Bendix Corp. Precision movement measuring apparatus using standing waves. 3,263,166, 7–26–66, Cl. 324—58.5.

Austin, Curtis L., D. E. Schaetzel, and L. Riconda, to General Mills, Inc. Method and apparatus for drying agglomerates. 3,262,213, 7–26–66, Cl. 34—10.

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Automatic Electric Laboratories, Inc.: *See*—
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McKeon, Patrick E., and Leshuk. 3,263,043.

Auto-Soler Co., The: *See*—
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Avco Corp.: *See*—
Martin, Geoffrey, and Music. 3,263,007.
Stekly, Zdenek J. J. 3,263,133.

Avila, Blas P. Eraser cleaner. 3,262,144, 7–26–66, Cl. 15—142.

Azam, Guy, and H. Leboutet, to C & F Compagnie Generale de Telegraphie Sans Fil. Waveguide structure for linear particle accelerators having an undulating configuration. 3,263,116, 7–26–66, Cl. 315—3.6.

Azoplate Corp.: *See*—
Gourgé, Gerhard. 3,262,806.

B.R.D. Co. Ltd.: *See*—
Maxwell-Holroyd, Leslie. 3,262,284.

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Baader, Joseph E. Motor driven flasher system. 3,263,212, 7–26–66, Cl. 340—81.

Backman Instruments, Inc.: *See*—
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Bader, Erich, and H. Koert, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Catalytic liquid composition for curing polymerizable vinyl compounds. 3,262,803, 7–26–66, Cl. 106—316.

Bahnson, Agnew H., Jr., deceased; Wachovia Bank and Trust Co., executor. Electrical thrust producing device. 3,263,102, 7–26–66, Cl. 310—5.

Baird, Gordon F., to Blackstone Corp. Heat transfer core structure. 3,262,495, 7–26–66, Cl. 165—152.

Baker Castor Oil Co., The: *See*—
Smith, Malcolm K. 3,262,952.

Baker Perkins Inc.: *See*—
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Baker, Robert D.: *See*—
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Balazer, Richard J., to Baker Perkins Inc. Mixer for mixing potentially explosive materials. 3,262,680, 7–26–66, Cl. 259—104.

Balder, Johannes C., E. de Boer, and G. J. J. Moonen, to North American Philips Co., Inc. Circuit arrangement for separating signals. 3,263,094, 7–26–66, Cl. 307—88.5.

Baldwin, Vernon: *See*—
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Balkin, Mark, and D. G. Turner, to George Angus & Co. Ltd. Method of making cord reinforced draft aprons. 3,262,826, 7–26–66, Cl. 156—171.

Ball Bros. Co. Inc.: *See*—
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Ballantyne, David B., to General Motors Corp. Vehicle body latch device. 3,262,725, 7–26–66, Cl. 287—189.35.

Bamford, Allan J.: *See*—
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Ban, Thomas E., to McDowell-Wellman Engineering Co. Recovery of steel and zinc from waste materials. 3,262,771, 7–26–66, Cl. 75—11.

Bangert, Charles, Jr., to General Electric Co. Circuit breaker load center. 3,263,132, 7–26–66, Cl. 317—119.

Barakauskas, Edward J., and R. G. Holdbrook, to United States of America, Navy. Method of ejecting a missile from a launching tube. 3,262,272, 7–26–66, Cl. 60—39.05.

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Bargen, David W., and B. O. Van Ness, to Motorola, Inc. Saturable reactor voltage control circuit. 3,263,158, 7–26–66, Cl. 323—44.

Barker, Perry S.: *See*—
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Barker, Robert S., to Halcon International, Inc. Bromine catalysed isomerization of maleic acid to fumaric acid in the presence of a peroxide. 3,262,972, 7–26–66, Cl. 260—537.

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Bartlett, Edwin S.: *See*—
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Barton Instrument Corp.: *See*—
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Basabe, John W., 50% to W. White. Device for removing the frangible seal of pharmaceutical vial closures. 3,262,621, 7–26–66, Cl. 225—103.

Bauer, Charles H., Jr., N. N. Leonard, and W. H. Liggett, to Hughes Aircraft Co. Apparatus for high speed photographic printing. 3,262,379, 7–26–66, Cl. 95—4.5.

Bauer, Hansgeorg: *See*—
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Bauer, Myron J., R. E. Carlberg, L. E. Hagbo, R. F. Hereth, R. K. Kirschner, R. L. Linkletter, and G. M. Sherman, to United States of America, Navy. Ready-service mechanism for a guided missile launching system. 3,262,366, 7–26–66, Cl. 89—1.8.

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Bawabe, Rafael R., to United Aircraft Corp. Heat exchanger construction. 3,262,496, 7–26–66, Cl. 165—166.

Baxendale, Lily: *See*—
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Baxter, Everett, deceased; by N. W. Baxter, administratrix. Asphaltic paint composition. 3,262,800, 7–26–66, Cl. 106—235.

Baxter, Nina W.: *See*—
Baxter, Everett. 3,262,800.

Bean, Charles H., to United States of America, Atomic Energy Commission. Process of making a sintered, homogeneous dispersion of nuclear fuel and burnable poison. 3,263,004, 7–26–66, Cl. 264—.5.

Beam, Arvel C. Yarn reel and stand. 3,262,649, 7–26–66, Cl. 242—54.

Beaudoin, Norman R., to General Electric Co. Circuit breaker with high and low overcurrent means for disengaging the latch. 3,263,045, 7–26–66, Cl. 200—88.

Beavers, Ellington M.: *See*—
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Beavers, Robert G., to General Electric Co. Thrust reverser. 3,262,270, 7–26–66, Cl. 60—35.54.

Beavers, Robert G., to General Electric Co. Thrust reverser. 3,262,271, 7–26–66, Cl. 60—35.54.

Becanne, Robert L. P.: *See*—
Pomot, Jean L. E., Luzarreta, and Becanne. 3,262,759.

Bechtold, Max F., to E. I. du Pont de Nemours and Co. High temperature resistant materials of aluminum, nitrogen, and silicon and preparation thereof. 3,262,761, 7–26–66, Cl. 29—182.5.

Bechtold, Max F., to E. I. du Pont de Nemours and Co. High temperature-resistant materials of aluminum, boron, carbon, nitrogen and silicon, and their preparation. 3,262,762, 7–26–66, Cl. 20—182.5.

Becker, Clarence J., and J. J. Faber. Shot shell wad. 3,262,392, 7–26–66, Cl. 102—95.

Beckett, Norman P., to Measure Markers, Inc. Marking device. 3,262,211, 7–26–66, Cl. 33—189.

Beckley, Robert W., and W. F. Ettlich, to General Service Co. Method and apparatus for continuously monitoring water being treated to remove turbidity therefrom. 3,262,878, 7–26–66, Cl. 210—53.

Beckman, Ronald H., and R. R. Knittel. Spring assemblies. 3,262,137, 7–26–66, Cl. 5—353.

Bedford, Burnice D., to General Electric Co. Power amplifier circuit. 3,263,099, 7–26–66, Cl. 307—109.

Bedford, William A., Jr., to Republic Industrial Corp. Aperture sealing fasteners. 3,262,352, 7–26–66, Cl. 85—70.

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Beggs, Donald, to Midland-Ross Corp. Jet convection heat transfer. 3,262,688, 7–26–66, Cl. 266—2.
Beguin, Rene, A. Corbaz, and S. Ramaeier. Electromagnetic needle selection mechanism. 3,262,285, 7–26–66, Cl. 66—60.
Behles, Franz G. F., to Daimler-Benz Aktiengesellschaft. Automatic control mechanism for maintaining the body of an automobile at a constant level. 3,262,711, 7–26–66, Cl. 280—6.1.
Behrends, Jürgen, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Thermoplastic masses based on high molecular weight polyoxymethylenes stabilized with nitro aromatic compounds. 3,262,908, 7–26–66, Cl. 260—45.9.
Beltzel, Stuart W., to Lite Hospital Equipment Inc. Adjustable bed. 3,262,133, 7–26–66, Cl. 5—66.
Belasco, Norman, G. L. Fogal, and J. G. Leisenring, to General Electric Co. Process of producing potable water from urine by electrochemical means. 3,262,869, 7–26–66, Cl. 204—101.
Bell & Howell Co.: *See*—
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Bell Telephone Laboratories, Inc.: *See*—
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Hagemeyer, Hugh J., Jr., Blood, and Edwards. 3,262,994.
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Bosteels, Henri M. L., to Central Welding Research Lab. Ltd. Wire-feeding welding assembly. 3,263,060, 7–26–66, Cl. 219—130.
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Bross, Helmut, to G. Schmidt. Writing tool. 3,262,426, 7–26–66, Cl. 120—42.13.
Broumand, Hormoz K. F., and J. J. Weber, to North American Laboratory Co., Inc. Method for releasing stockinets from smoked meat products. 3,262,789, 7–26–66, Cl. 99—229.
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Brown, James H., and T. A. Priscilla, to United States of America, Navy. Method for determining time-averaged depth. 3,263,206, 7–26–66, Cl. 340—3.
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Bryla, Theodore N., F. E. Jacks, and R. M. Hillyer, to United States of America, Navy. Safety switch for preventing voltages below a predetermined value in a circuit. 3,262,-389, 7–26–66, Cl. 102—28.
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Burwell, Neil W., and C. Fassnacht, to Washington Aluminum Co., Inc. Antenna transportable system. 3,263,232, 7–26–66, Cl. 343—713.
Bush, George B., and L. J. Viernstein. Electrical analogue device for producing three-dimensional surfaces. 3,263,067, 7–26–66, Cl. 235—184.
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Caldwell, Richard L., to Socony Mobil Oil Co., Inc. Geological prospecting comprising directional irradiation and detection. 3,263,082, 7–26–66, Cl. 250—83.3.
Calfee, John D., to Monsanto Co. Polymerization catalysts and processes. 3,262,887, 7–26–66, Cl. 252—429.
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Chaney, Ray L., to United States of America, Atomic Energy Commission. Level control for cryogenic liquid. 3,262,280, 7-26-66, Cl. 62—49.
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Cheek, Edward E., to McDowell-Wellman Engineering Co. Railroad car barney. 3,262,398, 7-26-66, Cl. 104—162.
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Samuels, Abraham M., and Shapiro. 3,262,298.
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Reif, Jack L 3,263,034.
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Clark, Duncan, and P. Hayden, to Imperial Chemical Industries Ltd. Production of mono and di-esters of glycols by oxidation of olefins with a palladous salt in presence of a carboxylic acid, a redox system, an alkali metal halide, carboxylate ions and molecular oxygen. 3,262,969, 7-26-66, Cl. 260—497.
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Gordon, Richard O. 3,262,523.
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Loebel, Frederick A. 3,262,429.
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Clifton, Maurice C., P. M. Nichols, and V. B. Whitfield, to United States Rubber Co. Adhesion of ethylene-propylene-diene terpolymer rubber to textiles. 3,262,482, 7-26-66, Cl. 152—330.
Clifton, Victor E., to The National Smelting Co. Ltd. Retort and method for the extraction of zinc. 3,262,774, 7-26-66, Cl. 75—86.
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Cline, John H. and J. D. 3,262,341.
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Coats & Clark Inc.: *See*—
Morin, Louis H. 3,262,150.
Cobb, Edward S., and C. F. Jackson, to Owens-Corning Fiberglas Corp. Apparatus for producing novelty bulked yarn. 3,262,177, 7-26-66, Cl. 28—1.
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Coffey, Daniel F., Jr., to Marinette and Menominee Box Co. Demountable and returnable bulk bin. 3,262,597, 7-26-66, Cl. 217—12.
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Cohen, Harley, to Honeywell Inc. Control apparatus. 3,262,327, 7-26-66, Cl. 74—5.
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Richter, Adolf, Cohnen, Bauer, and Rinesch. 3,262,772.
Cohnen, Walther: *See*—
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Cole, Paul M., to E. I. du Pont de Nemours and Co. Fabric treating apparatus. 3,262,291, 7-26-66, Cl. 68—150.
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Coleman, Charles H., Jr., and R. W. Palthe, to Ampex Corp. Signal processing means. 3,263,222, 7-26-66, Cl. 340—174.1.
Collins, Harold B., Jr., O. R. Jones, and A. Dobrowolski, to General Electric Co. Doppler effect compensation. 3,263,173, 7-26-66, Cl. 325—420.
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Romanos, Nicholas D. 3,262,428.
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Duret, George, and Alfille. 3,262,182.
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Connally, Carl, Jr., E. B. Elfrink, and L. G. Sharp, to Mobil Oil Corp. Secondary recovery of oil from a subterranean formation. 3,262,498, 7-26-66, Cl. 166—9.
Conover, George M. Wire feed device. 3,262,622, 7-26-66, Cl. 226—127.
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Conti, Ronald J., to North American Aviation, Inc. Thermocompression bonder. 3,263,057, 7-26-66, Cl. 219—78.
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Allen, Richard C. 3,262,614.
White, Jerome V. 3,263,121.
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Hansen, George E., and Korzenowski. 3,262,709.
Hansen, George E., and Korzenowski. 3,262,710.

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Crawford, Jay, Sr. Garbage can cart. 3,262,713, 7-26-66, Cl. 280—47.26.
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D'Amico, John J., to Monsanto Co. 3,3'-dithiobis(3-azabicyclo[3.2.2]nonane). 3,262,927, 7-26-66, Cl. 260—239.
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Davies, Ben, E. P. Weaver, and P. H. Havranek, to Harbison-Walker Refractories Co. Basic fused refractories. 3,262,794, 7-26-66, Cl. 106—58.
Davies, Ben, E. P. Weaver, and P. H. Havranek, to Harbison-Walker Refractories Co. Basic fused refractory. 3,262,795, 7-26-66, Cl. 106—58.
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Davis, Gordon A., to Metals & Controls Inc. Method of and apparatus for producing marginally bonded spaced plate and like structures and the product thereof. 3,262,196, 7-26-66, Cl. 29—471.1.
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Davis Steven S., to The Elmco Corp. Filter apparatus. 3,262,576, 7-26-66, Cl. 210—401.
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Dencker, Gunther C. Audio power amplifier utilizing multiple feedback loops. 3,263,180, 7-26-66, Cl. 330—81.
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De Pasqua, Thomas D., to United States of America, Navy. Adjustable screw-type limit stop. 3,262,535, 7-26-66, Cl. 192—141.
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Doherty, John, Jr., to Texas Instruments Inc. Miniaturized, vibration resistant, thermally responsive electrical switch. 3,263,049, 7-26-66, Cl. 200—138.
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McClendon, Jack C., and Dick. 3,262,991.
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Taylor, Frank A. 3,262,283.

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Bechtold, Max F. 3,262,762.
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Hagemeyer, Hugh J., Jr., Blood, and Edwards. 3,262,994.
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Hagemeyer, Hugh J., Jr., Blood, and Edwards. 3,262,-994.

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James, George R., and P. Korwin, to Chemical Construction Corp. Apparatus for reforming synthesis gas. 3,262,758, 7–26–66, Cl. 23—288.

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Jantzen, George, to M. Steinthal & Co., Inc. Retractable seat belts. 3,262,738, 7–26–66, Cl. 297—388.

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Jason, Emil F., and E. K. Fields, to Standard Oil Co. Condensation of naphthoic acid and formaldehyde. 3,262,970, 7–26–66, Cl. 260—515.

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Kouchner, Georges, 50% to Societe Civile de Recherches Scientifiques et Industrilles "Sodersl." Procedure for developing antimicrobial activity in non-pathogenic organisms. 3,262,864, 7–26–66, Cl. 195—96.

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Lord, Frank W., to Imperial Chemical Industries Ltd. Resinous polyurethane coating lacquers prepared from polyisocyanate, water, and polyhydroxyl reaction products, and process for their preparation. 3,262,901, 7–26–66, Cl. 260—32.8.

Lorenz, Ben, D. L. Shimko, and R. L. Wvener, to United States of America, Navy. Mechanics of coriolis-demonstrator. 3,262,220, 7–26–66, Cl. 35—46.

Lovoy, Jacob P., to W. C. Gilmer. Apparatus for securing lids on containers. 3,262,248, 7–26–66, Cl. 53—335.

Lowry, Edward D.: *See*— Cowles, Raymond I., Lowry, Silva, and Woodring. 3,262,390.

Lucek, John R., and W. J. Pearce, to General Electric Co. Apparatus and method for measuring the pressure inside a vacuum circuit interrupter. 3,263,162, 7–26–66, Cl. 324—33.

Ludwig, Carl, to McDowell Wellman Engineering Co. Railroad car mover. 3,262,399, 7–26–66, Cl. 104—176.

Luker, Jackson M. Foil bake pan. 3,262,668, 7–26–66, Cl. 249—117.

Lupton, William H.: *See*— Kolb, Alan C., Lupton, Melhart, and Young. 3,263,112.

Lursen, Fred O. Troweling machine. 3,262,377, 7–26–66, Cl. 94—45.

Luthgens, Manfred, to Metallgesellschaft Aktiengesellschaft. Neutral to weakly alkaline sulfite process for the extraction of cellulose from cellulosic material. 3,262,839, 7–26–66, Cl. 162—83.

Lux, Benno, N. Perlhefter, and R. Nachmias, to Societe Lorraine de Laminage Continu (Sollac), Societe Anonyme. Method of and apparatus for measuring the temperature of a hot metal body. 3,262,315, 7–26–66, Cl. 73—343.

Luzarreta, Emmanuel J. F.: *See*— Pomot, Jean L. E., Luzarreta, and Becanne. 3,262,759.

Lynch, Robert B.: *See*— Thorsten, Andrew C., Lynch, and Schlotterbeck. 3,262,278.

Lynn, William E., 50% to H. A. Downard. Lifting device for plumbing fixtures. 3,262,590, 7–26–66, Cl. 214—894.

M.K.M. Knitting Mills, Inc.: *See*— Williamson, Beatrice E. 3,262,127.

M.T. Chemicals Inc.: *See*— Edwards, Leonard M., and Loeffler. 3,262,889.

Macey, John W. Syringe with barrel and charge receiving plunger. 3,262,608, 7–26–66, Cl. 222—386.

MacInnis, Martin B., to Sylvania Electric Products Inc. Method of manufacturing wire. 3,262,293, 7–26–66, Cl. 72—42.

MacKay, Donald M.: *See*— Seip, Donald P., Jr., and MacKay. 3,262,595.

MacPherson, Allan. Process of making moccasin type shoes. 3,262,141, 7–26–66, Cl. 12—142.

MacRobbie, Robert, to Richmond Screw Anchor Co., Inc. Cable connector. 3,262,724, 7–26–66, Cl. 287—83.

Madden, Thomas H., and D. R. Day. Dispensing holder for collapsible tube. 3,262,605, 7–26–66, Cl. 222—103.

Madison, Theodore C., to United States of America, Navy. Pressure compensated hydrophone. 3,263,209, 7–26–66, Cl. 340—10.

Maeder, Arthur, to Ciba Ltd. Acid salts of basic interpolymers comprising an amine-substituted amide or ester. 3,262,917, 7–26–66, Cl. 260—78.5.

Magarian, Gerald M., to Preco Inc. Air-powered cutting tool for hair and the like. 3,262,199, 7–26–66, Cl. 30—133.

Magerlein, Barney J., to The Upjohn Co. Lincomycin lower-alkyl ortho lower-alkanoates. 3,262,926, 7–26–66, Cl. 260—210.

Magnavox Co., The: *See*— Kleist, Leroy C., and Buenger. 3,262,355.

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Magnus, Oscar F., and J. P. Kleinkort, to American Brake Shoe Co. Railroad frogs. 3,263,076, 7–26–66, Cl. 246—454.

Magor, Lincoln S., to Retor Developments Ltd. Control system. 3,262,370, 7–26–66, Cl. 90—13.5.

Mahall, Edward J., to Silverbrook Mfg. Co. Inc. Method of assembling a socket wrench. 3,263,338, 7–26–66, Cl. 76—114.

Mahler, Roy A.: *See*— Goldman, Hana J., and Mahler. 3,262,193.

Malec, Jerry P. Bridge crane. 3,262,517, 7–26–66, Cl. 182—2.

Malik, Fred A.: *See*— McDonald, Harry S., F. A. and J. M. Malik, and Smith. 3,262,617.

Malik, Joseph M.: *See*— McDonald, Harry S., F. A. and J. M. Malik, and Smith. 3,262,617.

Mallory, James D., and L. D. Ryan, to Owens-Illinois Glass Co. Method for joining glass parts. 3,262,828, 7–26–66, Cl. 156—295.

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Manufacture de Machines du Haut-Rhin: *See*— Thevenet, Albert. 3,262,583.

Marchand, Georges, and P. Sarrat, to Commissariat a l'Energie Atomique. Filtration-desiccation method and apparatus. 3,262,562, 7–26–66, Cl. 210—67.

Marinette and Menominee Box Co.: *See*— Coffey, Daniel F., Jr. 3,262,597.

Marklein, William R.: *See*— Goldman, Richard G., and Marklein. 3,263,087.

Markos, William G.: *See*— Anastos, William N. 3,262,785.

Markowitz, Morton L., to McDowell-Wellman Engineering Co. Slewable gantry crane. 3,262,580, 7–26–66, Cl. 212—6.

Marks, George E., and R. H. James, to Sperry Rand Corp. Transistor avalanche mode pulse generator. 3,263,098, 7–26–66, Cl. 307—88.5.

Marlett, Russell. Spring actuated pinchcock. 3,262,670, 7–26–66, Cl. 251—7.

Maroldt, Heinz, H.-J. Egbers, and W. Krome, to Hobbs Mfg. Co. Electromagnetic friction clutch. 3,262,530, 7–26–66, Cl. 192—84.

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Martin, Bruce E., to E. I. du Pont de Nemours and Co. Polypropylene bulked yarn. 3,262,257, 7-26-66, Cl. 57—140.
Martin, Geoffrey, and E. G. Music, to Avco Corp. Method of making a ceramic platen for a brazing fixture. 3,263,007, 7-26-66, Cl. 264—60.
Martin, Hans. Closure for footwear having interconnected rotatable members. 3,262,167, 7-26-66, Cl. 24—68.
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Lavin, Edward, Mont, and Martins. 3,262,836.
Martins, Joseph G., to Monsanto Co. Heat stabilization of polyvinyl alcohol with alkali metal phosphates. 3,262,905, 7-26-66, Cl. 260—45.7.
Martwick, Wilford E., and D. C. Youmans, to Honeywell Inc. Dual rotor machine gun. 3,262,367, 7-26-66, Cl. 89—13.
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Maxwell-Holroyd, Leslie, to B.R.D. Co. Ltd. Universal joints. 3,262,284, 7-26-66, Cl. 64—17.
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McAuley, James H., and T. G. Rauch, to McAuley Mfg., Inc. Flexible chain with a shelf portion. 3,262,547, 7-26-66, Cl. 198—173.
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McAuley, James H., and Rauch. 3,262,547.
McAuley, James H., and Rauch. 3,262,548.
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McCarty, Albert M., to United States of America, Navy. Electric firing circuit for explosive charges. 3,262,388, 7-26-66, Cl. 102—18.
McCarty, George W., to The Black and Decker Mfg. Co. Depth calibration means for portable power-driven saw. 3,262,471, 7-26-66, Cl. 143—43.
McCarty, George W., and H. J. Foell, Jr., to The Black and Decker Mfg. Co. Depth and bevel adjustment means for portable power-driven saw. 3,262,472, 7-26-66, Cl. 143—43.
McCleary, Robert E., and W. A. Kinkade, to United States Gypsum Co. Method for making ultrafine calcium sulfate dihydrate crystals. 3,262,799, 7-26-66, Cl. 106—110.
McClellan, Herbert L., to The National Machinery Co. Extruding metal tubes from wire. 3,262,303, 7-26-66, Cl. 72—368.
McClelland, Roy W. Bottle unscrambler. 3,262,542, 7-26-66, Cl. 198—32.
McClendon, Jack C., and C. R. Dick, to The Dow Chemical Co. Cross-linked reaction product of aziridinyl polyester resins with cyclic anhydrides. 3,262,991, 7-26-66, Cl. 260—873.
McConnell, Albert L., and G. E. Wade, to Scott Paper Co. Plastic container and lid. 3,262,602, 7-26-66, Cl. 220—60.
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McDaniel, Edgar L., and H. S. Young, to Eastman Kodak Co. Catalytic synthesis of acrylonitrile from olefins, ammonia and oxygen. 3,262,962, 7-26-66, Cl. 260—465.3.
McDonald, Benjamin J. Utility hand truck. 3,262,712, 7-26-66, Cl. 280—47.19.
McDonald, David W.: *See*—
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McDonald, Harry S., F. A. and J. M. Malik, and W. N. Smith. Combined hanger and stretcher for trousers and slacks. 3,262,617, 7-26-66, Cl. 223—95.
McDowell-Wellman Engineering Co.: *See*—
Ban, Thomas E. 3,262,771.
Cheek, Edward E. 3,262,398.
Ludwig, Carl. 3,262,399.
Markowitz, Morton L. 3,262,580.
McElroy, William D., and E. H. White. 2-cyano-6-oxybenzothiazole and methods of preparing same. 3,262,940, 7-26-66, Cl. 260—304.
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McGriffin, James B., and W. L. Ripley, to United States of America, Navy. Smokeless, ashless signal flare composition containing ammonium perchlorate. 3,262,824, 7-26-66, Cl. 149—42.
McKelvie, Henry R. Apparatus for and method of forming lubricant retaining grooves in textile spinning and twisting rings. 3,262,229, 7-26-66, Cl. 51—105.
McKeon, Patrick E., and R. A. Leshuk, to Automatic Electric Laboratories, Inc. Techniques for the construction of reed relays. 3,263,043, 7-26-66, Cl. 200—87.
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Meier, Johann H., to International Business Machines Corp. Jet-nozzle-type indicator. 3,262,462, 7-26-66, Cl. 137—83.
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Merelis, Morris C., to Rose-Derry Co. Infant's car seat. 3,262,736, 7-26-66, Cl. 297—253.
Mertz, Lawrence N., and N. O. Young, to Block Engineering, Inc. Method for forming an image of an invisible radiation pattern and apparatus for copying the image. 3,263,079, 7-26-66, Cl. 250—65.
Messina, Joseph F., to United States of America, Army. Lubricating grease composition for missile systems. 3,262,879, 7-26-66, Cl. 252—28.
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Metzger, Arthur C. Miniature rotary multipolar selector switch with rotor resiliant conductive brush and ball contact structure. 3,263,033, 7-26-66, Cl. 200—8.
Metzger, Eric E., to Bowles Engineering Corp. Fluid catcher mechanism. 3,262,468, 7-26-66, Cl. 137—802.
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Meyer, George C. Float switch for swimming pools. 3,263,041, 7-26-66, Cl. 200—84.
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Militello, James V., to American Allsafe Co. Open mesh fabric fan guard. 3,262,638, 7-26-66, Cl. 230—275.
Mille, George T., and J. Steingart, to Hooker Chemical Corp. Preparation of phosphine. 3,262,871, 7-26-66, Cl. 204—266.
Miller, Albert F. Comic bowling ball. 3,262,700, 7-26-66, Cl. 272—27.
Miller, Charlie D. Article holders. 3,262,618, 7-26-66, Cl. 224—45.

Miller, Christian F., to Formold Plastics, Inc. Dispensing cap for squeeze bottle containing liquid products. 3,262,613, 7-26-66, Cl. 222—522.
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Mitchell, Charles L., to The Cincinnati Milling Machine Co. Hydraulic forming press. 3,262,294, 7-26-66, Cl. 72—63.
Mitchell, William J., and V. C. Raab, to Union Carbide Corp. Manufacture of shaped crystalline zeolitic molecular sieve bodies. 3,262,890, 7-26-66, Cl. 252—455.
Mitsui Kagaku Kogyo Kabushiki Kaisha: *See*—
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Miura, Mitsuo, to Kabushiki Kaisha Sanyo-sha. Automatic door switch device for a vehicle, a building or the like. 3,262,514, 7-26-66, Cl. 180—82.
Mix, Konrad, and R. Klein, to Cassella Farbwerke Mainkur Aktiengesellschaft. Anthraquinonyl-triazine dye. 3,262,933, 7-26-66, Cl. 260—249.
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Modiano, Jacques, and F. Weiss, to Societe d'Electro-Chimie d'Electrometallurgie et des acieries electriques d'Ugine. Acrylonitrile separation. 3,262,963, 7-26-66, Cl. 260—465.3.
Moffett, Robert B., to The Upjohn Co. Allyloxy-3,5-dialkylbenzamines. 3,262,946, 7-26-66, Cl. 260—326.5.
Molins, Desmond W., to The Molins Organisation Ltd. Apparatus for filling a container with rod-like articles. 3,262,243, 7-26-66, Cl. 53—150.
Molins Organisation Ltd., The: *See*—
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D'Amico, John J. 3,262,927.
Gaertner, Van R. 3,262,916.
Higgins, Thomas D., Jr., McDonald, and Roth. 3,262,966.
Huff, Terrence, and Perry. 3,262,995.
Kelly, Donald J. 3,262,920.
Lavin, Edward, Martins, and Mont. 3,262,835.
Lavin, Edward, Mont, and Martins. 3,262,836.
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Perry, Ell. 3,262,907.
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Moore, Raymond W., Jr., to Arthur D. Little, Inc. Extreme high vacuum apparatus. 3,262,279, 7-26-66, Cl. 62—45.
Moore, William G., and W. E. Domning, to The Dow Chemical Co. Process for making manganous carbonate. 3,262,752, 7-26-66, Cl. 23—61.
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Morando, Jorge A., to National Aeronautics and Space Administration under the provisions of 42 U.S.C. 2457 (d). Hydraulic transformer. 3,262,395, 7-26-66, Cl. 103—49.
Moressee, Georges, and R. Dechet, to Cie Electro-Mecanique. Frequency converter. 3,263,143, 7-26-66, Cl. 318—197.
Moretti, Giorgio, F. Dini, and V. D'Alessandro, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Process for preparing the organometallic component of a catalytic system. 3,262,888, 7-26-66, Cl. 252—431.
Morgan, Willard L., and M. A. Thomas, to Deering Milliken Research Corp. Inherently self-lined garments and processes for the production thereof. 3,262,128, 7-26-66, Cl. 2—243.
Morin, Louis H., to Coats & Clark Inc. Machine for producing foamed plastic spools at high speed. 3,262,150, 7-26-66, Cl. 18—4.
Morin, Louis H. Intercast relatively movable plastic elements and method of forming the same. 3,263,013, 7-26-66, Cl. 264—242.
Morrell, John H., and O. D. Letourneau. One pin back style personnel parachute. 3,262,660, 7-26-66, Cl. 244—148.
Morrison, David J., 50% to E. H. Hurst. Storage device for paint brushes or the like. 3,262,556, 7-26-66, Cl. 206—15.1.
Morrison, William A.: *See*—
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Morse, Leon E., K. H. McCorkle, and C. E. Schilling, to United States of America, Atomic Energy Commission. Method of preparing high-density, compactible uranium dioxide particles. 3,262,760, 7-26-66, Cl. 23—14.5.
Morz, James S., and J. W. Wiesner, to Mirro Aluminum Co. Cookie press. 3,262,404, 7-26-66, Cl. 107—52.
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Gunn, David L. 3,263,172.
Moul, George E., Jr., to United States of America, Navy. Two-rod seeker head. 3,262,321, 7-26-66, Cl. 74—1.
Mowatt-Larssen, Rolf, and A. D. Sweda, to ACF Industries, Inc. Collapsible hitch. 3,262,402, 7-26-66, Cl. 105—368.
Mueller, Willy, and K. Ronco, to Ciba Ltd. Disazo-dyestuffs. 3,262,925, 7-26-66, Cl. 260—174.
Muench, John L. Adjustable support for rotating equipment. 3,262,671, 7-26-66, Cl. 251—163.
Muller, Erwin, and K. Dinges, to Farbenfarbriken Bayer Aktiengesellschaft. Self-crosslinking polymers. 3,262,985, 7-26-66, Cl. 260—80.3.
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Munich, August E., to United States of America, Air Force. Magnetostrictive pulse interference detector. 3,263,226, 7-26-66, Cl. 343—17.1.
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Nadig, Francis H., J. L. Bohn, and T. Korneff, to Temple University. High-speed camera. 3,262,749, 7-26-66, Cl. 352—106.
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Morando, Jorge A. 3,262,395.
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McClellan, Herbert L. 3,262,303.
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Natta, Giulio, M. Farina, G. Bressan, and M. Peraldo, to Montecatini-Societa Generale per l'Industria Mineraria e Chimica. Polymers of unsaturated halogenated ethers having a highly stereoregular structure and process for preparing the same. 3,262,921, 7–26–66, Cl. 260—91.1.
Naumann, Heinrich, and F. Muller, to Hydrawerk Aktiengesellschaft. Electrolytic capacitor having filmed-electrode of spaced layers. 3,263,137, 7–26–66, Cl. 317—230.
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Nilsson, Erland, to Allmanna Svenska Elektriska Aktiebolaget. Spark gap device having an intermediate electrode forming two series spark gaps. 3,263,117, 7–26–66, Cl. 315—36.
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Nowalk, Thomas P., and H. W. Henkels, to Westinghouse Electric Corp. Multifunctional semiconductor devices. 3,263,138, 7–26–66, Cl. 317—235.
Nunziato, Charles. Golf club with horizontally adjustable pointer. 3,262,705, 7–26–66, Cl. 273—163.
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Page, Harold A., and A. D. C. Gunn, to Cochran and Co., Annan Ltd. Control of fuel and air supply to burners. 3,262,485, 7–26–66, Cl. 158—28.
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Perry, Eli, to Monsanto Co. Stabilization of polyaldehydes with benzothiazole and derivatives thereof. 3,262,907, 7–26–66, Cl. 260—45.8.
Perry, Eli, to Monsanto Co. Stabilized polypropionaldehyde containing triphenylphosphine and dilauryl thiodipropionate as stabilizers. 3,262,910, 7–26–66, Cl. 260—45.85.
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Pitman, Raymond F., D. E. Broderson, and H. W. Gronemeyer, Jr., to Pitman Mfg. Co. Outrigger structure for hole digger and derrick apparatus. 3,262,582, 7–26–66, Cl. 212—145.
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Point, Marcel A. R., and G. Nicholas, to Societe Anonyme de Machines E'ectrostatiques. Means for electrostatic coating. 3,263,127, 7–26–66, Cl. 317—3.
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Price, Edward G., and L. D. Romhanyi, to The International Nickel Co., Inc. Iridium-tungsten alloy products. 3,262,779, 7–26–66, Cl. 75—172.

Price, Franklin F. Archery glove. 3,262,126, 7–26–66, Cl. 2—159.

Price, Tom B., to Texaco Inc. Hydraulic drilling and casing setting tool. 3,262,508, 7–26–66, Cl. 175—207.

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McAuley, James H., and Rauch. 3,262,548.

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Reams, William H., to United States of America, Navy. Submarine signal. 3,262,387, 7–26–66, Cl. 102—16.

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Riddle, James M., to Ethyl Corp. Preparation of complex lithium vinyltriethylboron. 3,262,979, 7–26–66, Cl. 260—606.5.

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Ringold, Howard J., and G. Rosenkrans, to Syntex Corp. 7-methyl androstane compounds. 3,262,949, 7–26–66, Cl. 260—397.3.

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Robinson, Anderson E., to Hercules Inc. Alkylene oxide elastomers with aromatic hydrocarbon extenders. 3,262,902, 7–26–66, Cl. 260—33.6.

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Ruddock, Kenneth A., H. A. Slack, and S. Breiner; said Slack assor. to The Pure Oil Co.; said Ruddock and said Breiner assors. to Varian Associates. Method for determining depth and falloff rate of subterranean magnetic disturbances utilizing a plurality of magnetometers. 3,263,161, 7–26–66, Cl. 324—5.

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Sadowski, Edward P., to The International Nickel Co., Inc. Ultra tough maraging steel. 3,262,777, 7–26–66, Cl. 75—124.

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Schloss, Fred, to United States of America, Navy. Wide band hydrophone. 3,263,210, 7–26–66, Cl. 340—10.

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Schreiber, Guido. Masking compositions for printed circuits. 3,262,900, 7–26–66, Cl. 260—29.6.

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Schrimper, Vernon L., and W. D. Page, to Iowa Mfg. Co. of Cedar Rapids, Iowa. Adjustable strike-off plate for finishing machines. 3,262,378, 7–26–66, Cl. 94—46.

Schroder, Johann, to North American Philips Co., Inc. Tungsten filament lamp comprising hexafluoride gas at partial pressure not exceeding 10 Torrs. 3,263,113, 7–26–66, Cl. 313—223.

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Sedlak, John A., and K. Matsuda, to American Cyanamid Co. Process for the preparation of α-fluoroacrylates. 3,262,968, 7-26-66, Cl. 260—486.

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Selnes, Norman, W. Ski packs. 3,262,619, 7-26-66, Cl. 224—50.

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Senstad, Paul D., to Honeywell Inc. Control apparatus. 3,262,325, 7-26-66, Cl. 74—5.

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Samuels, Abraham M., and Shapiro. 3,262,298.

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ISSUED JULY 26, 1966

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66	3,262,863	60	3,263,054	51.5	3,263,078		3,262,949	47.19	3,262,712	321– 7	3,263,148
96	3,262,864	75	3,263,055	65	3,263,079	397.47	3,262,950	47.26	3,262,713	44	3,263,149
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32	3,262,542	78	3,263,057	83.3	3,263,081		3,262,952	95	3,262,715		3,263,151
33	3,262,543	85	3,263,058		3,263,082	407	3,262,953	150	3,262,716		3,263,152
	3,262,544	91	3,263,059	83.6	3,263,083	413	3,262,954	501	3,262,717		3,263,153
165	3,262,545	130	3,263,060	203	3,263,084	429.9	3,262,955	285– 7	3,262,718	69	3,263,154
172	3,262,546	343	3,263,061	211	3,263,085	435	3,262,956	41	3,262,719	322– 28	3,263,155
173	3,262,547	494	3,263,062	219	3,263,086	448	3,262,957	161	3,262,720	323– 9	3,263,156
	3,262,548	522	3,263,063	224	3,263,087		3,262,958	174	3,262,721	22	3,263,157
178	3,262,549	220– 24.5	3,262,599	237	3,263,088		3,262,959	212	3,262,722	44	3,263,158
189	3,262,550	27	3,262,600	239	3,263,089	453	3,262,960	287– 20.92	3,262,723	324– 1	3,263,159
204	3,262,551	60	3,262,601	251– 7	3,262,670	462	3,262,961	83	3,262,724	6	3,263,160
210	3,262,552		3,262,602	163	3,262,671	465.3	3,262,962	189.35	3,262,725	8	3,263,161
232	3,262,553	221–273	3,262,603	204	3,262,672		3,262,963	292–196	3,262,726	33	3,263,162
199– 11	3,262,554	222– 76	3,262,604	357	3,262,673	465.7	3,262,964	294– 15	3,262,727	34	3,263,163
61	3,262,555	103	3,262,605	252– 28	3,262,879		3,262,965	16	3,262,728	51	3,263,164
200– 8	3,263,033	153	3,262,606	33	3,262,880	465.9	3,262,966	81	3,262,729	54	3,263,165
11	3,263,034	182	3,262,607	37.2	3,262,881	486	3,262,967	86.25	3,262,730	58.5	3,263,166
34	3,263,035	386	3,262,608	59	3,262,882		3,262,968	101	3,262,731	61	3,263,167
51	3,263,036	399	3,262,609	105	3,262,883	497	3,262,969	296– 52	3,262,732	70	3,263,168
51.07	3,263,037	440	3,262,610	106	3,262,884	515	3,262,970	297–142	3,262,733	77	3,263,169
61.13	3,263,038	478	3,262,611	301.1	3,262,885		3,262,971	157	3,262,734	131	3,263,170
61.45	3,263,039	484	3,262,612	376	3,262,886	537	3,262,972	188	3,262,735	132	3,263,171
61.64	3,263,040	522	3,262,613	429	3,262,887	542	3,262,973	253	3,262,736	325–151	3,263,172
84	3,263,041	545	3,262,614	431	3,262,888	544	3,262,974	379	3,262,737	420	3,263,173
87	3,263,042	223– 67	3,262,615		3,262,889	566	3,262,975	388	3,262,738	328– 25	3,263,174
	3,263,043	76	3,262,616	455	3,262,890	567.6	3,262,976	453	3,262,739	99	3,263,175
	3,263,044	95	3,262,617	253– 77	3,262,674	570	3,262,977	298– 22	3,262,740	329–116	3,263,176
88	3,263,045	224– 45	3,262,618		3,262,675	570.5	3,262,978	299– 4	3,262,741	330– 9	3,263,177
116	3,263,046	50	3,262,619		3,262,676	606.5	3,262,979	302– 34	3,262,742	30	3,263,178
	3,263,047	225– 41	3,262,620	78	3,262,677	611	3,262,980	307– 88.5	3,263,090	54	3,263,179
120	3,263,048	103	3,262,621	254– 2	3,262,678	653.3	3,262,981		3,263,091	81	3,263,180
138	3,263,049	226–127	3,262,622	192	3,262,679	668	3,262,982		3,263,092	130	3,263,181
166	3,263,050	174	3,262,623	259–104	3,262,680	669	3,262,983		3,263,093	331– 71	3,263,182
170	3,263,051	228– 17	3,262,624	115	3,262,681	677	3,262,984		3,263,094	94	3,263,183
203– 7	3,262,865	229– 1.5	3,262,625	260– 2.1	3,262,891	828	3,262,986		3,263,095	181	3,263,184
204– 1	3,262,866		3,262,626	2.2	3,262,892	835	3,262,987		3,263,096	332– 9	3,263,185
38	3,262,867	7	3,262,627		3,262,893	836	3,262,988		3,263,097	14	3,263,186
98	3,262,868	14	3,262,628	2.5	3,262,894	857	3,262,989		3,263,098	16	3,263,187
101	3,262,869		3,262,629	23	3,262,895	861	3,262,990	109	3,263,099	23	3,263,188
108	3,262,870	17	3,262,630		3,262,896	873	3,262,991	116	3,263,100	24	3,263,189
266	3,262,871	37	3,262,631	29.3	3,262,897	876	3,262,992	308–187.1	3,262,743	29	3,263,190
272	3,262,872	51	3,262,632	29.6	3,262,898	879	3,262,993	240	3,262,744	333– 24	3,263,191
206– 15.1	3,262,556	59	3,262,633		3,262,899	880	3,262,994	310– 4	3,263,101	70	3,263,192
16	3,262,557	62.5	3,262,634		3,262,900	881	3,262,995	5	3,263,102	96	3,263,193
45.15	3,262,558	230–116	3,262,635	32.8	3,262,901	887	3,262,996	9.5	3,263,103	97	3,263,194
45.31	3,262,559	132	3,262,636	33.6	3,262,902	889	3,262,997	11	3,263,104	336– 45	3,263,195
208– 33	3,262,873	134	3,262,637	37	3,262,903	927	3,262,998	25	3,263,105	96	3,263,196
216	3,262,874	275	3,262,638	41	3,262,904		3,262,999	54	3,263,106	192	3,263,197
324	3,262,875	235– 58	3,262,639	45.7	3,262,905	929	3,263,000	106	3,263,107		3,263,198
209– 17	3,262,560	78	3,262,640	45.75	3,262,909		3,263,001	312–108	3,262,745	338– 2	3,263,199
75	3,262,561	92	3,263,064	45.8	3,262,906		3,263,002	140.3	3,262,746	339– 17	3,263,200
210– 32	3,262,876		3,263,065		3,262,907	953	3,263,003	234.5	3,262,747	52	3,263,201
47	3,262,877	143	3,262,641	45.85	3,262,910	261– 29	3,262,682	313– 3	3,263,108	150	3,263,202
53	3,262,878	150.5	3,263,066	45.9	3,262,908	39	3,262,683	83	3,263,109		3,263,203
67	3,262,562	184	3,263,067	47	3,262,911	114	3,262,684	108	3,263,110	154	3,263,204
90	3,262,563	236– 99	3,262,642		3,262,912	157	3,262,685	109	3,263,111	198	3,263,205
	3,262,564	239– 11	3,262,643		3,262,913	263– 21	3,262,686	198	3,263,112	340– 3	3,263,206
	3,262,565	85	3,262,644	49	3,262,914	29	3,262,687	223	3,263,113	5	3,263,207
101	3,262,566	265.19	3,262,645	61	3,262,915	264– .5	3,263,004	346	3,263,114	8	3,263,208
130	3,262,567	240– 1.3	3,263,068	78.4	3,262,916	1	3,263,005		3,263,115	10	3,263,209
138	3,262,568	3	3,263,069	78.5	3,262,917	8	3,263,006	315– 3.6	3,263,116		3,263,210
144	3,262,569	47	3,263,070		3,262,918	60	3,263,007	36	3,263,117	81	3,263,211
266	3,262,570	51.11	3,263,071	80.3	3,262,985	90	3,263,008	39.55	3,263,118		3,263,212
297	3,262,571		3,263,072	80.5	3,262,919	98	3,263,009	77	3,263,119	146.1	3,263,213
307	3,262,572	241–197	3,262,646	89.1	3,262,920	126	3,263,010	169	3,263,120		3,263,214
380	3,262,573	242– 9	3,262,647	91.1	3,262,921	153	3,263,011	208	3,263,121		3,263,215
393	3,262,574	35.6	3,262,648	93.7	3,262,922	234	3,263,012	209	3,263,122	146.3	3,263,216
395	3,262,575	54	3,262,649	154	3,262,923	242	3,263,013		3,263,123	163	3,263,217
401	3,262,576	56.2	3,262,650	163	3,262,924	261	3,263,014	212	3,263,124	172.5	3,263,218
487	3,262,577	75.5	3,262,651	174	3,262,925	266– 2	3,262,688	219	3,263,125		3,263,219
489	3,262,578	84.5	3,262,652	210	3,262,926	23	3,262,689	241	3,263,126	173.1	3,263,220
211– 45	3,262,579	107.11	3,262,653	239	3,262,927	35	3,262,690	316– 10	3,262,748	174	3,263,221
212– 6	3,262,580	244– 1	3,262,654	239.1	3,262,928		3,262,691	317– 3	3,263,127	174.1	3,263,222
132	3,262,581		3,262,655	240	3,262,929	42	3,262,692	33	3,263,128		3,263,223
145	3,262,582	10	3,262,656		3,262,930	267– 3	3,262,693	101	3,263,129	236	3,263,224
214– 1.1	3,262,583	23	3,262,657	243	3,262,931	269–153	3,262,694	107	3,263,130	324	3,263,225
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15	3,262,585	148	3,262,660	268	3,262,934	271– 33	3,262,697	123	3,263,133	17.7	3,263,228
17	3,262,586	246– 30	3,263,073	286	3,262,935	44	3,262,698	172	3,263,134	100	3,263,229
84	3,262,588	34	3,263,074	293	3,262,936	45	3,262,699	195	3,263,135		3,263,230
302	3,262,589	428	3,263,075	294.7	3,262,937	272– 27	3,262,700	200	3,263,136	105	3,263,231
394	3,262,590	454	3,263,076		3,262,938	60	3,262,701	230	3,263,137	713	3,263,232
515	3,262,592	248– 18	3,262,661	302	3,262,939	273– 54	3,262,702	235	3,263,138	895	3,263,233
517	3,262,591	68	3,262,662	304	3,262,940	95	3,262,703		3,263,139	346– 74	3,263,234
651	3,262,593	74	3,262,663	307	3,262,941	102.1	3,262,704	249	3,263,140	352–106	3,262,749
652	3,262,594	119	3,262,664	308	3,262,942	163	3,262,705	318– 16	3,263,141	119	3,262,750

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DESIGN PATENTS

2	205,356	10	205,372	13	205,364	24	205,341	31	205,374	34	205,391
4	205,354	12	205,347		205,380		205,342		205,376	37	205,351
	205,361		205,348		205,381		205,343		205,377	38	205,371
	205,370		205,349	14	205,352		205,344		205,384	41	205,369
	205,379		205,353	21	205,360		205,345		205,392	45	205,393
	205,382		205,359		205,386	29	205,358	34	205,346	48	205,366
6	205,355		205,385	24	205,339	31	205,362		205,388		205,375
9	205,363		205,389		205,340		205,368		205,390		205,387
	205,383										

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 26, 1966 Volume 828 Number 4

TRADEMARKS

NOTICES

Deposit Accounts

The practice instituted on May 1, 1966, pursuant to the notice of February 23, 1966 (824 O.G. 1200), whereby statutory fees may be charged against deposit accounts, and such accounts are closed if overdrawn, has resulted in certain difficulties for the Patent Office and deposit account holders. It has been decided therefore to modify that practice as indicated below.

As was pointed out in that notice, the charging of a fee against an overdrawn account cannot be considered as payment of the fee until a proper balance is restored or payment is made in some other way. Accordingly, deposit account holders who charge such fees must assume the risk of losing vital dates if they do not maintain a proper balance in their accounts at all times.

Apart from this, however, the overdrawing of an account places a burden on the Patent Office, particularly where a number of items are charged after the overdraft occurs, and it is appropriate that those who are responsible for causing such a condition should bear the cost of correcting it. In view of this fact, and of the hardship frequently caused if an account is permanently closed, the practice of closing deposit accounts merely because they are overdrawn will be discontinued, effective August 1, 1966. In lieu thereof an overdrawn account will be immediately suspended and no charges will be accepted against it until a proper balance is restored, together with a payment of ten dollars to cover the work done by the Patent Office incident to suspending and reinstating the account and dealing with charges which may have been made in the meantime. It is expected, however, that reasonable precautions will be taken in all cases to avoid overdrafts, and if an account is suspended repeatedly it will be necessary to close it.

Similarly, because of the burden placed on the Patent Office incident to the operation of deposit accounts, a charge of ten dollars will be made for opening each new account.

EDWARD J. BRENNER,
June 23, 1966. *Commissioner.*

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12(c)]	16,121
Date of oldest new application	June 1, 1965
Date of oldest amended application (filing date)	November 6, 1962

C. M. WENDT, Director, Trademark Examining Operation

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	6-1-65	8-9-63
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	7-15-65	11-6-63
Renewals (All Classes)	5-6-66	.....
Sec. 12(c) Publications (All Classes)	5-6-66	.....

Applications filed during the month of May—2,495

Registrations Issued.....387—No. 811,528 to No. 811,914
Renewals Issued..... 70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 175,343. Ultra Carbon Corporation, Bay City, Mich. Filed Aug. 19, 1963.

ULTRA

Owner of Reg. No. 738,997.

Class 1—Raw or Partly Prepared Materials

For Low and High Purity Carbon and Graphite Plate and Rod Stock.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For High Purity Graphite Jigs and Fixtures for Use in the Preparation of Semi-Conductor Devices.

Class 34—Heating, Lighting, and Ventilating Apparatus

For High Purity Nuclear Reactor Components Including Moderators, Reflectors, and Thermal Columns; and High Purity Graphite Containers, Particularly Those for Use for or in Conjunction With Apparatus for Melting, Casting, or Refining Materials Such as Metals, Ceramics, and Chemicals and Including Boats, Funnels, Crucibles, and Molds and Parts Thereof Inclusive of Block Inserts, and Those for Use in the Transport of Radio-Active Materials.

First use Jan. 2, 1963.

SN 209,645. Harrington & Richardson, Inc., Worcester, Mass. Filed Jan. 11, 1965.

H&R

Class 9—Explosives, Firearms, Equipments, and Projectiles

For Shotguns, Pistols, and Rifles.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Hunting and Sporting Knives.

First use Nov. 16, 1964.

SN 218,043. Champ-Items, Inc., St. Louis, Mo. Filed May 5, 1965.

Champ Items

Owner of Reg. No. 575,795.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Automotive Repair Parts—Namely, Brass Nut Assortments, Fiber Washer Assortments, and Drain plugs.

Class 19—Vehicles

For Hold Down Bolts for Battery Frames, Adjustable Ball Joint Assemblies, Brake Return Springs, Bumper Bolts, Spring Leaf Silencing Pads, Axle Flange Studs, Adjustable Spring Clamps, Adjustable Coil Spring Boosters, Caster and Camber Shims, Studs for Wheels and Shim Purposes, Ball Joint Kits, Idler Arm Kits, Brake Shoe Adjusting Screw Assemblies, Steering Link Kits, and Idler Arms.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Clutch and Throttle Return Springs, Fuel Pressure Regulators, and Tail Pipe Hangers.

Class 26—Measuring and Scientific Appliances

For Speedometer Cable Kits.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Power Steering Cylinder Seals.

First use May 16, 1963.

SN 223,373. Safeway Stores, Incorporated, d.b.a. Safeway Super "S" Stores, Oakland, Calif. Filed July 15, 1965.

SAFEWAY Super

Applicant disclaims the word "Super" apart from the mark as shown. Owner of Reg. Nos. 200,927, 743,295, and others.

Class 9—Explosives, Firearms, Equipments, and Projectiles

For Matches.
First use June 22, 1965.

Class 18—Medicines and Pharmaceutical Preparations

For Vitamin and Mineral Preparations.
First use May 1, 1965.

Class 22—Games, Toys, and Sporting Goods

For Sleeping Bags for Outdoor and Campers' Use.
First use Feb. 2, 1965.

Class 46—Foods and Ingredients of Foods

For Liquid Sugar Substitute and Ice Cream.
First use Jan. 9, 1965.

Class 101—Advertising and Business

For Retail Drug and Variety Store Services.
First use Mar. 6, 1965.

SN 223,841. Synton A.G., Berne, Switzerland. Filed July 20, 1965.

SYNTON

Priority claimed under Sec. 44(d) on Swiss Reg. No. 208,283, dated Jan. 27, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Articles of Synthetic Jewels, Set or Unset—Namely, Diamond Bits and Industrial Jewels for Use in Machinery and Tools.

Class 27—Horological Instruments

For Jewels and Jewel Bearings for Horological Instruments.

Class 36—Musical Instruments and Supplies

For Jewel Points for Sound Pick-Up Needles.

SN 226,326. Sawaya Pexton S/A Lanifisio, Sao Paulo, Brazil. Filed Aug. 24, 1965.

MOHAIRGAL

Owner of Brazilian Reg. Nos. 303,814 and 303,815, dated Aug. 21, 1964.

Class 39—Clothing

For Men's, Women's, and Children's Ready-Made Clothing Made in Part or in Whole of Fabric or Yarns Containing Mohair—Namely, Mufflers, Aprons, Blouses, Overcoats, Waist Coats, Shawls, Scarves, Pants, Shorts, Collars, Swaddling Clothes, Skirts, Suits, Dressing Gowns, Mantillas, Vests, Pajamas, Kimonos, Nightgowns, Sweaters, Stoles, Turbans, and Dresses.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Knitted, Netted and Textile Fabrics All Made Substantially or in Part of Mohair—Namely, Blankets, Bed Spreads, Table Cloths, and Textile Fabrics in the Piece Made of Mohair Combined With Cotton, Alpaca, Hemp, Cashmere, Jute, Linen, Nylon, Ramie, Rayon, and Silk.

SN 227,538. Bankers & Merchants, Inc., Chicago, Ill. Filed Sept. 10, 1965.

FAYMUS

Owner of Reg. No. 508,602.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Duplicating Machines, Check Protectors, Printing Presses, Staplers, Ticket Punches, and Notary Seals.

Class 37—Paper and Stationery

For Spirit Master Paper, Stencils, Rubber Bands, Pens, and Pencils.

First use January 1950.

SN 228,864. Philippe Venet, Paris, France. Filed Sept. 29, 1965.

PHILIPPE VENET

Owner of French Reg. No. 501,374, dated Dec. 29, 1961 (Seine); Natl. Inst. No. 176,593.

Class 39—Clothing

For Clothes and Underwear and Particularly Garments for Women—Namely, Lingerie, Hosiery, Stockings, Neckties, Gloves, Scarfs, Hats, Furs, Shoes, and Slippers.

Class 51—Cosmetics and Toilet Preparations

For Perfumery, Lipsticks, Fingernail Polish, Toothpaste, and Cosmetics—Namely, Rouge, Face Powder, Mascara, Eyebrow Pencils, Hair Coloring, Hand Lotion, Face Cream, Bath Oils, Bubble Bath, and Bath Salts.

SN 229,910. Vereinigte Glanzstoff-Fabriken Aktiengesellschaft, Wuppertal-Elberfeld, Germany. Filed Aug. 23, 1965.

DIOLEN

Owner of German Reg. No. 666,763, dated Jan. 20, 1954.

Class 1—Raw or Partly Prepared Materials

For Fibers, Films, Bristles, Hides, Leather, Furs, Spun Fibers (Especially Those of Fully Synthetic Fibers), and Artificial Horse Hair.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Sealings and Packings, Automobile and Airplane Tires, Drive Belts, and Hoses.

Class 39—Clothing

For Shoes, Stockings, Underwear, Corsets, Neckties, Suspenders and Gloves.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Nets, Carpets, Blankets, Curtains, and Woven and Knitted Materials and Felts.

Class 43—Thread and Yarn

For Artificial Threads and Yarns.

SN 231,795. Lawson Engineering Co., Pawtucket, R.I. Filed Oct. 29, 1965.



Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Attachments for Knitting Machines—Namely, Yarn Tension Devices, Stitch Length Control Devices, and Positive Yarn Feeders.

Class 26—Measuring and Scientific Appliances

For Yarn Measuring Devices—Namely, Tensiometers, Meters for Measuring the Length of Yarn per Course in Knitted Fabric, and Feed-In Devices for Yarn Measuring Equipment.

First use May 12, 1965.

SN 233,851. Temescal Metallurgical Corporation, Berkeley, Calif. Filed Dec. 3, 1965.

TEMESCAL

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Fluid Valves.
First use Mar. 29, 1957.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Power Supplies; and Equipment Utilising Electron Beam Guns for Heating Purposes—Namely, Electron Beam Furnace Equipment, Electron Beam Evaporation Equipment, Electron Beam Annealing Equipment, and Electron Beam Surface Conditioning Equipment.

First use Mar. 8. 1963.

SN 239,194. American Textile Arts Inc., Wilmington, Del. Filed Feb. 21, 1966.

ATAKEM

Class 6—Chemicals and Chemical Compositions

For Chemical Compositions for the Treatment of Textile Yarn and Fabrics in Order to Change the Properties Thereof, as for Example, to Improve Flexibility, Wrinkle-Resistance, Softness, Shape Retention, Bacterial Resistance, Water-Resistance or Dye Retention.
First use Nov. 5, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Fabrics Which Are Used in Making Clothing for Men, Women and Children and Carpets, and Which Have Been Treated With Chemical Compositions to Change the Properties Thereof, as for Example, To Improve Flexibility, Wrinkle-Resistance, Softness, Shape Retention, Bacterial Resistance, Water-Resistance or Dye Retention.
First use Feb. 3, 1966.

Class 43—Thread and Yarn

For Yarn Treated With Chemical Compositions to Change the Properties Thereof, as for Example, To Improve Flexibility, Wrinkle-Resistance, Softness, Shape Retention, Bacterial Resistance, Water-Resistance or Dye Retention.
First use Jan. 25, 1966.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.
A fee of twenty-five dollars must accompany the opposition.
[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 201,498. Norman A. Whittaker, Long Beach, Calif. Filed Sept. 3, 1964.



For Fine Ground Iron Oxides for Use in the Manufacture of Soil Conditioners,, Pigments, Micronized Magnetic Iron Oxides, etc.
First use May 2, 1964.

SN 210,869. General Aniline & Film Corporation, New York, N.Y. Filed Jan. 28, 1965.

GANEX

For Synthetic Resinous Polymers Having Hydrophilic and/or Oleophilic Properties.
First use Dec. 14, 1964.

SN 212,292. Diamond Alkali Company, Cleveland, Ohio. Filed Feb. 18, 1965.

GLEN GREEN

For Grass Seed.
First use November 1955.

SN 212,293. Diamond Alkali Company, Cleveland, Ohio. Filed Feb. 18, 1965.

TURF QUEEN

For Grass Seed.
First use January 1961.

SN 231,694. Midland-Ross Corporation, Cleveland, Ohio. Filed Oct. 27, 1965.

MODULIZED

For Rayon Staple Fiber.
First use on or about Oct. 19, 1965.

SN 232,991. Georgia-Pacific Corporation, Portland, Oreg. Filed Nov. 19, 1965.

PRE-CO-FLOC

For Cellulose Flock Used for Filter Aid and Coating.
First use July 21, 1965.

SN 233,633. Rayonier Canada (B.C.) Limited, Vancouver, British Columbia, Canada. Filed Nov. 30, 1965.

FIBERFATE

For Wood Pulp.
First use Oct. 25, 1965; in commerce Oct. 25, 1965.

SN 234,006. Dayco Corporation, Dayton, Ohio. Filed Dec. 6, 1965.

CADILLAC

For Plastic Sheets, Rods, Tubes, and Film.
First use on or about Oct. 25, 1965.

SN 234,009. Dayco Corporation, Dayton, Ohio. Filed Dec. 6, 1965.

DAYCO

Owner of Reg. Nos. 815,408, 762,993, and others.
For Plastic Sheets, Rods, Tubes, and Film.
First use on or about Oct. 25, 1965.

SN 236,797. Americana Products, Inc. Seattle, Wash. Filed Jan. 19, 1966.

LUAU

For Charcoal Briquets.
First use Dec. 14, 1965.
Subj. to Intf. with SN 238,517.

SN 236,890. Heplon, Inc., West Conshohocken, Pa. Filed Jan. 20, 1966.

HEPLON

For Staple Fibers Formed of Synthetic Polymers.
First use Oct. 17, 1963.

SN 236,916. Nypel Corporation, West Conshohocken, Pa. Filed Jan. 20, 1966.

NYREG

For Nylon Reinforced With Glass Fibers.
First use Dec. 23, 1965.

SN 236,987. Georgia Kaolin Company, Elizabeth, N.J. Filed Jan. 21, 1966.

KAOPAQUE

For Clays.
First use Sept. 25, 1965.

SN 238,517. Georgia-Pacific Corporation, Portland, Oreg. Filed Feb. 10, 1966.

LUAU

For Charcoal.
First use Jan. 7, 1966.
Subj. to Intf. with SN 236,797.

Class 2—Receptades

SN 211,738. Mattel, Inc. Hawthorne, Calif. Filed Feb. 10, 1965.

CHATTY CATHY

For Plastic Tableware and Tea Sets, Specifically Plates, Saucers, Cups, Pots, Pitchers, and Eating Utensils, for Use by Children in the Consumption of Food and Drink.
First use 1962.

SN 211,739. Mattel, Inc., Hawthorne, Calif. Filed Feb. 10, 1965.

SKIPPER

For Plastic Tableware and Tea Sets, Specifically Plates, Saucers, Cups, Pots, Pitchers, and Eating Utensils, for Use by Children for the Consumption of Food and Drink.
First use 1964.

SN 212,529. The Gilman Brothers Company, Gilman, Conn. Filed Feb. 23, 1965.

GIL-TOTE

For High Density Polyethylene Boxes.
First use Dec. 8, 1964.

SN 220,513. The Interstate Folding Box Company, Middletown, Ohio. Filed June 7, 1965.

FOLDOMATIC

For Paperboard Cartons.
First use Jan. 14, 1931.

SN 220,516. Lassonde Plastic Industries Ltd., St. Hyacinthe, Quebec, Canada. Filed June 4, 1965.

PAKKALENE

Owner of Canadian Reg. No. 123,383, dated Sept. 1, 1961.
For Plastic Articles for Domestic Use—Namely, Bowls and Pots.

SN 221,951. J. C. Penney Company, New York, N.Y. Filed June 24, 1965.

FASHION MANOR

For Melamine Dinnerware.
First use June 26, 1963.

SN 235,677. Janet Paper Corp., Brooklyn, N.Y. Filed Jan. 3, 1966.

JAN PAC

Without waiver of common-law or other rights, no registration rights are claimed for the word "Pac" separate and apart from the mark as shown.
For Paper and Plastic Cups, Hot Cups, Whiskey Cups; and Paper Plates.
First use at least prior to Aug. 10, 1965.

Class 4—Abrasives and Polishing Materials

SN 231,735. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1965.

LOVING CARE

For Furniture Polish.
First use Oct. 20, 1964.

Class 6—Chemicals and Chemical Compositions

SN 204,339. Halliburton Company, Duncan, Okla. Filed Oct. 20, 1964.

CRA

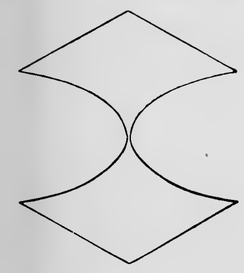
For Acid Composition Used in Stimulating and/or Treating Well Formations, and for an Organic Liquid Retarding Chemical Used in the Acid Composition.
First use on or about Nov. 12, 1963.

SN 204,873. American-Lincoln Corporation, Toledo, Ohio. Filed Oct. 27, 1964.

AMERPHEN

For Germicidal Preparation for General Industrial Use.
First use Sept. 30, 1964.

SN 205,186. S. C. Johnson & Son, Inc., Racine, Wis. Filed Oct. 30, 1964.



Owner of Reg. Nos. 694,407, 707,948, 709,498, and 796,887.
For Air Fresheners, Disinfectants, Bactericides, Insecticides, Insect Repellents; and Chemical Intermediates for Use in the Manufacture of Other Chemicals.
First use on or about May 28, 1958, on air fresheners.

SN 220,415. Spectra Biologicals, Incorporated, East Brunswick, N.J. Filed June 4, 1965.

CORD-CELL

Owner of Reg. No. 793,543.
For Reagent Human Red Blood Cells for Laboratory Use for Confirming the Identity of Anti-I.
First use Mar. 25, 1965.

SN 222,197. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed June 28, 1965.

PENNSALT

Owner of Reg. Nos. 392,195, 662,748, and others.
For Laundry and Dry Cleaning Chemicals, Including Activated Carbons, Absorbent Powders, Bleaches, Blues, Textile Lubricants, Sizing Agents, Sours, Starches, and Whiteners.
First use on or about Nov. 1, 1947.

SN 223,093. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

KODIAC



For Anti-Freeze.
First use Feb. 19, 1962.

SN 223,094. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

KOLD-SHIELD

For Anti-Freeze.
First use Apr. 1, 1963.

SN 223,095. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

North Air

For Anti-Freeze.
First use May 17, 1965.

SN 223,096. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

NOR-LAN

For Anti-Freeze.
First use Feb. 19, 1962.

SN 223,740. Stauffer Chemical Company, New York, N.Y. Filed July 19, 1965.

EPTAM

For Herbicide.
First use Apr. 9, 1958.

SN 223,741. Stauffer Chemical Company, New York, N.Y. Filed July 19, 1965.

MER-LIN

For Combination Fungicide and Insecticide Seed Protectant and Disinfectant.
First use March 1953.

SN 224,051. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

Blue CREST

For Anti-Freeze, and Charcoal Lighter Fluid.
First use Sept. 1, 1960.

SN 224,053. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

EVEREST



For Anti-Freeze.
First use Feb. 19, 1962.

SN 227,268. Duke & Benedict, Inc., New York, N.Y. Filed Sept. 7, 1965.

TILLY FOSTER FARMS

For Fragrances Sold to Manufacturers, for Use in Making Both Personal Fragrances and Non-Personal Fragrances.
First use June 20, 1965.

SN 228,209. Tenneco Chemicals, Inc., New York, N.Y. Filed Sept. 20, 1965.

ACOFOR

For Fatty Acids.
First use on or about Dec. 31, 1959.

SN 228,470. Lord Corporation, Erie, Pa. Filed Sept. 23, 1965.

CHEMĐIZE

For Chemical Compositions for Use in a Process of Pre-Treating and Forming Protective Oxide Coating on Aluminum and Aluminum Alloy Surfaces.
First use Mar. 5, 1964.

SN 230,582. Stauffer Chemical Company, New York, N.Y. Filed Oct. 19, 1965.

RO-NEET

For Herbicides.
First use Sept. 2, 1965.

SN 232,014. National Lead Company, New York, N.Y. Filed Nov. 2, 1965.

CC-16

For Dispersants for Control of Filtration and Viscosity of Suspensions.
First use Dec. 4, 1962.

SN 232,113. B. T. Babbitt, Inc., Albany, N.Y. Filed Nov. 4, 1965.

Vano

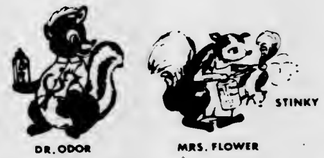
Owner of Reg. Nos. 392,176, 759,875, and others.
For Liquid Starch, Spray Starch, and Bleach.
First use July 21, 1964, on liquid starch.

SN 232,130. The Robert J. King Company, Inc. Norwalk, Conn. Filed Nov. 4, 1965.

LEEGEN

For Additives for Use in Compounding Rubber.
First use Sept. 14, 1965.

SN 232,217. Lawton Specialty Co., Inc., Lawton, Okla. Filed Nov. 5, 1965.



For Liquid Deodorants for Household, Hospital, and Industrial Use.
First use June 15, 1965.

SN 232,233. Racasan Limited, Ellesmere Port, England. Filed Nov. 5, 1965.

RACAPAN

Owner of British Reg. No. 759,687, dated Nov. 17, 1956.
For Disinfectants and Deodorants.

SN 232,736. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Nov. 15, 1965.

INTERBOND

For Industrial Starches.
First use Oct. 29, 1965.

SN 232,750. G. H. Wood and Company Limited, Toronto, Ontario, Canada. Filed Nov. 15, 1965.

KILBAC

Owner of Canadian Reg. No. N.S. 36/9,901, dated Apr. 23, 1938.
For Germicidal Chemicals for Deodorizing and Disinfecting.

SN 232,821. The Dow Chemical Company, Midland, Mich. Filed Nov. 17, 1965.

TIC

For Surface Active Agent Useful in Cement Slurries for Wells and Underground Earth Formations.
First use Nov. 28, 1962.

SN 232,862. Rhodia Inc., New York, N.Y. Filed Nov. 17, 1965.

TAIL-GUARD

For Chemical Composition for External Application for Control of Tail Biting in Swine.
First use Oct. 25, 1965.

SN 232,918. The Grand Union Company, East Paterson, N.J. Filed Nov. 18, 1965.

GRAND WAY

For Antifreeze.
First use in or about August 1963.

SN 232,935. Rhodia Inc., New York, N.Y. Filed Nov. 18, 1965.

BRAZINOL

For Pure Chemical, Principally of the Class of Alcohols, Aldehydes, Esters, Ketones and Odorants, Used in the Odorization and Reodorization of Rubber,, Plastics, Textile, Paper, and the Like.
First use Oct. 22, 1965.

SN 232,990. General Aniline & Film Corporation, New York, N.Y. Filed Nov. 19, 1965.

TASK

For Chemical Product for Inhibiting Corrosion of Metal Surfaces.
First use May 28, 1965.

SN 232,992. Hercules Glue Co., Ltd., d.b.a. Colloidal Products Corporation, Sausalito, Calif. Filed Nov. 19, 1965.

BIO-FILM

For Spreader-Sticker for Agricultural Sprays.
First use Oct. 1, 1965.

SN 233,025. Universal Oil Products Company, Des Plaines, Ill. Filed Nov. 19, 1965.

588

For Rubber Antiozonant.
First use about Nov. 1, 1964.

SN 235,695. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 3, 1966.

LIGHT WATER

For Fluorochemical.
First use May 21, 1963.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 174,349. Daisy Manufacturing Company. Rogers, Ark. Filed Aug. 5, 1963.

CO_2 200

The expression "CO_2" is disclaimed apart from the mark as shown.
For Semi-Automatic Gas Pistols.
First use June 20, 1963.

SN 224,743. Hercules Powder Company, Wilmington, Del. Filed Aug. 2, 1965.

RELODER

For Smokeless Rifle Powder.
First use May 19, 1965.

Class 11 — Inks and Inking Materials

SN 218,322. Reeves Brothers, Inc., New York, N.Y. Filed May 7, 1965.

REEVEDGE

For Pressure-Sensitive Ink-Transfer Products Suitable for Fabricating Into Typewriter Ribbons, Typewriter Tapes, Typewriter Sheets, High-Speed Printer Ribbons, High-Speed Printer Tapes, and High-Speed Printer Sheets.
First use Jan. 20, 1965.

Class 12 — Construction Materials

SN 205,243. Berlin Seating, Inc., Waupun, Wis.. Filed Nov. 2, 1964.

BERLIN

For Gymnasium, Auditorium, and Playground Equipment—Namely, Folding and Stationary Seating Assemblages.
First use on or about Sept. 1, 1950, on folding bleachers.

SN 224,458. Refractory & Insulation Corporation, Port Kennedy. Pa. Filed July 28, 1965.

SUREBOND

For Bonding Cement and Bonding Mortar.
First use November 1963.

SN 224,459. Refractory & Insulation Corporation, Port Kennedy, Pa. Filed July 28, 1965.

SPRAY-FRAC

For High Temperature Refractory Material Applied to the Walls of Furnaces, Vessels Utilized in the Manufacture of Steel, and the Like.
First use October 1962.

SN 231,574. Marine Engineering & Equipment Company, McAlester, Okla. Filed Oct. 24, 1965.

MEECO

For Prefabricated Marina Structures Comprising Floating Docks, Boathouses, Commercial Slips, Fishing Barges, and Service Barges, and Prefabricated Components for Constructing Such Marina Structures.
First use on or about Sept. 1, 1961.

SN 244,170. Marine Engineering & Equipment Company, McAlester, Okla. Filed Oct. 24, 1965.

MEECO

For Prefabricated Structures and Components Thereof for Constructing Floating Docks, Boathouses, Marinas, Fishing Barges, and Service Barges.
First use on or about July 1, 1962.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 216,306. Idealspaten- und Schaufelwalswerk vorm. Eckardt & Co., G.m.b.H., Herdecke, Ruhr, Germany. Filed Apr. 12, 1965.

IDEAL GRIP

For Metallic Traction Shoes for Use on Rubber Tire Earth Moving Equipment.
First use July 5, 1962; in commerce July 20, 1962.

SN 221,781. Edward M. Asbury, Pittsburgh, Pa. Filed June 23, 1965.

SPAD-TABS

For Fastener Used To Secure Cloth to a Rigid Member, Such as Brattice Cloth to a Mine Roof or Wall.
First use May 13, 1965.

SN 226,095. B. & F. Stevens, Inc., Atlanta, Ga. Filed Aug. 19, 1965.

STEVECO

For Plumbing P-Traps, and for Devices to Reduce Vibration and Noise in Straight Pipeline Installations.
First use May 1962.

SN 227,363. United States Brass Corporation, Plano, Tex. Filed Sept. 7, 1965.

LONG-FLO

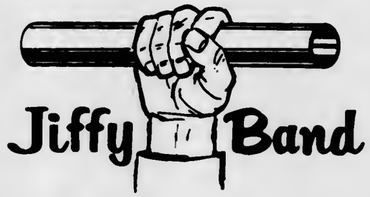
Owner of Reg. Nos. 545,098, 649,555, and 659,353.
For Flexible Pipe Assemblies for Hot Water Heaters, Dishwashers, and Water Softener Units.
First use January 1962.

SN 227,574. Foley Manufacturing Company, Minneapolis, Minn. Filed Sept. 10, 1965.

FOLD 'N POUR

For Dust Pans.
First use Aug. 2, 1965.

SN 227,661. Elliott Sales Corporation, Flushing, Mich. Filed Sept. 13, 1965.



For Clamps for Sealing Perforations in Exhaust and Tail Pipes.
First use Jan. 28, 1965.

SN 233,271. Malwaukee Faucets, Inc., Milwaukee, Wis. Filed Nov. 24, 1965.

"ADJUSTO-FLO"

Owner of Reg. No. 350,025.
For Volume Control Valves and Valve Fittings.
First use on or about June 15, 1964.

SN 233,594. Joseph Gillott & Sons Limited, Dudley, England. Filed Nov. 30, 1965.

MAGNUM ORBIT

Owner of British Reg. Nos. 877,496 and 877,497, dated Mar. 27, 1965; and U.S. Reg. No. 738,133.
For Furniture Castors.

SN 233,647. Swel-Plug, Incorporated, Tulsa, Okla. Filed Nov. 30, 1965.

SWEL-PLUG

For Pipe Joints and Pipe End Plugs.
First use Mar. 8, 1963.

SN 233,668. Aluminum Company of America, Pittsburgh, Pa. Filed Dec. 1, 1965.

DUOTRACE

For Metal Tubing Having Multiple Passages Therein.
First use Feb. 25, 1960.

SN 233,844. United States Steel Corporation, Pittsburgh, Pa. Filed Dec. 2, 1965.

SOLO

For Barbed Wire.
First use May 20, 1965.

Class 15—Oils and Greases

SN 221,181. Industrial Engineering Limited, West Footscray, Victoria, Australia. Filed June 15, 1965.

MOLYBOND

Owner of Australian Reg. No. 132,203, dated May 20, 1957.
For Lubricating Preparation Containing Molybdenum Disulphide Which Is Capable of Being Bonded to Metal Surfaces.

SN 222,805. American Oil & Supply Company, Newark, N.J. Filed July 7, 1965.

HI-MELT

Owner of Reg. No. 418,161.
For Liquid and Semi-Solid Anti-Friction Bearing Lubricants and Greases.
First use Sept. 15, 1944.

SN 222,806. American Oil & Supply Company, Newark, N.J. Filed July 7, 1965.

LAFAYETTE

Owner of Reg. No. 418,162.
For Liquid and Semi-Solid Gear Lubricants.
First use Sept. 15, 1944.

SN 224,052. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

Blue
CREST

For Motor Oil, Automatic Transmission Fluid, and Outboard Motor Oil.
First use May 17, 1965.

SN 224,054. Cutler Packaging Corporation, Lansing, Mich. Filed July 12, 1965.

EVEREST

For Motor Oil and Automatic Transmission Fluid.
First use Feb. 19, 1963.

SN 229,603. The Testor Corporation, Rockford, Ill. Filed Oct. 7, 1965.

speed guard

For Spray-Type Silicon Cleaner and Lubricant.
First use July 13, 1965.

SN 229,688. Signal Oil and Gas Company, Los Angeles, Calif. Filed Oct. 8, 1965.

ECON-O-RANGE

Owner of Reg. Nos. 699,686 and 699,687.
For Automotive Gasoline.
First use July 10, 1959.

SN 230,034. Continental Oil Company, Ponca City, Okla. Filed Oct. 13, 1965.

CONOTANE

Owner of Reg. Nos. 585,122 and 708,645.
For Gasoline.
First use Feb. 1, 1965.

SN 230,133. Continental Oil Company, Ponca City, Okla. Filed Oct. 14, 1965.

CONOPLATE

Owner of Reg. Nos. 585,122 and 708,645.
For Lubricating Grease.
First use July 28, 1965.

SN 230,874. Nopco Chemical Company, Newark, N.J. Filed Oct. 21, 1965.

NOPCODRAW

Owner of Reg. Nos. 121,927, 659,679, and others.
For Wire Drawing Lubricants.
First use Oct. 19, 1964.

Class 16—Protective and Decorative Coatings

SN 223,926. United States Steel Corporation, Pittsburgh, Pa. Filed July 21, 1965.

MAINSTAY

For Protective Coating for Concrete Surfaces, Specifically a Two-Component System of Coal Tar Pitch and Epoxy Resin for Mix-In-Place Applications.
First use Apr. 23, 1965.

Class 17—Tobacco Products

SN 227,318. N.V. Cigarettes Import Company, Scheveningen, Netherlands. Filed Sept. 7, 1965.

HENDRIK BLOK

Owner of Dutch Reg. No. 154,740, dated Feb. 4, 1965.
For Cigarettes, Cigars, and Tobacco.

SN 227,319. N.V. Cigarettes Import Company, Scheveningen, Netherlands. Filed Sept. 7, 1965.

CHRISTIAEN BLOK

Owner of Dutch Reg. No. 154,739, dated Feb. 4, 1965.
For Cigarettes, Cigars, and Tobacco.

Class 18—Medicines and Pharmaceutical Preparations

SN 223,778. Cole Pharmacal Company, Inc., St. Louis, Mo. Filed July 20, 1965.

NAFEDRINE

For Pharmaceutical Preparation for the Relief of Nasal Congestion Due to the Common Cold.
First use September 1941.

SN 225,238. Fidelity Pharmaceuticals, Inc., Philadelphia, Pa. Filed Aug. 2, 1965.

FIOFEN

For Analgesic Preparation.
First use Apr. 27, 1961.

SN 225,441. Societa Italiana Prodotti Schering S.p.A., Milan, Italy. Filed Aug. 10, 1965.

SPASMAMIDE

Owner of Italian Reg. No. 164,188, dated Oct. 31, 1963.
For Anti-Spasmodic Mediminal Preparation.

SN 225,694. Schering Aktiengesellschaft, Berlin, Germany. Filed Aug. 9, 1965.

BILIGRAM

Priority claimed under Sec. 44(d) on German application filed Feb. 10, 1965; Reg. No. 804,035, dated May 14, 1965.
For X-Ray Contrast Agents.

SN 230,517. Damancy & Company, Limited, Ware, England. Filed Oct. 19, 1965.

CAVIPAQUE

Owner of British Reg. No. 875,127, dated Feb. 2, 1965.
For Pharmaceutical Preparation Consisting of Barium Sulfate for X-Ray Diagnostic Purposes.

SN 233,659. U.S. Nutrition Products Co., Inc., Yonkers, N.Y. Filed Nov. 30, 1965.

ACEROLA PLUS

Without waiving any common law rights, applicant makes no claim to the word "Acerola" apart from the mark as shown.
Owuer of Reg. No. 760,464.
For Tablets Containing Vitamin C.
First use October 1960.

SN 233,696. Dietopharma Istituto Farmaco-Dietetico Italiano S.p.A., Florence, Italy. Filed Dec. 1, 1965.

REUMILENE

Owner of Italian Reg. No. 155,076, dated Mar. 3, 1961.
For Pharmaceutical Product for the Treatment of Rheumatic Syndrome, Arthritis, Disk Diseases, Sinusitis and Headaches, Provided They Are of Rheumatic Origin.

SN 233,754. Smith, Miller & Patch, Inc., New York, N.Y. Filed Dec. 1, 1965.

E-PILO-4

For Ophthalmic Solution.
First use Mar. 17, 1965.

SN 235,110. Landry Pharmaceuticals, Inc., Houston, Tex. Filed Dec. 22, 1965.

LANDEX

For Pharmaceutical Weight Control Preparation.
First use at least as early as Oct. 21, 1963.

Class 19—Vehicles

SN 217,579. Travel Equipment Corporation, Elkhart, Ind. Filed Apr. 28, 1965.

CAMP MATE

For Pick-Up Coach for Installation on Pickup Trucks.
First use Jan. 4, 1965.

SN 222,727. Melges Boat Works, Inc., Zenda, Wis. Filed July 6, 1965.

M
20

No registration rights are claimed for the numeral "20" apart from the mark as shown.
For Boats Identified as Inland Lake Sailing Scows.
First use July 26, 1963.

SN 222,728. Melges Boat Works, Inc., Zenda, Wis. Filed July 6, 1965.

M
16

No registration rights are claimed for the numeral "16" apart from the mark as shown.
For Boats Identified as Inland Lake Sailing Scows.
First use Sept. 23, 1954.

SN 224,378. Arnold, Schwinn & Co., Chicago, Ill. Filed July 28, 1965.

FASTBACK

For Bicycles.
First use July 16, 1965.

SN 224,748. Horizon Mobile Homes, Inc., Portland, Ind. Filed Aug. 2, 1965.

CONCEPT

For Mobile Homes and House Trailers.
First use July 12, 1965.

SN 224,749. Horizon Mobile Homes, Inc. Portland, Ind. Filed Aug. 2, 1965.

HORIZON

For Mobile Homes and House Trailers.
First use July 12, 1965.

SN 224,859. Golay & Co., Inc., d.b.a. Converto Mfg. Co., Cambridge City, Ind. Filed Aug. 3, 1965.

LEAV-A-TAINER

For Tiltable Frame Units To Be Fixed to a Truck or Semi-Trailer for Receiving and Transferring Various Types of Containers and Skids, and Parts Therefor.
First use on or about May 1, 1962.

SN 225,319. Horizon Mobile Homes, Inc., Portland, Ind. Filed Aug. 9, 1965.

INNOVATION

For Mobile Homes and House Trailers.
First use Aug. 4, 1965.

SN 225,643. Doughboy Industries, Inc., New Richmond, Wis. Filed Aug. 13, 1965.

DOUGHBOY

Owner of Reg. Nos. 599,908 and 601,601.
For Automobile Floor Mats.
First use July 15, 1963.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 203,164. Dube Electric S.A., Baden, Aargau, Switzerland. Filed Oct. 2, 1964.

maya

Owner of Swiss Reg. No. 193,082, dated July 23, 1962.
For Radio Sets, Television Apparatus, Dictating Machines, Electronic Amplifiers, Kitchen Stones, Electric Cooking Apparatus, Dishwashing Machines, and Electric Water Heaters.

SN 203,205. Road Gard, Inc., Cincinnati, Ohio. Filed Oct. 2, 1964.

ROAD GARD

For Electrical Warning System for Motor Vehicles—Namely, a Control Switch for Converting Automobile Directional Signals Into Warning Lights.
First use Apr. 27, 1964.

SN 205,580. Firma Gottlob Widmann & Söhne Kommanditgesellschaft, Schwenningen (Neckar), Germany. Filed Nov. 5, 1964.

wigorex

Owner of German Reg. No. 791,158, dated Feb. 6, 1963.
For Household Electric Kitchen Mixer, With Chopping and Kneading Attachments, Sold as a Set.

SN 210,940. Dibotec A.-G., Zurich, Switzerland. Filed Jan. 29, 1965.

TORNA

Priority claimed under Sec. 44(d) on Swiss application filed July 30, 1964; Reg. No. 205,585, dated Oct. 2, 1964.
For Electric Motor Driven Hand Tools—Namely, Drills, Saws, and Hammers, and Parts Thereof.

SN 213,961. Fox Products Company, Philadelphia, Pa. Filed Mar. 12, 1965.

FOX

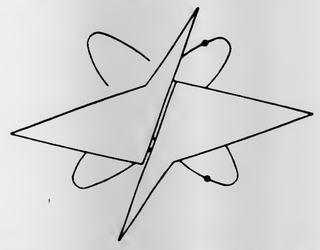
Owner of Reg. Nos. 664,670 and 664,708.
For Storage Battery Servicing Accessories—Namely, Battery Cables and Ground Straps; Battery Booster Cables; Battery Cable Clamps; Battery Hold Downs; Automatic, Self-Closing, Water Dispensing Bottles Sold in Conjunction With Other Battery Servicing Accessories; Charge Counters; and Wheeled Carriers for Supporting Battery Servicing Equipment During Its Use.
First use at least as early as Jan. 1, 1961.

SN 214,498. Alps Electric Company Limited, Ohta-ku, Tokyo, Japan. Filed Mar. 19, 1965.

Alps

For Capacitors, Resistors, Rotary Switches, and Tuners.
First use in or about November 1958; in commerce in or about November 1958.

SN 215,711. Diamond Power Specialty Corporation, Lancaster, Ohio. Filed Apr. 5, 1965.



For Closed Circuit Television Transmitting and Receiving Equipment, and Components Thereof.
First use May 10, 1961.

SN 216,341. Ramic Corporation, Medford, Oreg. Filed Apr. 12,1965.

Ramic

For Automatic Light Switches.
First use Dec. 5, 1968.

SN 216,679. General Battery and Ceramic Corp., Reading, Pa. Filed Apr. 16, 1965.

RAIL TITAN

Owner of Reg. Nos. 404,261 and 758,751.
For Batteries.
First use Oct. 16, 1964.

SN 217,206. Penn Engineering and Manufacturing Corporation, Doylestown, Pa. Filed Apr. 23, 1965.

TCD

For Piezoelectric Ceramics.
First use July 2, 1964.

SN 218,190. Helwig Carbon Products, Inc., Milwaukee, Wis. Filed May 6, 1965.

RED TOP

For Carbon Brushes for Electric Motors.
First use February 1959.

SN 218,524. Appleton Electric Company, Chicago, Ill. Filed May 11, 1965.

DAY-ARC 400

"Arc" and "400" are disclaimed apart from the mark as shown.
For Floodlights, Ballasts, Mounting Parts, and Accessories Therefor.
First use Mar. 25, 1965.

SN 220,826. Spectromagnetic Industries, Hayward, Calif. Filed June 3, 1965.

AUTOGAUSS

For Electronic Apparatus for Controlling and Stabilizing Power Supply for Electro-Magnets.
First use Nov. 6, 1964.

SN 221,077. Minarik Electric Company, Los Angeles, Calif. Filed June 14, 1965.

MINARIK

For Speed Controllers for Electric Motors, and Motor Accessories—Namely, Reversing Switches and Foot Pedal Switches.
First use May 3, 1965.

SN 225,622. Wells Television, Inc., New York, N.Y. Filed Aug. 12, 1965.

TELEZOOM

For Television Receivers and Bed Attached Mounts Therefor.
First use Jan. 20, 1965.

SN 226,096. B. & F. Stevens, Inc., Atlanta, Ga. Filed Aug. 19, 1965.

STEVECO

For Electric Hand Drills, Electric Motors, and Electric Capacitors.
First use Aug. 19, 1959, on electric motors.

SN 227,260. Continental Oil Company, Ponca City, Okla. Filed Sept. 7, 1965.



The drawing is lined for red.
Owner of Reg. Nos. 689,742 and 717,413.
For Batteries.
First use July 27, 1965.

SN 227,563. Corning Glass Works, Corning, N.Y. Filed Sept. 10, 1965.

CGW

For Resistors, Capacitors, and Microcircuits.
First use at least as early as Jan. 1, 1953.

SN 228,788. Modern-Aire Ventilating, Inc., North Hollywood, Calif. Filed Sept. 27, 1965.

LITE-A-WAY

For Access Scuttle and Electric Light Fixture.
First use August 1965.

SN 232,864. The Scott & Fetzer Company, Cleveland, Ohio. Filed Nov. 17, 1965.

Dual Sanitronic

Owner of Reg. Nos. 748,701 and 761,879.
For Vacuum Cleaners, and Parts and Accessories Therefor.
First use Dec. 29, 1964.

SN. 232,994. I-T-E Circuit Breaker Company, Philadelphia, Pa. Filed Nov. 19, 1965.

XL-UNIVERSAL

Owner of Reg. Nos. 532,329, 711,469, and 712,068.
For Electrical Distribution Systems Comprising Electrical Busway, Including Tap-Offs, Feed-Ins, and Other Attachments, and Fittings Therefor.
First use September 1965.

SN 232,998. Mars Signal Light Company, Chicago, Ill. Filed Nov. 19, 1965.

AURORA BOREALIS

For Signal Lights for Emergency Vehicles.
First use on or before July 14, 1965.

SN 233,052. AMP Incorporated, Harrisburg, Pa. Filed Nov. 22, 1965.

SYSCOM

Owner of Reg. No. 713,087.
For Electrical Programming Systems.
First use at least as early as July 8, 1960.

SN 233,514. McGraw-Edison Company, d.b.a. Bussmann Manufacturing Division, St. Louis, Mo. Filed Nov. 29, 1965.
Owner of Reg. No. 569,307.

SUPER-LAG

For Electric Fuses, Renewable Fuses, Renewable Fuse Casings, and Links for Renewable Fuses.
First use August 1930.

SN 233,698. Electro-Tec Corp., Ormond Beach, Fla. Filed Dec. 1, 1965.

MINI-WEDGE

For Electrical Relays.
First use Oct. 1, 1965.

SN 233,910. International Register Company, Chicago, Ill. Filed Dec. 3, 1965.

MALIBU

For Electric Lighting Fixtures.
First use Oct. 20, 1965.

SN 234,129. Leeds & Northrup Company, Philadelphia, Pa. Filed Dec. 7, 1965.

FLEXELECT

For Selector Switch for Multipoint Recorders.
First use Sept. 9, 1965.

SN 234,446. Robert P. Mallalieu, d.b.a. Encom Products Company, Media, Pa. Filed Dec. 13, 1965.

ENCOM

For Telephones and Telephone and Intercommunication Apparatus Composed of Telephone Sets, Hand Sets, Intercommunication Boxes, Microphones, Amplifiers, Switches, Electric Relays, Electrical Cable Terminal Boxes, and Electric Wires and Cables Sold in Sets and Separately.
First use Feb. 5, 1965.

Class 22 — Games, Toys, and Sporting Goods

SN 197,025. Maria Perego Caldura, Milan, Italy. Filed July 3, 1964.



Priority claimed under Sec. 44(d) on Italian application filed Jan. 3, 1964; Reg. No. 165,855, dated July 15, 1964. The mark is the figure of a mouse with large ears and disproportionately large cheeks and is used in various body stances.
For Board Games, Piece-Assembly Games, Card-Type Games, and Educational Quiz Games; and Sporting Equipment—Namely, Tennis, Table-Tennis, Football, Basketball, Baseball and Throwing Balls; Tennis, Table-Tennis, Badminton, and Paddle-Tennis, Racquets; Shuttle Cocks; Tennis, Table-Tennis, Volleyball, and Badminton Nets; and Gymnastic Devices—Namely, Trampolines, Tumbling Mats, Trapezes, Parallel Bars, Horses, Swinging Bars, High and Low Gymnastic Bars, Lifting Weights and Body-Building Devices, and Gymnastic-Performance Hoops, Bars and Devices.

SN 217,958. U.S. Divers Co., Inc., Santa Ana, Calif. Filed May 3, 1965.

CHAMPION

For Underwater Swimming Apparatus—Namely, Diving Masks, Guns, Fins, Suits, Underwater Breathing Apparatus, and Similar Skin Diving Apparatus.
First use in the year 1955.

SN 225,969. Mattel, Inc., Hawthorne, Calif. Filed Aug. 18, 1965.

MATTEL 21-SKIDDOO

Owner of Reg. Nos. 635,129, 753,681, and others.
For Equipment Sold as a Unit for Playing a Parlor-Type Game.
First use Aug. 10, 1965.

SN 226,211. Milton Bradley Company, Springfield, Mass. Filed Aug. 23, 1965.

MYSTERY

For Set of Jig Saw Puzzles.
First use Jan. 5, 1965.

SN 227,950. Leona M. Lennon, Spartanburg, S.C. Filed Sept. 16, 1965.

Magic "e"

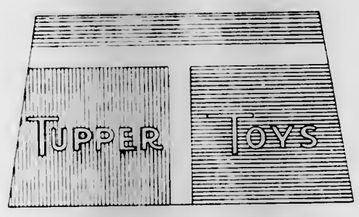
For Reading Aid Toy.
First use on or about Aug. 12, 1965.

SN 228,714. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

MULBERRY BUSH

For Animated Music Box Toy for Young Children.
First use Sept. 3, 1965.

SN 229,289. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Oct. 4, 1965.



The drawing is lined for the colors red and blue, but color is not claimed as a feature of the mark. No claim of exclusive right is made to "Toys" for the goods recited. Owner of Reg. Nos. 500,050, 797,112, and 797,114.
For Mosaic and Construction Toys.
First use July 16, 1965.

SN 229,999. Alex D. Palmer, d.b.a. Tek Method Co., Chicago, Ill. Filed Oct. 12, 1965.

CLUSTER

For Die-Cut Picture Puzzles.
First use on or before Mar. 1, 1965.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 175,094. Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan. Filed Aug. 15, 1963.

HANDII PLASTAAR

Priority claimed under Sec. 44(d) on Japanese application filed July 5, 1963; Reg. No. 702,799, dated Mar. 30, 1966.
For Electrical and Electrostatic Paint-Spraying, Plastering, and Coating Machines for Applying Paint and Other Materials to Walls and Other Surfaces.

SN 190,234. Beaver Precision Products, Inc., Clawson, Mich. Filed Apr. 3, 1964.



Owner of Reg. No. 783,587.
For Automatic Screw Positioner for Raising and/or Lowering Objects Comprised of Positioning Devices Utilizing Ball Screws and/or Ball Splines for Producing Translation and/or Rotation of a Member.
First use December 1960.

SN 197,649. American Dairy Queen Corporation, Minneapolis, Minn. Filed July 13, 1964.

brazier

Owner of Reg. Nos. 738,023 and 738,024.
For Apparatus for Vending and Dispensing Hot and Cold Beverages.
First use Jan. 15, 1964.

SN 199,607. J. F. Pritchard & Company, Kansas City, Mo. Filed Aug. 10, 1964.

TURBOIL

For Sewage Treatment Apparatus, and Parts and Components Thereof.
First use Dec. 15, 1962.

SN 202,100. Pearlduck, Inc., Jamaica, N.Y. Filed Sept. 17, 1964.

DETACHABLADE

For Scissors, Shears, Razors, and Hair Clippers.
First use October 1952.

SN 204,425. Urep-Chimec S.R.L., Como, Italy. Filed Oct. 20, 1964.



Priority claimed under Sec. 44(d) on Italian application filed June 9, 1964; Reg. No. 175,037, dated Jan. 19, 1966. The drawing is lined for red.
For Hand-Held Foam Fire Extinguisher.

SN 210,666. Feature Products, Inc., Chicago, Ill. Filed Jan. 26, 1965.

PEEL-O-MATIC

For Hand-Operated, Household Kitchen-Type Food Preparation Device and Parts Thereof, for Peeling Comestible Foodstuffs Having Separable Skins, Including, But Not Limited to, Fruits and Vegetables.
First use Jan. 13, 1965.

SN 212,725. Allied Roll Builders, Inc., Titusville, Pa. Filed Feb. 25, 1965.

TRU-TRAC

For Finished Rolls for Metal Finishing Plants.
First use June 2, 1960.

SN 213,369. Tamco, Inc., St. Paul, Minn. Filed Mar. 4, 1965.

TamToter

For Barrel Lifting Attachment for Fork Lift Trucks.
First use December 1964.

SN 213,962. Fox Products Company, Philadelphia, Pa. Filed Mar. 12, 1965.

FOX

Owner of Reg. Nos. 664,670 and 664,708.
For Storage Battery Servicing Tools—Namely, Pliers, End Wrenches, Terminal Spreaders, Terminal Pullers, Post and Terminal Cleaners, and Carrying Straps.
First use at least as early as Jan. 1, 1961.

SN 214,334. J.I.C. Electric, Inc., Detroit, Mich. Filed Mar. 17, 1965.

J.I.C.

For Control Equipment and Consoles for Industrial Application in Connection With Slave Manufacturing Equipment.
First use Feb. 15, 1949.

SN 214,739. Wyman Industries, Inc., Framingham, Mass. Filed Mar. 22, 1965.

LITTLE BRUTE

For Garden Tractors.
First use July 18, 1964.

SN 215,611. General Automated Machinery Corporation, New Kingstown, Pa. Filed Apr. 2, 1965.

GAMACO

For Automatically Operated Air Drive and Control Systems, Needle Positioners, Thread Trimmers, Binding Trimmers, Work Trimmers, Foot Lifters, and Thread Tensioners for Sewing Machines.
First use Apr. 15, 1963.

SN 215,695. Bead Rubber Type Corporation, Red Bank, N.J. Filed Apr. 5, 1965.

BEAD-O-MATIC

For Printing Kits Including Rubber Type, Hand Stamps, Stamp Pads, and Ink Therefor.
First use Sept. 15, 1958.

SN 219,398. The Bridgeport Machines Inc., Bridgeport, Conn. Filed May 21, 1965.

LINE-A-MILL

For Line Tracing Milling Machine, Automatically Controlled by Optical Line Scanning System.
First use Mar. 10, 1965.

SN 222,731. Missouri-Rogers Corporation, Joplin, Mo. Filed July 6, 1965.

HYDRA-DYNAMILL

For Mineral Disintegrating Apparatus, Such as Rock Crushing, Grinding, and Pulverising Machines.
First use Feb. 28, 1964.

SN 229,042. Consolidated Trades, Inc., d.b.a. Air Tool Manufacturing Co., Van Nuys, Calif. Filed Oct. 1, 1965.

DYNATAB

For Pneumatic Tabbing Machines for Roof Shingles and for Pneumatic Ram Loaders for Such Machines.
First use Feb. 10, 1965.

SN 231,060. The Crompton & Knowles Corporation, Worcester, Mass. Filed Oct. 22, 1965.

LO-BOY

For Plaster Extruders and Parts Thereof.
First use Sept. 20, 1965.

SN 231,061. Crucible Steel Company of America, Pittsburgh, Pa. Filed Oct. 22, 1965.



For Agricultural Discs.
First use May 23, 1961.

SN 231,227. Remington Arms Company, Inc., Bridgeport, Conn. Filed Oct. 22, 1965.



For Saw Chains and Parts Thereof.
First use Sept. 2, 1965.

SN 231,232. Roberts Company, Sanford, N.C. Filed Oct. 22, 1965.

ROBERTS

For Spinning, Drafting, Twisting Textile Machines.
First use approximately October 1958.

SN 231,399. Crucible Steel Company of America, Pittsburgh, Pa. Filed Oct. 23, 1965.



For Agricultural Disc.
First use May 23, 1963.

SN 231,987. Eversharp, Inc., Milford, Conn. Filed Nov. 2, 1965.

KRONA-MATIC

Owner of Reg. Nos. 702,520, 718,677, and 763,067.
For Safety Razors and Safety Razor Blades.
First use Oct. 21, 1965.

SN 232,971. Morrie Chaitlen, d.b.a. C. & E. Marshall Co., Chicago, Ill. Filed Nov. 19, 1965.

LITTLE GIANT

For Watchmakers' and Jewelers' Tools and Machines, Including Staking Tools, Watch Cleaning Machines, Hair Spring Vibrating Tools, and Combination Polishing and Dust Collecting Machines.
First use in or about February 1935.

SN 233,378. National Research Corporation, Newton Highlands, Mass. Filed Nov. 26, 1965.

ORB-ION

For Getter Ion Type Vacuum Pumps.
First use on or about Sept. 24, 1965.

SN 233,538. Trans-Atlas, A.G., Basel, Switzerland. Filed Nov. 29, 1965.



For Plastic Film Bag and Sack-Making Machinery.
First use April 1964; in commerce Mar. 23, 1965.

SN 233,576. Brother International Corporation, New York, N.Y. Filed Nov. 30, 1965.

SIMPLICITY

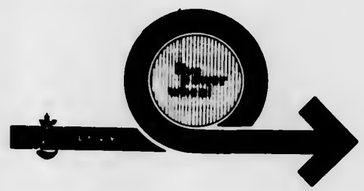
For Electric Cutting Knives, and Electric Typewriters.
First use Mar. 1, 1965.

SN 233,643. The Singer Company, New York, N.Y. Filed Dec. 1, 1965.

YOUNG BUDGET

For Sewing Machines, Their Parts and Attachments.
First use February 1959.

SN 233,717. Levy Industries Limited, Toronto, Ontario, Canada. Filed Dec. 1, 1965.



The drawing is lined for the color red, but color is not an element of the mark. Owner of Canadian Reg. No. 139,674, dated Mar. 26, 1965.
For Transmissions for Tractors and Other Self-Propelled Wheeled Vehicles, Transmissions for Winches and Other Stationary Power Equipment, and Hydrostatic Transmissions.
First use June 25, 1964; in commerce during January, 1965.

Class 25—Locks and Safes

SN 202,392. Stoffel Seals Corporation, Tuckahoe, N.Y. Filed Sept. 22, 1964.

Prong-Lok

Owner of Reg. No. 630,198.
For Base Metal Seals and Seals Made from Plastic Material To Be Applied to Cord, Strings, Ribbons or Wire on Containers—Namely, Barrels, Sacks, Bags, Crates, Boxes, Gas and Gasoline Meters, and Precision Parts for Aircraft.
First use Sept. 10, 1952.

Class 26—Measuring and Scientific Appliances

SSN 221,262. General Time Corporation, New York, N.Y. Filed June 16, 1965.



For Electronic Apparatus—Namely, Oscillators, Square Wave Generators, Time Base Generators, and Pulse Counters.
First use Sept. 11, 1964, on oscillators.

SN 222,999. Xerox Corporation, Rochester, N.Y. Filed July 8, 1965.

2400

Owner of Reg. No. 802,909.
For Electrophotographic Copying Machines and Components Thereof, Including Plates and Filters.
First use May 14, 1965.

SN 228,765. Taisei Kogaku Kogyo Co., Ltd., Omiya-shi, Japan. Filed Sept. 27, 1965.

TAMRON

Owner of U.S. Reg. No. 684,413.
For Lenses and Optical Devices—Namely, Camera Lenses, Projector Lenses, Enlarger Lenses, TV Camera Lenses, Microscope Lenses, Graphic Arts Field Lenses, Gunscopes, and Filters.
First use September 1959; in commerce September 1959.

SN 243,383. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed Apr. 14, 1966.

IDEAL STANDARD

Owner of Reg. Nos. 76,482, 580,757, and others.
For Measuring and Scientific Appliances—Namely, Guidance Systems for Air and Space Vehicles, Atomic Reactors, Data Display Systems, Indicating Devices to Control, Record and Monitor Volume, Flow, Temperature and Pressure of Gases and Fluids.
First use Mar. 17, 1966.

SN 243,387. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed Apr. 14, 1966.



Owner of Reg. Nos. 544,635, 580,757, and others.
For Measuring and Scientific Appliances—Namely, Guidance Systems for Air and Space Vehicles, Atomic Reactors, Data Display Systems, Indicating Devices to Control, Record and Monitor Volume, Flow, Temperature and Pressure of Gases and Fluids.
First use Mar. 11, 1966, on thermostats.

SN 243,391. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed Apr. 14, 1966.

AMERICAN STANDARD

Owner of Reg. Nos. 58,506, 580,757, and others.
For Measuring and Scientific Appliances—Namely, Guidance Systems for Air and Space Vehicles, Atomic Reactors, Data Display Systems, Indicating Devices to Control, Record and Monitor Volume, Flow, Temperature and Pressure of Gases and Fluids.
First use Mar. 15, 1966, on liquid level gauges; April 1946 as to the mark "American Standard."

Class 29—Brooms, Brushes, and Dusters

SN 225,716. Jennie C. Barton, d.b.a. The Jennisee Company, Salem, Oreg. Filed Aug. 16, 1965.

THE "LUPIE"

For Lint Brushes and Dusters.
First use Nov. 28, 1962.

Class 30—Crockery, Earthenware, and Porcelain

SN 224,398. Crowe Wholesale China & Glass Company, Florence, S.C. Filed July 28, 1965.



No claim is made to the words "Fine China" apart from the mark.
For China Dinnerware.
First use on or about July 1, 1964.

SN 231,323. The Walker China Company, Bedford, Ohio. Filed Oct. 22, 1965.

Table-Lite

For China Dinnerware.
First use Oct. 4, 1965.

Class 31—Filters and Refrigerators

SN 219,161. Way-Wolff Associates, Inc., Long Island City, N.Y. Filed May 18, 1965.

WAY-WOLFF SHIP-COOLER

Applicant disclaims the words "Ship-Cooler" as part of the trademark applied for.
For Air conditioning Apparatus for Use Aboard Marine Vessels.
First use July 27, 1959.

SN 228,665. Diamond Alkali Company, Cleveland, Ohio. Filed Sept. 27, 1965.

CHLOROSOLVER

For Tank-Type Unit for Use in the Chemical Sanitizing of Water.
First use Feb. 25, 1964.

SN 230,397. Jet Spray Cooler, Inc., Waltham, Mass. Filed Oct. 18, 1965.



The expression "Mark of Merit" is disclaimed apart from the mark as shown. Owner of Reg. No. 803,102.
For Refrigerated Beverage Dispensers.
First use about Sept. 12, 1965.

Class 32—Furniture and Upholstery

SN 211,371. Mattel, Inc., Hawthorne, Calif. Filed Feb. 4, 1965.

BARBIE

For Hand Mirrors.
First use June 1, 1962.

SN 217,089. Clopay Corporation, Cincinnati, Ohio. Filed Apr. 22, 1965.

FLAIR

For Window Shades.
First use Apr. 21, 1965.

SN 230,076. Rack Engineering Company, Connellsville, Pa. Filed Oct. 13, 1965.

NU-ERA

For Industrial Storage Cabinets.
First use Aug. 11, 1965.

SN 232,016. Nicholas-Parsons Associates, New York, N.Y. Filed Nov. 2, 1965.

40 WINKS

For Pillows and Cushions.
First use Oct. 22, 1965.

SN 232,067. Federated Department Stores, Inc., New York, N.Y. Filed Nov. 3, 1965.

NOBILITY

For Mattresses.
First use Oct. 7, 1965.

SN 232,078. Marvac Corporation, Silver Spring, Md. Filed Nov. 3, 1965.



For Folding Chairs and Covers Therefor.
First use Oct. 16, 1965.

SN 232,985. Dentin Manufacturing Company, Melrose Park, Ill. Filed Nov. 19, 1965.

LADY FAIR

For Outdoor Table.
First use on or before Oct. 15, 1965.
Subj. to Intf. with SN 236,274.

SN 236,274. Lady Fair Kitchens, Inc., Salt Lake City, Utah. Filed Jan. 12, 1966.

Lady Fair KITCHENS

For Pre-Finished Cabinets.
First use on or about Jan. 1, 1964.
Subj. to Intf. with SN 232,985.

Class 33 — Glassware

SN 218,782. Libbey-Owens-Ford Glass Company, Toledo, Ohio. Filed May 13, 1965.

DIAMOND WELD

For Wired Glass.
First use Apr. 24, 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 214,654. Johnson Service Company, Milwaukee, Wis. Filed Mar. 22, 1965.

PROPORTION AIRE

The term "Aire" is disclaimed apart from the mark as shown. Owner of Reg. No. 802,711.
For Dampers for Heating, Ventilating, and Air Conditioning Systems.
First use Mar. 2, 1964.

SN 217,687. Air Filter Corporation, Milwaukee, Wis. Filed Apr. 30, 1965.

ductPORT



For See-Through Window for Heating and Ventilation Ducts.
First use Sept. 2, 1964.

SN 218,355. Astropolymer Laboratories, Inc., Wichita, Kans. Filed May 6, 1965.

"WHISPERFLO"

For Plastic Ventilator Fittings for Use in Aircraft.
First use on or about Sept. 17, 1964.

SN 219,111. Canadian Wanson Combustion Equipment Limited, Dorval, Quebec, Canada. Filed May 18, 1965.

MULTIPASS

Priority claimed under Sec. 44(d) on Canadian application filed Dec. 24, 1964; Reg. No. 142,652, dated Nov. 12, 1965.
For Warm Air Furnaces and Heaters.

SN 226,094. B. & F. Stevens, Inc., Atlanta, Ga. Filed Aug. 19, 1965.

STEVECO

For Motor Driven Fans, Fan Blades, and Mounting Brackets for Fans.
First use August 1959.

SN 226,902. Dura Corporation, Oak Park, Mich. Filed Sept. 1, 1965.

WEAVER

Owner of Reg. Nos. 517,340, 532,801, and 647,765.
For Steam Cleaners, High-Pressure Washers, Space Heaters, and Parts Washers.
First use October 1964.

SN 228,168. Lennox Industries Inc., Marshalltown, Iowa. Filed Sept. 20, 1965.

HIDDEN HI-SIDE

For Air Conditioning Condensing Units.
First use Aug. 5, 1965.

Class 36 — Musical Instruments and Supplies

SN 212,334. Mattel, Inc., Hawthorne, Calif. Filed Feb. 18, 1965.

BARBIE OR MIDGE

For Jewel Case in the Form of a Piano and Incorporating a Music Box.
First use on or about Mar. 1, 1964.

SN 242,629. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Apr. 4, 1966.

3M

For Magnetic Tape Reproducing Machine and Recorded Tape for Use Therein.
First use Aug. 31, 1965.

Class 37 — Paper and Stationery

SN 200,495. Schmidt Printing Inks of Canada Limited, Montreal, Quebec, Canada. Filed Aug. 24, 1964.

SCHMIDT TRU PRINT LAYOUT PAPERS

The words "Schmidt" and "Layout Papers" are disclaimed apart from the mark as shown.
For Layout Papers.
First use Mar. 1, 1964; in commerce Mar. 1, 1964.

SN 218,778. Kapral Research Laboratories, Inc., Chicago, Ill. Filed May 13, 1965.

LUCKY L LABEL

No exclusive right to the word "Label" is claimed apart from the mark as shown.
For Labels and Stickers.
First use Apr. 24, 1965.

SN 227,077. Scripto, Inc., Atlanta, Ga. Filed Sept. 2, 1965.

SCRIPTIP

Owner of Reg. No. 420,399.
For Marking and Writing Instruments With Fiber Points.
First use July 14, 1965.

SN 227,146. Hudson Pulp & Paper Corp., New York, N.Y. Filed Sept. 3, 1965.

HANKERCHOOS

For Disposable Paper Tissues.
First use March 1965.

SN 227,926. Chart-Pak, Incorporated, Leeds, Mass. Filed Sept. 16, 1965.

TRANSGRID

For Plastic Cross Section Sheets.
First use Aug. 30, 1957.

SN 228,245. Dennison Manufacturing Company, Framingham, Mass. Filed Sept. 21, 1965.

SPIN-PRINT

For Adhesive Labels.
First use Aug. 25, 1965.

SN 232,932. Edward I. Plottle Co., Scranton, Pa. Filed Nov. 18, 1965.

POINTEX

For Ball Point Pens.
First use Nov. 1, 1950.

SN 233,286. Swanee Paper Corporation, New York, N.Y. Filed Nov. 24, 1965.

SWEET SIXTEEN

For Paper Towels and Napkins, Facial and Bathroom Tissue.
First use Sept. 24, 1965.

SN 233,291. F. W. Woolworth Co., New York, N.Y. Filed Nov. 24, 1965.

YOUR SYMBOL OF QUALITY
Primstyle

The words "Your Symbol of Quality" are disclaimed apart from the mark as shown.
For Facial Tissues.
First use Aug. 17, 1965.

SN 233,641. W. A. Sheaffer Pen Company, Fort Madison, Iowa. Filed Nov. 30, 1965.

TWINWELL

For Pens and Parts Thereof.
First use on or about May 28, 1965.

SN 234,121. Foy-Johnston, Inc., Cincinnati, Ohio. Filed Dec. 7, 1965.

KENSTYLE

For Wallpaper.
First use Oct. 29, 1965.

SN 234,391. Convertors Incorporated, Newark, N.J. Filed Dec. 13, 1965.

SURG-O-PAK

Owner of Reg. No. 690,557.
For Paper Garments, Covers for Patients and Tables, and Sheeting for Drainage for Use in Surgical Operations.
First use on or before Jan. 28, 1958.

SN 234,933. The Paterson Parchment Paper Company, Bristol, Pa. Filed Dec. 20, 1965.

PATAPAR

Owner of Reg. Nos. 217,634 and 793,655.
For Technical, Special, Industrial, Printing, and Writing Papers.
First use on or about Mar. 10, 1926.

SN 235,679. Janet Paper Corp., Brooklyn, N.Y. Filed Jan. 3, 1966.

JAN PAC

Without waiver of common-law or other rights, no registration rights are claimed for the word "Pac" separate and apart from the mark.
For Paper Napkins, Paper Table Covers, Paper Facial and Toilet Tissue.
First use on or at least prior to Aug. 10, 1965.

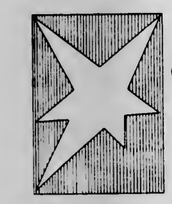
SN 239,251. Fort Howard Paper Company, Green Bay, Wis. Filed Feb. 21, 1966.

FORTEX

For Toilet Paper.
First use on or about Jan. 2, 1946.

Class 38 — Prints and Publications

SN 208,010. Gruner and Jahr G.m.b.H. & Co., Hamburg, Germany, assignee of Verlag Henri Nannen G.m.b.H., Hamburg, Germany. Filed Dec. 11, 1964.



The drawing is lined for the color red.
For German Language Magazine.
First use Aug. 1, 1948; in commerce 1950.

SN 217,490. Parke, Davis & Company, Detroit, Mich. Filed Apr. 27, 1965.

PARKE-DAVIS

Owner of Reg. Nos. 103,702 and 397,912.
For Medical Journals; House Organs; Catalogues and Brochures Pertaining to Medical Products, to Capsule Products and to Machinery and Equipment With Respect to Capsule Products; Surgical Dressings Brochures; and Reports on Applicant's Corporate Activities.
First use on or before Dec. 1, 1959.

SN 225,207. M. L. Snyder & Son, Inc., Philadelphia, Pa. Filed Aug. 6, 1965.

ROGUES' GALLERY

For Periodical Pamphlet and Catalogue Illustrating and Describing Various Articles of Rubber, Rubber Composition, Neoprene and Composites Produced and/or Sold by Applicant.
First use Jan. 20, 1920.

SN 227,445. Reinhold Publishing Corporation, New York, N.Y. Filed Sept. 8, 1965.

P/A

For Magazine Published Monthly.
First use January 1948.

SN 229,010. R. M. Ingle, Tallahassee, Fla. Filed Sept. 30, 1965.

FACILE PRESS

For Books Containing Educational and Instructional Materials.
First use Sept. 24, 1965.

SN 230,683. Billie Marie Palaske, Kernville, Calif. Filed Oct. 20, 1965.

YOUR 'PET PEEVE'

For Newspaper Column Published Weekly.
First use Sept. 16, 1965.

SN 240,824. Louise Crane, d.b.a. Iberica Publishing Co., New York, N.Y. Filed Mar. 14, 1966.

IBERICA

For Magazine.
First use Oct. 16, 1953.

Class 39 — Clothing

SN 194,438. Levi Strauss & Co., San Francisco, Calif. Filed May 27, 1964.

STA-PREST

Owner of Reg. No. 671,993.
For Garments, Particularly Trousers.
First use Feb. 19, 1964; June 25, 1957, as to "Sta-Press."

SN 210,611. Boris Smoler & Sons, Inc., Chicago, Ill. Filed Jan. 25, 1965.

"WILYUM SEZ"

For Women's Dresses.
First use on or about Dec. 11, 1964.

SN 214,785. Parlane Sportswear Co., Boston, Mass. Filed Mar. 23, 1965.

SHORT 'N SWEET

For Skirts, Shifts, Shorts, Culottes, Sports Jackets, Blouses, and Suits for Young Women.
First use Dec. 1, 1964.

SN 214,848. Davidson Shoe Corporation, Lancaster, Pa. Filed Mar. 24, 1965.



The drawing is lined for the color red. The word "Shoe" is disclaimed apart from the mark as shown.
For Footwear—Namely, Boots and Shoes Made Out of Leather.
First use Jan. 31, 1908.

SN 216,566. CBS Films, Inc., New York, N.Y. Filed Apr. 15, 1965.

HENRY HIGGINS

The name "Henry Higgins" is fanciful.
For Men's Hats.
First use Mar. 30, 1965.

SN 216,766. Wilroy, Inc., New York, N.Y. Filed Apr. 16, 1965.

"KICKS" BY WILROY

Owner of Reg. No. 802,301.
For Ladies' Pants, Slacks, and Shorts.
First use Mar. 19, 1965.

SN 219,461. Revelation Bra Co., Inc., Cambridge, Mass. Filed May 21, 1965.

GODDESS

For Brassieres, Corsets, Corselets, Girdles, and Bra Slips.
First use Dec. 1, 1945.

SN 223,424. Key Work Clothes, Inc., Fort Scott, Kans. Filed July 15, 1965.

CACTUS KING

For Cowboy Boots.
First use June 17, 1965.

SN 225,318. Lois J. Holmes, d.b.a. House of Holmes, Hawthorne, Calif. Filed S.R. Aug. 9, 1965; Am. P.R. Apr. 4, 1966.



For Knitted Sweaters, Dresses, Coats, and Skirts.
First use Sept. 1, 1962.

SN 225,616. Trend Centers, Inc., d.b.a. Trend Centers, New York, N.Y. Filed Aug. 12, 1965.

Douglas Craig

"Douglas Craig" is the name of a fictitious person.
For Men's Pants.
First use on or about July 6, 1965.

SN 225,849. Noah Lewis, Brookline, Mass. Filed Aug. 13, 1965.



For Hosiery and Leotards.
First use Feb. 18, 1947.

SN 226,386. John B. Stetson Company, Philadelphia, Pa. Filed Aug. 24, 1965.

STETSON

Owner of Reg. Nos. 51,990, 638,080, and others.
For Hats, Caps, Footwear, Shirts, Ties, Scarfs, Sleepwear, Underwear, Hosiery, Gloves, Belts, and Handkerchiefs.
First use Jan. 1, 1866, on hats and Caps.

SN 226,457. McCrory Corp., New York, N.Y. Filed Aug. 25, 1965.

ALPINE

Owner of Reg. No. 196,431.
For Men's Hosiery.
First use in or about 1920.

SN 229,023. M. Nirenberg Sons, Inc., New York, N.Y. Filed Sept. 30, 1965.

MIRACLE-PREST

For Shirts, Sport Shirts, Knit Shirts, Walk Shorts, Jackets, and Trousers.
First use Sept. 10, 1965.

SN 229,405. Caldwell Dress Co., Philadelphia, Pa. Filed Oct. 6, 1965.

Sheer King

For Ladies' and Misses' Dresses, Jackets, and Skirts.
First use Feb. 1, 1962.

SN 229,883. Slumbertogs, Inc., New York, N.Y. Filed Oct. 11, 1965.

SLUMBERJOYS

Owner of Reg. Nos. 429,806, 772,384, and others.
For Lounging Jackets, Robes, Pajamas, and Nightgowns.
First use July 2, 1965.

SN 230,270. Maidenform, Inc., New York, N.Y. Filed Oct. 15, 1965.

DIAMOND TOUCH

Owner of Reg. No. 705,280.
For Foundation Garments.
First use Sept. 9, 1965.

SN 230,271. Maidenform Sportswear, Inc., New York, N.Y. Filed Oct. 15, 1965.

SPORTICA

For Sportswear—Namely, Outer Pants, Outer Shorts, and Sweaters for Women and Misses.
First use Aug. 26, 1965.

SN 230,559. Perfection Frocks, Inc., New York, N.Y. Filed Oct. 19, 1965.

Zip 'n Go

For Dresses, Shifts, and Dusters.
First use Sept. 25, 1965.

SN 230,623. Harry Fischer Corporation, Philadelphia, Pa. Filed Oct. 20, 1965.

KHINGANA

For Men's and Boys' Outercoats.
First use at least as early as 1955.

SN 230,631. Harry Fischer Corporation, Philadelphia, Pa. Filed Oct. 20, 1965.

DHALISHAN

For Men's and Boys' Outercoats.
First use at least as early as 1960.

SN 230,648. International Shoe Company, Chicago, Ill. Filed Oct. 20, 1965.

WISPA-SHANK

For Women's Shoes.
First use Aug. 12, 1965.

SN 230,697. The Puritan Sportswear Corp., Altoona, Pa. Filed Oct. 20, 1965.

MR. INSIDER

For Men's and Boys' Knit Shirts, Sweaters, Bathing Trunks, and Walk Shorts.
First use Sept. 28, 1965.

SN 230,704. Yvonne Rich, Altadena, Calif. Filed Oct. 20, 1965.

MY JEWELS

For Brassieres.
First use Oct. 14, 1965.

SN 230,805. Exquisite Form Industries, Inc., New York, N.Y. Filed Oct. 21, 1965.

IT FIGURES

For Brassieres and Girdles.
First use Sept. 30, 1965.

SN 230,898. Yvonne Rich, Altadena, Calif. Filed Oct. 21, 1965.

JEWEL VAULT

For Brassieres.
First use Oct. 14, 1965.

SN 230,985. White Stag Manufacturing Co., Portland, Oreg. Filed Oct. 21, 1965.

CATAMARAN

For Women's Slacks.
First use Oct. 13, 1965.

SN 231,057. Cooper's, Incorporated, Kenosha, Wis. Filed Oct. 22, 1965.

Jockey

Owner of Reg. Nos. 391,692 and 509,364.
For Sweaters, Sport Shirts, and Golf Jackets.
First use August 1934.

SN 231,066. Desmond's, Inc., Los Angeles, Calif. Filed Oct. 22, 1965.

DUNNINGHAM

For Men's Suits and Overcoats.
First use May 28, 1924.

SN 231,455. Mister Trio Uniforms Inc., New York, N.Y. Filed Oct. 23, 1965.

MISTER TRIO

For Men's and Women's Launderable Uniforms as Jackets, Coats, Blouses, Skirts, and Dresses, Such as Are Used by Doctors, Nurses, Dentists, Barbers, Beauticians, etc.
First use June 22, 1965.

SN 231,736. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1965.

LOVING CARE

For Gloves.
First use Oct. 20, 1964.

SN 231,832. Leslie Lynne, Inc., New York, N.Y. Filed Oct. 29, 1965.

DESERT RIDERS

For Ladies' Slacks and Trousers.
First use Oct. 18, 1965.

SN 232,055. Blue Bell, Inc., Greensboro, N.C. Filed Nov. 3, 1965.

GRO-CUFF

For Boys' Slacks.
First use July 27, 1962.

SN 232,089. Placid's Parka, Inc., Utica, N.Y. Filed Nov. 3, 1965.

PLACID'S PARKA

No claim is made to the exclusive use of the word "Parka" apart from the mark as shown.
For Ski Clothing.
First use at least as early as December 1959.

SN 232,161. Sportissimo, Ltd., New York, N.Y. Filed Nov. 4, 1965.

SPORTISSIMO

For Ladies' Skirts, Trousers of Assorted Lengths, Tops, Shirts, and Blouses.
First use Oct. 11, 1965.

SN 232,298. Sol Duchovnay & Sons, Philadelphia, Pa. Filed Nov. 8, 1965.

HEIRLTIER

For Boys', Students', and Men's Clothing—Namely, Jackets.
First use May 1965.

SN 232,722. Rob Roy Company, Inc., New York, N.Y. Filed Nov. 15, 1965.

S.N.P.

For Dress and Sport Shirts for Young Men and Boys.
First use July 19, 1965.

SN 232,938. Joseph Schultz and Sons, Inc., Miami, Fla. Filed Nov. 18, 1965.

HUMBUG

For Women's Dresses.
First use on or about Oct. 25, 1965.

SN 232,987. Eclectic, Inc., Philadelphia, Pa. Filed Nov. 19, 1965.

ECLECTIC

For Ties.
First use Nov. 15, 1965.

SN 233,110. Koratron Company, Inc., San Francisco, Calif. Filed Nov. 22, 1965.

KORATRON

The stippling on the drawing is to denote contrasting colors.
Owner of Reg. No. 769,609.
For Women's, Misses', and Children's Dresses, Halters, Outer Shorts, Outer Shirts, Blouses, Slacks, Pedal Pushers, and Jackets; and Men's, Students', and Boys' Pants, Slacks, Jackets, Jacket and Slack Combinations, Walking Shorts, Shirts, and Blouses.
First use June 21, 1965.

SN 233,481. Federated Department Stores, Inc., d.b.a. Bullock's, Los Angeles, Calif. Filed Nov. 29, 1965.

BULLOCK'S

AWARD SHIRT

Applicant disclaims the word "Shirt" and the representation of a shirt, apart from the mark as shown. Owner of Reg. No. 734,216.
For Men's Shirts.
First use Feb. 8, 1965.

SN 233,592. Genesco, Inc., Nashville, Tenn. Filed Nov. 30, 1965.

HEMISPHERE

Owner of Reg. No. 414,505.
For Suits, Topcoats, Overcoats, Raincoats, and Jackets for Men and Boys.
First use Nov. 5, 1965.

SN 234,057. Neiman-Marcus Company, Dallas, Tex. Filed Dec. 6, 1965.

MAISONETTE

Owner of Reg. No. 775,411.
For Fur Garments—Namely, Coats, Jackets, Stoles, Collars, and Muffs.
First use Apr. 15, 1963.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 218,620. Dan River Mills, Incorporated, Danville, Va. Filed May 12, 1965.

DAN-PRESS FABRICS

NEVER LOSE THE JUST IRONED LOOK

Applicant disclaims the words "Fabrics Never Lose the Just Ironed Look" apart from the mark as shown. Owner of Reg. No. 786,082.

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combinations Thereof.

First use Mar. 26, 1965.

SN 219,769. Decorator Industries, Inc., Pittsburgh, Pa. Filed May 26, 1965.

Decorator Industries

For Curtains and Draperies.
First use Aug. 26, 1960.

SN 223,489. American Hospital Supply Corporation, Evanston, Ill. Filed July 16, 1965.

HOSPITEX

For Sheets and Pillow Cases, Blankets, Bedspreads, Curtains, Towels and Washcloths, and Bolt Textiles for Making Towels, Bedspreads, Curtains, and the Like.

First use on or before July 1, 1958.

SN 225,632. Cabin Crafts, Incorporated, Dalton, Ga. Filed Aug. 13, 1965.

MARDI GRASS

Applicant disclaims the exclusive right to use the word "Grass" apart from the mark as a whole.

For Carpets and Rugs.
First use Jan. 1, 1965.

SN 227,573. Frank A. Fedele, Sr., Rochester, N.Y. Filed Sept. 10, 1965.



For Treated Hand Towels Especially for Use by Bowlers, Golfers, Tennis Players, and Other Sportsmen.
First use July 2, 1965.

SN 232,870. J. P. Stevens & Co., Inc., New York, N.Y. Filed Nov. 17, 1965.

BABY STEVENS

For Piece Goods of One or More Natural Fibers, Including Wool and Cotton, or of Synthetic Fibers or of Blends of the Foregoing, and Products Made Therefrom—Namely, Blankets, Sheets, and Pillow Cases.

First use Nov. 2, 1965.

SN 232,905. Cone Mills Corporation, Greensboro, N.C. Filed Nov. 18, 1965.

POLY HIPPO

For Textile Fabrics in the Piece of Cotton or Synthetic Fibers or Any Combination Thereof.
First use Oct. 19, 1965.

SN 232,980. Collins & Aikman Corporation, New York, N.Y. Filed Nov. 19, 1965.

WINK

For Area and Scatter Rugs.
First use Oct. 22, 1965.

SN 233,320. Cannon Mills Company, Kannapolis, N.C. Filed Nov. 26, 1965.



For Bedspreads, Sheets, Pillow Cases, Towels, and Wash Cloths.
First use Feb. 1, 1961, on bedspreads.

Class 43—Thread and Yarn

SN 228,269. National Spinning Co., Inc., New York, N.Y. Filed Sept. 21, 1965.

ANZAC

For Yarns of Natural and Synthetic Fibers and Combinations Thereof.
First use Apr. 4, 1965.

SN 229,974. Glen Raven Knitting Mills, Inc., Glen Raven, N.C. Filed Oct. 12, 1965.



Owner of Reg. No. 755,594.
For Yarns of All Type and Nature, Spun and Textured.
First use June 11, 1965.

SN 232,275. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Nov. 8, 1965.

PULL-POUCH

For Hand Knitting Yarns.
First use at least as early as Sept. 23, 1965.

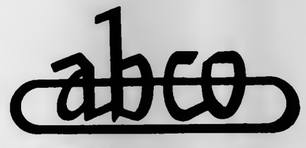
SN 232,655. Beaunit Corporation, New York, N.Y. Filed Nov. 15, 1965.

QULON

For Nylon Yarn.
First use on or about Oct. 21, 1965.

Class 44—Dental, Medical, and Surgical Appliances

SN 203,058. Abco Dealers, Inc., New York, N.Y. Filed Oct. 1, 1964.



For Surgical Dressings.
First use on or about July 15, 1954.

SN 204,720. Sundstrand Corporation, Rockford, Ill. Filed Oct. 23, 1964.

SIMAS

For Cardiac Assistance Apparatus, Comprising a Pump, a Motor, a Catheter, To Be Inserted Into an Artery, and EKG Signal Receiving Apparatus for Regulating the Pump or Motor.

First use Sept. 4, 1964.

SN 214,997. Morton Springer & Co., Inc., Harrison, N.J. Filed Mar. 25, 1965.

EASTERN ELECTRIC

For Electrical Hair Dryers.
First use July 2, 1963.

SN 222,690. General Time Corporation, New York, N.Y. Filed July 6, 1965.



For Manicure Sets.
First use Jan. 25, 1965.

SN 223,490. American Hospital Supply Corporation, Evanston, Ill. Filed July 16, 1965.

HOSPITEX

For Surgical Masks and Caps, Surgeons', Patients', and Nurses' Gowns, Patients' Abdominal Binders, Breast Binders, Bandages, and T-Binders.

First use on or before July 1, 1963.

SN 231,728. Clairol Incorporated, New York, N.Y. Filed Oct. 28, 1965.

LOVING CARE

For Hair Dryers.
First use Oct. 20, 1964.

Class 45—Soft Drinks and Carbonated Waters

SN 218,177. L. S. and G., Inc., Charlotte, N.C., assignee of Joe R. Capp, d.b.a. Cap-Co Enterprises, Durham, N.C. Filed May 6, 1965.

ARCTIC MIST

For Carbonated Soft Drink.
First use on or about Mar. 19, 1965.

Class 46—Foods and Ingredients of Foods

SN 154,067. Sunaid Food Products, Inc., Miami, Fla. Filed Sept. 27, 1962.



For Jams, Jellies, Preserves, and Marmalades.
First use May 1, 1948.

SN 182,421. Golden Dipt Corporation, Millstadt, Ill., by merger and change of name from Golden Dipt-Meletio Corporation, Millstadt, Ill. Filed Dec. 5, 1963.

MAGIC DIP

Applicant makes no claim to the word "Dip" apart from the mark as shown. Owner of Reg. Nos. 389,794, 606,151, and 681,590.

For Marinating Blend of a Spice Nature.
First use Nov. 20, 1963.

SN 187,944. The Glidden Company, Cleveland, Ohio, assignee of Little Sweets, Inc., Hewlett, N.Y. Filed Mar. 4, 1964.



The words "Little Sweets" are disclaimed apart from the mark as shown.

For Frozen Desserts—Namely, Chocolate Mousse, Strawberry Bavarian Cream, Vanilla Cream With Melba Sauce, and Chocolate Ice Box Cake.

First use Jan. 28, 1964.

SN 201,544. Petitjean, Gay & Cie, Le Pre Sant-Gervais (Seine), France. Filed Sept. 9, 1964.



Priority claimed under Sec. 44(d) on French Reg. No. 520,758, dated Mar. 26, 1964 (Seine); Natl. Inst. No. 222,673. Owner of U.S. Reg. No. 780,438.

For Fully or Partially Processed Foods—Namely, Sauerkraut, Lentils, Nicean Stew, Whole Asparagus and Asparagus Tips, Celery, Brussel Sprouts, Endives, Roman Lettuce, Carrots, Fennel, Salsify, Hearts, Bottoms of Artichokes, Mushrooms, Chestnuts, Peas, Mixtures of Peas and Carrots, Green Beans, Butter Beans, Stringless Beans, White and Red Beans, Green Kidney Beans, Soya Beans, Vegetable Hotch Potch, Chopped and Whole Spinach, Mixtures of Seasoned Vegetables, Double Tomatoe Concentrates, Whole and Pealed Tomatoes, Crushed Tomatoes, Plain Meat Balls and Gravy, Poultry Liver Spread With Truffles, Tripe, Garnished Sauerkraut, Meat Stew, Lentil Sausages, Stewed Beef, Stewed Mutton, Garnishings for Small Patties, Beef Tongue Spiced Sauce, and Sauce Madere, Apricots, Peaches, Pears, Green Gages, Yellow Plums, Morello Cherries, Champagne Cherries, Strawberries, Raspberries, Fruit Hotch Potch, Pineapple, Preserves of Apricots, Preserves of Morello Cherries, Preserves of Yellow Plums, Preserves of Green Gages, Preserves of Blueberries, Preserves of Strawberries, Preserves of Raspberries, Preserves of Oranges, Gooseberry Jelly, Raspberry Jelly, Sardines in Olive Oil, Sardines in Peanut Oil, Sardines With Tomatoes, Sardines in Olive Oil and Lemon, Sardines in Olive Oil and Vinegar Spices, Sardouk Sandwich (Made From a Paste of Sardine Meat), Filets of Mackerel in White Wine, Filets of Mackerel in Olive Oil, Korniloff Sandwich (Made From a Paste of Cod and Soft Roe of Mackerel), Whole Germen Tuna of Bretagne in Olive Oil and in Arachide (Peanut) Oil, Albacore Tuna in Arachide Oil, Tuna Filets in Olive Oil, Tuna a la Provincial, Pieces of Tuna in Oil and With Tomatoes, Natural Germen Tuna of Bretagne, Natural Albacore Tuna, Rice and Tuna Hors-d'Oeuvre; Frozen Products—Namely, Peas, Green Beans, Stringless Bean Varieties, Chopped Spinach and Whole Leaves, Salsify, Brussel Sprouts, Strawberries, and Raspberries; Dehydrates—Namely, Celery Sauce; and Freeze-Dried Foods—Namely, Mushrooms.

SN 201,712. Marian Company, Chicago, Ill. Filed Sept. 11, 1964.

POLAR-POP

For Frozen Confection on a Stick.
First use at least as early as Aug. 25, 1963.

SN 207,037. Gold Seal Products Company, Inc., Birmingham, Ala. Filed Nov. 27, 1964.



Applicant disclaims the words "Meat" and "Variety Pak" apart from the mark as shown. Owner of Reg. No. 761,038.
For Dog and Cat Food.
First use September 1962.

SN 208,797. American Home Products Corporation, New York, N.Y. Filed Dec. 24, 1964.

BEEFATWIST

For Packaged Cooked Combination of Beef and Macaroni in Sauce.
First use Dec. 3, 1964.

SN 212,528. General Mills, Inc., Minneapolis, Minn. Filed Feb. 23, 1965.

HIPCHIPS

For Cereal-Derived Snack Product Similar in Nature to Corn Chips.
First use Jan. 18, 1965.

SN 214,531. Manero's Foods, Incorporated, Stamford, Conn. Filed Mar. 19, 1965.



The representation of the person shown on the drawing is that of "Nicholas Manero," a living individual, whose consent is of record.
For Salad Dressings—Namely, Gorgonzola Cheese, French Garlic, Homogenized Garlic, Cocktail Sauce, and Tartar Sauce.
First use Apr. 30, 1962.

SN 219,173. Armour and Company, d.b.a. Collier Industries, Chicago, Ill. Filed May 19, 1965.

WESTERNER

For Margarine.
First use on or prior to Oct. 5, 1961.
Subj. to Intf. with SN 227,375.

SN 219,589. Loma Linda University, Loma Linda, Calif. Filed May 24, 1965.

LA LOMA

"La Loma" in Spanish means "the hill."
For Cake Mixes, Muffin Mix, Pie Crust Mix, and Peanut Butter.
First use April 1960.

SN 219,825. Standard Brands Incorporated, New York, N.Y. Filed May 26, 1965.

ROYAL

Owner of Reg. Nos. 48,077, 577,056, and others.
For Rice and Seasoned Rice Mixes.
First use Apr. 29, 1965.

SN 219,826. Standard Brands Incorporated, New York, N.Y. Filed May 26, 1965.

ROYAL

Owner of Reg. Nos. 48,077, 577,056, and others.
For Dehydrated Onion and Garlic.
First use May 3, 1965.

SN 220,882. Southern States Cooperative, Incorporated, Richmond, Va. Filed June 10, 1965.

PACE MAKER

For Feed for Cattle.
First use May 25, 1965.
Subj. to Intf. with SN 227,121 and SN 239,647.

SN 221,295. The Quaker Oats Company, Chicago, Ill. Filed June 16, 1965.

GOLDEN IDAHO

For Breakfast Cereal.
First use May 27, 1965.

SN 221,296. The Quaker Oats Company, Chicago, Ill. Filed June 16, 1965.

QUAKE

For Breakfast Cereal.
First use May 27, 1965.

SN 222,057. Ore-Ida Foods, Inc., Ontario, Oreg. Filed June 25, 1965.

QUISP

The word "Idaho" is disclaimed apart from the mark as shown.
For Frozen Potatoes.
First use Oct. 2, 1964.

SN 224,872. Floyd M. Morris, Idaho Falls, Idaho. Filed Aug. 3, 1965.

COUNTRY SQUIRE

For Instant (Dry) Potatoes and Potatoes in Their Natural State.
First use January 1962.

SN 225,862. Sidney's Linwood, Inc., d.b.a. Sidney's, Kansas City, Mo. Filed Aug. 9, 1965.



For Dessert Pies (Frozen), and Cheese Cake.
First use December 1949.

SN 227,375. Wilsey-Bennett Co., San Francisco, Calif. Filed Sept. 7, 1965.

Western BRAND

The word "Brand" is disclaimed apart from the mark as shown.
For Margarine.
First use Apr. 28, 1964.
Subj. to Intf. with SN 219,173.

SN 232,122. Jack Finn, Inc., Boston, Mass. Filed Nov. 4, 1965.

MICKEY FINN

"Mickey Finn" is the commonly used nickname of "Henry M. Finn," an officer of applicant corporation. Owner of Reg. No. 795,644.
For Candy Bars.
First use Oct. 20, 1965.

Class 48 — Malt Beverages and Liquors

SN 207,897. O'Keefe Brewing Company Limited, Toronto, Ontario, Canada. Filed Dec. 10, 1964.



The right to the exclusive use of all reading matter except "OV" and "O'Keefe" is disclaimed apart from the trademark. Owner of U.S. Reg. Nos. 314,354, 778,292, and others.
For Beer.
First use January 1962; in commerce February 1962.

SN 217,336. G. Heileman Brewing Company, Inc., La Crosse, Wis. Filed Apr. 26, 1965.

Oktoberfest Brew

Applicant disclaims exclusive right to the word "Brew" apart from the mark as shown.
For Beer.
First use June 9, 1964.

Class 49 — Distilled Alcoholic Liquors

SN 219,608. Potter Distilleries Ltd., New Westminster, British Columbia, Canada. Filed May 24, 1965.

CROWN COLONY

Priority claimed under Sec. 44(d) on Canadian application filed Nov. 28, 1964; Reg. No. 142,125, dated Dec. 20, 1965.
For Whisky.

SN 220,766. Holiday Inns of America, Inc., Memphis, Tenn. Filed June 9, 1965.



The drawing is lined for the colors green, yellow, and orange. Owner of Reg. Nos. 592,539, 708,521, and others.
For Whiskey.
First use Apr. 14, 1965.

Class 50 — Merchandise Not Otherwise Classified

SN 220,641. Michael G. Curran, Cleveland, Ohio. Filed June 8, 1965.

TWIN-STAIR

For Scaffolding, Scaffolds and Scaffold Parts—Namely, Traveling Cat-Walks, Traveling Platforms, Platform Ladders, Platform Bases, Platforms, and Ladder Units.
First use May 28, 1965.

SN 234,164. Advertising Mats, Inc., New York, N.Y. Filed Dec. 8, 1965.



For Printing Plates.
First use Nov. 15, 1965.

SN 235,184. The B. F. Goodrich Company, Akron, Ohio. Filed Dec. 23, 1965.

PLATEAU

For Carpet and Rug Underlay.
First use Aug. 19, 1964.

SN 235,333. Potters Brothers, Inc., Carlstadt, N.J. Filed Dec. 27, 1965.



For Small Particles of Glass and Plastic Formed by Heating Processes.
First use Oct. 4, 1965.

SN 235,523. Polycraft Paint and Chemical Company Limited, d.b.a. Automation Distributors & Consultants, Burlington, Ontario, Canada. Filed Dec. 29, 1965.

TRED SPRED

For Anti-Spin Packs for Vehicles.
First use Oct. 4, 1965; in commerce Dec. 1, 1965.

Class 51 — Cosmetics and Toilet Preparations

SN 213,435. Richard Hudnut, Morris Plains, N.J. Filed Mar. 5, 1965.

BLOOM DUST

Owner of Reg. No. 596,494.
For Rouge.
First use Jan. 21, 1965.

SN 217,814. Viviane Woodard Corporation, Panorama City, Calif. Filed Apr. 30, 1965.

MATTE MIST

The word "Matte" is disclaimed apart from the mark as shown.
For Eye Shadow, Rouge, and Make-Up Base.
First use Jan. 25, 1964.

SN 227,643. Beauty Counselors, Inc., Grosse Pointe, Mich. Filed Sept. 13, 1965.

VELVET GLOVE

For Hand Cream.
First use February 1961.

SN 228,069. Merle Norman Cosmetics, Inc., Los Angeles, Calif. Filed Sept. 17, 1965.

SUPER-LUBE

For Emollient for Skin Tone.
First use May 29, 1965.

SN 229,419. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Oct. 6, 1965.

GEMINESSE

For Perfumes, Face and Body Lotions, Powders, Cleaners, and Creams.
First use Sept. 20, 1965.

SN 229,420. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Oct. 6, 1965.



For Perfumes, Face and Body Lotions, Powders, Cleaners, and Creams.
First use Sept. 20, 1965.

SN 230,050. The House of Wrisley, Inc., d.b.a. House of Wrisley, Paris, Tenn. Filed Oct. 13, 1965.

"DRY-FROST"

For Anti-Perspirant.
First use May 13, 1964.

SN 231,380. Harry J. Bosworth Company, Chicago, Ill. Filed Oct. 23, 1965.

D.O.C.

SUPER HOLD

Owner of Reg. No. 670,367.
For Denture Adhesive Powder.
First use Oct. 12, 1965.

SN 237,526. Paul Baratte, Paris, France. Filed Jan. 28, 1966.

UNICA gf

Priority claimed under Sec. 44(d) on French Reg. No. 539,159, dated July 30, 1965 (Seine); Natl. Inst. No. 265,401.
For Perfumes, Make-Ups, Rouge, Toilet Waters, Cologne Waters, Face Powders, Beauty Creams and Lotions, Lipsticks, Nail Lacquers, Hair Lotions and Preparations, Lotions for the Beard, Bath Salts, and Dentifrice.

SN 237,666. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 1, 1966.

HAND IN HAND

For Hand Lotion.
First use Dec. 6, 1965.

Class 52 — Detergents and Soaps

SN 217,879. Frans Chemical Corporation, Roslyn Heights, N.Y. Filed May 3, 1965.

RUST-BUSTER

For Aqueous, Acidic, Gel Type of Rust Removing Composition.
First use September 1963.

SN 226,104. Vivid Products, Inc., Dallas, Tex. Filed Aug. 19, 1965.

VPI

For Jewelry Cleaner.
First use Mar. 23, 1965.

SN 226,918. Inter-All Corporation, Granby, Mass. Filed Sept. 1, 1965.

i a c inter-all

For Industrial and Institutional Cleaner, Degreaser and Dewaxer.
First use Sept. 24, 1964.

SN 227,136. Ferry Service, Incorporated, Pontiac, Mich. Filed Sept. 3, 1965.

BURLESK QUEEN

Owner of Reg. No. 688,472.
For Window Cleaning Compounds.
First use Oct. 22, 1962.

SN 232,216. Lawton Specialty Co., Inc., Lawton, Okla. Filed Nov. 5, 1965.

DR. ODOR'S Acid Power

For Liquid Detergent Cleaning Compound for Household and Industrial Use.
First use June 15, 1965.

SN 234,620. Cavalier Manufacturing Corporation, West Reading, Pa. Filed Dec. 15, 1965.

CAVALIER

For Liquid Concentrate for Cleaning Glass.
First use Nov. 22, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 162,751. International Basic Economy Corporation, New York, N.Y., assignee of Hydro-Kinetics, Inc., Zanesville, Ohio. Filed Feb. 14, 1963.

HYDRO KINETICS

The drawing is lined for the color red. Owner of Reg. No. 779,802.
For Hydraulic Engineering Consulting and Design Services.
First use Mar. 16, 1962.

SN 200,945. Lazy Susan Enterprises, Inc., Johnson City, Tenn. Filed Aug. 31, 1964.



The drawing is lined for the color blue, however, no claim is made to any particular color of the mark.
For Restaurant Services.
First use Jan. 1, 1964.

SN 207,874. A. G. Eickmeyer, Prairie Village, Kans. Filed Dec. 10, 1964.

CATACARB

Owner of Reg. No. 749,625.
For Consultant Services in the Fields of Chemistry and Engineering.
First use Oct. 5, 1961.

SN 211,924. Quality Courts Motels, Inc., Daytona Beach, Fla. Filed Feb. 12, 1965. COLLECTIVE MARK.

AMERICA'S FINEST HOUSEKEEPERS

For Providing Lodging in Tourist Courts.
First use 1960.

SN 213,347. National Historical Fire Foundation, Chicago, Ill. Filed Mar. 4, 1965.

HALL OF FLAME

For Foundation Services—Namely, Research, Development, and Promotion of Fire Prevention, Fire-Fighting Equipment and Techniques, Operating a Museum and Library, and Rendering Financial Assistance to Fire Departments and Firemen's Benevolent Funds.
First use on or about July 27, 1963.

SN 213,559. Gulf Oil Corporation, Pittsburgh, Pa. Filed Mar. 8, 1965.

TOURGUARD

For Inspection and Information Service Relating to the Safety, Sanitation, and General Appearance of Automotive Service Stations.
First use at least as early as Jan. 18, 1965.

SN 221,170. Geotechnical Consultants, Inc., Glendale, Calif. Filed June 15, 1965.

GTC

Without waiving any common law rights thereto, applicant disclaims the representation of the globe apart from the mark as shown.
For Geotechnical Consulting Services.
First use Apr. 8, 1964.

SN 221,195. Medicenters of America, Inc., Memphis, Tenn. Filed June 15, 1965.

MEDICENTER OF AMERICA

For Medical and Skilled Nursing Care Services.
First use Apr. 23, 1965.

SN 224,035. Garland Smith, Erwin, Tenn. Filed July 22, 1965.

DIPSY DOODLE

For Restaurant Services.
First use Mar. 5, 1965.

Class 101 — Advertising and Business

SN 214,089. Drive-In Duplicating, Inc., Peoria, Ill. Filed Mar. 15, 1965.

DRIVE IN* duplikating

The words "Drive-In" and "Duplikating" are disclaimed apart from the mark as shown.
For Duplicating and Reproducing Services.
First use Dec. 1, 1964.

SN 216,827. Houston Sports Association, Inc., Houston, Tex. Filed Apr. 19, 1965.

ASTRODOME

For Providing Stadium Facilities.
First use Dec. 12, 1964.

SN 223,091. Creative Marketing, Inc., Kalamazoo, Mich. Filed July 12, 1965.

PLAY SANTA CLAUS

For Promoting the Sale of Goods by Others Through the Issuance and Redemption of Cards for Cash or Prizes.
First use June 16, 1965.

SN 223,249. Lumber Distributors Incorporated, Canonsburg, Pa. Filed July 13, 1965.

PAUL BUNYAN GAMES

The name "Paul Bunyan" refers to a mythical giant to whom was attributed superhuman strength.
For Promoting the Business of Participating Lumber Yards by Staging Games of Skill Involving Such Activities as Log Rolling, Cross Cut Sawing, and the Like.
First use Dec. 4, 1964.

SN 225,475. Diana Stores Corporation, North Bergen, N.J. Filed Aug. 11, 1965.

TEEN HAVEN

For Retail Store Services in Teen-Age Clothing Departments of Clothing Shops.
First use July 28, 1965.

Class 102 — Insurance and Financial

SN 202,032. The Lincoln Savings & Loan Co., Cleveland, Ohio. Filed Sept. 16, 1964.

LIN·CO·CHEC

For Savings and Loan Company Services—Namely, the Periodic Distribution of Interest to Depositors.
First use Aug. 6, 1964.

Class 103 — Construction and Repair

SN 191,595. Union Oil Company of California, Los Angeles, Calif., assignee of The Pure Oil Company, Palatine, Ill. Filed Apr. 20, 1964.

C.B.E.

For Maintenance, Repair, and Periodic Servicing of Oil Burner Furnaces, and Parts Thereof.
First use in or about May 1962.

SN 222,714. Ketrick & Son, Inc., Chester, Pa. Filed July 6, 1965.



For Maintenance and Repair of Building Heating Systems.
First use in or about December 1959.

SN 223,026. Henze Instrument & Valve, Inc., Hoboken, N.J. Filed July 9, 1965.

Henze

For Repair, Rebuilding, and Reconditioning of Valves and Industrial Instruments.
First use January 1940.

Class 105 — Transportation and Storage

SN 180,710. Castle & Cooke, Inc., Honolulu, Hawaii. Filed Nov. 8, 1963.

For Shipping Agency Services, Stevedoring Services, and the Transporting of the Goods of Others by Means of Steamship.
First use July 29, 1963.

SN 220,076. Clark Equipment Company, Buchanan, Mich. Filed June 1, 1965.

FLY'N TOUR

For Travel Services—Namely, Conducting Combined Trips by Air and Ground Transportation.
First use May 3, 1965.

SN 221,392. J. Ray McDermott & Co., Inc., New Orleans, La. Filed June 17, 1965.

MCDERMOTT M INC.

The drawing is lined for Red and Blue.
For Towing of Vessels by Tug, Operation of Barges and Transportation of Materials Over Waterways; and Hauling of Oil Field Equipment Over Land by Trucks and Trailers.
First use at least as early as Sept. 30, 1962.

SN 224,068. Cannonball, Inc., Chicago. Ill., Filed July 23, 1965.

CANNONBALL

Owner of Reg. Nos. 655,647 and 649,089.
For Special Delivery of Messages and Packages by Automotive Vehicles; Transporting of Household Goods and Freight by Truck.
First use 1933.

SN 224,069. Cannonball, Inc., Chicago, Ill. Filed July 23, 1965.

CANNONBALL

Owner of Reg. Nos. 655,647 and 649,089.
For Special Delivery of Messages and Packages by Automotive Vehicles; Transporting of Household Goods and Freight by Truck.
First use on or about May 1, 1964.

SN 232,376. Xtra, Inc., Boston, Mass. Filed Nov. 8, 1965.

XTRA

The drawing is lined for the colors red and gold.
For Leasing Containers of Truck Trailers.
First use Nov. 6, 1957.

Class 106 — Material Treatment

SN 198,362. Loveland Chinchilla Ranch, Inc., Loveland, Colo. Filed July 22, 1964.

The representation of chinchillas per se is disclaimed apart from the mark as shown.
For Chinchilla Priming and Pelting Service.
First use Jan. 18, 1964.

SN 225,046. J. Ray McDermott & Co., Inc., New Orleans, La. Filed Aug. 5, 1965.

"MC DERMOTT"

For Material Treatment Services—Namely, the Fabrication of Steel and Aluminum Components of Pipelines, Oil and Gas Production Facilities, Drainage Systems, Instrumentation Systems, and Lighting Systems, and Fabrication of Pressure Vessels and Miscellaneous Structural Steels.
First use at least as early as March 1956.

Class 107 — Education and Entertainment

SN 206,270. Robert Keeshan Associates, Inc., New York, N.Y. Filed Nov. 16, 1964.

Mister Mayor

"Mister Mayor" is not the name of a living character.
For Title of an Entertainment Service for Children Rendered Through the Medium of Television Broadcast Programs, Featuring the Characterization of a Middle-Aged Small Town Man, His Office, the Town Park, an Honor System Zoo, and Various Human and Animal Characters Including a Substitute Statue.
First use May 1964.

SN 212,973. Cinderella Career & Finishing Schools, Inc., Washington, D.C. Filed Mar. 1, 1965.

MISS CINDERELLA BEAUTY PAGEANT

Applicant disclaims the words "Beauty Pageant" apart from the mark as shown.
For Promoting Education in Professional Modeling, Figure Control, Diction, Voice, Fashion Merchandising, Personal Finishing and Self Improvement Skills Through the Use of Contests.
First use Dec. 13, 1964.

SN 221,626. Outboard Marine Corporation, Waukegan, Ill. Filed June 21, 1965.

Certified BOAT INSTRUCTOR OMC

The wording "Certified Boat Instructor" is, for purposes of registration, disclaimed without any relinquishment of common law rights that applicant has in these words.
For Education and Training in Water Safety and Proper Boat Operation.
First use June 6, 1964.

SN 224,224. Massey-Ferguson Inc., Detroit, Mich. Filed July 26, 1965.

HOOKED

The drawing is lined for the color yellow.
For Entertainment and Educational Services in the nature of Conducting and Supervising Competitive Tournaments in the Operation of Excavating Machines for the Purpose of Improving, Testing, and Rating the Skill and Performance of Operators of Excavating Machinery.
First use Jan. 18, 1965.

CERTIFICATION MARKS

Class A — Goods

SN 224,741. Hercules Powder Company, Wilmington, Del. Filed Aug. 2, 1965.

The mark certifies that the carpet or carpeting on which it appears meets or exceeds quality and performance standards set by applicant for the use of the olefin fiber manufacture by applicant and contained in the carpet or carpeting bearing the mark.
For Carpets and Carpeting.
First use July 21, 1965.

TRADEMARK REGISTRATIONS ISSUED
PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

811,528. TEMPO. Albert Trostel & Sons Company. SN 181,812. Pub. 5–10–66. Filed 11–22–63.

811,529. CAREFREE. Irving Tanning Company. SN 196,787. Pub. 5–10–66. Filed 6–30–64.

811,530. MIOPAL. Compagnie Generale d'Electricite. SN 211,875. Pub. 5–10–66. Filed 2–12–65.

811,531. QUINTESS. Alamo Industries, Inc. SN 221,548. Pub. 5–10–66. Filed 6–21–65.

811,532. CARAVESS. Alamo Industries, Inc. SN 221,549. Pub. 5–10–66. Filed 6–21–65.

811,533. MERICULA. Alamo Industries, Inc. SN 221,550. Pub. 5–10–66. Filed 6–21–65.

811,534. SWAKARA. Gaynor & Company, Inc. SN 222,268. Pub. 5–10–66. Filed 6–29–65.

811,535. VELVAWASH. Archer-Daniels-Midland Company. SN 226,982. Pub. 5–10–66. Filed 9–2–65.

811,536. GRAPH PLAST. Archer-Daniels-Midland Company. SN 226,991. Pub. 5–10–66. Filed 9–2–65.

Class 2 — Receptacles

811,537. CELEBRITY. Celebrity, Inc. MULTIPLE CLASS (Classes 2, 3, 7, 8, 24, 29, 32, 37, 39, 40, 44, 50, 51, and 52). SN 177,963. Pub. 5–10–66. Filed 9–30–63.

811,538. HOT COLD AND DESIGN. Thermo-Plastics, Inc. SN 190,662. Pub. 5–10–66. Filed 4–8–64.

811,539. HANDY DANDY. Wickliffe Industries, Inc. SN 208,982. Pub. 5–10–66. Filed 12–28–64.

811,540. CITADEL. Brunswick Corporation. MULTIPLE CLASS (Classes 2, 21, and 32). SN 213,284. Pub. 5–10–66. Filed 3–4–65.

811,541. ZYCRON. Homeline Corporation. SN 217,893. Pub. 5–10–66. Filed 5–3–65.

811,542. GLAD. Union Carbide Corporation. SN 224,814. Pub. 5–10–66. Filed 8–2–65.

811,543. SAFEWAY. Safeway Stores, Incorporated. MULTIPLE CLASS (Classes 2, 10 35, and 46). SN 225,391. Pub. 5–10–66. Filed 8–10–65.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

811,537. (See Class 2 for this trademark.)

811,544. SHEEP'S HEAD WITHIN A CIRCLE (DESIGN). Buddy Schoellkopf Products, Inc. SN 204,034. Pub. 5–10–66. Filed 10–5–64.

Class 4 — Abrasives and Polishing Materials

811,545. PS (DESIGN). Pierce & Stevens Chemical Corp. SN 228,931. Pub. 5–10–66. Filed 9–29–65.

Class 5 — Adhesives

811,546. DEWEY AND ALMY. W. R. Grace & Co. SN 177,027. Pub. 5–10–66. Filed 9–16–63.

811,547. PASTEMASTER. Pastemaster, Inc. SN 196,801. Pub. 5–10–66. Filed 6–30–64.

Class 6 — Chemicals and Chemical Compositions

811,548. MYSTIK. Cato Oil and Grease Company. SN 171,966. Pub. 9–8–64. Filed 6–27–63.

811,549. MYSTIK. Cato Oil and Grease Company. SN 171,969. Pub. 9–8–64. Filed 6–27–63.

811,550. DEWEY AND ALMY. W. R. Grace & Co. SN 177,029. Pub. 5–10–66. Filed 9–16–63.

811,551. MAGI-DYES. Magid Research and Manufacturing Company, Inc. SN 186,871. Pub. 5–10–66. Filed 2–17–64.

811,552. KRYPTONATES. Parametrics, Inc. SN 193,493. Pub. 5–10–66. Filed 5–14–64.

811,553. OMITE. United States Rubber Company. SN 194,086. Pub. 5–10–66. Filed 5–22–64.

811,554. DSD–2. Apollo Chemical Corp. SN 197,457. Pub. 5–10–66. Filed 7–9–64.

811,555. ARAB AND DESIGN. Federal Chemical Co., Inc. SN 201,673. Pub. 5–10–66. Filed 9–11–64.

811,556. PELRON. Pelron Corporation. SN 202,102. Pub. 5–10–66. Filed 9–17–64.

811,557. BABBITT INSTITUTIONAL. B. T. Babbitt, Inc. MULTIPLE CLASS (Classes 6 and 52). SN 207,353. Pub. 5–10–66. Filed 12–3–64.

811,558. C.S.T. Chas. S. Tanner Company. SN 225,521. Pub. 5–10–66. Filed 8–11–65.

811,559. DE-FI. The Climalene Company. SN 225,929. Pub. 5–10–66. Filed 8–18–65.

811,560. PROXEL. Imperial Chemical Industries Limited. SN 226,744. Pub. 5–10–66. Filed 8–30–65.

811,561. VANAX. R. T. Vanderbilt Company, Inc. SN 228,581. Pub. 5–10–66. Filed 9–24–65.

811,562. VANOX. R. T. Vanderbilt Company, Inc. SN 228,582. Pub. 5–10–66. Filed 9–24–65.

811,563. ATOLENE. Dexter Chemical Corporation. SN 228,661. Pub. 5–10–66. Filed 9–27–65.

811,564. ACLARAT. Sandoz, Inc. SN 228,752. Pub. 5–10–66. Filed 9–27–65.

811,565. BDT. Sel-Rex Corporation. SN 228,753. Pub. 5–10–66. Filed 9–27–65.

Class 7 — Cordage

811,537. (See Class 2 for this trademark.)

Class 8 — Smokers' Articles, Not Including Tobacco Products

811,537. (See Class 2 for this trademark.)

811,566. INSTA-OUT. Rodney Berg. SN 189,256. Pub. 5–10–66. Filed 3–23–64.

811,567. MISCELLANEOUS DESIGN. Zaima Corporation of America. SN 192,449. Pub. 5–10–66. Filed 4–30–64.

811,568. EFKA-FIX. Efka-Werke Fritz Kiehn G.m.b.H. SN 220,050. Pub. 5–10–66. Filed 5–21–65.

Class 10 — Fertilizers

811,543. (See Class 2 for this trademark.)

811,569. LANGRO. Lanier Chemical Co. SN 223,894. Pub. 5–10–66. Filed 7–21–65.

Class 12 — Construction Materials

811,570. BLUE DOT AND DESIGN. Holland Plastics Company. SN 209,267. Pub. 5–10–66. Filed 1–4–65.

811,571. DEMICEL. Wilson Research Corp. SN 211,952. Pub. 5–10–66. Filed 2–12–65.

811,572. SQUARGRID. Wilson Research Corp. SN 211,953. Pub. 5–10–66. Filed 2–12–65.

811,573. MEADOWBROOK. Letarte Co., Inc. SN 215,515. Pub. 5–10–66. Filed 4–1–65.

811,574. ANHYDRO-SET AND DESIGN. Anhydro-Set Co., Inc. SN 215,932. Pub. 5–10–66. Filed 4–7–65.

811,575. MIRACLE-PLY. Miracle Plywood Corporation. SN 223,431. Pub. 5–10–66. Filed 7–15–65.

811,576. H.P. TERMINAL. The Bostwick Steel Lath Company. SN 224,506. Pub. 5–10–66. Filed 7–29–65.

811,577. GLUVIT. Travaco Laboratories, Inc. SN 224,813. Pub. 5–10–66. Filed 8–2–65.

811,578. VINYLFOLD. National Gypsum Company. SN 225,799. Pub. 5–10–66. Filed 8–16–65.

811,579. TEXTRAFACE. Pittsburgh Plate Glass Company. SN 226,860. Pub. 5–10–66. Filed 8–31–65.

811,580. ZIR-MAG. Valley Dolomite Corporation. SN 230,460. Pub. 5–10–66. Filed 10–18–65.

811,581. TRU-LAM. Boise Cascade Corporation. SN 230,506. Pub. 5–10–66. Filed 10–19–65.

811,582. RA-FAST. Raymond O. Schonewetter. SN 230,712. Pub. 5–10–66. Filed 10–20–65.

811,583. SONOCRETE PB. Sonneborn Building Products, Inc. SN 231,256. Pub. 5–10–66. Filed 10–22–65.

811,584. BUTAKAUK. Sonneborn Building Products, Inc. SN 231,257. Pub. 5–10–66. Filed 10–22–65.

811,585. SONOCRETE. Sonneborn Building Products, Inc. SN 231,260. Pub. 5–10–66. Filed 10–22–65.

811,586. VALLE. Valley Dolomite Corporation. SN 231,316. Pub. 5–10–66. Filed 10–22–65.

811,587. KAN-O-LITE. Marble Products Company of Georgia, d.b.a. Marble Products Company. SN 231,921. Pub. 5–10–66. Filed 11–1–65.

811,588. MOR-SHIELD AND DESIGN. Morgan Company. SN 231,922. Pub. 5–10–66. Filed 11–1–65.

811,589. SPRED CRETE. The Glidden Company. SN 232,547. Pub. 5–10–66. Filed 11–12–65.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

811,590. SPEE-DEE. Dalton Manufacturing Company. SN 210,750. Pub. 5–10–66. Filed 1–27–65.

811,591. A WITHIN DESIGN DIAMOND. Briggs Manufacturing Company. SN 214,831. Pub. 5–10–66. Filed 3–24–65.

811,592. COLOR-WEAVE. Southern California Pipe & Steel Co. SN 217,147. Pub. 5–10–66. Filed 4–22–65.

811,593. DIVERTROL. Symmons Engineering Company. SN 226,953. Pub. 5–10–66. Filed 9–1–65.

Class 14 — Metals and Metal Castings and Forgings

811,594. NMA. The International Nickel Company, Inc. SN 207,393. Pub. 5–10–66. Filed 12–3–64.

Class 15 — Oils and Greases

811,595. MYSTIK. Cato Oil and Grease Company. SN 171,967. Pub. 3–30–65. Filed 6–27–63.

811,596. DENMARK AND DESIGN. Gematex-Audell, Inc. SN 198,038. Pub. 5–10–66. Filed 7–17–64.

811,597. SHALER. The Shaler Company. MULTIPLE CLASS (Classes 15 and 35). SN 215,824. Pub. 5–10–66. Filed 4–6–65.

811,598. END STIC. Augsburg Haus, Ltd. SN 224,146. Pub. 5–10–66. Filed 7–26–65.

811,599. LUBE-IT. Signal Chemical Manufacturing Co., Inc. SN 224,975. Pub. 5–10–66. Filed 8–4–65.

Class 16 — Protective and Decorative Coatings

811,600. STAINLESS STEELSAVER. Continental Coatings Corporation. SN 195,066. Pub. 5–3–66. Filed 6–8–64.

811,601. ACRYLURE. The Glidden Company. SN 204,788. Pub. 5–10–66. Filed 10–26–64.

811,602. BRI-TOP. Talsol Corp. SN 212,258. Pub. 5–10–66. Filed 2–17–65.

811,603. DAMPBOND. The Farboil Company. SN 212,299. Pub. 5–10–66. Filed 2–18–65.

811,604. PEDMALIN. Pedma Chemical Products Corporation. SN 212,900. Pub. 5–10–66. Filed 2–26–65.

811,605. DALBON. Diamond Alkali Company. SN 216,277. Pub. 5–10–66. Filed 4–12–65.

811,606. TREASURE JEWELS. Connoisseur Studio, Inc. SN 218,394. Pub. 5–10–66. Filed 5–10–65.

811,607. LADY FINGER PAINT. Connoisseur Studio, Inc. SN 218,395. Pub. 5–10–66. Filed 5–10–65.

811,608. CERANO. John Taylor Fertilizers Co. SN 221,533. Pub. 5–10–66. Filed 6–18–65.

811,609. SEAL 'N SOUND. Kendall Refining Company. SN 228,699. Pub. 5–10–66. Filed 9–27–65.

811,610. PS DESIGN. Pierce & Stevens Chemical Corp. SN 228,933. Pub. 5–10–66. Filed 9–29–65.

Class 17 — Tobacco Products

811,611. FLOR DE A. ALLONES. The Antonio Company. SN 195,916. Pub. 5–10–66. Filed 6–18–64.

811,612. ARMIRO. Oy Strengberg AB. SN 210,038. Pub. 5–10–66. Filed 1–15–65.

811,613. GATEWAY AND DESIGN. John Richard Dengler. SN 216,576. Pub. 5–10–66. Filed 4–15–65.

811,614. DEMI TASSE. American Cigar Corporation. SN 226,704. Pub. 5–10–66. Filed 8–30–65.

Class 18 — Medicines and Pharmaceutical Preparations

811,615. WHINNIES. John D. Case D.V.M., d.b.a. Case Laboratories. SN 195,281. Pub. 5–10–66. Filed 6–10–64.

811,616. WILLIAMS' ANTI-PAHN OINTMENT. Standard Medical Company. SN 207,440. Pub. 5–10–66. Filed 12–3–64.

811,617. COGEN-V. Curts Laboratories, Inc. SN 219,689. Pub. 5–10–66. Filed 5–25–65.

811,618. ALGIVANT. Colab Laboratories, Inc. SN 224,935. Pub. 5–10–66. Filed 8–4–65.

811,619. AVOMINE. May & Baker Limited. SN 226,364. Pub. 5–10–66. Filed 8–24–65.

811,620. OPTICORTENOL. Ciba Limited. SN 226,825. Pub. 5–10–66. Filed 8–31–65.

811,621. ANUSOL-HC. Warner-Lambert Pharmaceutical Company. SN 228,091. Pub. 5–10–66. Filed 9–17–65.

Class 19—Vehicles

811,622. KING (DESIGN). Thermo King Corporation. MULTIPLE CLASS (Classes 19 and 31). SN 208,642. Pub. 5–10–66. Filed 12–21–64.

Class 20—Linoleum and Oiled Cloth

811,623. TEXGOLD. The Flintkote Company. SN 231,090. Pub. 5–10–66. Filed 10–22–65.

811,624. DURACREST AND DESIGN. Metro Wholesale Corp., assignee of The May Department Stores Company. MULTIPLE CLASS (Classes 21 and 44). SN 194,632. Pub. 12–21–65. Filed 6–1–64.

Class 21—Electrical Apparatus, Machines, and Supplies

811,540. (See Class 2 for this trademark.)

811,625. EISEMANN AND DESIGN. 9585 Collins Avenue Corp. SN 198,925. Pub. 5–10–66. Filed 7–31–64.

811,626. THERMOSONIC. Axion Corporation. SN 210,733. Pub. 5–10–66. Filed 1–27–64.

811,627. CYBER-LARM. Notifier Corporation. SN 210,974. Pub. 5–10–66. Filed 1–29–65.

811,628. FLIPPER. Westinghouse Electric Corporation. SN 217,231. Pub. 5–10–66. Filed 4–23–65.

811,629. DECOR-BOOSTER. Stanley A. Cohen, d.b.a. Decor-Boost Co. SN 221,015. Pub. 5–10–66. Filed 6–14–65.

811,630. STEPCON. Barton Instrument Corporation. SN 221,148. Pub. 5–10–66. Filed 6–15–65.

811,631. PRINCETTE. Tensor Corporation. SN 221,964. Pub. 5–10–66. Filed 6–24–65.

811,632. PLAXIAL. United-Carr Incorporated. SN 222,083. Pub. 5–10–66. Filed 6–25–65.

811,633. DECALUME. Wakefield Corporation. SN 222,317. Pub. 5–10–66. Filed 6–29–65.

811,634. DURA-DISC. Dura Corporation. SN 223,544. Pub. 5–10–66. Filed 7–16–65.

811,635. PATHMAKER. The Fyr-Fyter Company. SN 229,085. Pub. 5–10–66. Filed 10–1–65.

Class 22—Games, Toys, and Sporting Goods

811,636. GOLD NUGGET AND DESIGN. Edward J. Klein. SN 190,937. Pub. 5–10–66. Filed 4–13–64.

811,637. GOLFERS' PERFECT PUTT AND DESIGN. Joseph Niamtu, Jr., d.b.a. Golfers' Perfect Putt. SN 192,843. Pub. 5–10–66. Filed 5–6–64.

811,638. COAST-A-WAY. Blazon, Inc. SN 194,570. Pub. 5–10–66. Filed 6–1–64.

811,639. SHEEP'S HEAD IN A CIRCLE (DESIGN). Buddy Schoellkopf Products Inc. SN 203,431. Pub. 5–10–66. Filed 10–6–64.

811,640. FLIPFROG. Calvin R. Sills. SN 204,012. Pub. 5–10–66. Filed 10–14–64.

811,641. LADY SOVEREIGN. Ben Pearson, Inc. SN 204,085. Pub. 5–10–66. Filed 10–15–64.

811,642. REGENT AND DESIGN. Regent Sports Company. SN 208,110. Pub. 5–10–66. Filed 12–14–64.

811,643. AUBURN TOYS ETC. AND DESIGN. Auburn Rubber Company, Inc. SN 209,984. Pub. 5–10–66. Filed 1–15–65.

811,644. NO STOOP. Baugh Specialty Co. SN 212,488. Pub. 5–10–66. Filed 2–23–65.

811,645. W AND DESIGN. Wittek Golf Range Supply Co., Inc. SN 220,614. Pub. 5–10–66. Filed 6–7–65.

811,646. POWER GLASS. Arnold Brilhart. SN 220,632. Pub. 5–10–66. Filed 6–8–65.

811,647. HOOK-TROL. Raybestos-Manhattan, Inc. SN 220,688. Pub. 5–10–66. Filed 6–8–65.

811,648. TROUBLE. Kohner Bros., Inc. SN 222,586. Pub. 5–10–66. Filed 7–2–65.

811,649. WHERE'S WILLIE? Milton Bradley Company. SN 223,279. Pub. 5–10–66. Filed 7–14–65.

811,650. SUPER BALL. Wham-O Manufacturing Company. SN 223,608. Pub. 5–10–66. Filed 7–16–65.

811,651. SMITTY'S BLASTER AND DESIGN. Universal Bleacher Company. SN 223,752. Pub. 5–10–66. Filed 7–19–65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

811,652. NORITAKE. Nippon Toki Kabushiki Kaisha. SN 199,593. Pub. 5–10–66. Filed 8–10–64.

811,653. SIMONDS AND DESIGN. Simonds Saw and Steel Company. SN 204,013. Pub. 5–10–66. Filed 10–14–64.

811,654. HYDRODYNE ETC. AND DESIGN. Hydrodyne Industries, Inc. SN 205,180. Pub. 5–10–66. Filed 10–30–64.

811,655. LOWELL RATCHET DEVICES AND DESIGN. Lowell Wrench Company. SN 205,434. Pub. 5–10–66. Filed 11–3–64.

811,656. BANTAM AND DESIGN. Koehring Company. SN 209,442. Pub. 5–10–66. Filed 1–6–65.

811,657. FEED AND DESIGN. Big Dutchman, Inc. SN 211,696. Pub. 5–10–66. Filed 2–10–65.

811,658. WAVE ROSE. Gorham Corporation. SN 212,002. Pub. 5–10–66. Filed 2–15–65.

811,659. P AND DESIGN. Precision Universal Joint Corporation. SN 213,478. Pub. 5–10–66. Filed 3–5–65.

811,660. PLANT AIR PACKAGE. Carrier Corporation. SN 216,798. Pub. 5–10–66. Filed 4–19–65.

811,661. PIVOT. Jeffrey Galion Manufacturing Company. SN 217,740. Pub. 5–10–66. Filed 4–30–65.

811,662. SAPPHIRE. Arrow Profile Co. SN 218,374. Pub. 5–10–66. Filed 5–10–65.

811,663. TEXTHANE. J. E. Rhoads & Sons, Inc., assignee of J. E. Rhoads & Sons. SN 222,202. Pub. 5–10–66. Filed 6–28–65.

811,664. BEECOLITE. Beemer Engineering Company. SN 222,649. Pub. 5–10–66. Filed 7–6–65.

811,665. CENTRI-BLAST. Centri-Spray Corporation. SN 222,822. Pub. 5–10–66. Filed 7–7–65.

811,666. DPI AND DESIGN. Dan Polos Industries, Inc. SN 224,021. Pub. 5–10–66. Filed 7–22–65.

811,667. DOZER. Applied Power Industries, Inc. SN 224,059. Pub. 5–10–66. Filed 7–23–65.

811,668. THREADIT. Vermont American Corporation. SN 224,479. Pub. 5–10–66. Filed 7–28–65.

811,669. THREADIT AND DESIGN. Vermont American Corporation. SN 224,480. Pub. 5–10–66. Filed 7–28–65.

811,670. RAIL RUNNER. Aircraft Armaments, Inc. SN 224,497. Pub. 5–10–66. Filed 7–29–65.

811,671. WONDER. Magna Wonder Knife Inc. SN 225,171. Pub. 5–10–66. Filed 8–6–65.

811,672. ADAMS-VEYOR. Adamation, Inc. SN 225,460. Pub. 5–10–66. Filed 8–11–65.

811,673. GUIDE LINE AND DESIGN. Micromatic Hone Corporation. SN 225,982. Pub. 5–10–66. Filed 8–18–65.

811,674. GUIDELINE. Micromatic Hone Corporation. SN 225,984. Pub. 5–10–66. Filed 8–18–65.

811,675. AUTO-GLIDE. Chainbelt Inc. SN 226,068. Pub. 5–10–66. Filed 8–19–65.

811,676. ASAHI. Asahi Seiko Company Limited. SN 226,889. Pub. 5–10–66. Filed 9–1–65.

811,677. SUNBEAM. Sunbeam Corporation. SN 227,189. Pub. 5–10–66. Filed 9–3–65.

811,678. PROTECTING THE NEW IN YOUR PNEUMATICS AND DESIGN. Wilkerson Corporation. SN 227,197. Pub. 5–10–66. Filed 9–3–65.

811,679. MANGER-MATIC. Van Dusen & Co., Inc. SN 227,894. Pub. 5–10–66. Filed 9–15–65.

811,680. JOHNSON AND DESIGN. Johnson Manufacturing Company. SN 227,947. Pub. 5–10–66. Filed 9–16–65.

811,681. CHOKE-A-MATIC. Briggs & Stratton Corporation. SN 228,126. Pub. 5–10–66. Filed 9–20–65.

811,682. LADY EVERSHARP. Eversharp, Inc. SN 228,351. Pub. 5–10–66. Filed 9–22–65.

811,683. DYNA-RING. Pendleton Tool Industries, Inc. SN 228,390. Pub. 5–10–66. Filed 9–22–65.

811,684. ZIP. Stamp Dispensers, Inc. SN 228,413. Pub. 5–10–66. Filed 9–22–65.

811,685. QUIK-LINE. Link-Belt Company. SN 228,468. Pub. 5–10–66. Filed 9–23–65.

811,686. STABI-LEV. Watt B. Bair, d.b.a. Bair Automotive. SN 230,025. Pub. 5–10–66. Filed 10–13–65.

811,687. GILBARCO. Gilbert & Barker Manufacturing Company. SN 238,590. Pub. 5–10–66. Filed 2–11–66.

Class 24—Laundry Appliances and Machines

811,537. (See Class 2 for this trademark.)

Class 26—Measuring and Scientific Appliances

811,688. THE DECKER CORPORATION AND DESIGN. The Decker Corporation. SN 177,338. Pub. 5–10–66. Filed 9–19–63.

811,689. MAGNA-STICK. Roylyn Incorporated SN 201,876. Pub. 5–10–66. Filed 9–14–64.

811,690. CAVALIER AUTOREX. Willo-Peer Corp. SN 213,505. Pub. 5–10–66. Filed 3–5–65.

811,691. NR. Nelson-Ross Electronics Inc. SN 229,446. Pub. 5–10–66. Filed 10–6–65.

811,692. HYDRO-MASTER. Merrill J. Foster, d.b.a. Marine Instrument Co. SN 229,512. Pub. 5–10–66. Filed 10–7–65.

811,693. GILBARCO. Gilbert & Barker Manufacturing Company SN 238,591. Pub. 5–10–66. Filed 2–11–66.

Class 28—Jewelry and Precious-Metal Ware

811,694. DENISE FIFTH AVE. Denise Jewelry Company, Incorporated. SN 216,939. Pub. 5–10–66. Filed 4–20–65.

Class 29—Brooms, Brushes, and Dusters

811,537. (See Class 2 for this trademark.)

Class 31—Filters and Refrigerators

811,622. (See Class 19 for this trademark.)

811,695. PLY-PLATE. Louis G. Winterstein. SN 172,352. Pub. 5–10–66. Filed 7–2–63.

811,696. HCT. The Marley Company. SN 206,051. Pub. 5–10–66. Filed 11–12–64.

811,697. SPIRO-FLEX ETC. AND DESIGN. Frick Company. SN 206,156. Pub. 5–10–66. Filed 11–13–64.

Class 32—Furniture and Upholstery

811,537. (See Class 2 for this trademark.)

811,540. (See Class 2 for this trademark.)

811,698. AI (DESIGN). Affiliated Industries, Inc. SN 215,683. Pub. 5–10–66. Filed 4–5–65.

811,699. BEL AIR. Red Wing Wood Products, Inc. SN 216,202. Pub. 5–10–66. Filed 4–9–65.

811,700. FLEXA-LOK. Flexa Steel Products, Inc. SN 217,025. Pub. 5–10–66. Filed 4–21–65.

811,701. CLASSIC. Clopay Corporation. SN 217,087. Pub. 5–10–66. Filed 4–22–65.

811,702. STROMBERG. General Time Corporation. SN 219,870. Pub. 5–10–66. Filed 5–27–65.

811,703. FABRISAN. Simmons Company. SN 222,216. Pub. 5–10–66. Filed 6–28–65.

Class 33—Glassware

811,704. STYLIZED FF AND DESIGN. Foster-Forbes Glass Company. SN 207,587. Pub. 5–10–66. Filed 12–7–64.

Class 34—Heating, Lighting, and Ventilating Apparatus

811,705. HEAT-O-COIL. Arcos Corporation. SN 189,854. Pub. 5–10–66. Filed 3–30–64.

811,706. SPATTEROFF. American Can Company. SN 198,114. Pub. 5–10–66. Filed 7–17–64.

811,707. CYCLO-MITE AND DESIGN. Towery Industries Corp. SN 217,419. Pub. 5–10–66. Filed 4–26–65.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

811,543. (See Class 2 for this trademark.)

811,597. (See Class 15 for this trademark.)

811,708. WINTER CLEAT. The General Tire & Rubber Company. SN 198,548. Pub. 5–10–66. Filed 7–27–64.

811,709. URELAD. Marmon-Herrington Company, Inc. SN 223,691. Pub. 5–10–66. Filed 7–19–65.

811,710. RAWHIDE. The Goodyear Tire & Rubber Company. SN 225,142. Pub. 5–10–66. Filed 8–6–65.

811,711. WRANGLER. The Goodyear Tire & Rubber Company. SN 225,143. Pub. 5–10–66. Filed 8–6–65.

Class 36—Musical Instruments and Supplies

811,712. REGAL TIP AND DESIGN. Joseph D. Calato, d.b.a. J. D. Calato Mfg. Co. SN 220,457. Pub. 5–10–66. Filed 6–7–65.

Class 37 — Paper and Stationery

811,537. (See Class 2 for this trademark.)

811,713. KC DESIGN. Keith Clark, Inc. SN 196,966. Pub. 5–10–66. Filed 7–2–64.

811,714. K-CEY ETC. AND DESIGN. Keith Clark, Inc. SN 196,967. Pub. 5–10–66. Filed 7–2–64.

811,715. EASY LIFE. National Tea Co. SN 198,203. Pub. 5–10–66. Filed 7–20–64.

811,716. MINIM. The Parker Pen Company. SN 211,836. Pub. 5–10–66. Filed 2–11–65.

811,717. TWIN-O-MATIC. Lew Mfg. Co. SN 219,212. Pub. 5–10–66. Filed 5–19–65.

Class 38 — Prints and Publications

811,718. PANTONE. Pantone, Incorporated. SN 172,089. Pub. 5–10–66. Filed 6–28–63.

811,719. TEXTILES PANAMERICANOS. W. R. C. Smith Publishing Company. SN 213,614. Pub. 5–10–66. Filed 3–8–65.

811,720. SNEAKERS. The Hearst Corporation. SN 224,193. Pub. 5–10–66. Filed 7–26–65.

811,721. ORANGE COUNTY SUN. Orange County Sun, Inc. SN 226,162. Pub. 5–10–66. Filed 8–20–65.

811,722. TEKFAX. Ojibway Press, Inc. SN 226,857. Pub. 5–10–66. Filed 8–31–65.

811,723. THE SHOPPER'S ROAD AND DESIGN. Thomas Carvel. SN 226,898. Pub. 5–10–66. Filed 9–1–65.

811,724. DETECTOGRAMS. Justin N. Kirk, d.b.a. The Kirk Syndicate. SN 227,685. Pub. 5–10–66. Filed 9–13–65.

Class 39 — Clothing

811,537. (See Class 2 for this trademark.)

811,725. GOODYEAR DELUXE BY WEATHERITE. Weatherite Sportswear Co., Inc. SN 172,411. Pub. 5–12–64. Filed 7–3–63.

811,726. BARBARA LEE PASSPORT COLLECTION. Aimcee Wholesale Corporation. SN 208,220. Pub. 5–10–66. Filed 12–16–64.

811,727. D'AZUR. House of D'Azur, Inc., assignee of Topco Associates, Inc. SN 212,463. Pub. 5–10–66. Filed 2–19–65.

811,728. HAND SHAPED BY GROSHIRE AND DESIGN. Grossman Clothing Co., Inc. SN 218,292. Pub. 5–10–66. Filed 5–7–65.

811,729. MR. THOMSON. Thomson Company. SN 221,764. Pub. 5–10–66. Filed 6–22–65.

811,730. LORD ENGLISH AND DESIGN OF MAN. Ripley Manufacturing Corp. SN 222,296. Pub. 5–10–66. Filed 6–29–65.

811,731. BELLE DIAMOND. Chadbourn Gotham, Inc. SN 222,548. Pub. 5–10–66. Filed 7–2–65.

811,732. HONCHO'S. Huth-James Shoe, Inc. SN 222,941. Pub. 5–10–66. Filed 7–8–65.

811,733. POP OPS AND DESIGN. National Shoes, Inc. SN 223,706. Pub. 5–10–66. Filed 7–19–65.

811,734. SHEER MUSIC. Maidenform, Inc. SN 223,808. Pub. 5–10–66. Filed 7–20–65.

811,735. NEWCREST. J. J. Newberry Co. SN 224,873. Pub. 5–10–66. Filed 8–3–65.

811,736. SEA LARK. Sea B's, Inc. SN 224,969. Pub. 5–10–66. Filed 8–4–65.

811,737. SEA SURF. Marlboro Shirt Company, Inc. SN 225,043. Pub. 5–10–66. Filed 8–5–65.

811,738. SYLKTALIA. Haspel Brothers, Inc. SN 225,556. Pub. 5–10–66. Filed 8–12–65.

811,739. SOLANO. Haspel Brothers, Inc. SN 225,558. Pub. 5–10–66. Filed 8–12–65.

811,740. GARTER SNAKE. Vanity Fair Mills, Inc. SN 225,620. Pub. 5–10–66. Filed 8–12–65.

811,741. SIDE KICK. Vanity Fair Mills, Inc. SN 225,688. Pub. 5–10–66. Filed 8–13–65.

811,742. EXPRESSO'S. Seymour Shoes, Inc. SN 225,819. Pub. 5–10–66. Filed 8–16–65.

811,743. PEGGY BARKER. Riegel & Dechter, Inc. SN 225,997. Pub. 5–10–66. Filed 8–18–65.

811,744. MODURNLINE. House of Nations, Ltd. SN 226,641. Pub. 5–10–66. Filed 8–27–65.

811,745. Q 80 PLUS. Quabaug Rubber Company. SN 226,785. Pub. 5–10–66. Filed 8–30–65.

811,746. HYGISAN. Albert Muller, d.b.a. Albert Muller Gummiwarenfabrik. SN 226,932. Pub. 5–10–66. Filed 9–1–65.

811,747. MINI-MAGIC AND DESIGN. Chadbourn Gotham, Inc. SN 227,004. Pub. 5–10–66. Filed 9–2–65.

811,748. UPHOLSTERED. Melville Shoe Corporation. SN 227,312. Pub. 5–10–66. Filed 9–7–65.

811,749. NITE TIME. Sullcraft Manufacturing Company. SN 227,356. Pub. 5–10–66. Filed 9–7–65.

811,750. SKOOT. Gregg Draddy, Inc. SN 227,487. Pub. 5–10–66. Filed 9–9–65.

811,751. TIZZIE. Gregg Draddy, Inc. SN 227,488. Pub. 5–10–66. Filed 9–9–65.

811,752. KNICK-A-BOUTS. Jaymar-Ruby, Inc. SN 227,505. Pub. 5–10–66. Filed 9–9–65.

811,753. ISL. Israeli Slacks, Ltd. SN 227,761. Pub. 5–10–66. Filed 9–14–65.

811,754. EASY TOUCH. Maidenform, Inc. SN 228,054. Pub. 5–10–66. Filed 9–17–65.

811,755. ANGEL CASUALS. R. G. Barry Corporation. SN 228,116. Pub. 5–10–66. Filed 9–20–65.

811,756. ROSANNA. Rosanna Knitted Sportswear, Inc. SN 228,839. Pub. 5–10–66. Filed 9–28–65.

811,757. ELIZABETH HOPKINS. Adelaar Bros., Inc. SN 228,869. Pub. 5–10–66. Filed 9–29–65.

Class 40 — Fancy Goods, Furnishings, and Notions

811,537. (See Class 2 for this trademark.)

811,758. TRESS AND DESIGN. Foster Grant Co., Inc. SN 201,116. Pub. 5–10–66. Filed 9–2–64.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

811,759. RED E FIT AND DESIGN. Ready Covers Manufacturing Company, Inc. SN 165,705. Pub. 5–10–66. Filed 3–29–63.

811,760. FYBREL. United Merchants and Manufacturers, Inc. SN 194,442. Pub. 5–10–66. Filed 5–27–64.

811,761. CARIBETTE. Troy Mills Incorporated. SN 211,787. Pub. 5–10–66. Filed 1–27–65.

811,762. STERLINGWALE. Sterling Pile Fabrics Corporation. SN 214,296. Pub. 5–10–66. Filed 3–16–65.

811,763. WAYNE WEAVERS. Wayne Weavers Mills, Inc. SN 216,222. Pub. 5-10-66. Filed 4–9–65.

811,764. HIGH POINT. Westwood Textile Manufacturing, Inc. SN 218,040. Pub. 5–10–66. Filed 5–4–65.

811,765. PRIME-BAK. Ludlow Corporation. SN 226,452. Pub. 5–10–66. Filed 8–25–65.

811,766. THE SPIRITED KNITS. Edmos Products Corp. SN 227,269. Pub. 5–10–66. Filed 9–7–65.

811,767. SHAM-LAM. J. P. Stevens & Co., Inc. SN 231,951. Pub. 5–10–66. Filed 11–1–65.

Class 43 — Thread and Yarn

811,768. ANIMAL (DESIGN). The Doagh Spinning Company Limited. SN 213,211. Pub. 5–10–66. Filed 3–3–65.

811,769. SUNBEAM. Sunbeam Wolsey Limited. SN 215,284. Pub. 5–10–66. Filed 3–29–65.

811,770. DIXIE YARNS AND DESIGN. Dixie Yarns, Inc. SN 215,843. Pub. 5–10–66. Filed 4–6–65.

Class 44 — Dental, Medical, and Surgical Appliances

811,537. (See Class 2 for this trademark.)

811,624. (See Class 21 for this trademark.)

811,771. MARK 9. Bird Corporation. SN 220,831. Pub. 5–10–66. Filed 6–10–65.

811,772. THOROVAC. H. W. Andersen Products, Inc. SN 223,946. Pub. 5–10–66. Filed 7–22–65.

811,773. BURDICK. The Burdick Corporation. SN 227,921. Pub. 5–10–66. Filed 9–16–65.

811,774. SMELOFF. Cutter Laboratories, Inc. SN 228,138. Pub. 5–10–66. Filed 9–20–65.

811,775. TROPIC-AIR. Pennsylvania Optical Company. SN 228,834. Pub. 5–10–66. Filed 9–28–65.

811,776. ALL-STAR. George Frost Company. SN 229,229. Pub. 5–10–66. Filed 10–4–65.

811,777. COREN. Hastings Corporation. SN 229,244. Pub. 5–10–66. Filed 10–4–65.

811,778. WHALEDENT AND DESIGN. Whaledent, Inc. SN 229,320. Pub. 5–10–66. Filed 10–4–65.

811,779. MICRODON. Minnesota Mining and Manufacturing Company. SN 229,445. Pub. 5–10–66. Filed 10–6–65.

811,780. HORMOBANK. Syntex Laboratories, Inc. SN 229,621. Pub. 5–10–66. Filed 10–7–65.

811,781. MAPCO. Master Air Products Company. SN 229,834. Pub. 5–10–66. Filed 10–11–65.

811,782. OMNIFIL. Mo-Dent Ltd. SN 229,916. Pub. 5–10–66. Filed 10–7–65.

Class 45 — Soft Drinks and Carbonated Waters

811,783. CLOUD. Whittle & Mutch, Inc. SN 189,517. Pub. 5–10–66. Filed 3–24–64.

811,784. BLUE BOY. Curtice-Burns, Inc. SN 190,898. Pub. 5–10–66. Filed 4–13–64.

811,785. CHINESE CHERRY. The Pillsbury Company. SN 196,295. Pub. 5–10–66. Filed 6–23–64.

811,786. "SKINNY MINNY." Sunaid Food Products, Inc. MULTIPLE CLASS (Classes 45 and 46). SN 218,035. Pub. 5–10–66. Filed 5–4–65.

811,787. MIRINDA. PepsiCo, Inc. SN 225,505. Pub. 5–10–66. Filed 8–11–65.

Class 46 — Foods and Ingredients of Foods

811,543. (See Class 2 for this trademark.)

811,786. (See Class 45 for this trademark.)

811,788. BRACH'S GOBLIN APPROVED. E. J. Brach & Sons. SN 168,277. Pub. 5–10–66. Filed 5–7–63.

811,789. MRS BELL'S. Atlantic Preserving Company, Inc. SN 171,075. Pub. 5–10–66. Filed 6–17–63.

811,790. ALBERS A AND DESIGN. Carnation Company, d.b.a. Albers Milling Company. SN 171,613. Pub. 5–10–66. Filed 6–24–63.

811,791. MELITA. McVitie & Price Limited. SN 187,028. Pub. 5–10–66. Filed 2–19–64.

811,792. BUCK ROCK AND DESIGN. T. Apkarian & Sons, d.b.a. T. Apkarian & Sons, Inc. SN 187,813. Pub. 5–10–66. Filed 3–2–64.

811,793. CRIBB. Troy H. Cribb & Sons, Inc. SN 189,152. Pub. 5–10–66. Filed 3–20–64.

811,794. WILBUR. Wilbur Chocolate Co., by change of name and assignment of Wilbur Chocolate Company. SN 190,565. Pub. 5–10–66. Filed 4–7–64.

811,795. YOUNG'S Y AND DESIGN. Young's Market Company. SN 191,974. Pub. 5–10–66. Filed 4–24–64.

811,796. YOUNG'S SUPREME AND DESIGN. Young's Market Company. SN 191,975. Pub. 5–10–66. Filed 4–24–64.

811,797. BEVERLY FARMS. Beverly Farms, Inc. SN 192,120. Pub. 5–10–66. Filed 4–27–64.

811,798. TAMMY TREE AND DESIGN. Tree Pickle Company, Inc. SN 193,064. Pub. 5–10–66. Filed 5–8–64.

811,799. KJELDSENS AND SHIELD DESIGN. Kjeldsen & Co. SN 199,576. Pub. 5–10–66. Filed 8–10–64.

811,800. KJELDSENS AND BOW DESIGN. Kjeldsen & Co. SN 199,577. Pub. 5–10–66. Filed 8–10–64.

811,801. MR. FUDGE. Fountain Fresh, Inc. SN 199,815. Pub. 5–10–66. Filed 8–13–64.

811,802. INTERNATIONAL FRUIT - OF - THE - MONTH CLUB. Harry and David. SN 201,424. Pub. 5–10–66. Filed 9–8–64.

811,803. HAIN. Hain Pure Food Company, Inc. SN 202,687. Pub. 5–10–66. Filed 9–25–64.

811,804. FITZSIMMONS. Jeannie B. Fitzsimmons, d.b.a. Howind Fitzsimmons. SN 202,993. Pub. 5–10–66. Filed 9–30–64.

811,805. OXFORD CREME. The Quaker Oats Company. SN 203,530. Pub. 5–10–66. Filed 10–7–64.

811,806. ROUNDY'S. Roundy's, Inc. SN 204,509. Pub. 5–10–66. Filed 10–21–64.

811,807. "THE COFFEE YOU'D DRINK IF YOU OWNED ALL THE COFFEE IN THE WORLD." The Coca-Cola Company, d.b.a. Duncan Foods Co. SN 205,395. Pub. 5–10–66. Filed 11–3–64.

811,808. CRYSTAL. Hunt Foods and Industries, Inc., d.b.a. Hunt-Wesson Sales Co. SN 210,561. Pub. 5–10–66. Filed 1–25–65.

811,809. DUNCAN'S CLUB ETC. AND DESIGN. The Coca-Cola Company, d.b.a. Duncan Foods Co. SN 211,041. Pub. 5–10–66. Filed 2–1–65.

811,810. HUGGINS GOURMET TASTES LIKE THE "MOCHA-JAVA" OF OLD BRAND AND DESIGN. The Coca-Cola Company, d.b.a. Duncan Foods Co. and Huggins Young Coffee Company. SN 211,715. Pub. 5–10–66. Filed 2–10–65.

811,811. CREME-O-'S. Farm Crest Bakeries, Inc., by merger and change of name from Jersey Farm Baking Company. SN 212,325. Pub. 5–10–66. Filed 2–18–65.

811,812. POW WOW PUFFS. Popped-Right Corn Company. SN 213,042. Pub. 5–10–66. Filed 3–1–65.

811,813. CHOC-LOW. Charles Killgore Company, Inc. SN 219,583. Pub. 5–10–66. Filed 5–24–65.

811,814. VICTORY. Sullivan Packing Company. SN 220,170. Pub. 5–10–66. Filed 6–1–65.

811,815. SCANDIC. A. V. Olsson Trading Co., Inc. SN 220,228. Pub. 5–10–66. Filed 6–2–65.

811,816. BLUE STAR AND DESIGN. Blue Star Foods, Inc. SN 220,453. Pub. 5–10–66. Filed 6–7–65.

811,817. WEE-CAL. American Sugar Company. SN 221,686. Pub. 5–10–66. Filed 6–22–65.

811,818. CARUSO AND DESIGN. Caruso Products Distributing Corporation. SN 221,894. Pub. 5–10–66. Filed 6–24–65.

811,819. PAL ENERGY+ AND DESIGN. Sessions Company, Inc. SN 222,212. Pub. 5–10–66. Filed 6–28–65.

811,820. SWANKY FRANK AND DESIGN. Swanky Frank, Inc. SN 224,475. Pub. 5–10–66. Filed 7–28–65.

811,821. SHENANDOAH FARMS. Schmidt Baking Co., Inc. SN 224,798. Pub. 5–10–66. Filed 8–2–65.

811,822. POLYNESIAN. Allied Old English, Inc. SN 225,914. Pub. 5–10–66. Filed 8–18–65.

811,823. COMPLEAT. The Dietene Company, d.b.a. The Delmark Company. SN 226,630. Pub. 5–10–66. Filed 8–27–65.

Class 47 — Wines

811,824. FRESCO BALDI. Fontana-Hollywood Corporation. SN 174,950. Pub. 5–3–66. Filed 8–13–63.

811,825. ORFEVI AND DESIGN. Federazione Italiana dei Consorzi Agrari. SN 191,271. Pub. 5–10–66. Filed 4–16–64.

811,826. ORFEVI AND DESIGN. Federazione Italiana dei Consorzi Agrari. SN 191,272. Pub. 5–10–66. Filed 4–16–64.

811,827. CHATEAU LAMONT. E. & J. Gallo Winery, d.b.a. Gallo Vineyards. SN 222,688. Pub. 5–10–66. Filed 7–6–65.

811,828. FIGURE OF A MAN AND DESIGN. John Bardenheier Wine & Liquor Co., d.b.a. Bardenheier's Wine Cellars. SN 225,265. Pub. 5–10–66. Filed 8–9–65.

Class 49 — Distilled Alcoholic Liquors

811,829. HIGHLANDER AND LORD. Sidney H. Cohen, d.b.a. Highlander & Lord Company. SN 206,823. Pub. 5–10–66. Filed 11–24–64.

811,830. BENGAL. Joseph E. Seagram & Sons, Inc. SN 219,915. Pub. 5–10–66. Filed 5–27–65.

Class 50 — Merchandise Not Otherwise Classified

811,537. (See Class 2 for this trademark.)

Class 51 — Cosmetics and Toilet Preparations

811,537. (See Class 2 for this trademark.)

811,831. MEDICAMENTA PD VERA. Parke, Davis & Company. SN 162,973. Pub. 5–10–66. Filed 2–18–63.

811,832. PATTY-LYNN. National Laboratories, Inc. SN 198,200. Pub. 5–10–66. Filed 7–20–64.

811,833. FABU LOK. Dusharme Products, Inc. SN 206,016. Pub. 5–10–66. Filed 11–12–64.

811,834. BEAUTY BEADS. Germaine Monteil Cosmetiques Corp. SN 207,206. Pub. 5–10–66. Filed 12–1–64.

811,835. DRI SET. Vienna Beauty Products Company. SN 209,560. Pub. 5–10–66. Filed 1–7–65.

811,836. FRENZY. Goya Limited. SN 211,164. Pub. 5–10–66. Filed 2–2–65.

811,837. CELEBRITY LOOK. Sea & Ski Corporation, assignee of Botany Industries, Inc., d.b.a. Sea & Ski Company. SN 212,638. Pub. 5–10–66. Filed 2–24–65.

811,838. THAT'S MY COLOR! Tecnique, Inc. SN 221,535. Pub. 5–10–66. Filed 6–18–65.

811,839. VOGUE HOUSE 2 DROP. Mark Allen Co. SN 222,800. Pub. 5–10–66. Filed 7–7–65.

811,840. ONYX. Lentheric Limited. SN 223,319. Pub. 5–10–66. Filed 7–14–65.

811,841. PINK LACE. Studio Girl-Hollywood, Inc. SN 224,127. Pub. 5–10–66. Filed 7–23–65.

811,842. 'COLOGNE WAND.' Revlon, Inc. SN 225,996. Pub. 5–10–66. Filed 8–18–65.

811,843. LIMEWOOD. Eversharp, Inc. SN 226,525. Pub. 5–10–66. Filed 8–26–65.

811,844. TACKLE. Colgate-Palmolive Company. SN 227,648. Pub. 5–10–66. Filed 9–13–65.

811,845. SANS AGE. Parfums Lucien Lelong Corporation. SN 227,703. Pub. 5–10–66. Filed 9–13–65.

811,846. SAFE TRIP. Celebrity, Inc. SN 227,733. Pub. 5–10–66. Filed 9–8–65.

811,847. IPSO. Chemway Corporation. SN 228,133. Pub. 5–10–66. Filed 9–20–65.

811,848. CORDOVAN. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics. SN 228,166. Pub. 5–10–66. Filed 9–20–65.

811,849. LADY WRANGLER. Blue Bell, Inc. SN 228,614. Pub. 5–10–66. Filed 9–27–65.

811,850. MAVERICK. Blue Bell, Inc. SN 228,615. Pub. 5–10–66. Filed 9–27–65.

811,851. LADY MAVERICK. Blue Bell, Inc. SN 228,616. Pub. 5–10–66. Filed 9–27–65.

Class 52 — Detergents and Soaps

811,537. (See Class 2 for this trademark.)

811,557. (See Class 6 for this trademark.)

811,852. MAGIC TOUCH. Anderson Enterprises, Inc. SN 207,697. Pub. 5–10–66. Filed 12–8–64.

811,853. X-TOL. Petrolite Corporation. SN 209,723. Pub. 7–27–65. Filed 1–11–65.

811,854. LAS VEGAS. Thalberg International Ltd. SN 213,061. Pub. 5–10–66. Filed 3–1–65.

811,855. D 5. Arndt-Palmer Laboratories, Inc. SN 220,897. Pub. 5–10–66. Filed 6–11–65.

811,856. SUDS FOR DUDS. Alger Creations, Inc. SN 224,288. Pub. 5–10–66. Filed 7–27–65.

Service Marks

Class 100 — Miscellaneous

811,857. GRAPHOANALYST. International Grapho Analysis Society, Inc. SN 141,527. Pub. 5–10–66. Filed 4–4–62.

811,858. TELESPECTION. Halliburton Company. SN 203,758. Pub. 5–10–66. Filed 10–12–64.

811,859. TREADWAY. Treadway Inns Corporation. MULTIPLE CLASS (Classes 100 and 101). SN 206,784. Pub. 5–10–66. Filed 11–23–64.

811,860. COLONIAL WATCHMAN (DESIGN). Treadway Inns Corporation. MULTIPLE CLASS (Classes 100 and 101). SN 206,785. Pub. 5–10–66. Filed 11–23–64.

811,861. REFRESHERY. Walter Reade-Sterling, Inc. SN 226,010. Pub. 5–10–66. Filed 8–18–65.

Class 101 — Advertising and Business

811,859. (See Class 100 for this trademark.)

811,860. (See Class 100 for this trademark.)

811,862. SMITH PROTECTION AND DESIGN. Smith Protection Services, Inc., d.b.a. Smith Protection Service, Inc. MULTIPLE CLASS (Classes 101 and 103). SN 169,774. Pub. 5–10–66. Filed 5–27–63.

811,863. DESIGN. Forel Equipment Corporation. SN 178,120. Pub. 5–10–66. Filed 10–1–63.

811,864. EHRCO. J. C. Ehrlich Chemical Co. Inc. SN 179,784. Pub. 5–10–66. Filed 10–25–63.

811,865. NEP/CON AND DESIGN. Industrial & Scientific Conference Management, Inc. SN 191,769. Pub. 5–10–66. Filed 4–22–64.

811,866. FORTUNE GIFT STAMPS AND DESIGN. Acme Premium & Supply Corp. SN 193,520. Pub. 5–10–66. Filed 5–15–64.

811,867. EVERYWHERE AND DESIGN. Francois L. Schwarz, Inc. SN 197,989. Pub. 5–10–66. Filed 7–16–64.

811,868. JACKPOT DAY. Jackpot Day, assignee of Jackpot Day, Inc. SN 200,443. Pub. 5–10–66. Filed 8–24–64.

811,869. KNIGHT (DESIGN). The Ten Knights Club. SN 225,686. Pub. 5–10–66. Filed 8–13–65.

Class 102 — Insurance and Financial

811,870. P OF H GRANGE, ETC. AND DESIGN. National Grange of the Patrons of Husbandry. SN 154,276. Pub. 5–10–66. Filed 10–1–62.

811,871. "IT'S THE BIG BANK . . . WITH THE LITTLE BANK INSIDE" AND DESIGN. Continental Illinois National Bank and Trust Company of Chicago. SN 183,740. Pub. 5–10–66. Filed 12–30–63.

811,872. MISCELLANEOUS DESIGN. Belmont Savings & Loan Association. SN 220,067. Pub. 5–10–66. Filed 6–1–65.

811,873. BC AND DESIGN. Bank of the Commonwealth. SN 223,066. Pub. 5–10–66. Filed 7–12–65.

Class 103 — Construction and Repair

811,862. (See Class 101 for this trademark.)

811,874. STATI-SYSTEM. The Plastic Coating Corporation. MULTIPLE CLASS (Classes 103 and 107). SN 145,480. Pub. 5–10–66. Filed 5–25–62.

811,875. BUTLER BUILDER. Butler Manufacturing Company. SN 168,692. Pub. 5–10–66. Filed 5–13–63.

811,876. BIRCHWOOD PARK. Birchwood Park, Inc. SN 182,768. Pub. 5–10–66. Filed 12–11–63.

811,877. TELEGROUT. Halliburton Company. SN 203,757. Pub. 5–10–66. Filed 10–12–64.

811,878. A. B. MAY AND DESIGN. A. B. May Sales and Service Co., Inc. SN 209,870. Pub. 5–10–66. Filed 1–13–65.

811,879. GIFFORD-HILL AND DESIGN. Gifford-Hill & Company, Inc. SN 214,866. Pub. 5–10–66. Filed 3–24–65.

811,880. VAL-LOCK — YOUR KEY TO BETTER DRY CLEANING! Tanya Corporation. SN 218,923. Pub. 5–10–66. Filed 5–14–65.

811,881. GREAT LAKES. Great Lakes Lumber & Supply Company. SN 224,417. Pub. 5–10–66. Filed 7–28–65.

Class 105 — Transportation and Storage

811,882. ESPLANADE TOURS. Esplanade Travel Service Corporation, d.b.a. Esplanade Tours. SN 223,546. Pub. 5–10–66. Filed 7–16–65.

Class 106 — Material Treatment

811,883. MAGIK-MATE. Peacedale Processing Co., Inc. SN 224,641. Pub. 5–10–66. Filed 7–30–65.

Class 107 — Education and Entertainment

811,874. (See Class 103 for this trademark.)

811,884. TOBACCO BALL. National Tobacco Festival, Incorporated. SN 205,713. Pub. 5–10–66. Filed 11–6–64.

811,885. THE PURPLE PIZZA EATER SHOW. Deando Limited. SN 206,427. Pub. 5–10–66. Filed 11–18–64.

811,886. SPIDER AND THE CRABS. John O. Brown, d.b.a. Mid Continent Company. SN 224,384. Pub. 5–10–66. Filed 7–28–65.

811,887. YE KICKERS. "Ye Kickers." SN 225,089. Pub. 5–10–66. Filed 8–5–65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptades

811,888. E. J. Brach & Sons, Chicago, Ill. SN 177,332. Filed P.R. 9–19–63; Am. S.R. 5–26–66.

FLIP·TOP

For Paperboard Shipping Container Containing Candy Which on Opening Can Be Folded Into an Open Display Case for the Merchandise.
First use Aug. 25, 1963.

Class 18 — Medicines and Pharmaceutical Preparations

811,889. Nysco Laboratories, Inc., Queens, N.Y. SN 209,799. Filed P.R. 1–12–65; Am. S.R. 5–16–66.

SNIFFLE CAPS

For Anti-Cold Preparation.
First use November 1962.

Class 21 — Electrical Apparatus, Machines, and Supplies

811,890. Chase and Sons, Inc., Randolph, Mass. SN 194,035. Filed P.R. 5–22–64; Am. S.R. 5–26–66.

LOW-OHM

For Electrical Tape.
First use Jan. 30, 1964.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

811,891. Clinton Engines Corporation, Maquoketa, Iowa. SN 200,329. Filed P.R. 8–21–64; Am. S.R. 5–26–66.

TOUCH 'N' STOP

For Internal Combustion Engines Having a Safety Brake.
First use July 29, 1964.

811,892. Clinton Engines Corporation, Maquoketa, Iowa. SN 200,330. Filed P.R. 8–21–64; Am. S.R. 5–26–66.

TOUCH 'N' START

For Internal Combustion Engines Having a Primer Mechanism.
First use July 29, 1964.

811,893. James Manufacturing Company, Inc., Fort Atkinson, Wis. SN 218,438. Filed P.R. 5–10–65; Am. S.R. 5–6–66.

FILL-N-FEED

For Mechanical Livestock Feeders.
First use Apr. 22, 1965.

Class 26—Measuring and Scientific Appliances

811,894. Exactel Instrument Company, Mountain View, Calif. SN 188,346. Filed P.R. 3–10–64; Am. S.R. 5–20–66.

SERVOGAUGE

For Servomechanical-Following Type Strain Gauges, Height Gauges, and the Like.
First use on or about Oct. 1, 1963.

Class 37—Paper and Stationery

811,895. E. J. Brach & Sons, Chicago, Ill. SN 143,794. Filed P.R. 5–4–62; Am. S.R. 12–23–64.

EASY "SPIN-OPEN" WRAPS

For Paper Wrappers Which Enclose Individual Pieces of Candy.
First use Feb. 1, 1962.

811,896. Hayssen Manufacturing Company, Sheboygan, Wis. SN 216,505. Filed P.R. 4–14–65; Am. S.R. 5–27–66.

WRAP-SHIP

For Kraft Paper Board for Commodity Packaging.
First use August 1964.

Class 38—Prints and Publications

811,897. Popular Library, Inc., New York, N.Y. SN 215,354. Filed P.R. 3–30–65; Am. S.R. 3–2–66.

HAIR TRENDS

For Magazine.
First use July 20, 1961.

Class 39—Clothing

811,898. Flexnit Company, Inc., New York, N.Y. SN 219,334. Filed P.R. 5–20–65; Am. S.R. 5–26–66.

NINE MONTH BRA

For Brassieres.
First use May 13, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

811,899. Armtex Incorporated, Gastonia, N.C. SN 220,733. Filed P.R. 6–9–65; Am. S.R. 5–25–66.

DureLLe

For Knitted Fabrics in the Piece of Cotton, Rayon, Synthetic Fibres and Combinations Thereof.
First use Apr. 1, 1965.

Class 46—Foods and Ingredients of Foods

811,900. Purity Stores, Inc., Burlingame, Calif. SN 191,076. Filed P.R. 4–14–64; Am. S.R. 5–13–66.

FROSTY SWEET

No claim is made to the word "Sweet" apart from the mark as shown.
For Imitation Ice Cream and Imitation Ice Milk.
First use Apr. 6, 1964.

811,901. V. & E. Kohnstamm, Inc., Brooklyn, N.Y. SN 197,136. Filed P.R. 7–6–64; Am. S.R. 5–19–66.

BUTTA-RUM SAVER

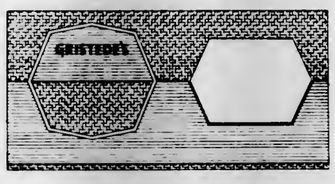
The words "Butta-Rum" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 720,440 and 757,000.
For Flavoring for Food Purposes.
First use Sept. 11, 1963.

811,902. V. & E. Kohnstamm, Inc., Brooklyn, N.Y. SN 197,137. Filed P.R. 7–6–64; Am. S.R. 5–19–66.

BUTTA-VANILLA SAVER

The words "Butta-Vanilla" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 720,440 and 757,000.
For Flavoring for Food Purposes.
First use Sept. 11, 1963.

811,903. Gristede Bros., Inc., New York, N.Y. SN 200,641. Filed P.R. 8–26–64; Am. S.R. 4–26–66.



The drawing is lined for the colors cream or buff and blue, and these colors are claimed. Owner of Reg. Nos. 401,324, 801,487, and others.
For Canned Tomato Juice.
First use June 2, 1964.

811,904. Schluderberg-Kurdle Company, Baltimore, Md. SN 214,379. Filed P.R. 3–17–65; Am. S.R. 5–6–66.

TASTE THE DIFFERENCE Q-WAL-ITY MAKES

For Pork Sausage, Canned and Smoke Hams, Smoked Bacon, Canned and Frozen Chicken and Luncheon Meats.
First use Nov. 14, 1957.

811,905. Laurenzo Brothers, Inc., Miami, Fla. SN 221,835. Filed P.R. 6–23–65; Am. S.R. 5–18–66.

Laurenzo
ROYAL QUALITY

For Canned Foods—Namely, Mozzarella, Pepperoncini, Hot and Sweet Banana Peppers, Red Peppers, Beans, Eggplant in Vinegar, Cauliflower, Giardiniera, Minestrone, Tomato Paste, Tomatoes, Zucchini, Oregano, Basil, Wine Vinegar, Olives, Capers, Table Salt and Pizza Sauce.
First use Apr. 30, 1965; on or about Feb. 1, 1962 as to the word "Laurenzo."

Class 48—Malt Beverages and Liquors

811,906. G. Heileman Brewing Company, Inc., d.b.a. Kingsbury Breweries Company, La Crosse, Wis. SN 201,838. Filed P.R. 9–14–64; Am. S.R. 5–19–66.

EVERY DROP DRAFT SMOOTH

For Beer.
First use May 10, 1963.

Class 49—Distilled Alcoholic Liquors

811,907. Societe Anonyme des Etablissements Louis Regnier, Dijon (Cote d'Or), France. SN 163,497. Filed P.R. 2–26–63; Am. S.R. 11–6–63.



The mark consists of a triangular bottle, including the letter "R," the crown design, and the word "Regnier," which includes a perspective view taken at an angle of 45°, and a second view showing the bottle in an upright position. Owner of French Reg. No. 6,569, dated May 5, 1962 (Dijon); Natl. Inst. No. 185,653.
For Brandy.

811,908. Distillerie König GmbH, Steinhausen, Switzerland. SN 190,348. Filed P.R. 4–6–64; Am. S.R. 3–21–66.



The word "Leibwachter" means "bodyguard." The portrait in the label is fanciful. The mark consists of the conformation of a bottle, together with the label, portrait and wording thereon, used as the container for applicant's brandies, liqueurs and cocktail alcoholic bitters. Owner of Swiss Reg. No. 198,406, dated May 21, 1963.
For Brandies, Liqueurs and Cocktail Alcoholic Bitters.

Class 51—Cosmetics and Toilet Preparations

811,909. Harri Hoffmann Co., Inc., Milwaukee, Wis. SN 205,406. Filed P.R. 11–3–64; Am. S.R. 5–16–66.

HEEL 'N TOE

For Foot Creme.
First use on or about Apr. 20, 1964.

811,910. Richard Hudnut, Morris Plains, N.J. SN 213,436. Filed P.R. 3–5–65; Am. S.R. 5–18–66.

LOVE APPLE

For Lipstick.
First use Jan. 21, 1965.

Class 52 — Detergents and Soaps

811,911. Carros Corp., New York, N.Y. SN 214,839. Filed P.R. 3-24-65; Am. S.R. 4-13-66.

SCALP-CLEAR

For Cream Shampoo for the Hair.
First use Mar. 17, 1965.

Class 101 — Advertising and Business

811,912. Sales Consultants, Inc., Cleveland, Ohio. SN 194,661. Filed P.R. 6-1-64; Am. S.R. 4-18-66.

"PLACING SALESMEN IS OUR ONLY BUSINESS"

For Employment Agency Services.
First use July 1960.

Class 105 — Transportation and Storage

811,913. American Trucking Association, Inc., Washington, D.C. SN 213,388. Filed P.R. 3-3-65; Am. S.R. 2-7-66.

IF YOU'VE GOT IT, A TRUCK BROUGHT IT.

For Association Services—Namely, Promoting the Interest and Business of Motor Carriers.
First use July 11, 1952.

811,914. Bicknell Photo Service Inc., d.b.a Postal Photo Service, Portland, Maine. SN 220,451. Filed P.R. 6-7-65; Am. S.R. 5-13-66.

REPLACE-A-ROLL

For Photo Finishing Services.
First use Apr. 21, 1965.

TRADEMARK REGISTRATIONS RENEWED

47,712. RALSTON HEALTH SHOE AND DESIGN. Cl. 39. 11-14-05.
54,158. BEECHAM'S PATENT PILLS AND CIRCLE DESIGN. Cl. 18 6-19-06.
54,199. CRYSTALINE. Cl. 46. 6-19-06.
54,241. BEECHAM'S PATENT PILLS AND OVAL DESIGN. Cl. 18. 6-26-06.
54,242. BEECHAM'S PILLS. Cl. 18. 6-26-06.
55,435. DESIGN CROSS AND CIRCLE BRITISH GLASS P.B. Cl. 33. 8-14-06.
55,598. PHILLIP'S MILK OF MAGNESIA AND DESIGN. Cl. 18. 8-21-06.
55,762. BABY EASE AND DESIGN. Cl. 18. 8-21-06.
56,690. ALBOLENE. Cl. 18. 10-16-06.
56,801. LACVELVA. Cl. 16. 10-16-06.
56,816. VALVOLINE AND DESIGN. Cl. 15. 10-23-06.
57,056. DAILY RACING FORM. Cl. 38. 10-30-06.
57,618. GRANDMOTHER'S AND DESIGN. Cl. 46. 11-13-06.
209,802. LAKEVIEW. Cl. 1. 3-2-26.
210,217. SPUDDIES. Cl. 46. 3-9-26.
211,036. FLACON (DESIGN). Cl. 51. 3-30-26.
212,808. SYLVANIA. Cl. 21. 5-11-26.
213,597. CORAL. Cl. 46. 6-1-26.
213,685. UNIQUE AND DESIGN. Cl. 15. 6-1-26.
213,834. HART. Cl. 39. 6-8-26.
213,916. OBELISK. Cl. 16. 6-8-26.
214,079. "LIGHTNING." Cl. 4. 6-15-26.
214,172. DEBUTANTE. Cl. 3. 6-15-26.
214,190. HOSTESS. Cl. 37. 6-15-26.
214,206. AK AND DESIGN. Cl. 17. 6-15-26.
214,396. SPHYNX. Cl. 16. 6-22-26.
214,588. CRONITE. Cl. 14. 6-29-26.
215,776. D (IN BLOCK DESIGN). Cl. 26. 7-27-26.
215,864. MERRYMAID. Cl. 39. 7-27-26.
215,981. WESTERN'S DAMPROOFING. Cl. 12. 8-3-26.
216,076. PYRAMIDE. Cl. 16. 8-3-26.
217,227. TWO INTERLOCKING DIAMONDS (DESIGN). Cl. 23. 8-31-26.
217,643. FIELD AND STREAM. Cl. 39. 9-7-26.
217,769. CRAGMOOR. Cl. 39. 9-7-26.
218,479. FAIRWAY. Cl. 35. 9-28-26.
218,856. TROMBONE. Cl. 23. 10-5-26.
218,877. XLNT. Cl. 46. 10-5-26.
219,595. SULFODUST. Cl. 6. 10-19-26.
219,596. KOLOTEX. Cl. 6. 10-19-26.
219,750. MASTER. Cl. 46. 10-26-26.
219,752. NATIONAL. Cl. 34. 10-26-26.
219,937. SUNSHINE. Cl. 23. 10-26-26.
220,043. FLEXI-POST. Cl. 37. 11-2-26.
220,130. GARDTOE. Cl. 39. 11-2-26.
220,308. RITE-DRESS. Cl. 51. 11-9-26.
220,524. WEST BAY. Cl. 46. 11-9-26.
220,695. STANLEY. Cl. 26. 11-16-26.
221,071. MANSCO. Cl. 39. 11-23-26.
421,421. C AND DESIGN. Cl. 23. 6-4-46.
421,478. SCHRATZ TUBLETS. Cl. 52. 6-4-46.
421,509. FLAMINGO. Cl. 40. 6-4-46.
421,734. ANDEROMETER. Cl. 26. 6-18-46.
421,799. GP. Cl. 17. 6-18-46.
421,962. JUICELETS. Cl. 46. 6-25-46.
422,215. MIRRO-MATIC. Cl. 13. 7-9-46.
422,364. BONANZA. Cl. 51. 7-16-46.
422,931. "P." Cl. 19. 8-20-46.
423,250. WELSITE. Cl. 4. 8-27-46.
423,561. PROPELOFLO. Cl. 26. 9-3-46.
423,721. SCHRATZ TUBLETS. Cl. 51. 9-10-46.
423,750. ELECTRAN. Cl. 21. 9-10-46.
424,289. SMITH-ALSOP HI-GRADE PAINT AND VARNISH PRODUCTS AERO-LIFT REMOVER AND DESIGN. Cl. 52. 10-1-46.
424,437. TOOL FLEX. Cl. 23. 10-8-46.
424,954. SOFTFLO. Cl. 13. 10-29-46.
424,967. HOMELITE. Cl. 34. 10-29-46.
425,121. LOAD-LOC. Cl. 5. 11-5-46.
425,154. MICROMUL. Cl. 6. 11-5-46.
425,304. "AMBUSH." Cl. 52. 11-12-46.
425,305. "BRAZEN." Cl. 52. 11-12-46.
425,324. UTOPIE. Cl. 52. 11-12-46.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

275,480. POULE AU POT. Cl. 46. 9-23-30.
706,148. ORLON SAYELLE. Class 1. 10-25-60.
779,364. LISALBA. Cl. 18. 11-3-64.
786,489. CHOCK. Cl. 45. 3-9-65.
806,418. SOMETHING ELSE AND DESIGN. Cl. 45. 3-29-66.
807,992. BIOKEM. Cl. 6. 5-10-66.

Section 8

129,379. MILTON T (DESIGN). Cl. 6. 2-17-20.
132,367. WONDER LAC. Cl. 16. 6-22-20.
133,088. GEORGE L. WERNET. Cl. 51. 7-6-20.
164,858. NANOOK. Cl. 39. 2-27-23.
255,220. REVILLON FRERES. Cl. 39. 4-16-29.
265,162. MANIOL. Cl. 51. 12-17-29.
267,089. REVILLON FRERES. Cl. 42. 2-11-30.
371,578. BEGGARS BUSH. Cl. 39. 9-26-39.
372,112. CHFM IN CIRCLE. Cl. 44. 10-24-39.
373,511. ZOY-KOFF. Cl. 46. 12-12-39.
377,116. HERCULES RED DOT. Cl. 9. 4-16-40.
379,476. BONFRA. Cl. 39. 7-9-40.
381,457. MY MASTERPIECE. Cl. 36. 9-24-40.

The following registrations issued June 7, 1960

698,752. BERWIND. Cl. 1.
698,754. ASTRA KID. Cl. 1.
698,757. MOCOPAC. Cl. 1.
698,761. SHUR-TEMP. Cl. 2.
698,765. BIX-KIT. Cl. 4.
698,779. N-1. Cl. 6.
698,785. DIXIELAND. Cl. 6.
698,799. GREENFIELD SUPREME. Cl. 7.
698,803. CORAL. Cl. 9.
698,804. BOGARAD. Cl. 10.
698,807. ADP AND DESIGN. Cl. 11.
698,815. DOUBLE TAKE. Cl. 12.
698,816. PANEL WEAVE. Cl. 12.
698,817. SHELHART. Cl. 12.
698,818. THERM-L-BAR. Cl. 12.
698,821. TOP LITE. Cl. 12.
698,825. BARRETONE. Cl. 12.
698,828. BUCKSHOT. Cl. 12.
698,829. PANASIA. Cl. 12.
698,832. STAR LINE AND DESIGN. Cl. 13.
698,834. KOCKUM. Cl. 13.
698,837. DUBL VV. Cl. 13.
698,843. DORAYLON. Cl. 13.
698,844. AERVALCO. Cl. 13.
698,853. SCULPT-O-FAB. Cl. 16.
698,861. FORMULA 341. Cl. 18.
698,868. CHES-O-KOL. Cl. 18.
698,876. RUTANOL. Cl. 18.
698,880. ELIXIROL. Cl. 18.
698,882. PANTHO-FOAM. Cl. 18.
698,890. CRUCO. Cl. 19.
698,891. SPIRAL AND OVAL DESIGN WITH FANCIFUL AIRCRAFT. Cl. 19.
698,895. TRAK-A-LIGN TANDEM AND DESIGN. Cl. 19.
698,897. HUMMINGBIRD. Cl. 19.
698,898. RAM PAK. Cl. 19.
698,902. KAB-AIR. Cl. 19.
698,903. BONAFIDE. Cl. 20.
698,906. BURCH JET-STREAM AND DESIGN. Cl. 21.
698,908. SANITAIRE. Cl. 21.
698,909. DISPLAY-PAK. Cl. 21.
698,918. SOCKE-T-ENNA. Cl. 21.
698,919. ELASCO. Cl. 21.
698,921. PLASTILET AND DESIGN. Cl. 21.
698,922. INSTA-SERV. Cl. 21.
698,928. PLA-STIK. Cl. 22.
698,929. QUIK-TRICK. Cl. 22.
698,930. PLAY-MAKE. Cl. 22.
698,935. FLOAT-O-FISHER. Cl. 22.
698,936. A DILLER, A DOLLAR. Cl. 22.
698,939. CATA-BOOM. Cl. 22.
698,941. ANIMAL ANTICS. Cl. 22.
698,944. TRAP PER SIX. Cl. 22.
698,947. HELLER GH. Cl. 23.
698,951. HUGHES. Cl. 23.
698,954. SUNNY SENTRIFUGAL. Cl. 23.
698,955. DISHPORTER. Cl. 23.
698,958. SEAL-O-MATIC. Cl. 23.
698,962. XO. Cl. 23.
698,967. FIBRON. Cl. 24.
698,988. GENTRED. Cl. 35.
698,995. ROYALITE. Cl. 36.
698,997. AMERICAN INTERNATIONAL AND DESIGN. Cl. 36.
698,998. ALBERTO. Cl. 36.
699,001. LARIAT. Cl. 37.
699,005. EMPRESS AND DESIGN. Cl. 37.
699,006. PENN/FLEX. Cl. 37.
699,008. VACULITE. Cl. 37.
699,013. TRADE ASSOCIATION LAW DIGEST. Cl. 38.
699,015. SIMPLIFIED BUSINESS METHODS. Cl. 38.
699,020. STARLIFE. Cl. 38.
699,022. BNA WASHINGTON AND DESIGN. Cl. 38.
699,024. WILD CARDS AND DESIGN. Cl. 38.
699,036. TAHITI TWEED. Cl. 39.
699,039. A DIAMOND BRA IS A GIRL'S BEST FRIEND. Cl. 39.
699,042. FASHIONLOK. Cl. 39.
699,045. PHRILAN. Cl. 39.
699,052. LADY CAMPUS "300" AND DESIGN. Cl. 39.
699,053. CAMPUL "300." Cl. 39.
699,055. ULLUK. Cl. 39.
699,060. FELSTRA. Cl. 40.
699,063. TRIGETTE. Cl. 42.
699,065. CHAMBRO. Cl. 42.
699,069. SUPER TEMP. Cl. 42.
699,077. NYBA. Cl. 43.
699,078. BRONSON. Cl. 44.
699,098. SNACKLETS. Cl. 46.
699,102. BUCKSHOT. Cl. 46.
699,105. LIL-BIT BETTER. Cl. 46.
699,106. ORANGE TREAT. Cl. 46.
699,111. ROCAMBERT. Cl. 46.
699,116. WHEE. Cl. 46.
699,121. SERRANIER. Cl. 49.
699,131. FRANCES LEE. Cl. 51.
699,132. EYE QUICK. Cl. 51.
699,134. ULTRA-TAN. Cl. 51.
699,135. MINT MAGIC. Cl. 51.
699,137. MINT CLEAN. Cl. 51.
699,139. OVEN STICK. Cl. 52.
699,140. "FINER PRODUCTS THRU RESEARCH" ETC. AND DESIGN. Cl. 52.
699,141. OVEN STICK AND DESIGN. Cl. 52.
699,143. RETAIN AND DESIGN. Cl. 52.
699,145. CALGON PLUS. Cl. 52.
699,152. HOUSE OF GLAMOUR AND DESIGN. Cl. 100.
699,156. DEL WEBB'S ETC. AND DESIGN. Cl. 100.
699,157. FIGURESQUE. Cl. 100.
699,158. LUCKY QUESTION PROGRAM. Cl. 101.
699,161. GIAN ETC. AND DESIGN. Cl. 101.
699,163. SECURITY CUSTOM CREDIT. Cl. 102.
699,169. SHIMMER-GOLD. Cl. 106.
699,173. NATIONAL HUNTING AND FISHING ASS'N ETC. AND DESIGN. Cl. 200.
699,178. NO SPLITS NO SQUEAKS. Cl. 13.
699,179. POST BIOTIC. Cl. 18.
699,180. SPRAY 'N SOOTHE. Cl. 18.
699,181. READY CUT AND DESIGN. Cl. 22.
699,183. BARBECUE CLUB OF AMERICA. Cl. 34.
699,191. CLAXTON FARE. Cl. 46.
699,195. SIXTY SECONDS MAKES A HAMBURGER. Cl. 100.
699,197. VIRGINIA PHOTO AND DESIGN. Cl. 106.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

697,349. SWIRL-O-MATIC. Cl. 13. 5-10-60. Mission-West Manufacturing Company, Los Angeles, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Delaware* should be inserted.

698,161. PORTCO AND DESIGN. Cl. 37. 5-24-60. Portco Corporation, Portland, Oreg. Amended: In the statement, column 2, line 1, after "bags," *and* is inserted and in line 2, "and waxed paper" is deleted.

706,465. LUSTROX. Cl. 4. 11-1-60. Titanium Zirconium Company, Inc. Tizon Chemical Corporation, Flemington, N.J. Amended: In the statement, column 2, lines 1 and 2, "containing zirconium oxide" is deleted.

744,728. ROYAL AND DESIGN. Cl. 22. 2-5-63. United States Rubber Company, New York, N.Y. Amended to appear:

Royal

746,863. QUEEN ROYAL AND DESIGN. Cl. 22. 3-19-63. United States Rubber Company, New York, N.Y. Amended to appear:

QUEEN Royal

802,113. WHITEHALL. Cl. 14. 1-18-66. Whitehall Metal Studios, Inc., Montague, Mich. Corrected: In the statement, column 1, line 1, "Michigan" should be deleted and *Illinois* should be inserted.

803,740. W AND DESIGN. Cl. 14. 2-15-66. Whitehall Metal Studios, Inc., Montague, Mich. Corrected: In the statement, column 1, line 1, "Michigan" should be deleted and *Illinois* should be inserted.

808,417. SWING-UMA-THING. Cl. 22. 5-17-66. Standard Plastic Products, Inc., South Plainfield, N.J. Corrected: In the statement, column 2, after line 8, *First use December 14, 1964; in commerce December 14, 1964.* should be inserted.

808,926. LAURELWOOD ACRES AND DESIGN. Cl. 46. 5-24-66. Elizabeth G. Nordfelt, doing business as Laurelwood Acres, Chatsworth, Calif. Corrected: In the statement, column 2, line 4, "Firse" should be deleted and *First use* should be inserted.

809,540. SILENT HOIST LIFTRUK. Cl. 23. 6-7-66. Silent Hoist & Crane Co. Inc., Brooklyn, N.Y. Corrected: In the statement, column 2, line 2, "metal" should be deleted and *material* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

113,179. AGATE. Cl. 15. True's Oil Company. 10-10-16. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.

113,180. TRULITE. Cl. 15. True's Oil Company. 10-10-16. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.

113,181. TRUTEST. Cl. 15. True's Oil Company. 10-10-16. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.

117,224. CHARTER. Cl. 15. True's Oil Company. 6-19-17. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.

616,437. RAINBOW AND DESIGN. Cl. 15. True's Oil Company. 11-22-55. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.

697,646. BLUE RIBBON. Cl. 6. True's Oil Company. 5-17-60. New Cert. Sec. 7(c) to The American Oil Company, Chicago, Ill.

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Acheson Industries, Inc., Port Huron, Mich. 698,807, canc. Cl. 11.
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Adamation, Inc., Newton, Mass. 811,672, pub. 5-10-66. Cl. 23.
Addressograph-Multigraph Corp., Cleveland, Ohio. 699,015, canc. Cl. 38.
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Gallon, Jeffrey, Mfg. Co., Columbus, Ohio. 811,661, pub. 5–10–66. Cl. 23.
Gallo, E. & J., Winery.

Gaunt, David A., Albuquerque, N. Mex. 698,804, canc. Cl. 10.

Gaynor & Co., Inc., New York, N.Y. 811,534, pub. 5–10–66. Cl. 1.

Gebr. Heller Maschinenfabrik G.m.b.H., Nurtingen, Wurttemberg, Germany. 698,947, canc. Cl. 23.

Gematex-Audell, Inc., Mount Vernon, N.Y. 811,596, pub. 5–10–66. Cl. 15.

General Mills, Inc.: *See*—
Colorado Potato Flake and Mfg. Co.

General Time Corp., New York, N.Y. 811,702, pub. 5–10–66. Cl. 32.

General Tire & Rubber Co., The, Akron, Ohio. 811,708, pub. 5–10–66. Cl. 35.

General Tire & Rubber Co., The, Akron, Ohio. 698,988, canc. Cl. 35.

Genesco, Inc.: *See*—
Greif, L., & Bro., Inc.

Gifford-Hill & Co., Inc., Dallas, Tex. 811,879, pub. 5–10–66. Cl. 103.

Gilbert & Barker Mfg. Co., West Springfield, Mass. 811,687, pub. 5–10–66. Cl. 23.

Gilbert & Barker Mfg. Co., West Springfield, Mass. 811,693, pub. 5–10–66. Cl. 26.

Glidden Co., The, Cleveland, Ohio. 811,589, pub. 5–10–66. Cl. 12.

Glidden Co., The, Cleveland, Ohio. 811,601, pub. 5–10–66. Cl. 16.

Golfer's Perfect Putt: *See*—
Niamtu, Joseph.

Goodyear Tire & Rubber Co., The, Akron, Ohio. 811,710–11, pub. 5–10–66. Cl. 35.

Gorham Corp., Providence, R.I. 811,658, pub. 5–10–66. Cl. 23.

Gordon & Ferguson, Inc., to Gordon & Ferguson Co., St. Paul, Minn. 217,643, ren. 7–26–66. Cl. 39.

Gordon & Ferguson Co.: *See*—
Gordon & Ferguson, Inc.

Gotham, Chadbourn, Inc., Charlotte, N.C. 811,747, pub. 5–10–66. Cl. 39.

Goya Ltd., London, England. 811,836, pub. 5–10–66. Cl. 51.

Grace, W. R., & Co., Cambridge, Mass. 811,550, pub. 5–10–66. Cl. 6.

Grace, W. R., & Co., Cambridge, Mass. 811,546, pub. 5–10–66. Cl. 5.

Grant, W. T., Co.: *See*—
Tobacco Rehandling Co., Ltd.

Grant, Foster, Co., Inc., Leominster, Mass. 811,758, pub. 5–10–66. Cl. 40.

Great Lakes Lumber & Supply Co., Oak Park, Mich. 811,881, pub. 5–10–66. Cl. 103.

Gregg Draddy, Inc., New York, N.Y. 811,750–1, pub. 5–10–66. Cl. 39.

Greif, L., & Bro., Inc., Baltimore, Md., to Genesco Inc., Nashville, Tenn. 217,769, ren. 7–26–66. Cl. 39.

Gremse, Edward S., d.b.a. Atlantic Ultraviolet Co., Long Island City, N.Y. 698,908, canc. Cl. 21.

Gristede Bros., Inc., New York, N.Y. 811,903. Cl. 46.

Grossman Clothing Co., Inc., New York, N.Y. 811,728, pub. 5–10–66. Cl. 39.

Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 699,145, canc. Cl. 52.

Hain Pure Food Co., Inc., Los Angeles, Calif. 811,803, pub. 5–10–66. Cl. 46.

Hale Laboratories, Inc., Los Angeles, Calif. 698,880, canc. Cl. 18.

Halliburton Co., Duncan, Okla. 811,858, pub. 5–10–66. Cl. 100.

Halliburton Co., Duncan, Okla. 811,877, pub. 5–10–66. Cl. 103.

Hamol, Lloyd, Ltd., London, England. 699,134, canc. Cl. 51.

Harry and David, Medford, Oreg. 811,802, pub. 5–10–66. Cl. 46.

Haspel Brothers, Inc., New Orleans, La. 811,738–9, pub. 5–10–66. Cl. 39.

Hastings Corp., Bass River, Mass. 811,777, pub. 5–10–66. Cl. 44.

Haus, Ltd., Boulder Industrial Park, Colo. 811,598, pub. 5–10–66. Cl. 15.

Hayssen Mfg. Co., Sheboygan, Wis. 811,896. Cl. 37.

Hearst Corp., The, New York, N.Y. 811,720, pub. 5–10–66. Cl. 38.

Heileman, G., Brewing Co., Inc., d.b.a. Kingsbury Breweries Co., La Crosse, Wis. 811,906. Cl. 48.

Henrik Gahns Aktiebolag, Upsala, and Stockholm, Sweden. 265,162, canc. Cl. 51.

Hercules Powder Co., Wilmington, Del. 377,116, canc. Cl. 9.

Highlander & Lord Co.: *See*—
Cohen, Sidney H.

Holland Plastics Co., Gilman, Iowa. 811,570, pub. 5–10–66. Cl. 12.

Hoffmann, Harri, Co., Inc., Milwaukee, Wis. 811,909. Cl. 51.

Homelite Corp., East Port Chester, Conn., to Textron, Inc., Providence, R.I. 424,967, ren. 7–26–66. Cl. 34.

Homeline Corp., Miami, Fla. 811,541, pub. 5–10–66. Cl. 2.

Houdaille Industries, Inc.: *See*—
Burg, Fred.

House of Nations, Ltd., New York, N.Y. 811,744, pub. 5–10–66. Cl. 39.

House of D'Azur, Inc., from Topco Associates, Inc., Skokie, Ill. 811,727, pub. 5–10–66. Cl. 39.

House of Health, Memphis, Tenn. 699,157, canc. Cl. 100.

Huggins Young Coffee Co.
Coca-Cola Co., The.

Hudnut, Richard, Morris Plains, N.J. 699,132–7, canc. Cl. 51.

Hudnut, Richard, Morris Plains, N.J. 811,910. Cl. 51.

Hudson, H. D., Mfg. Co.: *See*—
Hudson Mfg. Co.

Hudson Mfg. Co., Minneapolis, Minn., to H. D. Hudson Mfg. Co., Chicago, Ill. 219,937, ren. 7–26–66. Cl. 23.

Hudson Mfg. Co., Minneapolis, Minn., to H. D. Hudson Mfg. Co., Chicago, Ill. 218,856, ren. 7–26–66. Cl. 23.

Hughes Tool Co., Houston, Tex. 698,951, canc. Cl. 23.

Hunt Foods and Industries, Inc., d.b.a. Hunt-Wesson Sales Co., Fullerton, Calif. 811,808, pub. 5–10–66. Cl. 46.

Hunt-Wesson Sales Co.: *See*—
Hunt Foods and Industries, Inc.

Huth-James Shoe, Inc., Milwaukee, Wis. 811,732. pub. 5–10–66. Cl. 39.

Hydrodyne Industries, Inc., Farmingdale, N.Y. 811,654, pub. 5–10–66. Cl. 23.

Industrial & Scientific Conference Management, Inc., Chicago, Ill. 811,865, pub. 5–10–66. Cl. 101.

Imperial Chemical Industries, Ltd., Millbank, London, England. 811,560, pub. 5–10–66. Cl. 6.

Instant Service Products Corp., Logansport, Ind. 698,922, canc. Cl. 21.

International Grapho Analysis Society, Inc., Chicago, Ill. 811,857, pub. 5–10–66. Cl. 100.

International Nickel Co., Inc., The, New York, N.Y. 811,594, pub. 5–10–66. Cl. 14.

Irving Tanning Co., Boston, Mass. 811,529, pub. 5–10–66. Cl. 1.

Israeli Slacks, Ltd., New York, N.Y. 811,753, pub. 5–10–66. Cl. 39.

Jackpot Day, Inc.: *See*—
Jackpot Day.

Jackpot Day, Kosciusko, from Jackpot Day, Inc., Newton, Miss. 811,868, pub. 5–10–66. Cl. 101.

Jerome, James D., d.b.a. J. D. Jerome, Claxton, Ga. 699,191, canc. Cl. 46.

Jersey Farm Baking Co.: *See*—
Farm Crest Bakeries, Inc.

James Mfg. Co., Inc., Fort Aktinson, Wis. 811,893. Cl. 23.

Johnson Mfg. Co., Lubbock, Tex. 811,680, pub. 5–10–66. Cl. 23.

Jaymar-Ruby, Inc., Michigan City, Ind. 811,752, pub. 5–10–66. Cl. 39.

Jaymar Specialty Co., Brooklyn, N.Y. 698,944, canc. Cl. 22.

Kjeldsen & Co., near Snede, Denmark. 811,799–800, pub. 5–10–66. Cl. 46.

Klein, Edward J., Milwaukee, Wis. 811,636, pub. 5–10–66. Cl. 22.

Kendall Refining Co., Bradford, Pa. 811,609, pub. 5–10–66. Cl. 16.

Kann, S., Co., The, Washington, D.C. 215,864, ren. 7–26–66. Cl. 39.

Killgore, Charles, Co., Inc., Yonkers, N.Y. 811,813, pub. 5–10–66. Cl. 46.

Kirk Syndicate, The: *See*—
Kirk, Justin N.

Kingsbury Breweries Co.: *See*—
Heileman, G., Brewing Co., Inc.

Kirk, Justin N., d.b.a. The Kirk Syndicate, Wayland, Mass. 811,724, pub. 5–10–66. Cl. 38.

Kockums Jernverks Aktiebolag, Malmo, Sweden. 698,834, canc. Cl. 13.

Koehring Co., Milwaukee, Wis. 811,656, pub. 5–10–66. Cl. 23.

Kohner Bros., Inc., New York, N.Y. 811,648, pub. 5–10–66. Cl. 22.

Kohnstamm, V. & E., Inc., Brooklyn, N.Y. 811,901–2. Cl. 46.
Knowles, John B., d.b.a. Marcel Kramer, New York, N.Y. 699,169, canc. Cl. 106.
Kramer, Marcel: *See*—
Knowles, John B.
Lamb, George P., and Carrington Shields, Washington, D.C. 699,013, canc. Cl. 38.
Landers, Frary & Clark, New Britain, Conn. 698,761, canc. Cl. 2.
Lanier Chemical Co., Houston, Tex. 811,569, pub. 5–10–66. Cl. 10.
Laufbahn, Lester C., Reading, Pa. 699,143, canc. Cl. 52.
Laurelwood Acres: *See*—
Nordfelt, Elizabeth G.
Laurenzo Bros., Inc., Miami, Fla. 811,905. Cl. 46.
Le Lis, Hamme, Belgium. 698,799, canc. Cl. 7.
Lehn & Fink Products Corp., d.b.a. Tussy Cosmetics, New York, N.Y. 811,848, pub. 5–10–66. Cl. 51.
Lentheric Ltd., London, England. 811,840, pub. 5–10–66. Cl. 51.
Les Parfums de Dana, Inc., New York, N.Y. 425,304–5, ren. 7–26–66. Cl. 52.
Les Parfums de Dana, Inc., New York, N.Y. 425,324, ren. 7–26–66. Cl. 52.
Les Parfums Worth De Paris, Inc.: *See*—
Societe Worth.
Letarte Co., Inc., Smith Creek, Mich. 811,573, pub. 5–10–66. Cl. 12.
Leu, Hedwig A., d.b.a. Heddy Leu Enterprises, Chesterton, Ind. 699,181, canc. Cl. 22.
Leu, Heddy, Enterprises: *See*—
Leu, Hedwig A.
Lew Mfg. Co., Coventry, R.I. 811,717, pub. 5–10–66. Cl. 37.
Lindustries, Inc., Fort Worth, Tex. 698,902, canc. Cl. 19.
Link-Belt Co., Chicago, Ill. 811,685, pub. 5–10–66. Cl. 23.
Loomis Corp., The, Garden City, N.Y. 699,078, canc. Cl. 44.
Lowell Wrench Co., Worcester, Mass. 811,655, pub. 5–10–66. Cl. 23.
Ludlow Corp., Needham Heights, Mass. 811,765, pub. 5–10–66. Cl. 42.
M.K.M. Knitting Mills, Inc., Manchester, N.H. 699,077, canc. Cl. 43.
Maccaferri, Mario, New York, N.Y. 381,457, canc. Cl. 36.
Madison Foods: *See*—
Rural Educational Association.
Magic Form Foundations, Inc., New York, N.Y. 699,039, canc. Cl. 39.
Magid Research and Mfg. Co., Inc., Palo Alto, Calif. 811,551, pub. 5–10–66. Cl. 6.
Magna Wonder Knife, Inc., New York, N.Y. 811,671, pub. 5–10–66. Cl. 23.
Magnolia Citrus Association, Porterville, Calif. 219,750, ren. 7–26–66. Cl. 46.
Maidenform, Inc., New York, N.Y. 811,734, pub. 5–10–66. Cl. 39.
Maidenform, Inc., New York, N.Y. 811,754, pub. 5–10–66. Cl. 39.
Manhattan Shirt Co., The, New York, N.Y. 221,071, ren. 7–26–66. Cl. 39.
Marble Products Co.: *See*—
Marble Products Co. of Georgia.
Marble Products Co. of Georgia, d.b.a. Marble Products Co., Atlanta, Ga. 811,587, pub. 5–10–66. Cl. 12.
Marine Instrument Co.: *See*—
Foster, Merrill J.
Marlboro Shirt Co., Inc., New York, N.Y. 811,737, pub. 5–10–66. Cl. 39.
Marley Co., The, Kansas City, Mo. 811,696, pub. 5–10–66. Cl. 31.
Marmon-Herrington Co., Inc., Oak Hill, W. Va. 811,709, pub. 5–10–66. Cl. 35.
Marshall, Thomas P., Macon, Ga., to Commerce Drug Co., Inc., Farmingdale, N.Y. 55,762, ren. 7–26–66. Cl. 18.
Master Air Products Co., Dallas, Tex. 811,781, pub. 5–10–66. Cl. 44.
May, A. B., Sales and Service Co., Inc., Kansas City, Mo. 811,878, pub. 5–10–66. Cl. 103.
May & Baker Ltd., Dagenham, Essex, England. 811,619, pub. 5–10–66. Cl. 18.
May Department Stores Co.: *See*—
Metro Wholesale Corp.
McCall Corp., New York, N.Y. 698,929, canc. Cl. 22.
McKesson & Robbins, to McKesson & Robbins, Inc., New York, N.Y. 56,690, ren. 7–26–66. Cl. 18.
McKesson & Robbins, Inc.: *See*—
McKesson & Robbins.
McOuat Industries Ltd., North Vancouver, British Columbia, Canada. 698,962, canc. Cl. 23.
McVitie & Price Ltd., Edinburgh, Scotland. 811,791, pub. 5–10–66. Cl. 46.
Melville Shoe Corp., New York, N.Y. 811,748, pub. 5–10–66. Cl. 39.
Menasha Printing and Carton Co., Manasha, Wis., to American Can Co., New York, N.Y. 214,190, ren. 7–26–66. Cl. 37.
Metro Wholesale Corp., New York, N.Y., from The May Department Stores Co., St. Louis, Mo. 811,624, pub. 12–21–65. Multiple Class (Classes 21 and 44).
Michaels, Stern & Co. Inc., Rochester, N.Y. 371,578, canc. Cl. 39.
Micromatic Hone Corp., Detroit, Mich. 811,673–4, pub. 5–10–66. Cl. 23.
Mid Continent Co.: *See*—
Brown, John O.
Miller, Henry C., d.b.a. Stationers Loose Leaf Co., to Stationers Loose Leaf Co., Milwaukee, Wis. 220,043, ren. 7–26–66. Cl. 37.
Milton Mfg. Co., Ltd., London, England. 129,379, canc. Cl. 6.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 811,779, pub. 5–10–66. Cl. 44.
Miracle Plywood Corp., Yonkers, N.Y. 811,575, pub. 5–10–66. Cl. 12.
Mirro Aluminum Co.: *See*—
Aluminum Goods Mfg. Co.
Mission-West Mfg. Co., Los Angeles, Calif. 697,349, cor. Cl. 13.
Mr. Discount: *See*—
Bicknell Photo Service Inc.
Mo-Dent Ltd., Montreal, Quebec, Canada. 811,782, pub. 5–10–66. Cl. 44.
Modern Research Development Co., Mansfield, Ohio. 698,930, canc. Cl. 22.
Monteil, Germaine, Cosmetiques Corp., New York, N.Y. 811,834, pub. 5–10–66. Cl. 51.
Morgan Co., Oshkosh, Wis. 811,588, pub. 5–10–66. Cl. 12.
Morton International, Inc.: *See*—
Crystaline Salt Co.
Muller, Albert, d.b.a. Albert Muller Gummiwarenfabrik, Ehrenfeld, Cologne, Germany. 811,746, pub. 5–10–66. Cl. 39.
Muller, C. H. F., Aktiengesellschaft, Berlin, Germany. 372,112, canc. Cl. 44.
Nalley's, Inc.: *See*—
Crawford, Charles C.
Nancy Ann Storybook Dools, Inc., San Francisco, Calif. 698,936, canc. Cl. 22.
National Grange of the Patrons of Husbandry, Washington, D.C. 811,870, pub. 5–10–66. Cl. 102.
National Gypsum Co., Buffalo, N.Y. 811,578, pub. 5–10–66. Cl. 12.
National Hunting & Fishing Association of America, Washington, D.C. 699,173, canc. Cl. 200.
National Laboratories, Inc., Chicago, Ill. 811,832, pub. 5–10–66. Cl. 51.
National Sanding Machine Co., Chicago, Ill., to Norton Co., Watervliet, N.Y. 214,079, ren. 7–26–66. Cl. 4.
National Shoes, Inc., New York, N.Y. 811,733, pub. 5–10–66. Cl. 39.
National Starch and Chemical Corp.: *See*—
National Starch Products, Inc.
National Starch Products, Inc., to National Starch and Chemical Corp., New York, N.Y. 425,121, ren. 7–26–66. Cl. 5.
National Tea Co., Chicago, Ill. 811,715, pub. 5–10–66. Cl. 37.
National Tobacco Festival, Inc., Richmond, Va. 811,884, pub. 5–10–66. Cl. 107.
National Welding Equipment Co., Richmond, Calif. 219,752, ren. 7–26–66. Cl. 34.
Nelson-Ross Electronics Inc., Hicksville, N.Y. 811,691, pub. 5–10–66. Cl. 26.
Newberry, J. J., Co., New York, N.Y. 811,735, pub. 5–10–66. Cl. 39.
Newman, Louis, d.b.a. Podiatry Laboratories, New York, N.Y 699,180, canc. Cl. 18.
New York Air Brake Co., The: *See*—
Builders Iron Foundry.
New York & Pennsylvania Co., Inc., New York, N.Y. 699,006, canc. Cl. 37.
Niagara Sprayer Co., Middleport, to FMC Corp., New York, N.Y. 219,595–6, ren. 7–26–66. Cl. 6.
Niantu, Joseph, d.b.a. Golfer's Perfect Putt, Canton, Ohio. 811,637, pub. 5–10–66. Cl. 22.
9585 Collins Avenue Corp., Hialeah, Fla. 811,625, pub. 5–10–66. Cl. 21.
Nippon Toki Kabushiki Kaisha, Nishiku, Nagoya, Japan. 811,652, pub. 5–10–66. Cl. 23.
Nordfelt, Elizabeth G., d.b.a. Laurelwood Acres, Chatsworth, Calif. 808,926, cor. Cl. 46.
Norton Co.: *See*—
National Sanding Machine Co.
Notifier Corp., Lincoln, Nebr. 811,627, pub. 5–10–66. Cl. 21.
Nysco Laboratories, Inc., Queens, N.Y. 811,889. Cl. 18.
Ojibway Press, Inc., Duluth, Minn. 811,722, pub. 5–10–66. Cl. 38.
Olson, Samuel, Mfg. Co., Inc., Chicago, Ill. 698,953, canc. Cl. 23.
Olsson, A. V., Trading Co., Inc., Bronxville, N.Y. 811,815, pub. 5–10–66. Cl. 46.
Orange County Sun, Inc., Corona del Mar, Calif. 811,721, pub. 5–10–66. Cl. 38.
Ostefabriken Buko Aktieselskab, Vordingborg, Denmark. 699,111, canc. Cl. 46.
Oy Strengberg AB, Jakobstad, Finland. 811,612, pub. 5–10–66. Cl. 17.
Pad Craft Mfg. Corp., New York, N.Y. 698,967, canc. Cl. 24.
Pal Foods: *See*—
Sessions Co., Inc.
Pan Asiatic Trading Co., Inc., Los Angeles, Calif. 698,829, canc. Cl. 12.
Pantone, Inc., New York, N.Y. 811,718, pub. 5–10–66. Cl. 38.
Parametrics, Inc., Waltham, Mass. 811,552, pub. 5–10–66. Cl. 6.
Parfums Lucien Lelong Corp., New York, N.Y. 811,845, pub. 5–10–66. Cl. 51.
Parke, Davis & Co., Detroit, Mich. 811,831, pub. 5–10–66. Cl. 51.
Parker Pen Co., The, Janesville, Wis. 811,716, pub. 5–10–66. Cl. 37.
Pastemaster, Inc., Seaford, N.Y. 811,547, pub. 5–10–66. Cl. 5.
Paul, Ernest A. D., Lausanne, Switzerland. 698,939, canc. Cl. 22.
Peacedale Processing Co., Inc., Peace Dale, R.I. 811,883, pub. 5–10–66. Cl. 106.
Pearson, Ben, Inc., Pine Bluff, Ark. 811,641, pub. 5–10–66. Cl. 22.
Pearson, William, Ltd., London, England. 699,139, canc. Cl. 52.
Pearson, William, Ltd., London, England. 699,141, canc. Cl. 52.

Pedma Chemical Products Corp., New York, N.Y. 811,604, pub. 5–10–66. Cl. 16.
Pelron Corp., Lyons, Ill. 811,556, pub. 5–10–66. Cl. 6.
Pendleton Tool Industries, Inc., Los Angeles, Calif. 811,683, pub. 5–10–66. Cl. 23.
Pennsylvania Optical Co., Reading, Pa. 811,775, pub. 5–10–66. Cl. 44.
Pepsico, Inc., New York, N.Y. 811,787, pub. 5–10–66. Cl. 45.
Petrolite Corp., St. Louis, Mo. 811,853, pub. 7–27–65. Cl. 52.
Phillips, Chas. H., Chemical Co., The, to Sterling Drug, Inc., New York, N.Y. 55,598, ren. 7–26–66. Cl. 18.
Phillips Petroleum Co.: *See*—
Benzo-Gas Motor Fuel Co.
Phrix-Werke Aktiengesellschaft, Hamburg, Germany. 699,043, canc. Cl. 39.
Physicists Research Co. (Not Inc.): *See*—
Abbott, Ernest J.
Pierce & Stevens Chemical Corp., Buffalo, N.Y. 811,545, pub. 5–10–66. Cl. 4.
Pierce & Stevens Chemical Corp., Buffalo, N.Y. 811,610, pub. 5–10–66. Cl. 16.
Pilkington Bros., Ltd., Liverpool, England. 55,435, ren. 7–26–66. Cl. 33.
Pillsbury Co., The, Minneapolis, Minn. 811,785, pub. 5–10–66. Cl. 45.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 811,579, pub. 5–10–66. Cl. 12.
Plastic Coating Corp., The, Holyoke, Mass. 811,874, pub. 5–10–66. Multiple Class (Classes 103 and 107).
Playtime Products, Inc., Warsaw, Ind. 698,928, canc. Cl. 22.
Podiatry Laboratories: *See*—
Newman, Louis.
Popped-Right Corn Co., Marion, Ohio. 811,812, pub. 5–10–66. Cl. 46.
Portco Corp., Portland, Oreg. 698,161. Am. 7(d). Cl. 37.
Postal Photo Service: *See*—
Bicknell Photo Service Inc.
Postal Photolabs: *See*—
Bicknell Photo Service Inc.
Powernail Co., Chicago, Ill. 699,178, canc. Cl. 13.
Precision Universal Joint Corp., Chicago, Ill. 811,659, pub. 5–10–66. Cl. 23.
Purity Stores, Inc., Burlingame, Calif. 811,900. Cl. 46.
Popular Library Inc., New York, N.Y. 811,897. Cl. 38.
Quahaug Rubber Co., North Brookfield, Mass. 811,745, pub. 5–10–66. Cl. 39.
Quaker Chemical Products Corp., Conshohocken, Pa. 425,154, ren. 7–26–66. Cl. 6.
Quaker Oats Co., The, Chicago, Ill. 811,805, pub. 5–10–66. Cl. 46.
Raybestos-Manhattan, Inc., Passaic, N.J. 811,647, pub. 5–10–66. Cl. 22.
Ready Covers Mfg. Co., Inc., Baltimore, Md. 811,759, pub. 5–10–66. Cl. 42.
Red Hand Compositions Co., Inc.: *See*—
Suter Hartmann & Rahtjen's Composition Co., Ltd.
Reeves, Jack E., d.b.a. Sun Glow Farms, Alamo, Tex. 699,105 canc. Cl. 46.
Red Wing Wood Products, Inc., Red Wing, Minn. 811,699, pub. 5–10–66. Cl. 32.
Regent Sports Co., New York, N.Y. 811,642, pub. 5–10–66. Cl. 22.
Republic Aviation Corp., Farmingdale, N.Y. 698,891, canc. Cl. 19.
Republic Rubber Co., The, to Aeroquip Corp., d.b.a. Republic Rubber Division, Youngstown, Ohio. 218,479, ren. 7–26–66. Cl. 35.
Republic Rubber Division: *See*— Republic Rubber Co., The.
Research Products Co., San Antonio, Tex. 699,140, canc. Cl. 52.
Revillon Freres, New York, N.Y. 164,858, canc. Cl. 39.
Revillon Freres, New York, N.Y. 255,220, canc. Cl. 39.
Revillon Freres, New York, N.Y. 267,089, canc. Cl. 42.
Revlon, Inc., New York, N.Y. 811,842, pub. 5–10–66. Cl. 51.
Rex Chainbelt Inc., Ellwood City, Pa. 811,675, pub. 5–10–66. Cl. 23.
Rhoads, J. E., & Sons, Inc., from J. E. Rhoads & Sons, Wilmington, Del. 811,663, pub. 5–10–66. Cl. 23.
Riegel & Dechter, Inc., New York, N.Y. 811,743, pub. 5–10–66. Cl. 39.
Ripley Mfg. Corp., Brooklyn, N.Y. 811,730, pub. 5–10–66. Cl. 39.
Ritchie Mfg. Co., Inc., Little Rock, Ark. 698,935, canc. Cl. 22.
Rochelle Knitting Mills, Inc., Los Angeles, Calif. 699,042, canc. Cl. 39.
Rockwell-Standard Corp.: *See*—
Timken-Detroit Axle Co., The.
Rosanna Knitted Sportswear, Inc., New York, N.Y. 811,756, pub. 5–10–66. Cl. 39.
Roundy's, Inc., Wauwatosa, Wis. 811,806, pub. 5–10–66. Cl. 46.
Roylyn Inc., Glendale, Calif. 811,689, pub. 5–10–66. Cl. 26.
Rural Educational Association, d.b.a. Madison Foods, Madison College, Tenn. 373,511, canc. Cl. 46.
Russell Mfg. Co., The, Alexander City, Ala. 699,065, canc. Cl. 42.
Rutanol G.m.b.H., Bottcher & Co., Moossch, near Grafing, Bavaria, Germany. 698,876, canc. Cl. 18.
Safeway Stores, Inc., Oakland, Calif. 811,543, pub. 5–10–66. Multiple Class (Classes 2, 10, 35, and 46).
St. Pierre Chain Corp., Worcester, Mass. 698,837, canc. Cl. 13.
Sales Consultants, Inc., Cleveland, Ohio. 811,912. Cl. 101.
Sandoz, Inc., Hanover, N.J. 811,564, pub. 5–10–66. Cl. 6.
Schluderberg-Kurdle Co., Inc., Baltimore, Md. 811,904. Cl. 46.
Schoellkopf, Buddy, Products, Inc., Dallas, Tex. 811,544, pub. 5–10–66. Cl. 3.
Schoellkopf, Buddy, Products Inc., Dallas, Tex. 811,639, pub. 5–10–66. Cl. 22.
Schonewetter, Raymond O., Glendora, Calif. 811,582, pub. 5–10–66. Cl. 12.
Schmidt Baking Co., Inc., Baltimore, Md. 811,821, pub. 5–10–66. Cl. 46.
Schratz Products, to Schratz Products, Inc., Detroit, Mich. 421,478, ren. 7–26–66. Cl. 52.
Schratz Products, to Schratz Products, Inc., Detroit, Mich. 423,721, ren. 7–26–66. Cl. 51.
Schratz Products, Inc.: *See*—
Schratz Products.
Schwarz, Francois L., Inc., New York, N.Y. 811,867, pub. 5–10–66. Cl. 101.
Sea & Ski Co.: *See*—
Sea & Ski Corp.
Sea & Ski Corp., from Botany Industries, Inc., d.b.a. Sea & Ski Co., Reno, Nev. 811,837, pub. 5–10–66. Cl. 51.
Sea B'S, Inc., New York, N.Y. 811,736, pub. 5–10–66. Cl. 39.
Seagram, Joseph E., & Sons, Inc., New York, N.Y. 811,830, pub. 5–10–66. Cl. 49.
Security First National Bank, Los Angeles, Calif. 699,163, canc. Cl. 102.
Sel-Rex Corp., Nutley, N.J. 811,565, pub. 5–10–66. Cl. 6.
Sessions Co., Inc., d.b.a. Pal Foods, Enterprise, Ala. 811,819, pub. 5–10–66. Cl. 46.
Seymour Shoes, Inc., Haverhill, Mass. 811,742, pub. 5–10–66. Cl. 39.
Shaler Co., The, Waupun, Wis. 811,597, pub. 5–10–66. Multiple Class (Classes 15 and 35).
Shontez Co., Santa Monica, Calif. 699,131, canc. Cl. 51.
Signal Chemical Mfg. Co., Inc., Bedford, Ohio. 811,599, pub. 5–10–66. Cl. 15.
Silent Hoist & Crane Co. Inc., Brooklyn, N.Y. 809,540, cor. Cl. 23.
Silicote Corp., The, Oshkosh, Wis. 698,779, canc. Cl. 6.
Sills, Calvin R., Port Huron, Mich. 811,640, pub. 5–10–66. Cl. 22.
Simmons Co., New York, N.Y. 811,703, pub. 5–10–66. Cl. 32.
Simon, Franklin, & Co.: *See*—
Societe Worth.
Simonds Saw and Steel Co., Fitchburg, Mass. 811,653, pub. 5–10–66. Cl. 23.
Sixty Second Shops, Inc., Cincinnati, Ohio. 699,195, canc. Cl. 100.
Sloane Mfg. Co., Sun Valley, Calif. 698,921, canc. Cl. 21.
Smith-Alsop Paint and Varnish Co., The, Terre Haute, Ind. 424,289, ren. 7–26–66. Cl. 52.
Smith Protection Services, Inc., d.b.a. Smith Protection Service, Inc., Dallas, Tex. 811,862, pub. 5–10–66. Multiple Class (Classes 101 and 103).
Smith, W. R. C., Publishing Co., Atlanta, Ga. 811,719, pub. 5–10–66. Cl. 38.
Smith-Hotchkiss, Inc., Camden, Ark. 699,001, canc. Cl. 37.
Societe Anonyme des Etabilssements Louis Regnier, Dijon (Cote D'Or), France. 811,907. Cl. 49.
Societe de Recherches et d'Applications, Locmine (Morbihan), France. 699,179, canc. Cl. 18.
Societe Industrielle de Specialites Alimentaires, Paris, France. 275,480, canc. Cl. 46.
Societe Worth, to Franklin Simon & Co., New York, N.Y., and Paris France, to Les Parfums Worth de Paris, Inc., New York, N.Y. 211,036, ren. 7–26–66. Cl. 51.
Socke-T-Enna Corp., Long Island City, N.Y. 698,918, canc. Cl. 21.
Sonneborn Building Products, Inc., Des Plaines, Ill. 811,583–5, pub. 5–10–66. Cl. 12.
Southern California Pipe & Steel Co., Los Angeles, Calif. 811,592, pub. 5–10–66. Cl. 13.
Sparta Ceramic Co., The, East Sparta, Ohio. 698,828, canc. Cl. 12.
Specialty Engineering Co.: *See*—
Engineering Corp.
Sportwelt Shoe Co., Inc.: *See*—
Churchill and Alden Co.
Square D Co., Park Ridge, Ill. 215,776, ren. 7–26–66. Cl. 26.
Stallings, Ranson, d.b.a. The Ches-O-Kol Co., Spartanburg, S.C. 698,868, canc. Cl. 18.
Stamp Dispensers, Inc., Chicago, Ill. 811,684, pub. 5–10–66. Cl. 23.
Standard Medical Co., Lansford, Pa. 811,616, pub. 5–10–66. Cl. 18.
Standard Plastic Products, Inc., South Plainfield, N.J. 808,417, cor. Cl. 22.
Stanford Seed Co., Inc., The, Buffalo, N.Y. 209,802, ren. 7–26–66. Cl. 1.
Stanley Co. of America, Philadelphia, Pa. 220,695, ren. 7–26–66. Cl. 26.
Stationers Loose Leaf Co.: *See*—
Miller, Henry C.
Sterling Drug, Inc.: *See*—
Phillips, Chas. H., Chemical Co., The.
Sterling Pile Fabrics Corp., Fall River, Mass. 811,762, pub. 5–10–66. Cl. 42.
Stevens, J. P., & Co., Inc., New York, N.Y. 811,767, pub. 5–10–66. Cl. 42.
Studio Girl-Hollywood, Inc., Chicago, Ill. 811,841, pub. 5–10–66. Cl. 51.
Sullcraft Mfg. Co., New York, N.Y. 811,749, pub. 5–10–66. Cl. 39.
Sullivan Packing Co., Rockledge, Fla. 811,814, pub. 5–10–66. Cl. 46.
Sun Glow Farms: *See*—
Reeves, Jack E.

Sunaid Food Products, Inc., Miami, Fla. 811,786, pub. 5–10–66. Multiple Class (Classes 45 and 46).
Sunbeam Corp., Chicago, Ill. 811,677, pub. 5–10–66. Cl. 23.
Sunbeam Wolsey Ltd., Millfield, Cork, Ireland. 811,769, pub. 5–10–66. Cl. 43.
Super Temp Fabrics, Passaic, N.J. 699,069, canc. Cl. 42.
Suter Hartmann & Rahtjen's Composition Co., Ltd., London, England, to Red Hand Compositions Co., Inc., New York, N.Y. 56,801, ren. 7–26–66. Cl. 16.
Swanky Frank, Inc., Wilmington, Del. 811,820, pub. 5–10–66. Cl. 46.
Swift & Co., Chicago, Ill. 213,597, ren. 7–26–66. Cl. 46.
Sylvania Electric Products, Inc.: *See*—
Sylvania Products Co.
Sylvania Products Co., Emporium, Pa., to Sylvania Electric Products, Inc., New York, N.Y. 212,808, ren. 7–26–66. Cl. 21.
Symmons Engineering Co., Boston, Mass. 811,593, pub. 5–10–66. Cl. 13.
Syntex Laboratories, Inc., Palo Alto, Calif. 811,780, pub. 5–10–66. Cl. 44.
Talsol Corp., Cincinnati, Ohio. 811,602, pub. 5–10–66. Cl. 16.
Tanner, Chas. S., Co., Providence, R.I. 811,558, pub. 5–10–66. Cl. 6.
Tanya Corp., Washington, D.C. 811,880, pub. 5–10–66. Cl. 103.
Taylor, John, Fertilizers Co., Sacramento, Calif. 811,608, pub. 5–10–66. Cl. 16.
Tecnique, Inc., Clifton, N.J. 811,838, pub. 5–10–66. Cl. 51.
Ten Knights Club, The, Cheyenne, Wyo. 811,869, pub. 5–10–66. Cl. 101.
Tensor Corp., Brooklyn, N.Y. 811,631, pub. 5–10–66. Cl. 21.
Textron, Inc.: *See*—
Homelite Corp.
Thalberg International Ltd., New York, N.Y. 811,854, pub. 5–10–66. Cl. 52.
Thermo King Corp., Minneapolis, Minn. 811,622, pub. 5–10–66. Multiple Class (Classes 19 and 31).
Thermo-Plastics, Inc., Worthington, Ohio. 811,538, pub. 5–10–66. Cl. 2.
Thomson Co., Thomson, Ga. 811,729, pub. 5–10–66. Cl. 39.
Timken-Detroit Axle Co., The, Detroit, Mich., to Rockwell-Standard Corp., Pittsburgh, Pa. 422,931, ren. 7–26–66. Cl. 19.
Titanium Zirconium Co., Inc. Tizon Chemical Corp., Flemington, N.J. 706,465. Am. 7(d). Cl. 4.
Tizon Chemical Corp.: *See*—
Titanium Zirconium Co., Inc.
Tobacco Rehandling Co., Ltd., Inc., d.b.a. W. T. Grant Co., Louisville, Ky., to The United Africa Co., Ltd., London, England. 214,206, ren. 7–26–66. Cl. 17.
Tobacco Rehandling Co., Ltd., The, Louisville, Ky., to The United Africa Co., Ltd., London, England. 421,799, ren. 7–26–66. Cl. 17.
Topco Associates Inc.: *See*—
House of D'Azur Inc.
Towery Industries Corp., Jefferson, Oreg. 811,707, pub. 5–10–66. Cl. 34.
Travaco Laboratories, Inc., Chelsea, Mass. 811,577, pub. 5–10–66. Cl. 12.
Traverse City Canning Co., Traverse City, Mich. 220,524, ren. 7–26–66. Cl. 46.
Treadway Inns Corp., Rochester, N.Y. 811,859–60, pub. 5–10–66. Multiple Class (Classes 100 and 101).
Tree Pickle Co., Inc., Cheektowaga, N.Y. 811,798, pub. 5–10–66. Cl. 46.
Triangle Publications, Inc.: *See*—
Daily Racing Form Publishing Co.
Trostel, Albert, & Sons Co., Milwaukee, Wis. 811,528, pub. 5–10–66. Cl. 1.
Troy Mills, Inc., Troy, N.H. 811,761, pub. 5–10–66. Cl. 42.
True's Oil Co., to The American Oil Co., Chicago, Ill. 113,179–81, new cert. Cl. 15.
True's Oil Co., to The American Oil Co., Chicago, Ill. 117,224, new cert. Cl. 15.
True's Oil Co., to The American Oil Co., Chicago, Ill. 616,437, new cert. Cl. 15.
True's Oil Co., to The American Oil Co., Chicago, Ill. 697,646, new cert. Cl. 6.
Tussy Cosmetics: *See*—
Lehn & Fink Products Corp.
Twin City Shellac Co., Inc., Brooklyn, N.Y. 423,250, ren. 7–26–66. Cl. 4.
Ullr Fashions, Inc., New York, N.Y. 699,055, canc. Cl. 39.
Union Carbide Corp., New York, N.Y. 811,542, pub. 5–10–66. Cl. 2.
United Africa Co., Ltd., The: *See*—
Tobacco Rehandling Co., Ltd.
United-Carr Inc., Boston, Mass. 811,632, pub. 5–10–66. Cl. 21.
United Merchants and Manufacturers, Inc., New York, N.Y. 698,815, canc. Cl. 12.
United Merchants and Manufacturers, Inc., New York, N.Y. 811,760, pub. 5–10–66. Cl. 42.
United States Rubber Co., New York, N.Y. 744,728. Am. 7(d). Cl. 22.
United States Rubber Co., New York, N.Y. 746,863. Am. 7(d). Cl. 22.
United States Rubber Co., New York, N.Y. 811,653, pub. 5–10–66. Cl. 6.
U.S. Vitamin & Pharmaceutical Corp., New York, N.Y. 698,882, canc. Cl. 18.
Universal Bleacher Co., Champaign, Ill. 811,651, pub. 5–10–66. Cl. 22.
Vaculite Corp., Hamilton, Ohio. 699,008, canc. Cl. 87.
Valley Dolomite Corp., St. Louis, Mo. 811,580, pub. 5–10–66. Cl. 12.
Valley Dolomite Corp., St. Louis, Mo. 811,586, pub. 5–10–66. Cl. 12.
Valvoline Oil Co., Edgewater, N.J., and New York, N.Y., to Ashland Oil and Refining Co., Ashland, Ky. 56,816, ren. 7–26–66. Cl. 15.
Vanderbilt, R. T., Co., Inc., New York, N.Y. 811,561–2, pub. 5–10–66. Cl. 6.
Van Dusen & Co., Inc., Wayzata, Minn. 811,679, pub. 5–10–66. Cl. 23.
Vanity Fair Mills, Inc., Wyomissing, Reading, Pa. 811,740, pub. 5–10–66. Cl. 39.
Vanity Fair Mills, Inc., Wyomissing, Reading, Pa. 811,741, pub. 5–10–66. Cl. 39.
Vermont American Corp., Louisville, Ky. 811,668–9, pub. 5–10–66. Cl. 23.
Vienna Beauty Products Co., Dayton, Ohio. 811,835, pub. 5–10–66. Cl. 51.
Virginia Dare Photo and Virginia Photo: *See*—
Galeski Photo Center, Inc.
Wagner Publishing Co., Beverly Hills, Calif. 699,020, canc. Cl. 38.
Wakefield Corp., Detroit, Mich. 811,633, pub. 5–10–66. Cl. 21.
Wallach's, Inc., New York, N.Y. 699,036, canc. Cl. 39.
Walter Reade-Sterling, Inc., Oakhurst, N.J. 811,861, pub. 5–10–66. Cl. 100.
Walters Industries, Inc., New York, N.Y. 698,853, canc. Cl. 16.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 811,621, pub. 5–10–66. Cl. 18.
Wasco Products, Inc., Cambridge, Mass. 698,818, canc. Cl. 12.
Weather-Rite Sportswear Co., Inc., New York, N.Y. 811,725, pub. 5–12–64. Cl. 39.
Weavers, Wayne, Mills, Inc., New York, N.Y. 811,763, pub. 5–10–66. Cl. 42.
Webb, Del E., Motor Hotel Co., Phoenix, Ariz. 699,156, canc. Cl. 100.
Webcor, Inc., Chicago, Ill. 698,995, canc. Cl. 36.
Wernet, George L., Philadelphia, Pa. 133,088, canc. Cl. 51.
Wesson Oil & Snowdrift Co., Inc., New Orleans, La. 699,116, canc. Cl. 46.
Western Waterproofing Co., Inc., Boston, Mass. 215,981, ren. 7–26–66. Cl. 12.
Westfield Food Products, Inc., Westfield, N.Y. 699,106, canc. Cl. 46.
Westinghouse Electric Corp., Mansfield, Ohio. 811,628, pub. 5–10–66. Cl. 21.
Westwood Textile Mfg., Inc., Southbridge, Mass. 811,764, pub. 5–10–66. Cl. 42.
Whaledent, Inc., Brooklyn, N.Y. 811,778, pub. 5–10–66. Cl. 44.
Wham-O Mfg. Co., San Gabriel, Calif. 811,650, pub. 5–10–66. Cl. 22.
Whipple Co., The: *See*—
Whipple Co-Operative Co.
Whipple Co-Operative Co., to The Whipple Co., Natick, Mass. 57,618, ren. 7–26–66. Cl. 46.
Whitehall Metal Studios, Inc., Montague, Mich. 802,113, cor. Cl. 14.
Whitehall Metal Studios, Inc., Montague, Mich. 803,740, cor. Cl. 14.
Whittle & Mutch, Inc., Philadelphia, Pa. 811,783, pub. 5–10–66. Cl. 45.
Wickliffe Industries, Inc., Wickliffe, Ohio. 811,539, pub. 5–10–66. Cl. 2.
Wilbur Chocolate Co., from Wilbur Chocolate Co., Litits, Pa. 811,794, pub. 5–10–66. Cl. 46.
Wilkerson Corp., Englewood, Colo. 811,678, pub. 5–10–66. Cl. 23.
Willo-Peer Corp., New York, N.Y. 811,690, pub. 5–10–66. Cl. 26.
Wilson Research Corp., Erie, Pa. 811,571–2, pub. 5–10–66. Cl. 12.
Winterstein, Louis G., Albany, Oreg. 811,695, pub. 5–10–66. Cl. 31.
Wittek Golf Range Supply Co., Inc., Chicago, Ill. 811,645, pub. 5–10–66. Cl. 22.
Xint Foods Co.: *See*—
Crawford, Charles C.
Xint Spanish Food Co.: *See*—
Crawford, Charles C.
"Ye Kickers," Monsey, N.Y. 811,887, pub. 5–10–66. Cl. 107.
Young's Market Co., Los Angeles, Calif. 811,795–6, pub. 5–10–66. Cl. 46.
Zaima Corp. of America, New York, N.Y. 811,567, pub. 5–10–66. Cl. 8.

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